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Background Document On Proposed Regulations

310 CMR 7.76: Prohibitions on Use of Certain Hydrofluorocarbons in Aerosol Propellants, Chillers, Foam, and Stationary Refrigeration End-Uses

October 2, 2020

Regulatory Authority:

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

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I. SUMMARY

The Massachusetts Department of Environmental Protection (MassDEP) is proposing a new regulation to prohibit 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 proposed regulation, 310 CMR 7.76 *Prohibitions on Use of Certain Hydrofluorocarbons in Refrigeration, Chiller, Aerosol Propellant, and Foam End-Uses*, does not require currently functioning equipment to be replaced or altered. The proposed regulation is based on a model rule drafted by the U.S. Climate Alliance (USCA).¹ 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.

II. BACKGROUND

HFCs are synthetic gases used in a variety of end-uses such as refrigeration, air conditioning, foam blowing, solvents, aerosols, and fire suppressants. The proposed regulation, 310 CMR 7.76, addresses high global warming potential (GWP)² HFCs in refrigeration, air conditioning chillers, aerosol propellant, and foam end-uses. The HFCs included in this prohibition have GWPs tens to thousands of times more potent than carbon dioxide (CO₂), the most common greenhouse gas (GHG), which has a GWP of 1.

HFCs were developed as alternatives to chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs), which are ozone-depleting substances (ODS) that are controlled under an international treaty, the 1987 Montreal Protocol on Substances that Deplete the Ozone Layer (Montreal Protocol). As CFCs and HCFCs have been phased out under the Montreal Protocol, the use of HFCs has increased and is anticipated to continue increasing. In 2017, HFCs represented 5% of Massachusetts greenhouse gas (GHG) emissions. MassDEP estimates that by 2030, the proposed regulation could reduce annual HFC emissions in Massachusetts by 0.77 million metric tons CO₂ equivalents.

In 2015, the United States Environmental Protection Agency (EPA) took action to prohibit certain high-GWP HFCs under its Significant New Alternatives Policy (SNAP) Program. SNAP was established under section 612 of the Clean Air Act, 42 U.S.C. § 7671k,³ to evaluate

¹ The U.S. Climate Alliance is made up of 24 states and Puerto Rico that are committed to taking real, on the ground action to reduce GHG emissions consistent with the goals of the Paris Agreement. <http://www.usclimatealliance.org/>

² GWP is a commonly used metric to express the impact of a given GHG on the Earth's climate because not all GHGs have the same heat-trapping capacity. For example, one ton of methane is equivalent to more than 20 tons of CO₂ in terms of heat trapping potential. To account for these differences, GWP is used as a standard to relate the heat trapping potential of each GHG to an equivalent quantity of CO₂ over a given time horizon. Emissions shown in this document utilize GWP and are expressed in units of million metric tons of CO₂ equivalents (MMTCO₂e).

³ United States Code, 2013 Edition, Title 42 – The Public Health and Welfare, Chapter 85 – Air Pollution Prevention and Control, Subchapter VI – Stratospheric Ozone Protection, Section 7671k – Safe Alternatives Policy,

substitutes for ozone-depleting substances using a comparative risk framework that considers factors such as toxicity, flammability, and environmental impacts. When prohibiting substances under the SNAP Program, EPA considers what alternatives are readily available for specific end-uses. In 2015, EPA adopted SNAP Rule 20 to prohibit the use of 38 high-GWP HFCs used in aerosols, refrigerants, foam blowing and vehicle air conditioning.^{4,5} In 2016, EPA adopted SNAP Rule 21, which prohibited the use of certain HFCs in cold storage warehouse and retail food refrigeration end-uses.⁶

EPA's authority to prohibit the use of some high-GWP HFCs in certain end-uses under SNAP Rules 20 and 21 was challenged in federal court. In August 2017, the *Mexichem Fluor, Inc., v. U.S. EPA* decision vacated EPA's SNAP Rule 20 "to the extent it requires manufacturers to replace HFCs"⁷ and remanded the rule to EPA for further proceedings consistent with the opinion that "Section 612 [of the Clean Air Act] does not require (or give EPA authority to require) manufacturers to replace non-ozone depleting substances such as HFCs."

In April 2018, EPA published a rule that stated EPA would not enforce SNAP Rule 20 in its entirety in response to the court ruling. EPA issued the April 2018 Rule without going through notice-and-comment procedures. Subsequently, in April 2020, the court held in the *NRDC v. Wheeler*⁸ decision that EPA's April 2018 Rule, was invalid because EPA 1) improperly issued the April 2018 Rule without adhering to notice-and-comment procedures and 2) went further than required by *Mexichem*, which only held that EPA could not apply SNAP Rule 20 to entities already using HFCs. In *NRDC*, the court vacated the April 2018 Rule, and remanded it back to EPA to adopt a new rule regulating HFCs consistent with the court's opinion. At this time, it is unknown how and when EPA will respond to this decision, creating regulatory uncertainty.

In light of this uncertainty and given the importance of transitioning away from HFCs to meet climate goals⁹ and to prevent and control pollution of the atmosphere, individual states are taking action to implement the prohibitions on high-GWP HFCs set out in SNAP Rules 20 and 21. The intent of the proposed regulation, 310 CMR 7.76, is to implement some of the prohibitions in the SNAP Rules 20 and 21 in Massachusetts. MassDEP's proposed regulatory prohibitions on high-

from the U.S. Government Publishing Office at <https://www.govinfo.gov/content/pkg/USCODE-2013-title42/html/USCODE-2013-title42-chap85-subchapVI-sec7671k.htm>

⁴ See "Fact Sheet: Final Rule 20 – Protection of Stratospheric Ozone: Change of Listing Status for Certain Substitutes and the Significant New Alternatives Policy Program" December 2016 at https://www.epa.gov/production/files/2015-08/documents/snap_regulatory_factsheet_july20_2015.pdf Accessed on 2/18/2020.

⁵ MassDEP is not proposing to include HFCs used in mobile air conditioning end uses in 310 CMR 7.76 because such use is addressed through MassDEP's *Low Emission Vehicle Program* regulation, 310 CMR 7.40.

⁶ See "Fact Sheet: Final Rule 21 – Protection of Stratospheric Ozone: Significant New Alternatives Policy Program New and Changed Listings" December 2016 at https://www.epa.gov/sites/production/files/2016-12/documents/snap_action_scr2_factsheet.pdf Accessed on 2/18/2020.

⁷ See *Mexichem Fluor, Inc. v. U.S. EPA*, 866 F.3d 451, 456 (2017).

⁸ 955 F. 3d 68 consolidated with No. 18-1172 (D.C. Cir. 2020)

⁹ See MA 2020 CECP at

<https://www.mass.gov/files/documents/2017/12/06/Clean%20Energy%20and%20Climate%20Plan%20for%202020.pdf> and Press Release from the Executive Office of Energy and Environmental Affairs on 2/18/2020 at <https://www.mass.gov/news/massachusetts-joins-other-new-england-states-to-propose-regulations-prohibiting-use-of-hfc> Accessed on 5/5/2020.

GWP HFCs in certain end-uses are in line with the USCA model rule and similar actions being undertaken in other states, such as California, Washington, Delaware, Maryland, New York, Maine, Rhode Island, and Vermont. The ban on use of HFCs will also assist in achieving the Global Warming Solutions Act requirements, codified at M.G.L. c. 21N, and Massachusetts commitment to achieving net zero GHG emissions in 2050.¹⁰

In Fall 2019, MassDEP held several conference calls with stakeholders and held public meetings on November 18 and November 20 in Worcester and Boston, respectively, to summarize and answer questions regarding the potential regulation.¹¹ Through this process, which continued into 2020, MassDEP has spoken with and/or received comments from the following organizations:

- Acadia Center
- Air Conditioning Association of New England (ACANE)
- Air Conditioning Contractors of America (ACCA)
- Air-Conditioning, Heating, and Refrigeration Institute (AHRI)
- American Chemistry Council – Center for the Polyurethanes Industry (CPI)
- Arkema, Inc.
- Associated Industries of Massachusetts (AIM)
- Association of Home Appliance Manufacturers (AHAM)
- Chemours Company
- Daikin US Corporation
- DuPont
- Ecopolity Advisors
- Extruded Polystyrene Foam Association (XPSA)
- Foam Supply, Inc.
- Heating, Air Conditioning and Refrigeration Distributors International (HARDI)
- Honeywell International Inc.
- Household and Commercial Products Association (HCPA)
- Illinois Tool Works (ITW)
- Massachusetts Food Association (MFA)
- Massachusetts Restaurant Association (MRA)
- National Automatic Merchandising Association (NAMA)
- Natural Resources Defense Council (NRDC)
- New England Convenience Store and Energy Marketers Association (NECSEMA)
- North American Association of Food Equipment Manufacturers (NAFEM)
- Policy Resolution Group (PRG)

¹⁰ See determination letter issued 4/22/2020 at <https://www.mass.gov/news/baker-polito-administration-issues-letter-establishing-net-zero-emissions-target> accessed on 5/12/2020.

¹¹ The public meetings also discussed the possibility of a refrigerant management program (RMP) similar to an existing program in California that targets leaks from stationary refrigeration equipment. Under section 608 of the Clean Air Act, EPA sets out refrigerant leak repair and maintenance requirements for stationary refrigeration equipment. The program initially only applied to ODS refrigerants but, effective as of January 1, 2017, EPA extended these requirements to HFCs. However, on February 26, 2020 EPA finalized a rule to rescind the extension of these requirements to HFCs. MassDEP continues to monitor the progress of federal requirements to determine the best course of action on a potential state-level RMP. More information on EPA's actions regarding refrigerant management is available at <https://www.epa.gov/section608/revised-section-608-refrigerant-management-regulations> (Accessed on 3/2/2020).

- Retailers Association of Massachusetts (RAM)

Almost all comments received were supportive of the potential regulations and the primary concern expressed by stakeholders was the need for consistency across states, particularly regarding requirements for disclosure and recordkeeping. Some commenters noted that a federal program is preferable to state-by-state implementation but acknowledged the need for state action in light of the uncertainty at the federal level.

III. DESCRIPTION OF THE PROPOSED REGULATION

As noted in Section II, multiple states are implementing rules and regulations to put in place some of the HFC prohibitions set out in SNAP Rules 20 and 21 in the absence of federal action. These efforts are coordinated through the USCA. MassDEP has worked actively to align the proposed regulation, 310 CMR 7.76, with existing regulations and developing regulations in other states via the USCA.

A. Applicability

The proposed regulation, 310 CMR 7.76, would regulate the sale, lease, rental, offer for sale, installation, use, or manufacture by manufacturers, distributors, vendors, and other entities using the prohibited substances listed in 310 CMR 7.76(6) in refrigeration equipment, air conditioning chillers, aerosol propellants, and foams that are manufactured or used in Massachusetts. The following is a summary of the products and equipment in the proposed regulation within each end-use sector in line with the definitions used by the EPA in the SNAP Program.¹² The descriptions of each end-sector are illustrative rather than exhaustive. There are no end-use sectors beyond refrigeration equipment, air conditioning chillers, aerosol propellants, and foams subject to the proposed regulation.

Aerosol propellants: Propellants are used to propel pressurized aerosol contents out of a container. Under EPA’s SNAP Rule 20, aerosol propellants had compliance deadlines prior to the court ruling described in Section II and therefore this industry has already transitioned away from the prohibited substances. Consequently, the proposed regulation’s prohibitions in this end-use sector are intended to prevent industry from importing or switching back to the use of high-GWP HFC propellants.

Air conditioning: Air conditioning equipment is used to cool a space, such as a room, office building, or warehouse. HFCs are used as the refrigerant in air conditioning equipment and circulate through the system components, often undergoing phase changes, to generate the desired cooling effect. Equipment can come pre-charged with the refrigerant or be designed such that refrigerant is added after installation on site. Only certain types of air conditioning equipment, namely some chillers, are subject to the proposed regulation. Chillers are a type of air

¹² See “Significant New Alternatives Policy (SNAP) – Substitutes in Refrigeration and Air Conditioning” at <https://www.epa.gov/snap/substitutes-refrigeration-and-air-conditioning>, “Significant New Alternatives Policy (SNAP) – Substitutes in Foam Blowing Agents” at <https://www.epa.gov/snap/substitutes-foam-blowing-agents>, and “Significant New Alternatives Policy (SNAP) – Substitutes in Aerosols” at <https://www.epa.gov/snap/substitutes-aerosols> for more detail. Accessed on 2/18/2020.

conditioning equipment that cools water, which is then circulated to provide comfort cooling throughout a building or space. Chillers are classified by the type of compressor they use. The proposed regulation only applies to centrifugal chillers and positive displacement chillers, which are used in large commercial and industrial facilities and not in individual residences. Other types of air conditioning equipment, such as residential window units, are not subject to the proposed regulation. Also, note that chillers are not used in mobile air condition applications such as motor vehicles, aircraft and spacecraft.

Refrigeration: Refrigeration equipment is used to cool a space or a substance. As with air-conditioning equipment, HFCs are used as the refrigerant in refrigeration equipment. Equipment can come pre-charged with the refrigerant or be designed such that refrigerant is added after installation on site. The insulation used in refrigeration equipment can also contain HFCs (see *Foams* below). The proposed regulation applies to a wide array of new refrigeration equipment and retrofits of existing refrigeration equipment (retrofits are discussed in Section IV B below):

- a) Cold storage warehouses (new and retrofit) are used to store perishable goods such as meat, produce, and dairy. The majority of cold storage warehouses in the United States use ammonia as a refrigerant, which is not on the list of prohibited substances in the proposed regulation because it is not a GHG.
- b) Household refrigerators and freezers (new and retrofit) include, most commonly, products with both a refrigerator and freezer in a single unit as well as small refrigerated household appliances such as chilled drawers, wine coolers, mini fridges, and stand-alone ice makers. These products are primarily for residential use but may be used outside the home. Household refrigerators and freezers can also be built-in appliances (i.e. those that are designed to be installed encased by cabinetry or panels that are attached during installation). Manufacturers, distributors, and sellers of these products are subject to the proposed regulation; however, any person in Massachusetts using household refrigerators or freezers for residential use would not be subject to the proposed regulation, 310 CMR 7.76.
- c) Retail food refrigeration includes supermarket systems (new and retrofit), remote condensing units (new and retrofit), stand-alone units (new and retrofit), refrigerated food processing and dispensing equipment (new), and vending machines (new and retrofit). This equipment is designed to store, display, dispense, or process chilled and frozen goods for commercial sale.

Foams: HFCs are sometimes used to blow the cellular structure into liquid plastic resins to create foams for a wide array of applications such as appliances, buildings, automobiles, furniture, and packaging. The following specific end-uses are subject to the proposed regulation: rigid polyurethane and polyisocyanurate laminated boardstock, flexible polyurethane, integral skin polyurethane, polystyrene extruded sheet, phenolic insulation board and bunstock, rigid polyurethane slabstock and other, rigid polyurethane appliance foam, rigid polyurethane commercial refrigeration and sandwich panels, polyolefin, rigid polyurethane marine flotation foam, polystyrene extruded boardstock and billet, rigid polyurethane high and low pressure two-component spray foam, and rigid polyurethane one-component spray foam. These foams are used as insulation for pipes, walls, floors, roofs, doors, and refrigeration equipment as well as for furniture, bedding, cushions, packaging, shoe soles, automotive interiors, and marine flotation.

B. Prohibitions

The proposed regulation prohibits the sale, lease, rental, installation, use, or manufacture of products and equipment using the prohibited substances listed in 310 CMR 7.76(6) in Massachusetts. The prohibitions would become effective on dates ranging from January 1, 2021 to January 1, 2024 depending on the specific end-use. Prohibition dates are based on the dates set out by EPA under SNAP Rules 20 and 21, and are aligned with the dates in the USCA model rule. To establish these dates, EPA evaluated available technologies and the existence of suitable alternatives, among other factors. Where prohibition dates under SNAP Rules 20 and 21 are in the past, the proposed regulation sets a prohibition date of January 1, 2021. For other end-uses, the original dates have been maintained, with the exception of new vending machines. The prohibition date for new vending machines is January 1, 2022 based on industry requests to accommodate required updates to building codes to allow for the use of slightly flammable refrigerants in public spaces.¹³ The 2022 prohibition date has already been adopted by other states, such as Washington.

In line with the existing SNAP program, the proposed regulation applies to products and equipment manufactured after the effective date of prohibition for each end-use. Consequently, products and equipment, including foam systems not yet applied on site, can be sold, distributed, installed, and used after the effective date of prohibition as long as they were manufactured prior to the applicable date of prohibition. Existing functional products and equipment are not required to be replaced under the proposed regulation, and can continue to be used, serviced, and repaired under the proposed regulation. However, existing equipment would be subject to the proposed regulation under the following circumstances:

- a) **Retrofit:** Retrofit is defined as the replacement of one type of refrigerant with a different type of refrigerant, in line with the definitions used by EPA in the SNAP Program. If existing equipment is retrofitted, it cannot be retrofitted to use a refrigerant that is prohibited on the day of the retrofit.
- b) **Expansion:** Equipment that is expanded by the addition of components to increase system capacity after the relevant effective date of prohibition would be considered new and subject to the proposed regulation. If existing equipment is expanded, it cannot be expanded to use a refrigerant that is prohibited on the day of expansion.
- c) **Cumulative replacement:** Products or equipment replaced or cumulatively replaced such that the cumulative capital cost of replacement exceeds 50% of the capital cost of replacing the whole system would be considered new and, as in the case of expansion, subject to the proposed regulation. If cumulative replacement of existing equipment exceeds 50% of the capital cost of replacing the system, it cannot continue to use a prohibited refrigerant. The cumulative capital costs would begin at the applicable effective date of prohibition. This provision is included to avoid a potential loophole

¹³ The industry's preferred alternatives are slightly flammable and, consequently, not allowed under some building code requirements. The specific standards that need to be updated are UL 541 and ASHRAE 15, which are referenced in the International Building Code (IBC) from the International Code Council. The IBC has been adopted as the mandatory state minimum for fire prevention in Massachusetts and throughout most of the United States. The National Automatic Merchandising Association (NAMA) is working with the relevant code and standard agencies to make the required updates and is confident that the updates will be adopted in time for the proposed January 1, 2022 effective date of prohibition.

whereby existing equipment could be functionally replaced component by component to install a new system.

The proposed regulation maintains a set of specific exemptions as established in SNAP Rules 20 and 21. Exemptions include medical applications, such as metered dose inhaler (MDI) products, and military and aerospace applications, such as human-rated spacecraft air conditioning equipment.

Industry stakeholders have noted that EPA periodically updates lists of acceptable substitutes for ozone-depleting substances under the SNAP Program, and have requested that states update their rules if substances are no longer prohibited at the federal level, in particular for foam blowing end uses. Consistent with other states working with the USCA, MassDEP will propose amendments to align 310 CMR 7.76 with federal action if warranted, for example, if EPA approves a previously prohibited HFC blend under SNAP with a global warming potential of 750 or less for foam blowing of polystyrene extruded boardstock and billet and rigid polyurethane low-pressure two-component spray foam.

C. Disclosure

The proposed regulation, 310 CMR 7.76, requires manufacturers to provide buyers a written disclosure in the form of a label that describes the products and equipment for the specified end uses. This disclosure will enable buyers to ensure they purchase compliant products. The proposed regulation specifies disclosure requirements for the three major end use categories, as summarized in Table 1.

Table 1: Disclosure Requirements

End use	Disclosure requirements
Air conditioning and refrigeration	For equipment that is not pre-charged with refrigerant, the written disclosure or label must state “This equipment is prohibited from using any substance on the “List of Prohibited Substances” for that specific end-use, in accordance with State regulations for hydrofluorocarbons.” For equipment that is pre-charged with refrigerant, the disclosure must include 1) the date of manufacture and 2) the refrigerant and foam blowing agent the product or equipment contains. Existing labeling, required by building codes or safety standards, containing this information is sufficient to meet the disclosure requirement.
Foams	Foams can meet the disclosure requirement with a disclosure or label stating “Where sold, compliant with State HFC regulations,” or with reference to a Safety Data Sheet (complying with 29 CFR 1910.1200 requirements) and the date of manufacture, as long as the Safety Data Sheet identifies the foam blowing agent the product contains.
Aerosols ¹⁴	Aerosols can meet the disclosure requirement with a disclosure or label stating “Where sold, compliant with State HFC regulations,” or with reference to a Safety Data Sheet (complying with 29 CFR 1910.1200 requirements) and the date of manufacture or date code, as long as the Safety Data Sheet identifies the propellant the product contains. If a manufacturer uses a date code to meet the

¹⁴ Some states, including New York and California, do not require disclosure for aerosol propellant end uses.

	requirements, the manufacturer must file an explanation of the date codes with MassDEP.
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D. Recordkeeping

The proposed regulation contains flexible recordkeeping requirements to account for the diversity of covered industries and differences in supply chains. The proposed regulations require that manufacturers maintain records sufficient to demonstrate that the product or equipment does not contain the prohibited substances or that the product or equipment is exempt from the prohibitions. In line with MassDEP recordkeeping requirements in other programs, records would be required to be kept for five years starting with the “effective date of prohibition” listed in the last column of 310 CMR 7.76(6): Table 1.

IV. ECONOMIC IMPACTS

MassDEP estimates the proposed regulation will have a total statewide cost of approximately \$1.5 million. This estimate is based on nationwide cost estimates generated by EPA for SNAP Rules 20 and 21 scaled to Massachusetts. EPA estimated U.S. costs of compliance to be \$105.5 million for the end-use sectors covered by MassDEP’s proposed regulation.¹⁵ These costs include capital costs, operational costs, and maintenance costs. MassDEP apportioned the estimated nationwide costs to Massachusetts based on population.¹⁶ Note that California’s Air Resources Board used a similar approach in determining costs for adopting some of the HFC prohibitions in SNAP Rules 20 and 21.¹⁷

When EPA’s SNAP Rule 20 was partially vacated in August 2017, compliance deadlines for some end-uses had already passed. Consequently, MassDEP has assumed that compliance costs for those end-uses already have been incurred and no additional costs of compliance will result from the proposed regulation.

EPA estimated industry costs using North American Industry Classification System (NAICS) codes. For some industries, a single NAICS code encompasses several end-uses set out in the SNAP Program. In two instances, some end-uses within a single NAICS code had compliance

¹⁵ See EPA cost analyses: “Economic Impact Screening Analysis for Regulatory Changes to the Listing Status of High-GWP Alternatives used in Refrigeration and Air Conditioning, Foams, and Fire Suppression” September 2016 at <https://www.regulations.gov/document?D=EPA-HQ-OAR-2015-0663-0126>, “Cost Analysis for Regulatory Changes to the Listing Status of High-GWP Alternatives used in Refrigeration and Air Conditioning, Foams, and Fire Suppression” September 2016 at <https://www.regulations.gov/document?D=EPA-HQ-OAR-2015-0663-0127>, “Revised Cost Analysis for Regulatory Changes to the Listing Status of High-GWP Alternatives” July 2015 at <https://www.regulations.gov/document?D=EPA-HQ-OAR-2014-0198-0242>, and “Economic Impact Screening Analysis for Regulatory Changes to the Listing Status of High-GWP Alternatives. Revised” July 2015 at <https://www.regulations.gov/document?D=EPA-HQ-OAR-2014-0198-0240>

¹⁶ Population estimates from 2010 to 2018 indicate Massachusetts represents 2.1% of the total U.S. population. See “Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2018” at https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=PEP_2018_PEPANNRES&src=pt. Accessed on 12/19/2019.

¹⁷ See “Public Hearing to Consider the Proposed Regulation for Prohibitions on Use of Certain Hydrofluorocarbons in Stationary Refrigeration and Foam End-uses – Staff Report: Initial Statement of Reasons” January 2018 at https://ww3.arb.ca.gov/regact/2018/casnep/isor.pdf?_ga=2.59180909.1180621772.1576691009-901403993.1565972827

dates both before and after the August 2017 partial vacature of SNAP Rule 20. For polystyrene extruded boardstock and billet (within polystyrene foam product manufacturing), MassDEP determined that there are no entities within Massachusetts in the relevant NAICS code (326140). For rigid polyurethane slabstock and other and polyolefin (within urethane and other foam product (except polystyrene) manufacturing), the EPA analyses concluded that 0% of entities within these end-uses were anticipated to bear costs. Consequently, MassDEP assumes no additional costs will be incurred from those industries.

Table 2 summarizes SNAP end-uses, compliance deadlines, and compliance costs, and MassDEP’s proposed regulation compliance deadlines and compliance costs.

Table 2: Effective date of prohibition and estimated costs – SNAP Rules 20 and 21 and MassDEP Proposed Regulation

End-use sector	Effective date of prohibition - SNAP Rules 20 & 21	Effective date of prohibition – MassDEP Proposed Regulation	Net annualized upfront costs and annual savings – U.S.	Net annualized upfront costs and annual savings – MA
Air conditioning and refrigeration				
Centrifugal chillers (new)	2024	2024	\$29,365,000	\$616,665
Positive displacement chillers (new)	2024	2024	\$33,799,000	\$709,779
Refrigerated food processing and dispensing equipment (new)	2021	2021	\$419,000	\$8,799
Household refrigerators and freezers (new)	2021	2022	\$5,810,000	\$122,010
Household refrigerators and freezers - compact (new)		2021		
Household refrigerators and freezers - built in appliances (new)		2023		
Cold storage warehouses (new)	2023	2023	\$142,000	\$2,982
Supermarket systems (new)	2017	2021	\$0	\$0
Remote condensing units (new)	2018	2021	\$0	\$0
Stand-alone medium-temperature units (new)	2019/2020	2021	\$1,520,000	\$31,920
Stand-alone low-temperature units (new)	2020	2021		\$0

Vending machines (new)	2019	2022	\$280,000	\$5,880
Supermarket systems (retrofit)	2016	2021	\$0	\$0
Remote condensing units (retrofit)	2016	2021	\$0	\$0
Stand-alone units (retrofit)	2016	2021	\$0	\$0
Vending machines (retrofit)	2016	2021	\$0	\$0
Foams				
Rigid PU high pressure two-component spray foam	2020	2021	\$1,414,000	\$29,694
Rigid PU low pressure two-component spray foam	2021	2021	\$606,000	\$12,726
Rigid PU one-component foam sealants	2020	2021	\$6,000	\$126
Flexible polyurethane*	2017	2021	\$0	\$0
Polystyrene extruded sheet*	2017	2021	\$27,490,000	\$0
Polystyrene extruded boardstock and billet (XPS)	2021	2021		\$0
Rigid polyurethane appliance foam	2020	2021	\$0	\$0
Rigid polyurethane commercial refrigeration and sandwich panels	2020	2021	\$0	\$0
Rigid PU and polyisocyanurate laminated boardstock*	2017	2021	\$4,640,000	\$0
Integral skin polyurethane*	2017			\$0
Phenolic insulation board and bunstock*	2017			\$0
Rigid polyurethane slabstock and other	2019			\$0
Polyolefin	2020			\$0
Aerosols				
Aerosol propellants*	2016	2021	\$0	\$0
<i>All end uses</i>			\$105,491,000	\$1,540,581

*denotes end uses with compliance deadlines prior to the August 2017 court ruling

MassDEP expects the proposed regulation will have little impact on small businesses. EPA's screening impact analyses for SNAP Rules 20 and 21 determined that there was no significant economic impact on most small entities, and that only 289 small businesses nationwide would

face costs.¹⁸ Further, EPA concluded that the majority of those small businesses would be subject to costs less than 1% of annual sales.

A small business that manufactures or distributes equipment subject to the proposed regulation would not be allowed to sell noncompliant equipment that was manufactured after the applicable prohibition date. However, noncompliant products and equipment manufactured prior to the prohibition date would be allowed to be sold and installed after the prohibition date, preventing stranding of any existing inventory. Small businesses that use products and equipment subject to the proposed regulation, such as grocery stores, would be impacted only when purchasing new equipment or retrofitting existing equipment. The proposed regulation only requires disclosure and recordkeeping by manufacturers, which MassDEP understands to be predominantly medium and large enterprises.

V. IMPACT ON MASSACHUSETTS MUNICIPALITIES

Pursuant to Executive Order 145, state agencies must assess the fiscal impact of new regulations on the Commonwealth's municipalities. MassDEP expects the proposed regulation will have little impact on cities or towns. The proposed regulation prohibits manufacturers and distributors from providing noncompliant products in Massachusetts, and therefore when municipalities purchase new equipment or products in the relevant end-use sectors manufacturers and distributors will provide compliant products. Cities or towns that currently own functioning refrigeration equipment or chillers that use the prohibited HFCs would be allowed to continue to use, service, and recharge that equipment. While there may be some cost increases for compliant products in the future, these increased costs would not be subject to Proposition 2 ½, M.G.L. c. 29 s. 27 C(a), (which requires the state to reimburse municipalities for costs incurred as a consequence of new state laws and regulations) unless they were associated with a mandated municipal service.¹⁹

VI. MASSACHUSETTS ENVIRONMENTAL POLICY ACT (MEPA)

Pursuant to 301 CMR 11.03(12) (MEPA Regulations), these proposed regulations will not reduce standards for environmental protection, opportunities for public participation in permitting or other review processes, or public access to information generated or provided in accordance with these regulations. Promulgation of these regulations, therefore, does not require the filing of an Environmental Notification Form under MEPA.

VII. PUBLIC PARTICIPATION

MassDEP will hold a public hearing on the proposed regulation in accordance with M.G.L c. 30A. MassDEP will accept written comments for 10 days after the public hearing. The public hearing

¹⁸ See "Economic Impact Screening Analysis for Regulatory Changes to the Listing Status of High-GWP Alternatives used in Refrigeration and Air Conditioning, Foams, and Fire Suppression" September 2016 at <https://www.regulations.gov/document?D=EPA-HQ-OAR-2015-0663-0126> and "Economic Impact Screening Analysis for Regulatory Changes to the Listing Status of High-GWP Alternatives Revised" July 2015 at <https://www.regulations.gov/document?D=EPA-HQ-OAR-2014-0198-0240>

¹⁹ See Town of Norfolk v. Department of Environmental Quality Engineering, 407 Mass 233 (1990)

notice, proposed regulation and background document are available on MassDEP's website at: <https://www.mass.gov/service-details/massdep-public-hearings-comment-opportunities> For further information, please contact Emily Lamb at 617-654-6601, or emily.lamb@mass.gov.