

FEEDBACK RECEIVED REGARDING

RHODE ISLAND’S DRAFT REGULATION 250 RICR 120-05-52 “Prohibition of Hydrofluorocarbons in Specific End-Uses”

This document contains all the informal feedback received from the public regarding Rhode Island’s Draft Regulation 250 RICR 120-05-52 “Prohibition of Hydrofluorocarbons in Specific End-Uses.” The public had the opportunity to provide feedback during a 39-day period (November 13, 2020 through December 22, 2020). In total, DEM received eleven (11) comments before the submittal deadline.

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Center for the
Polyurethanes Industry

December 17, 2020

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Submitted via email to: Allison.Archambault@dem.ri.gov

RE: Draft Regulations Part 52 - Prohibition of Hydrofluorocarbons in Specific End-Uses (250-RICR-120-05-52)

Ms. Archambault,

The American Chemistry Council's Center for the Polyurethanes Industry¹ (CPI) appreciates the opportunity to comment on the Rhode Island Department of Environmental Management's (DEM) draft regulations Part 52 - Prohibition of Hydrofluorocarbons in Specific End-Uses (draft regulations).

CPI members operate manufacturing facilities and sell foam products across the United States. CPI advocates for consistency across all states that are regulating the use of HFC foam blowing agents to help reduce the regulatory burden on polyurethane companies. Consistency among the states will benefit states and the environment. A consistent approach to HFC regulations will help ensure compliance and reduce the enforcement burden on states. CPI advocates for consistency in four areas: definitions, disclosure, recordkeeping or reporting, and sell-through periods. CPI supports DEM's sell-through period. CPI offers comments on the proposed definitions, disclosures, and recordkeeping requirements.

Accordingly, we respectfully submit the following comments:

1. Definitions:

There are several inconsistencies in the definitions for polyurethane end uses in the draft regulations. These definitions reference various terms such as "polymers," "polyurethane polymers," "polyurethane," "urethane," and the raw materials used to form polyurethane polymers. CPI suggests developing a definition for "polyurethane," and then referencing this term in the definition of the different end uses. This builds a consistent approach to the end use definitions.

Further, the definitions for "foam or foam blowing agent" and "rigid polyurethane high-pressure two-component spray foam" are not consistent with industry terms. Foam and foam blowing agents are two separate products and should have separate definitions. Promulgating final regulations with the current

¹ The Center for the Polyurethanes Industry's (CPI) mission is to promote the growth of the North American polyurethanes industry through effective advocacy, delivery of compelling benefits messages demonstrating how polyurethanes deliver sustainable outcomes, and creation of robust safety education and product stewardship programs.



definitions of high-pressure two-component spray foam will actually exempt high-pressure two-component spray foam from the HFC prohibitions. CPI also suggests technical corrections to clarify the definition of “rigid polyurethane low-pressure two-component spray foam.”

We understand the definitions used in the draft regulations were included in the U.S. Climate Alliance model rule. CPI has recommended that the Climate Alliance update the model rule to include these technical changes.

CPI recommends the following changes to section 52.4:

- “Polyurethane” means a polymer formed principally by the reaction of an isocyanate and a polyol.
- “Flexible Polyurethane” means a non-rigid synthetic polyurethane foam containing polymers created by the reaction of isocyanate and polyol, including but not limited to that used in furniture, bedding, and chair cushions, and shoe soles.

Note: Shoe soles can be flexible polyurethane or integral skin polyurethane. Accordingly, they are not a good example product.

- “Foam” ~~or “foam blowing agent”~~ means a product ~~or substance used to produce the product~~ with a cellular structure formed via a foaming process in a variety of materials that undergo hardening via a chemical reaction or phase transition, ~~such as polymers and plastics.~~
- “Foam Blowing Agent” means a substance that functions as a source of gas to generate bubbles in the mixture during the formation of foam.
- “Integral Skin Polyurethane” means a synthetic self-skinning polyurethane foam containing polyurethane polymers formed by the reaction of an isocyanate and a polyol, including but not limited to that used in car steering wheels, and dashboards, ~~and shoe soles.~~

Note: Shoe soles can be flexible polyurethane or integral skin polyurethane. Accordingly, they are not a good example product.

- “Rigid Polyurethane Appliance Foam” means polyurethane ~~insulation~~ foam in household appliances used for insulation.
- “Rigid Polyurethane Commercial Refrigeration and Sandwich Panels” means polyurethane foam used to provide insulation ~~for use~~ in walls and doors, including that used for commercial refrigeration equipment, and used in doors, including garage doors.
- “Rigid Polyurethane High-pressure Two-component Spray Foam” means a liquid polyurethane foam system sold as two parts (i.e., A-side and B-side) in non-pressurized containers; product that is pressurized 800-1600 pounds per square inch (psi) during manufacture; sold in pressurized containers as two parts (i.e., A-side and B-side) that is field or factory blown and applied in situ using high-pressure proportioning pumps to propel the foam components at 800-1600 pounds per square inch (psi) and an application gun to mix and dispense the chemical components. may use liquid blowing agents without an additional propellant.

Note: High-pressure two component spray foam products are not sold in pressurized containers. The systems are attached to specialized equipment and applied using proportioning pumps at 800 to 1600 psi in a process referred to as application. Manufacture of SPF systems means blending the chemicals to create the foam system for subsequent sale. We expand on this concept in section 4.

- “Rigid Polyurethane Low-pressure Two-component Spray Foam” means a liquid polyurethane foam ~~system product sold as two parts (i.e., A-side and B-side) in containers~~ that are is pressurized to less than 250 psi during manufacture of the system for application without pumps; ~~sold in pressurized containers as two parts (i.e., A-side and B-side);~~ and are typically applied in situ relying upon a liquid blowing agent and/or gaseous foam blowing agent that also serves as a propellant ~~so pumps typically are not needed.~~
- “Rigid Polyurethane Marine Flotation Foam” means buoyancy or flotation polyurethane foam used in boat and ship manufacturing for both structural and flotation purposes.
- “Rigid Polyurethane Slabstock and Other” means a rigid closed-cell polyurethane foam ~~containing urethane polymers produced by the reaction of an isocyanate and a polyol and~~ formed into slabstock insulation for panels and fabricated shapes for pipes and vessels.
- “Rigid Polyurethane One-component Foam Sealants” means a polyurethane foam generally packaged in aerosol cans that is applied in situ using a gaseous foam blowing agent that is also the propellant for the aerosol formulation.

2. Disclosure Statement:

CPI supports on-product or on product packing disclosure requirements to demonstrate compliance with state HFC restrictions. DEM’s approach sets new, specialized requirements for foam products entering Rhode Island. This will require foam products entering Rhode Island to carry special labels or invoices.

CPI developed a proposed written disclosure statement for product or product labels, focused on compliance status, to meet the needs of regulators, foam manufacturers, and users and to promote consistency among states regulating HFCs. CPI recommends updating section 52.7(B) to require the following disclosure statement on polyurethane products or product labels: “Where sold, compliant with State HFC regulations.” Currently, this disclosure statement can be used in California, Colorado, Maryland, New York, and Vermont. CPI anticipates it will be used in additional states when other state regulations are published.

CPI recommends the following changes to Section 52.7(B):

B. Disclosure Statement. As of the {effective date} of this regulation, any person who sells, offers for sale, leases, rents, installs, uses, or manufacturers or otherwise causes to be entered into commerce within the State of Rhode Island, products or equipment in the air-conditioning, refrigeration, foam, or aerosol propellant end-uses listed as prohibited in § 52.6 of this Part, must provide a written disclosure to the buyer as part of the sales transaction, on the product, product packaging, or and invoice.

1. The required written disclosure must state:

b. Foam:

~~(1) “Where sold, compliant with State HFC regulations This foam system is prohibited from use in Rhode Island with any foam blowing agent on the List of Prohibited Substances in § 52.6 of this Part for that specific end use, in accordance with 250-RICR-120-05-52. This disclosure statement has been reviewed and approved by [THE COMPANY] and [THE COMPANY] attests, under penalty of perjury, that these statements are true and accurate.”~~

Adopting this language in the rule will help create a nationally consistent disclosure program for polyurethane foam products.

3. Recordkeeping and Reporting Requirements:

CPI opposes the recordkeeping requirements in section 52.8. of the draft regulations, in favor of the on-product disclosures. CPI also opposes reporting requirements. Recordkeeping and reporting requirements add additional burden to manufacturers that comply with the HFC regulations without providing a meaningful benefit if the product contains an explicit written disclosure on the product or product label. The entire foam industry must be compliant with the new restrictions the date the restrictions become effective. The restrictions on products in Table 5 become effective on June 1, 2021. Therefore, reporting or on-going recordkeeping requirements will not provide DEM novel information that will not already be communicated by the on-product disclosure.

Accordingly, CPI recommends striking section 52.8.

4. Sell-Through Period:

CPI supports the sell-through period in section 52.6 of the draft regulations.

In the polyurethane foam sector, there are different processes used to manufacture the variety of foam products on the market. For foam board products, such as rigid polyisocyanurate boardstock and rigid polyurethane boardstock foam, and thermoplastic foam, CPI understands “manufacture” to mean the date the manufacturer combines the component chemicals (e.g., polyol, blowing agent, catalyst, and isocyanate) in a factory to form the foam product. For polyurethane foam systems, including but not limited to spray polyurethane foam, CPI understands “manufacture” of polyurethane foam systems to mean the date a manufacturer combines component chemicals (e.g., polyol, blowing agent, catalyst) to form the polyol resin blend and packages the blend in the drum, canister, or can that is sold for application. However, for both types of products, CPI understands “use” to mean the date the product is installed, either as a foam board or as an in-situ applied polyurethane foam. Blended polyurethane foam systems have a shelf life of approximately six months, which requires users to quickly cycle product and prevents stockpiling of inventory.

If you have any questions or need additional information, please contact me at Stephen.wieroniey@americanchemistry.com, or (202) 249-6617.

Sincerely,



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Director



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December 22, 2020

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(Submitted via email to Allison.Archambault@dem.ri.gov)

Re: AHRI Comments on Rhode Island Proposed Draft Regulation - Chapter 120 – Office of Air Resources, Subchapter 05 - Air Pollution Control, Part 52 - Prohibition of Hydrofluorocarbons in Specific End-Uses

Dear Ms. Archambault,

On behalf of the Air-Conditioning, Heating and Refrigeration Institute (AHRI) I respectfully submit the following comments in response to the Rhode Island Proposed Draft Regulation - *Chapter 120 – Office of Air Resources, Subchapter 05 - Air Pollution Control, Part 52 - Prohibition of Hydrofluorocarbons in Specific End-Uses*.

AHRI is the trade association representing manufacturers of heating, cooling, water heating, and commercial refrigeration equipment. More than 320 members strong, AHRI is an advocate for the industry and develops standards for and certifies the performance of many of the products manufactured by our members. In North America, the annual output of the HVACR and water heating industry is worth more than \$44 billion. In the United States, the industry supports 1.3 million jobs and \$256 billion in economic activity annually.

For more than a decade, AHRI has worked to support regulations to reduce the consumption and production of HFCs. Our members strongly supported the agreement to amend the Montreal Protocol on Substances that Deplete the Ozone Layer to phase down HFC production and consumption as a proven, predictable, and practical approach. We demonstrated that support in our work with state regulators and environmental non-governmental organizations (E-NGOs). Our industry has worked closely with local governments both foreign and domestic to prepare and successfully execute the safe and orderly transition to low-GWP refrigerants. AHRI appreciates the Department of the Environmental Management staff's hard work on this proposed rule phasing down the usage of hydrofluorocarbons in the state.

However, based on our experience in the transition to hydrofluorocarbon alternatives, we do have some concerns with provisions present in this draft of the proposed regulations.

Manufacturing and Distribution Prohibitions

AHRI members have concerns that any manufacturing or distribution ban regarding HFCs in the state of Rhode Island could prove disruptive to HVACR supply chains and impact manufacturers ability to operate in the state.

AHRI asks that limitations to manufacturing and distribution be removed from regulatory language. Small and large companies have invested significant capital investment and in manufacturing and distribution facilities. Banning the manufacture and distribution of products designed to use legacy refrigerants will impact local employment of high-paying jobs as well as strand investments intended to support local communities.

AHRI would like to discuss the proposed regulation and offer to provide technical support through the regulatory development process. Please let us know when it might be convenient to have a conversation regarding any technical questions or the concerns noted in this comment.

Importance of HFC Regulatory and Language Harmonization

One area of particular importance to our membership is administrative harmonization across HFC phasedown regulations. We thank you for keeping this in mind during this process. Twenty-five (25) governors have committed to implement policies to meet the Paris Climate Agreement and are considering HFC regulations over the coming years. As a result, the industry will likely be facing a number of different HFC regulations. In order to make these transitions both effective and manageable without disruption to our critical supply chains, administrative aspects of these phasedowns such as disclosure requirements must be harmonized in order to avoid unnecessary and impractical regulatory burden.

Harmonization is of particular importance to HVACR manufacturers due to equipment being sold through distributors, meaning that at the time of sale a manufacturer does not know which state the equipment will be sold to. This puts the additional burden on manufacturers to meet every administrative requirement for each state with HFC phase-down regulations. Harmonizing these requirements makes this process feasible and will help to ensure a smooth phasedown of HFCs.

Disclosure and Labeling Requirements

AHRI has concerns over the current status of state-specific, written disclosure and labeling requirements in this draft regulation. Some early drafts of regulations in other states adopting similar regulations have required citing specific state statutes via on-unit labeling similar to this draft regulation, which a measure AHRI strongly opposes due to HVACR manufacturers selling via nationwide distributors. With many states adopting HFC reduction measures, this could quickly lead to an impractical burden on manufacturers, with state specific labeling for dozens of states required on-unit. AHRI has worked with states with similar language to create generic on unit, written, or online disclosure requirements that lessen administrative burden on manufacturers without impacting the effectiveness of the regulation.

AHRI suggests disclosure and labeling requirements be modified to allow a disclosure similar to the below language, which has been used by other states adopting HFC regulations:

This equipment meets the regulatory requirements for hydrofluorocarbons in all states as of the manufacturing date. Only those refrigerants approved in the state for specific end-uses may be used.

In addition, AHRI suggests the inclusion of language clarifying acceptable methods of disclosure, such as the below:

“Written disclosure” can be provided through disclosure via on-unit labeling or symbols, the owner’s manual, or via an online portal available to consumers.

AHRI believes this change will maintain adequate disclosure without risking disrupting supply chains or overly burdensome patchwork disclosure requirements across all 25 U.S. Climate Alliance states.

AHRI Safe Refrigerant Transition Task Force

Differences in the properties of next generation refrigerants (e.g., flammability and toxicity) may require changes to current practices to minimize risk while meeting regulations. Some new refrigerants are historic products that have not been used in some time or that will be used with larger charge sizes (e.g., ammonia and hydrocarbons) or different types of equipment.

AHRI formed the Safe Refrigerant Transition Task Force in 2019 to evaluate the end-to-end supply chain for conversion readiness for interested stakeholders, to identify needs, and resolve issues or make recommendations to enable the safe use of low-GWP refrigerants in a timely manner to meet regulatory requirements. The Task Force is also leveraging learnings around the world, including the widespread use of A2L refrigerants in HVACR products in the European Union (EU), Japan, India, and Australia, as well as the auto industry in the EU, U.S., and Canada.

For example, there are currently restrictions related to shipping and storage present in the International Fire Code and via Department of Transportation regulations. It would be helpful to discuss a plan regarding storage and shipping of refrigerants in Rhode Island and to provide more detail regarding AHRI’s efforts to ensure that these concerns are addressed.

Assistance from the department both in the process of adopting updated safety standards into building codes and in ensuring the regulations timeline and restrictions match with modifications to codes and standards would be a great step in ensuring a safe and timely refrigerant transition without disruption to HVACR equipment.

For additional information, see the AHRI Safe Refrigerants Transition Task Force website. <http://www.ahrinet.org/SafeRefrigerant>

The Air Conditioning, Heating and Refrigeration Technical Institute (AHRTI) and Other Research into Next Generation Refrigerants

Over the course of the past five years, AHRI, in cooperation with the Department of Energy (DOE), the California Air Resources Board (CARB) and other concerned stakeholders have invested nearly \$7 million in research into the behavior and safe use of next generation refrigerants. Research results are made public at the following website. The table in exhibit one shows the most recent summary of this body of research. This research has been used in the development of the safety standards as well as in development of training and in preparation for the transition.

<http://www.ahrinet.org/Resources/Research/AHRI-Flammable-Refrigerants-Research-Initiative>

Safety Standards Adoption Into Building Codes

The use of some low GWP refrigerants may be inhibited because the most recent relevant safety standards have not yet been adopted by existing building codes in Rhode Island enabling these alternatives. For example, there are no refrigerants listed pursuant to the EPA's Significant New Alternatives Program as acceptable alternatives for chillers designed to use high pressure R-410A-replacement refrigerants. If ASHRAE Standard 15 and UL60335-2-40 are adopted into local building codes, chillers manufacturers could comply with the 2024 transition date. AHRI requests that the Department of Environmental Management work with Rhode Island authorities managing building codes to adopt safety standards. AHRI would be willing to provide information regarding the safety standards if helpful.

Usage of Recovered Refrigerants

AHRI suggests the department consider the usage of recovered HFC refrigerants in the phasedown plans for the state. Recovered refrigerants will help reduce the amount of newly-produced HFC refrigerants entering the state and assist in servicing and maintenance for existing units.

Adjustments for COVID-19 Pandemic

AHRI also suggests the department engage both with manufacturers and end-users to determine the impact of COVID-19 on operations and manufacturing as well as end-user financial impact. AHRI urges the department to engage in these conversations throughout the rulemaking process to determine if the final rule provides sufficient planning time for the refrigerant transition, and whether or not the timeline is harmonized with other states transitioning away from hydrofluorocarbons.

Thank you for providing the opportunity to address these areas of concern throughout the process. With federal action still under consideration, additional flexibility in administrative controls compliance will ensure a positive outcome for the environment and consumers while minimizing regulatory burden for industry. AHRI looks forward to continuing to work with you in the future. If you have any questions regarding this submission, please do not hesitate to contact me.

Sincerely,

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December 22, 2020

Submitted to: allison.archambault@dem.ri.gov

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Re: Proposed Regulation 250 RICR 120-05-52; Prohibition of Hydrofluorocarbons in Specific End-Uses

Dear Ms. Archambault:

The North American Association of Food Equipment Manufacturers (NAFEM) submits the following comments on the Rhode Island Department of Environmental Management's (RIDEM) proposed regulation at 250 RICR 120-05-52, *Prohibition of Hydrofluorocarbons in Specific End-Uses* (the "Proposed Regulation"). The Proposed Regulation is intended to "reduce hydrofluorocarbon emissions by adopting specific prohibitions for certain substances in air conditioning and refrigeration equipment, aerosol propellants, and foam end-uses."

NAFEM is a trade association of more than 550 commercial foodservice equipment and supplies manufacturers – a \$13 billion industry. These businesses, their employees and the products they manufacture, support the food away from home market – which includes more than one million locations in the U.S. and countless more around the world. These member companies and their products are subject to regulation by RIDEM, as well as the U.S. Environmental Protection Agency (EPA) and other state and federal agencies, such as the federal Clean Air Act and the Department of Energy's (DOE) Energy Conservation Standards program. NAFEM supports, and its members actively seek, opportunities to make improvements in the refrigerants used to make refrigeration and other equipment relied upon by our society to safely provide food away from home.

NAFEM provides the following comments to the Proposed Regulation. NAFEM's members are directly affected by which refrigerants are allowed to be used in certain applications.

Proposed Definitions

NAFEM recommends that RIDEM align its definitions with those used by the EPA. This regulatory consistency is very important for ensuring national and regional consistency without impacting the intent of the Proposed Regulation. For example, the Proposed Regulation has a definition for a "stand-alone unit" but no definitions or considerations for "hybrid units" or "self-contained" units. NAFEM recognizes that EPA

uses the terms “stand-alone unit” and “self-contained unit” interchangeable in previous SNAP rules. The same applies to DOE and energy efficiency standards. However, the Proposed Rule and other federal actions may result in variations for what is essentially self-contained or not. RIDEM should follow EPA and DOE, and work to ensure national uniformity of these definitions.

In addition, RIDEM’s proposed definition for “stand-alone unit” includes equivocating words like “may be” and “typically.” There is such wide variability in product types and the regulatory definitions of product categories used must be consistent across federal and state regulatory landscapes. Including “wobble words” can have the unintended consequence of regulating various products by the Proposed Regulation than by EPA, including through EPA’s original SNAP 20 and 21, which NAFEM recognizes RIDEM is attempting to mimic. To avoid such unintended results, RIDEM should make sure its definitions align precisely with those used by EPA today and in future federal rulemakings.

NAFEM also believes that RIDEM’s Proposed Regulation should define the term “hydrofluorocarbon” or “HFC” to mean “a class of greenhouse gases that are saturated organic compounds containing hydrogen, fluorine, and carbon.”

Proposed Sections 52.5 and 52.6 Exemptions and Prohibitions

NAFEM requests that RIDEM engage in further discussions with manufacturers and end-users to determine if the effective dates in the Proposed Regulation are in fact realistic compliance deadlines. Many manufacturers have had the product design and manufacturing cycles disrupted due to COVID-19. Likewise, end users may have had capital improvements or other projects delayed that could impact the effective dates. Thoughtful consideration should be given to this before finalizing the effective dates.

Proposed Section 52.7A Prohibitions

While the Proposed Regulation in Section 52.6 makes clear that the proposed law “does not prohibit products and equipment in specific end-uses manufactured prior to the applicable effective dates,” it should clarify in Section 52.7A that such equipment may be “serviced” after the effective date. This will ensure that those systems (i.e., capital investments) already in use on the effective date will be well-maintained and continue protecting the environment during their useful life.

Proposed Section 52.7B Disclosure Statement

Harmonization of disclosure requirements across the United States is an important and critical concern. Product labeling cannot be accomplished on a state or regional basis. Once a product is produced, the state in which it will be ultimately sold and used is unknown. Therefore, NAFEM believes it is absolutely imperative that individual states not have unique labels causing needless burdens on sellers, installers, users, and manufacturers with no benefit. Here, RIDEM is proposing that manufacturers provide written disclosure to the buyer (who may not even be the end user) that the equipment is prohibited from use in Rhode Island if it does not comply

with the regulation. This is followed by an approval statement by the company under the penalty of perjury. These are unworkable mandates because manufacturers have no control over an appliance once it is sold within the distribution channel.

NAFEM also recognizes that RIDEM offers an alternative disclosure by labeling products that would not meet the Proposed Regulation stating, "Not for sale or use in Rhode Island." While NAFEM appreciates RIDEM's efforts, the idea that equipment will end up plastered with state-specific labels for comparable regulatory approaches also is unworkable. In the alternative, RIDEM should consider allowing manufacturers to maintain an online statement regarding various state compliance mandates or comparable statement in final product literature associated with individual products. Again, limitations on product labeling capabilities demand flexibility to allow alternatives for achieving the goals of the Proposed Regulation and ensure appropriate information disclosure. Consistent with other comments, NAFEM supports adding a definition of written disclosure such as:

"Written disclosure" can be provided through disclosure via on-unit labeling or symbols, the owner's manual, or via an online portal available to consumers.

Proposed Section 52.8 Recordkeeping

The recordkeeping provisions of the Proposed Regulation is overly burdensome and virtually impossible to comply with in current industry practices. As indicated above, the manufacturer may not know the ultimate purchaser in Rhode Island. Nevertheless, much of the information being requested can be determined for products that end up in Rhode Island by reviewing the label, using serial numbers from which the data of manufacture and relevant information about materials and components used in manufacturing that product may easily be determined. Information about the actual sales date or final purchaser would not be readily available from the manufacturer, but would be from the end user in Rhode Island. In any event, the key effective dates in the proposed regulation are triggered by the "date of manufacture."

Proposed Federal Regulatory Development

NAFEM also requests that RIDEM include provisions in the Proposed Regulations for these regulations to sunset if/when the federal government adopts comparable regulations for these same refrigerants. Because these products are distributed throughout national and international commerce, it is important that states provide an easy transition from individual state regulations to more uniform federal regulations of the same materials.

And finally, as the comment deadline approaches, Congress has passed a massive pandemic relief and government spending bill that includes bipartisan support for phasing out HFCs. The President is expected to sign that legislation. Therefore, we request that RIDEM carefully evaluate that federal legislation and determine if further pursuing its own regulatory approach is prudent.

Please contact the undersigned if NAFEM can provide any additional insight or assistance. We would be happy to work with RIDEM on further development of the Proposed Regulation.

Respectfully submitted,

A handwritten signature in cursive script that reads "Charlie Souhrada".

Charlie Souhrada, CFSP
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December 22, 2020
Allison Archambault
Rhode Island Department of Environmental Management
Emailed to: Allison.Archambault@dem.ri.gov

RE: Daikin Comments to Draft Rhode Island HFC Phasedown Regulation

Dear Ms. Archambault:

The following comments from Daikin US are in response to the Rhode Island proposed Prohibition of Certain Hydrofluorocarbons in Specific End-Uses stakeholder meeting held on December 11, 2020.

On September 26, 2019, Daikin announced its intent to develop ducted and ductless residential, light-commercial, and applied products utilizing R-32 refrigerant for the North American market. Daikin selected R-32 due to the drastically lower GWP profile when compared to the current commonly used R-410A, its energy efficiency benefits, and the ease to reuse, reclaim, and recycle the refrigerant.

While Daikin US contends that federal regulations are the most desirable way to regulate the phase-down of hydrofluorocarbons, we intend to work with individual states and territories to assist them in adopting and implementing consistent laws and regulations.

First, Daikin would like to thank the Rhode Island Office Department of Environmental Management (DEM) for their engagement throughout the process. We would also like to thank DEM for including a sell-through provision that specifies that the prohibitions in the regulation do not apply to products or equipment manufactured for listed end-uses prior to the applicable effective date. However, several aspects of the proposed regulation present areas of concern for Daikin and the industry.

Manufacturing and Distribution

Daikin US joins the Air-Conditioning, Heating, and Refrigeration Institute (AHRI) in asking that DEM remove the limitations on manufacturing and distribution in Rhode Island. The inclusion of the word “manufactures” throughout the proposed regulation impacts small and large companies that have invested heavily in Rhode island. By effectively banning the manufacture and distribution of products using prohibited refrigerants—even for sale outside the state of Rhode Island—this regulation will impact Rhode Island’s economy and business.

New York State, for example, has removed this language from its regulation, and Colorado has provided an alternative compliance path for manufacturers selling outside



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of that state. Daikin also encourages DEM to remove this limitation from its final regulatory language.

Definitions

Twenty five states' governors have committed to implementing policies designed to meet the Paris Climate Agreement, including HFC phasedown regulations. In order to prevent disruption of industry supply chains and make these transitions as smooth and effective as possible, these regulations should be harmonized to avoid confusion and unnecessary regulatory burden. There are several definitions in Rhode Island's proposal that are not in line with other US Climate Alliance states.

First, the definition of the word "Retrofit" differs from that used in other states, and we recommend that Rhode Island also adopt a definition that matches other USCA states such as:

"Retrofit" means to convert a system from one refrigerant to another refrigerant. Retrofitting includes the conversion of the system to achieve system compatibility with the new refrigerant and may include, but is not limited to, changes in lubricants, gaskets, filters, driers, valves, O-rings, or system components.

Secondly, the proposed definition of "substance" includes the phrase "product, substitute, or alternative manufacturing process, whether new or retrofit," which is significantly different from that adopted in other states which reads:

"Substance means any chemical intended for use in the end-uses listed in" [the regulation].

Daikin encourages DEM to harmonize all definitions with those of other USCA states.

Disclosures

Any proposed requirement for a disclosure statement is of serious concern. We also believe that existing labeling requirements, such as UL labeling, includes all the information which DEM is seeking and should be sufficient for air conditioning and refrigeration equipment whether or not it's charged in the factory. A patchwork of different disclosure requirements is an additional burden that makes it difficult to market and sell a line of products nationally.

However, if DEM chooses to require another form of disclosure, Daikin US supports AHRI's suggestion of allowing the use of internet disclosures and generic disclosure statements mimic those in other states. Like AHRI, we agree that multiple



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state specific labeling requirements is an unwarranted and unnecessary burden. These requirements are difficult to execute given the complexity of sales channels across all the different states. Like AHRI, Daikin US believes online disclosure or disclosure in product literature can satisfy the disclosure requirements DEM seeks. Indeed, under the Federal Trade Commission rules governing yellow Energy Guide labels, online information required of manufacturers satisfies that disclosure obligation.

Recordkeeping

Likewise, Daikin US finds the requirements for recordkeeping burdensome on manufacturers. Additional recordkeeping by states can be impossible across supply chains, especially when equipment usually does not ship from the manufacturer to the final end-user. Recordkeeping requirements do not account for the many different ways components of a full system may travel. These requirements will not assist in enforcement of the proposed regulation.

Finally, confidential business information may be implicated in any information submitted by a manufacturer. Therefore, manufacturers should not be required to disclose such information. Daikin US does not support recordkeeping requirements and recommends that Rhode Island avoid including them in their regulation. Other states, like Delaware, have already agreed to remove recordkeeping from their regulation.

Codes and Standards

Daikin agrees with AHRI that in order for manufacturers to adopt some low-GWP alternative refrigerants and for Rhode Island and other states to meet their HFC emissions reductions goals, the safety standards and model building codes must enable the use of group A2L refrigerants. We encourage DEM to work with the Building Code Commission (BCC) to adopt rules permitting the use of substitutes not prohibited by this regulation by working with the Department of Labor, Licensing, and Regulation. Specifically, we request the regulation direct the BCC to adopt ASHRAE 15-2019 and UL/CSA 60335-2-40-2019 (3rd edition), or equivalent (e.g. model codes that include those standards) and ASHRAE 34-2019

Refrigerant Management

Daikin US recommends Rhode Island consider adding provisions around refrigerant management to address Rhode Island's strategy to reduce HFC emissions.

Any ban that does not exempt reclaimed product could strand existing equipment that relies on a banned refrigerant. It is important to consider methods that ensure refrigerants are properly managed throughout their lifecycles, not simply banning refrigerants. Therefore, we believe that Rhode Island's strategy should not only exempt reclaimed refrigerant but should start with a heavy emphasis on refrigerant



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management, which may include refrigerant reuse and recovery (as stated under Clean Air Act Sec. 608) to reduce emissions.

A strategy that promotes or enforces the recovery, reclamation, and re-use of refrigerants directly achieves DEM's goal of reducing HFC emissions by eliminating, or at least reducing, the need to service existing systems with newly manufactured product.

Technician Training

Training and servicing requirements for technicians will be important considerations for future regulations. The industry intends to develop a standardized training program for technicians, contractors, wholesalers, and trainers. As with past refrigerants transitions, training will be important so that installation, repairs, and maintenance will result in optimized performance and minimized refrigerant losses. Addressing the safety concerns with A2L refrigerants is paramount. On this topic, Daikin is willing to work with the DEM to provide guidance.

Thank you for the opportunity to provide these comments.

Sincerely,

A handwritten signature in black ink that reads "Charlie McCrudden".

Charlie McCrudden
Director, Government Affairs

December 16, 2020

Allison Archambault
Supervising Air Quality Specialist
Climate Change & Mobile Sources Programs
Rhode Island Department of Environmental Management
Office of Air Resources
235 Promenade Street, Providence RI 02908
Allison.Archambault@dem.ri.gov

Dear Ms. Archambault,

In response to Rhode Island's Department of Environmental Management's (DEM) announcement to regulate the use of Hydrofluorocarbons (HFCs), DuPont Performance Building Solutions, a business unit of DuPont Specialty Chemicals LLC, would like to make you aware of some critical impacts of this regulation and ask for a specific compliance date change for the small niche product category, extruded polystyrene boardstock foam insulation (XPS).

Our high performing Styrofoam™ Brand XPS insulation is a critical component to Rhode Island's ability to reduce energy waste, building emissions, and consumer costs in utility bills. If Rhode Island DEM chooses, at some point in 2021, to implement a regulatory program with an XPS conversion date that goes into effect retroactively to Jan. 1, 2021 or goes into effect immediately at the regulatory effective date, this will mean that our business, which has supplied your state with energy efficiency products for over 50 years, will be at risk.

Short lead-times and retroactive dates do not work in the construction industry and would cause Rhode Island job site closures, construction delays, and costly impacts to multiple projects in your state such as affordable housing, federal, and municipal sustainable building projects. Currently, there are many commercial projects in the process of development in Rhode Island, including state, federal, city and county funded projects, and a variety of residential projects, all of which would be negatively impacted by retroactive dates.

While the drafted regulatory timeline may seem by Rhode Island to be justified based on the original SNAP Rule 20 timeline, the absence of sufficient notification time is extremely disruptive to the construction cycle. The construction industry requires planning, bidding, ordering, and shipping months in advance of a project or when those products are used. Due to these specificities in logistics for the construction supply chain, advanced steps that need to be taken and others steps for products to become certified and comply with standards. It typically takes 12-18 months to implement all changes to the product supply chain for new formulations.

It is critical for Rhode Island DEM to understand that foam insulation products in different categories are not interchangeable as suggested by verbal and written comments from other stakeholders. Those stakeholders routinely claim that their products, such as polyisocyanurate (polyiso) and expanded polystyrene (EPS), can be used in lieu of XPS boardstock products for all construction projects and therefore XPS boardstock should have a conversion date that is retroactive or immediate. These claims are simplistic and unfounded.

First of all, foam insulations are not categorically the same simply because they all insulate and are called “foam insulation”. There are many different product characteristics, or lack thereof, within a product beyond its insulation factor – including size, width, weight, compressive strength, moisture retention or repellence, ease of handling, etc. Once a specific XPS product has been formally specified for a building project, the builder cannot simply use a different foam insulation. The product specified becomes part of the building blueprint or ‘instructions’ that the architects, with the help of engineers, have put into place for the builders to follow. Certain types of foam insulation are specified by architects because of numerous qualifications, e.g. system fire approvals, and each building construction project’s specific needs are considered to make those product specification decisions. In addition, physical property and building code requirements vary depending on the application of the product. It is not possible to replace the performance of one product type for another.

Furthermore, as there are hundreds of end-uses for insulation boards specifically designed to meet the unique conditions and desired characteristics for specific areas of application, it is not realistic to expect one category of products to be used in all instances. It is not possible to replace the performance of one product type for another. For instance, XPS is also ideal for cold-storage transportation of pharmaceuticals because the trucks require extremely light-weight yet very durable insulation.

It is the right of the U.S. consumer to pick the product that is most appropriate for their project based on application, use conditions and preferences. It is important to leave the choice up to the consumer to meet their unique project needs. This choice requires that appropriate regulatory enforcement lead times and no retroactive dates are put in place to prevent non-XPS boardstock manufactures from using the dates as marketing against this category.

In support of our comments that products are not interchangeable, we are providing evidence via the below links to publicly available information:

- XPS vs EPS:
 - <https://xpsa.com/technical-information/>
 - <https://s3.amazonaws.com/www.xpsa.com/XPSA+Technical+Insights-Winter-Spring-2020.pdf>
 - Below-Grade applications, study in Alaska
<https://s3.amazonaws.com/www.xpsa.com/XPSA-IP-BG-01.pdf>
 - Water permeability <https://www.youtube.com/watch?v=09XZQr8aXDA>
- XPS vs Polyiso :

- <https://www.youtube.com/watch?v=evMsenbwtw>
- Polyiso lack of performance in cold climates:
<https://www.greenbuildingadvisor.com/article/in-cold-climates-r-5-foam-beats-r-6>

Contrary to comments by associations and manufacturers of other types of foam insulation, conversion dates in other US states are not an indicator of readiness for Rhode Island to have XPS boardstock. Unlike in the majority of other HFC uses, XPS boardstock foam technology blowing agent conversion must be carried out facility by facility and requires 12-18 months of implementation time at each site.

With an insufficient transition period, the number of construction foam insulation products available in Rhode Island will be severely restricted, with some products not available at all. This lack of high performing energy efficiency products will make it more difficult and expensive for residential and commercial building owners to meet the building energy code, and much more challenging and costlier for the state to meet its energy and environmental goals.

DuPont encourages the state of Rhode Island to ensure HFC prohibitions are consistent with the 12-18 month lead time needed for the impacted XPS industry as provided by similar finalized regulations and legislation in other states. DuPont supports a harmonized regulatory framework for reducing HFCs, as this creates business certainty and the possibility for supply chain optimization required for doing business with our customers in Rhode Island and nationally. Additional time has either been granted, is drafted, or is being considered by multiple other US Climate Alliance states including Maryland, Delaware, Maine and Texas.

As noted in the response to comments on U.S. Federal Senate Bill S. 2754¹ by the Extruded Polystyrene Industry Association (XPSA), sufficient and consistent lead time for the entire XPS industry is critical. The XPS industry has consistently stated that it needs at least 12 months to complete manufacturing conversions after the publication of a new regulation. Notably, the verbal comments given during the DEM stakeholder meeting on December 11th, 2020 by the Natural Resources Defense Council, AHRI, and others agree that it is appropriate to move back conversion dates if the Rhode Island regulation effective date is later.

This request aligns with our commitment to a more aggressive HFC phase down timeline than that referenced in the Kigali Amendment to the Montreal Protocol. Our conversion pathway is aligned with our DuPont Performance Building Solutions' recently launched 2030 Sustainability Goals², which commit to a reduction in GHG emissions from operations by 75% from 2019 levels.

At DuPont Performance Building Solutions, we have been implementing ongoing extensive research and development to find workable alternatives over many years while continuing to

¹ https://www.epw.senate.gov/public/_cache/files/3/e/3e7aed38-7fdb-4014-9a13-942a3a6e5a50/876B7C3D51660FADFE308E7620B67075.04.08.2020-extruded-polysterene-foam-association.pdf

² <https://www.dupont.com/news/dupont-performance-building-solutions-corian-2030-sustainability-goals.html>

ensure high thermal performance and many other critical characteristics of our Styrofoam™ Brand XPS products.

Based on the timeline of expected final HFC regulation in Rhode Island as “Late 2021”, the conversion date for XPS boardstock in the Rhode Island regulation should be no earlier than July 1, 2022. XPS boardstock conversion and enforcement regulations published without an appropriate notice of 12-18 months is untenable.

If you have further questions or would like more information, please do not hesitate to contact us.

Sincerely,

A handwritten signature in black ink, appearing to read "Lisa Massaro", with a long horizontal flourish extending to the right.

Lisa Massaro
Advocacy & Product Stewardship Manager
Performance Building Solutions
Lisa.M.Massaro@DuPont.com

December 18, 2020

Ms. Allison Archambault
Rhode Island Department of Environmental Management
235 Promenade St
Providence, RI 02908

Submitted via email to: Allison.Archambault@dem.ri.gov

RE: Draft Rulemaking: PART 52 - Prohibition of Hydrofluorocarbons in Specific End-Uses
(250-RICR-120-05-52)

Dear Ms. Archambault,

Thank you for the opportunity to provide comments on Rhode Island's draft regulations to prohibit certain uses of hydrofluorocarbons (HFCs) in specific end-uses. Honeywell strongly supports this proposed regulation and applauds Rhode Island's action. With this action, Rhode Island will join California, Colorado, Connecticut, Delaware, Hawaii, Massachusetts, New Jersey, New York, Pennsylvania, Washington state, Vermont, Virginia and other states that have or will soon adopt consistent requirements to maintain the transition to safer, available alternatives to high-global-warming-potential (GWP) HFCs.

HFCs are used throughout the world as refrigerants in air conditioning to cool cars, homes and buildings, in home and commercial refrigeration, in foam insulation, and as aerosol propellants and solvents. While efficient, many HFC products have high global-warming-potential. Because HFCs are used in everyday life, replacing these products with next-generation alternatives can make a positive impact on the environment and human health.

Replacing HFCs with better alternatives is key to achieving greenhouse gas emissions reductions in Rhode Island. Globally, replacing HFCs with low-global-warming-potential alternatives could avoid up to 0.5 degrees Celsius of warming by the end of the century.

American industry has invested well over \$1 billion domestically and employed more than 700,000 US workers to research, develop and implement alternative solutions to high-GWP HFCs. This includes newly constructed manufacturing hubs in the United States to produce such alternatives. This bill will help drive a transition to the low-GWP solutions and promote US leadership in innovation and manufacturing.

Because of this investment, cost-effective, near drop-in alternatives to HFCs are commercially available today and are ready for widespread adoption. In addition to lower GWP, technologies using environmentally preferable HFC alternatives are often also more energy efficient than traditional systems, and thus lower customer costs and increase competitiveness. Honeywell

continues to work with our customers to ensure a smooth transition to these advanced technologies.

In 2015 and 2016, under the Significant New Alternatives Policy (SNAP) program US EPA established practical and reasonable timelines to transition the industry from outdated HFCs to safer next-generation alternative solutions on a clear and predictable schedule. However, litigation has undermined the SNAP timeline, upending a consistent federal approach to the HFC phasedown.

So states must take a lead on this essential initiative and with this regulation, Rhode Island is seizing the opportunity to build upon consistent and growing state-level efforts. We support that effort and this proposed regulation.

Our technical comments are attached.

Sincerely,

DocuSigned by:

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Sanjeev Rastogi
Vice President & General Manager
Honeywell Fluorine Products

Technical Comments

We respectfully submit the following comments to improve the technical accuracy of the regulation and better reflect its intent.

Definitions:

There are several inconsistencies in the definitions for polyurethane end uses in the draft regulations. These definitions reference various terms such as “polymers,” “polyurethane polymers,” “polyurethane,” “urethane,” and the raw materials used to form polyurethane polymers. Honeywell suggests developing a definition for “polyurethane,” and then referencing this term in the definition of the different end uses. This builds a consistent approach to the end use definitions.

Further, the definitions for “foam or foam blowing agent” and “rigid polyurethane high-pressure two-component spray foam” are incorrect. Foam and foam blowing agents are two separate products and should have separate definitions. Promulgating final regulations with the current definition of high-pressure two-component spray foam will inadvertently exclude high-pressure two-component spray foam from the HFC prohibitions, which seems counter to the intent of the regulation.

Honeywell also suggests technical corrections to clarify the definition of “rigid polyurethane low-pressure two-component spray foam.”

In addition, the limitation of “Rigid polyurethane (PU) one-component foam sealants” to only sealants exempts a number of products currently sold into the market. We recommend that the product classification be listed as “Rigid polyurethane (PU) one-component foam.”

Honeywell recommends the following changes to section 52.4:

- *“Aerosol Propellant”*: Means a compressed gas that serves to dispense the contents of an aerosol container when the pressure is released.
 - The term “compressed gas” is not defined. For improved clarity, we suggest the following definition: *means a liquefied or compressed gas that is used in whole or in part, such as a cosolvent, to expel a liquid or other material from the same self-pressurized container or from a separate container.*
- Add a new definition: *“Polyurethane” means a polymer formed principally by the reaction of an isocyanate and a polyol.*
- *“Flexible Polyurethane” means a non-rigid ~~synthetic polyurethane~~ foam ~~containing polymers created by the reaction of isocyanate and polyol~~, including but not limited to that used in furniture, bedding, and chair cushions, ~~and shoe soles.~~*

Note: Shoe soles can be flexible polyurethane or integral skin polyurethane. Accordingly, they are not a good example product.

- *“Foam” ~~or “foam blowing agent”~~ means a product ~~or substance used to produce the product~~ with a cellular structure formed via a foaming process in a variety of materials that undergo hardening via a chemical reaction or phase transition, ~~such as polymers and plastics.~~*

- Insert a new definition: “Foam Blowing Agent” means a substance that functions as a source of gas to generate bubbles in the mixture during the formation of foam.
- “Integral Skin Polyurethane” means a ~~synthetic~~ self-skinning polyurethane foam ~~containing polyurethane polymers formed by the reaction of an isocyanate and a polyol,~~ including but not limited to that used in car steering wheels, and dashboards, ~~and shoe soles.~~

Note: Shoe soles can be flexible polyurethane or integral skin polyurethane. Accordingly, they are not a good example product.

- “Polystyrene extruded sheet”: means polystyrene foam including ~~but not limited to that used for packaging and buoyancy or floatation.~~ It is also made into food-service items, including hinged polystyrene containers (for “take-out” from restaurants); food trays (meat and poultry) plates, bowls, and retail egg containers.
- **Phenolic insulation board” and” and bunstock:** ~~means phenolic insulation including but not limited to that used for roofing and walls. Bunstock or bun stock is a large solid box-like structure formed during the production of polystyrene insulation Boards, blocks or other shapes fabricated with phenolic foam.~~

Note: Typo inaccurately includes polystyrene in definition for phenolic foam.

- **Polyolefin:** means foam sheets and tubes made of polyolefin, ~~a macromolecule formed by the polymerization of olefin monomer units.~~ Foam sheets and tubes made from polyolefin

Note: This is processing of a thermoplastic material. It is not manufacture of the resin.

- “Rigid Polyurethane Appliance Foam” means polyurethane ~~insulation~~ foam in household appliances used for insulation.
- “Rigid Polyurethane Commercial Refrigeration and Sandwich Panels” means polyurethane foam used to provide insulation ~~for use~~ in walls and doors, including that used for commercial refrigeration equipment, and used in doors, including garage doors.
- “Rigid Polyurethane High-pressure Two-component Spray Foam” means a liquid polyurethane foam system sold as two parts (i.e., A-side and B-side) in non-pressurized containers; product that is pressurized 800-1600 pounds per square inch (psi) during manufacture; sold in pressurized containers as two parts (i.e., A-side and B-side) that is field or factory blown and applied in situ using high-pressure proportioning pumps to propel the foam components at 800-1600 pounds per square inch (psi) and an application gun to mix and dispense the chemical components. may use liquid blowing agents without an additional propellant.

Note: High-pressure two component spray foam products are not sold in pressurized containers. The systems are attached to specialized equipment and applied using proportioning pumps at 800 to 1600 psi. This process is referred to as application, not manufacture.

- “Rigid Polyurethane Low-pressure Two-component Spray Foam” means a liquid polyurethane foam ~~system product~~ sold as two parts (i.e., A-side and B-side) in containers that are ~~is~~ pressurized to less than 250 psi during manufacture of the system for application without pumps; ~~sold in pressurized containers as two parts (i.e., A-side and B-side)~~; and are typically applied in situ relying upon a liquid blowing agent and/or gaseous foam blowing agent that also serves as a propellant ~~so pumps typically are not needed~~.
- “Rigid Polyurethane Marine Flotation Foam” means buoyancy or flotation polyurethane foam used in boat and ship manufacturing for both structural and flotation purposes.
- “Rigid Polyurethane Slabstock and Other” means a rigid closed-cell polyurethane foam ~~containing urethane polymers produced by the reaction of an isocyanate and a polyol~~ and formed into slabstock insulation for panels and fabricated shapes for pipes and vessels.
- “Rigid Polyurethane One-component Foam ~~Sealants~~” means a polyurethane foam generally packaged in aerosol cans that is applied in situ using a gaseous foam blowing agent that is also the propellant for the aerosol formulation.

December 22, 2020

via electronic transmission

Allison Archambault
Supervising Air Quality Supervisor
Rhode Island Department of Environmental Management
235 Promenade Street
Providence, RI 02908

Subject: HCPA Comments on Draft Prohibition of Hydrofluorocarbons in Specific End-Uses

Dear Ms. Archambault,

The Household & Commercial Products Association¹ (HCPA) appreciates the opportunity to offer comments on Rhode Island Department of Environmental Management (DEM) draft regulation² 250-RICR-120-05-52, Prohibition of Hydrofluorocarbons in Specific End-Uses. The purpose of this regulation is to reduce hydrofluorocarbon emissions by adopting specific prohibitions for certain substances in air conditioning and refrigeration equipment, aerosol propellants, and foam end-uses. HCPA supports the draft regulation which would adopt the 2015³ and 2016⁴ United States Environmental Protection Agency (EPA) prohibitions on the use of HFCs as substitutes for ozone-depleting substances to ensure consistency with other state activity to limit the use of certain HFCs; however, HCPA would like to make a few recommendations to better harmonize the draft regulation with not only the actions that other states have taken to address the use of HFCs, but also align with already existing regulations in Rhode Island.

HCPA represents a wide range of products, from household cleaners and air fresheners to commercial disinfectant and pest control whose use of aerosol technology makes the aerosol industry an integral part of the household and commercial products industry. HCPA has represented the U.S. aerosol products industry since 1950 through its Aerosol Products Division, representing the interest of companies that manufacture, formulate, supply and market a wide variety of products packaged in an aerosol form.

¹The Household & Commercial Products Association (HCPA) is the premier trade association representing companies that manufacture and sell \$180 billion annually of products used for cleaning, protecting, maintaining, and disinfecting homes and commercial environments. HCPA member companies employ 200,000 people in the U.S. whose work helps consumers and workers to create cleaner, healthier and more productive lives.

² Available at <http://www.dem.ri.gov/programs/air/documents/pn/pn-250-ricr-120-05-52-d.pdf>

³ Appendix U of Subpart G of 40 CFR Part 82

⁴ Appendix V of Subpart G of 40 CFR Part 82

I. HCPA Supports Rhode Island's Actions to Restrict the Use of High Global Warming Potential HFCs in a Manner that Is Consistent with Other States

HCPA is in support of DEM's goal to restrict the use of high global warming potential (GWP) HFCs and thus improve air quality through innovation and technology through limiting their use in a manner that is consistent with similar action taken by other states to restrict the use of HFCs. California, Colorado, Maryland, New Jersey, New York, Vermont and Washington have all passed legislation or regulations to achieve the same goal of limiting the use of certain high GWP HFCs by utilizing Appendix U and Appendix V of Subpart G of 40 CFR Part 82 (Jan. 3, 2017). Further, other states⁵ are also in process of drafting and approving their own regulatory actions to restrict the use of HFCs in a similar manner.

DEM's approach is consistent with other state actions, which is critical so that industry has regulatory certainty for compliance and future planning, investment, sales and research and development decisions. Aerosol manufacturers utilize a variety of propellants which pressurize the aerosol system and influence how the product is expelled from the container.

Traditionally, the use of high-GWP HFCs by the aerosol industry was limited to a small number of product categories where their usage was necessary. Because of the original timeline with EPA's SNAP Rules, the U.S. aerosol industry has already moved away from using high-GWP HFCs in aerosol products except for the critical uses that were exempted. Thus, Rhode Island and other states are ensuring through this consistent action that aerosol products in which the usage of high-GWP is not critical do not reenter the market.

II. Correction of Acceptable Uses for Aerosol Propellants

HCPA believes that using the EPA SNAP Rules as the basis for this draft regulation will help ensure consistency across states; however, HCPA would like to point out one acceptable use from EPA SNAP Rule 20 that is not in DEM's draft regulation as we believe this was accidentally missed.

Within EPA SNAP Rule 20, one of the acceptable uses of HFC-134a is "cleaning products for removal of grease, flux, and other soils from electrical equipment *or electronics*." It is the *or electronics* that is missing from DEM's draft regulation as it only states within the Exemptions⁶ for Aerosol Propellant use of HFC-134a "cleaning products for removal of grease, flux, and other soils from electrical equipment." As this draft regulation is intended to align with EPA SNAP Rule 20, HCPA requests that the "*or electronics*" is included for this use.

⁵ Connecticut, Delaware, Massachusetts, and Pennsylvania

⁶ Table 1: Exemptions within 250-RICR-120-05-52.5(B)

III. Recommended Revision to the Definition of Aerosol Propellant

It is critical to provide regulatory certainty to the regulated community through consistent actions. Not only is it important to be consistent with other state action when addressing the use of high GWP HFCs, but it is also important to be aligned with other regulations in Rhode Island.

HCPA recommends DEM refer to the definition of a Propellant in the state's regulation "Control of Volatile Organic Compounds from Consumer Products."⁷ Here, the definition of an Aerosol Propellant is as follows:

Propellant means a liquefied or compressed gas that is used in whole or in part, such as a cosolvent, to expel a liquid or other material from the same self-pressurized container or from a separate container.⁸

This definition is for propellant is consistent with not just current regulation in Rhode Island, but all volatile organic compound (VOC) regulations for consumer and commercial products across the United States. By referring to an existing Rhode Island regulation, DEM would maintain consistency in the definition of an aerosol propellant.

IV. HCPA Recommends Modification to the Requirements in the Disclosure Statement

HCPA believes that more clarity is needed in the Disclosure Statement. Similar to § 52.7(A), § 52.7(B) needs to specify that the disclosure statement does not apply to an exemption provided for an end-use in § 52.5. As such, HCPA recommends the following text to be used for § 52.7(B):

As of the {effective date} of this regulation, any person who sells, offers for sale, leases, rents, installs, uses, or manufacturers or otherwise causes to be entered into commerce within the State of Rhode Island, products or equipment in the air-conditioning, refrigeration, foam, or aerosol propellant end-uses listed as prohibited in § 52.6 of this Part, must provide written disclosure to the buyer as part of the sales transaction and invoice, unless an exemption is provided for the end-use in §52.5 of this Part.

Further, for the alternative disclosure in § 52.7 (B)(2), similar text should also be included. Beyond needing to add the statement for an exemption to this section, it's important to know that aerosol products ship and are stored within cartons. The required statement will not be noticed when stored in a carton when on the label. Finally, companies cannot comply with individual disclosure statements that specify only one state. HCPA would recommend the following to address these issues:

For products and equipment that are intended to contain the substances listed in § 52.6 of this Part at the point of sale, unless an exemption is provided for the end-use in §52.5 of this Part, the disclosure statement requirement can be met alternately with a label on the product, carton or equipment to read, "Not for sale or use in states with HFC regulations." The label shall be displayed on the product or equipment such that it is

⁷ 250-RICR-120-05-31

⁸ 250-RICR-120-05-31.5(A)(134)

readily observable without removing or disassembling any portion of the packaging. The label or carton must be in a font size as large as, or larger than, the font size of all other words, excluding the company name, brand name, and logo.

HCPA also recommends that § 52.7(B)(3) also be modified to reflect the allowance of using the carton.

V. HCPA Recommends Modification to the Recordkeeping for Aerosol Products

HCPA recommends that the DEM modify the recordkeeping requirement to maintain consistency with other regulations for aerosol products. Specifically, HCPA respectfully urges DEM to modify the recordkeeping requirement so that records of aerosol products must be maintained for three years, not five.

HCPA requests this modification to align with the recordkeeping requirements⁹ found in Rhode Island's VOC regulation. Rhode Island's requirement that aerosol manufacturers keep accurate records for each day of production of the amount and chemical composition of the individual product constituents and maintain those records for three years is the same for all state VOC regulations and the federal EPA. It is critical that the recordkeeping requirements in this proposed regulation for aerosol products be harmonized with other existing regulations which the aerosol industry has standardized their recordkeeping practices upon.

VI. Conclusion

HCPA appreciates the opportunity to offer these comments on DEM's draft regulation. By developing consistent regulations, states can achieve a reduction in HFC emissions without imposing impediments to interstate commerce.

If you have any questions about our support or suggestions presented in these comments, please do not hesitate to contact me directly at (202) 833-7304 or ngeorges@thehcpa.org.

Sincerely,



Nicholas Georges
Vice President, Scientific & International Affairs

⁹ 250-RICR-120-05-31.10(A)(3)(a)

Submitted via email to Allison.Archambault@dem.ri.gov on 12/22/2020

We are happy to suggest how DEM might align language with other preceding states with respect to commercial refrigeration equipment (stand-alone). In the absence of seeing a listed web portal or email for comments, I can provide you with a few bullets below if that's ok. And, we will gladly submit formal comments once the rulemaking officially starts in 2021:

Definitions

- Generally, the definitions applicable to ITW's commercial foodservice equipment include "Retail" or "Commercial Refrigeration Equipment," "Remote Condensing Units," "Stand-alone Unit," and "Stand-alone' Low- and Medium-temperature" units. These categories and descriptions align with SNAP Rule 20 and are consistent with the end-use settings of our products.

End-Use and Prohibited Substances

- ITW also supports the effective dates of June 1, 2021, as outlined for commercial stand-alone (both medium- and low-temperature) and remote condensing unit refrigeration equipment for both refrigerant, and for rigid polyurethane low-pressure, two-component spray foam usage.

General Requirements

- We would suggest sell-through provisions in Section 52.7 to allow for all goods manufactured prior to effective dates to be sold without restriction into the state. This facilitates easier compliance and recordkeeping for manufacturers like ITW who make equipment in one central location that is distributed widely across the US through equipment dealer and distribution channels into which we have no visibility. Usually, there can be months between a product's manufacture date and the date on which it is installed for customer use. However, given the use of third-party certification lab "data plates" on our equipment that carry a product's date of manufacture, it will be easy for consumers and regulators to visibly verify a product's compliance with the effective dates. Please find a sample of such a plate attached.
- To aid the state's desire for consumer transparency and awareness, we support the disclosure requirements for the use of HFCs in refrigerant and foam blown into commercial foodservice equipment. However, we would suggest that the Department consider amending Section 52.7(B) in two ways to allow for commercial refrigeration equipment compliance:
 - Refrigerant: The third-party data plates referenced above also require the listing of the specific refrigerant contained in a unit. Since these are required nomenclature for our appliances to even be sold into the market in any state, we would suggest that data plates could serve as a sufficient disclosure alternative for refrigerant itself.
 - Foam-blowing agent: However, the data plates do not require any information with respect to foam, requiring manufacturers to declare for foam separately. ITW would suggest that allowing for disclosure to be made in product user information, such as an owner's manual, would provide a permanent record and resource for consumers with respect to the product's foam content – whether HFC or alternative substitute. Moreover, we would suggest that QR codes, which are commonly replacing printed manuals, should also be allowed to contain a complying disclosure as they are permanent fixtures to our equipment. We believe doing so would align not only with the Department's intent, but

with similar language adopted in other USCA states. Doing so will better allow manufacturers' products made and sold for use in any state to be more freely sold while remaining uniformly compliant with all state disclosure requirements.

I hope that you will find these suggestions to be instructive as you craft the proposed rule for 2021 introduction. I am happy to be available to discuss our suggestions as well if it is helpful. We look forward to working with you next year on the DEM HFC proceeding. Please let me know if there's anything else that I can provide until then.

Thank you,

Kevin Washington



Illinois Tool Works Inc. (ITW)

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Submitted Electronically

December 22, 2020

Rhode Island Department of Environmental Management
Climate Change & Mobile Sources Programs
Attn: Allison Archambault, Supervising Air Quality Specialist
235 Promenade Street
Providence, RI 02908
Allison.Archambault@dem.ri.gov

Re: Informal Public Comments – Draft Rulemaking re: PART 52 – Prohibition of Hydrofluorocarbons in Specific End-Uses (250-RICR-120-05-52)

Dear Ms. Allison Archambault,

The Polyisocyanurate Insulation Manufacturers Association (PIMA) appreciates the opportunity to comment on the Rhode Island Department of Environmental Management’s (Department) draft rulemaking for the Prohibition of Hydrofluorocarbons in Specific End-Uses (Draft Rulemaking).

PIMA represents North American manufacturers of laminated polyisocyanurate insulation board products (polyiso insulation).¹ Our members include Atlas Roofing Corporation, Carlisle Construction Materials, Firestone Building Products, GAF, Johns Manville, IKO Industries, Rmax, and Soprema. These manufacturers account for the majority of polyiso insulation produced for North America, including product sold into Rhode Island. **Importantly, PIMA members and the North American polyiso insulation industry do not use high-global warming potential (GWP) hydrofluorocarbons (HFCs) in the manufacture of their foam products.**² Therefore, and in recognition of our industry’s long-standing environmental leadership, we generally support the Department’s efforts to reduce harmful emissions of these greenhouse gases through the Draft Rulemaking.

¹ Additional information on polyiso insulation products is available at: <https://www.polyiso.org/>.

² Additional information on the polyiso industry’s use of low-GWP blowing agent solutions is available online at: <https://www.polyiso.org/page/Low-GWPBlowingAgentSolution>.

However, we have concerns with the Draft Rulemaking's requirements for disclosure statements (Section 52.7) and recordkeeping (Section 52.8) as applicable to manufacturers of polyiso insulation. Our concerns are outlined below.

I. PIMA supports the use prohibitions in Section 52.6 of the Draft Rulemaking and encourages the Department to finalize the regulations with a consistent effective date for all foam end uses.

As applicable to the foam end-use category, PIMA supports the use prohibitions as proposed in Section 52.6. We understand that the proposed effective date of June 1, 2021 for foam end uses may be adjusted to conform to the rulemaking timeline; however, we strongly encourage the Department to maintain a uniform prohibition date for all foam end uses.

As currently drafted, the Department's Draft Rulemaking establishes a uniform playing field for products within the foam end-use category as it relates to the use restrictions for high-GWP HFC substances and blends thereof. This level playing field is imperative for the building foam insulation product sector in which many products are in direct competition with one another. This sector includes products such as polyiso insulation, spray polyurethane foam insulation, and expanded (EPS) and extruded (XPS) polystyrene insulation boardstock products. **Low-GWP substitutes are commercially available and viable for all products in the building foam insulation sector**, and the Draft Rulemaking creates a uniform transition to more sustainable solutions for this entire sector.

Section 52.6 currently ensures that no manufacturer or foam insulation product type receives a competitive advantage due to unequal use restrictions for HFCs and blends thereof. Therefore, the Department should maintain this approach in developing a formal proposed rule and reject any modifications that would establish unique prohibition dates for products in the foam end-use category (notwithstanding the exceptions for military, space and aeronautics in Section 52.5).

II. The proposed disclosure statement requirement in Section 52.7 is unnecessary as applied to polyiso insulation products. Additionally, the requirement for other foam end uses should be modified to align with the labeling requirements of other jurisdictions.

As explained above, the North American polyiso insulation industry does not use the prohibited HFC substances and has never used the substances in the manufacture of its products. More than twenty years ago, PIMA members transitioned to pentane (or pentane blends) as the blowing agent for the manufacture of polyiso insulation and have continued to use the low-GWP technology in the manufacture of products today. As drafted, the proposed regulation would

require polyiso insulation manufacturers to make an affirmative statement about the use, or lack thereof, of substances that have never been used by the industry. Therefore, applying the disclosure statement requirement to the polyiso industry is unnecessary.

In order to avoid this outcome, PIMA suggests that the Department only require disclosure statements for products that used, or initiate the use of, high-GWP HFCs on or after a date certain. Washington State adopted this approach in its final HFC rule (see subsection 2 of the Applicability section of the state's final rule available here:

<https://ecology.wa.gov/Regulations-Permits/Laws-rules-rulemaking/Rulemaking/WAC173-443>).

For the Rhode Island rule, PIMA suggests that February 20, 2020 be used to establish the cutoff date for a disclosure statement requirement. This date corresponds to Rhode Island's public announcement of its HFC regulatory plan.

Absent changes to the applicability of the disclosure statement requirement, PIMA strongly urges the Department to implement the following modifications to the requirement for the foam end-use category:

- First, the Department should adopt a labeling option that is consistent with other jurisdictions in the New England region and the model rule developed by the U.S. Climate Alliance. This option should permit a foam manufacturer to satisfy the disclosure statement by including the following statement on a label: "Where sold, compliant with State HFC regulations."
- Second, the label should be permitted to be placed on the product or product packaging. This would ensure that the statement is conspicuously provided to the buyer and is consistent with the product labeling practices used by the industry and required by the state building code.
- Third, the legal attestation statement in the Draft Rulemaking should be deleted as it is unnecessary, places a burden on manufacturers, and risks crowding out other important safety information included with foam products. Manufacturers' product claims are already governed by state and federal consumer protection and advertising laws; the additional attestation is unnecessary.
- Fourth, the Department should delete the requirement that the disclosure statement or label remain with the product. As recommended above, a labeling option for foam products or product packaging should be permitted. Foam products are installed within assemblies (such as roofs and walls). Affixing a permanent label on individual units is not feasible for all foam products (hence the need for labels on product packaging) and would not be useful once the products are installed.

The above noted changes are necessary because state-specific labels for foam products (especially those sold into the building and construction market) are impractical and may not be feasible. For example, PIMA's manufacturing members operate thirty-six polyiso facilities located across Canada and the United States. When the finished product leaves the manufacturing facility, the manufacturer may have zero knowledge of its final destination. This is because building products are often sold through distribution channels that receive product in one state and ultimately deliver the product to a jobsite located in a different state. This distribution network would make it impossible to affix state specific labels to bundles of product when it leaves the manufacturer's facility. A label that is recognized by multiple jurisdictions addresses this issue and provides the same level of information to the consumer.

Additionally, it is important to permit foam products to be labeled on the product or product packaging. Product units (e.g., foam insulation boards) in the foam sector may not be individually labeled. Such a requirement would impose a significant burden on manufacturers and likely require costly upgrades to manufacturing equipment. However, manufacturers of foam insulation products do affix labels to product packaging in order to satisfy other existing regulatory requirements, including labeling required by the building code. Therefore, the proposed regulations should expressly provide for the option to affix the disclosure statement or label to the product or product packaging.

III. The recordkeeping requirement in Section 52.8 of the Draft Rulemaking should be stricken because the requirement will not improve compliance nor facilitate enforcement of the regulation.

We strongly encourage the Department to delete the recordkeeping requirement from the Draft Rulemaking. This requirement represents an administrative burden on manufacturers without providing a corresponding benefit to the public interest or the Department. Additionally, with respect to foam end uses, products are manufactured with the blowing agent and the substance remains with the product for its entire life cycle. Unlike other end uses, foam products are not serviced or recharged with substances during their life cycle. Therefore, the recordkeeping requirement provides no additional benefit to the consumer or the Department beyond the benefit already provided by the disclosure statement and labeling requirements in Section 52.7. If the Department is interested in establishing meaningful enforcement mechanisms, the state should consider testing products for the presence of the prohibited substances. This approach to enforcement would immediately alert the Department to bad actors, while not penalizing good actors with burdensome recordkeeping.

IV. Conclusion

We appreciate the opportunity to provide these informal comments to the Department regarding the Draft Rulemaking. Please contact me at jkoscher@pima.org or (703) 224-2289 should additional information be helpful to your process.

Respectfully submitted,



Justin Koscher
President



Raymond Regulatory Resources (3R), LLC

Doug Raymond 13808 Duncan Run Rd. Galena, Ohio 43021
djraymond@reg-resources.com 440-339-4539

December 21, 2020

Allison Archambault
Supervising Air Quality Supervisor
Rhode Island Department of Environmental Management
235 Promenade Street
Providence, RI 02908

Subject: 3R Comments on Draft Provision of Hydrofluorocarbons in Specific End-Uses

Dear Ms. Archambault,

Raymond Regulatory Resources (3R) appreciates the opportunity to comment on Rhode Island Department of Environmental Management (DEM) draft regulation on HFC's. This correspondence is a follow-up to verbal comments made at the 12/10/2020 workshop.

3R supports DEM's goal to maintain consistency with other states with similar regulators to restrict the use of certain high GWP HFC's. 3R appreciates the exemptions provided for Aerosols in 52.5 of this regulation.

As discussed in the workshop, the Disclosure Statement for Aerosol under section 52.7 (B) should be modified similar to section 52.7 (A) with the language "unless an exemption is provided for the end use in 52.5 of this Part". Without this language all aerosol product that fall under 52.5 would need to state the language in 52.7 (B) which would be confusing to any user of the product.

In addition, 3R also urges the DEM to modify the record keeping requirement be kept to 3 years as outlined in the states Consumer Product VOC Regulation.

Again, 3R appreciates the opportunity to comment on this regulation. Any questions or comments feel free to contact me at 440-339-4539 or at djraymond@me.com.

Thank you for your consideration to these comments.

Sincerely,

A handwritten signature in cursive script that reads "Douglas Raymond". The ink is dark and the handwriting is fluid and legible.

Douglas Raymond
President



December 14, 2020

Ms. Allison Archambault
Rhode Island Department of Environmental Management
Office of Air Resources
235 Promenade Street
Providence RI 02908-5767
Electronic transmission at Allison.Archambault@dem.ri.gov

Re: Comments on proposed regulation PART 52 - Prohibition of Hydrofluorocarbons in Specific End-Uses

Dear Mrs. Archambault:

SOPREMA appreciates the opportunity to offer comments on the proposed regulation *PART 52 - Prohibition of Hydrofluorocarbons in Specific End-Uses* that would prohibit the use of certain hydrofluorocarbons (HFCs) in refrigeration equipment, air conditioning chillers, aerosol propellants, and foams that are manufactured or used in Rhode Island.

SOPREMA is a manufacturer of various building construction materials with plants located in United States and many other countries. More specifically, SOPREMA operates an extruded polystyrene (XPS) manufacturing plant in Sherbrooke (Québec), Canada and a polyisocyanurate (ISO) foam insulation manufacturing plant in Drummondville (Québec), Canada, both just over 300 miles North of the Rhode Island state line.

We are pleased to see the actions taken by the State of Rhode Island being consistent with those from Canada and several other US states by prohibiting the use of HFCs in foam plastics. We are in full support of the prohibitions integrated in the draft rule. As you may know, Canada has implemented a series of measures to reduce the use of chemicals that are harmful to the environment in order to meet its commitments in the fight against climate change. One of these measures is an amendment to the ***Ozone-Depleting Substances and Halocarbon Alternatives Regulations*** (ODSHAR). The amendment regarding plastic foam insulation stipulates that, as of January 1, 2021, the blowing agent used in plastic foam manufactured or imported in Canada cannot have a global warming potential (GWP) greater than 150. This limitation effectively disqualifies the use of the HFCs listed in the Rhode Island draft rule from being used in foams manufactured by SOPREMA.

Extruded polystyrene (XPS) boardstock

During the month of October 2020, SOPREMA proudly completed its transition of XPS insulation products. SOPRA-XPS insulation boards no longer use HFCs and are in full compliance with the Canadian ODSHAR requirements.

Polyisocyanurate (ISO) laminated boardstock

Since its inauguration, SOPREMA's ISO manufacturing facility has only used zero ozone depletion potential (ODP) and low-GWP blowing agents of the pentane hydrocarbon family. HFCs have never been used in the manufacturing of SOPRA-ISO insulation boards.

Consequently, residents of Rhode Island who purchase SOPRA-XPS or SOPRA-ISO insulation boards can be assured they selected products that are in full compliance with your proposed regulation.

SOPREMA wishes to take this opportunity to offer specific comments on two sections of the proposed regulation.

1) Disclosure Statement

We believe that section 52.7.B.1.b on the disclosure statement applicable to foams is too broad and difficult to comply with.

- We urge the State of Rhode Island to consider harmonizing its requirement for disclosure with that of other jurisdictions that have already enacted disclosure requirements in their regulations (New York, New Jersey, Maryland). By doing so, a single declaration present on the insulation packaging label would be sufficient to demonstrate compliance with all regulations.
- Manufacturers of laminated ISO insulation products in North America have utilized pentane or pentane blends in their production processes for over 20 years. ISO laminated boardstock should therefore be exempted from the disclosure requirements.

Section 52.7.B.3 requiring that the disclosure statement remain on the product implies that foam insulation products must bear the label, which is impossible for some type of foam products.

- Printing capabilities on ISO are very limited and would typically not allow the current statement to be printed on boards.
- Spray-applied polyurethane foam insulation, which is created on site during installation, cannot integrate printing of any kind that would remain on the product once installed.
- In most uses, foam insulation products are enclosed within construction assemblies where the products are not visible after construction is completed. It would be of little value to require the disclosure statement to be printed on the product.

2) Recordkeeping

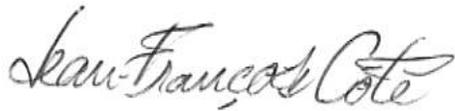
We believe that section 52.8 on recordkeeping has been developed having in mind intended uses other than foams. Foam insulation is not sold directly by the manufacturer to the end-user. Distributors, resellers, wholesalers, agents, retailers, and contractors may all be involved in the distribution of the products. Requiring all the parties involved in the transactions to maintain records would be a monumental task. Requiring the end-user to provide personal information when purchasing a single board of insulation at a local hardware store (a very difficult task) will

be a major impediment to the sales of these products. Such a requirement may create a market imbalance that may favor other types of insulation not covered by the regulation which is certainly not the reason why the regulation is being considered.

Furthermore, as mentioned previously, manufacturers of laminated ISO insulation products in North America have abandoned use of HFCs in their production processes more than 20 years ago. If anything, ISO laminated boardstock should be exempted from the recordkeeping requirements.

As an interested stakeholder in the development of the regulation, SOPREMA welcomes the opportunity to engage with the State of Rhode Island. Should you have any questions or clarifications, please contact me at jfcote@soprema.ca or (819) 473-2003.

Yours sincerely,



Jean-François Côté, PhD, Chemist
Director, Standardization and Scientific Affairs
SOPREMA