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July 18, 2021

Kerri Malinowski
Maine Department of Environmental Protection (DEP)
28 Tyson Drive
Augusta, Maine 04333

Via email: kerri.malinowski@maine.gov

Re: Concept Draft for the Maine PFAS in Products Program

Dear Ms. Malinowski,

These comments are submitted by the Air-Conditioning, Heating, and Refrigeration Institute (AHRI), on behalf of AHRI member companies, regarding the Maine Department of Environmental Protection (DEP) proposed regulatory plan for products covered under the *Act to Stop Perfluoroalkyl and Polyfluoroalkyl Substances Pollution* (38 M.R.S. §1614).

AHRI is the trade association representing manufacturers of heating, ventilation, air conditioning, refrigeration (HVACR) and water heating equipment. More than 300 members strong, AHRI is an advocate for the industry and develops standards for and certifies the performance 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.

AHRI has worked very closely with regulators in support of the transition away from high global warming potential (GWP) refrigerants and the use of chemicals in articles including the Maine Department of Environmental Protection and the U.S. Environmental Protection Agency (EPA). In fact, we have petitioned the Office of Air and Radiation with an opportunity to reduce the equivalent of another half billion tonnes of carbon dioxide through advancing transitions for air conditioning and commercial refrigeration equipment.

HVACR and water heating equipment provides critical services to society providing life-saving climate control and ventilation in homes, hospitals, schools, elder care facilities and most buildings. The cold chains for both food and medicines, such as vaccines, depends on transportation and storage provided by commercial refrigeration equipment manufactured by our members. HVACR and water heating equipment are especially critical during the pandemic and severe climate events, which is becoming all too frequent.

First, AHRI members greatly appreciate DEP's active stakeholder outreach and request for feedback on the regulatory concept. AHRI notes the practical challenge that there is very little information available regarding the chemical make-up of articles in the complex supply chains of the HVAC-R industry. Similar issues were identified during discussions regarding federal regulations of phenyl, isopropylated phosphate (3:1) or PIP (3:1) and other chemicals.¹

¹ AHRI. May 17, 2021. Air Conditioning, Heating and Refrigeration Institute comments on EPA-HQ-OPPT-2021-0202. Accessed via <https://www.regulations.gov/comment/EPA-HQ-OPPT-2021-0202-0143>.

Merely identifying the use of chemicals in supply chains is an exceptionally challenging and oft-unsuccessful task for manufacturers of complex systems, due to the general lack of transparency around component composition and the number of chemicals (approximately 9000) included in the overly broad definition of PFAS the State of Maine has selected as the basis for this regulation. This is exacerbated by confidentiality claims by component manufacturers and suppliers and the fact that this regulation could impact a chemicals embedded in the polymer matrix of equipment components.

Although the key focus of Maine's legislation is persistent, bioaccumulative, and toxic (PBT) per- and polyfluorinated alkyl substances (PFAS) that pose a risk to human health and the environment, the definition of PFAS used implicates a much broader group of chemicals that do not all share these three properties. For example, low global warming refrigerants used in HVACR systems are not persistent or bioaccumulative and they have low toxicity. Moreover, unlike food packaging materials, HVACR products are sealed hermetically. They also tend to have a useful life of over 15 years. Refrigerants and HVACR technology provides life-saving heating and cooling and is integral to the cold chain for both food and medicine. Finally, these technologies are vital in decarbonizing society.

According to EPA, the broad definition includes approximately 9,000 known chemicals, including chemicals with an environmental fate that is not in water, instead of using the EPA PFAS definition which focuses on 1,364² chemicals. Even for industries with strong knowledge of the chemical make-up of components, additional time would be needed to ensure an accurate dataset. The HVACR and water heating industry must summarize chemicals in components to even determine if products contain PFAS to fully understand the effects of this proposed rule.

AHRI urges Maine to consider policies that limit the regulation of chemicals aligned with the EPA PFAS definition.

AHRI noticed that DEP referenced EPA's list of PFAS chemicals, during its webinar, as identified in the Toxic Substances Control Act (TSCA) Reporting and Recordkeeping Requirements for Perfluoroalkyl and Polyfluoroalkyl Substances and uses similar language for defining PFAS.³ In the proposed regulation, DEP noted, "The U.S. EPA maintains a webpage of chemicals that have been identified as PFAS (available at: <https://comptox.epa.gov/dashboard/chemical-lists/pfasmaster>) which provides clarity on what is considered a PFAS. Any product sold, offered for sale, or distributed for sale in the State of Maine which contains intentionally added PFAS must be reported to the Department regardless of whether the substance is found on any list." AHRI is concerned that Maine's PFAS definition does not align with the chemicals covered by EPA regulations or the working PFAS definition proposed by EPA.

EPA Definition

For the purposes of this proposed action, the structural definition of PFAS includes per- and polyfluorinated substances that structurally contain the unit $R-(CF_2)-C(F)(R')R''$. Both the CF_2 and CF moieties are saturated carbons and none of the R groups (R , R' or R'') can be hydrogen. It should be noted that this structural definition of PFAS is a working definition which has been used by EPA's Office of Pollution Prevention and Toxics when identifying PFAS on the TSCA Inventory⁴.

² EPA. June 28, 2021. Toxic Substances Control Act Reporting and Recordkeeping Requirements for Perfluoroalkyl and Polyfluoroalkyl Substances. [EPA-HQ-OPPT-2020-0549-0001](#)

³ EPA listed hundreds of PFAS in its rulemaking, found in docket [EPA-HQ-OPPT-2020-0549-0001](#).

⁴ Maine Definition

"Perfluoroalkyl and polyfluoroalkyl substances" or "PFAS" means all substances that include any member of the class of fluorinated organic chemicals containing at least one fully fluorinated carbon atom.

AHRI strongly encourages DEP to limit reporting requirements to chemicals regulated under the EPA definition of PFAS to align with the EPA to help maintain consistency with which chemicals are referenced in EPA's list of PFAS and to ensure its definition does not include PFAS chemicals like refrigerants and polymers of low concern that do not pose risks associated with PBT PFAS such as PFOA and PFOS. Similarly, DEP could limit requirements to the definition used in Delaware: "non-polymeric perfluoroalkyl and polyfluoroalkyl substances that are a group of man-made chemicals that contain at least two fully fluorinated carbon atoms, excluding gases and volatile liquids". Per this definition, "PFAS" includes PFOA and PFOS which are actually known to be water soluble and hazardous.

AHRI understands that DEP is aware that many existing refrigerants either meet or contain a chemical that could be regulated due to the definition of PFAS under this program and that future refrigerants may similarly meet the definition. AHRI also understands that DEP is aware of the challenges associated with including refrigerants in the definition of PFAS and recommends updating the definition to remove any confusion. These chemicals are not PBTs and partition to air rather than to water which is the focus area of the legislation. One mechanism to accomplish this goal would be to provide exemptions for chemicals outside the bounds of this definition.

AHRI asks DEP to exclude polymeric PFAS embedded in components. Again, chemicals in components are not disposed of in waterways or result in exposure through drinking water. The burden for this type of regulation would be impossible or nearly impossible to comply with and AHRI respectfully requests that DEP extend any notification period date of the reporting requirements for PFAS in products for a minimum of three years after the regulation effective date to allow for sufficient time to determine which equipment components are impacted. Note that components used in HVACR systems and water heaters are not generally accessed by the public.

As noted in AHRI's previous comments to EPA⁵ regarding the regulation of persistent, bioaccumulative, and toxic substances (PBT), including PIP (3:1), identifying components that contain regulated chemicals is a difficult task. Enacting notification requirements on the effective date of the proposed regulation greatly increases the complexity and ability to understand if and how equipment is affected.

AHRI surveyed its members in July 2021 to determine whether members knew of PFAS contained in components and a minority of members could say with certainty whether certain components contained PFAS. HVACR OEMs also sent letters to their suppliers explaining that suppliers must disclose the use of PFAS in components to their OEM customers. While some feedback indicated that PFAS is contained in some wiring and other minor components such as O-rings, seals, and valve diaphragms, none of the OEMs had complete information on components used in the HVACR products and equipment they manufacture.

Based on member input and the delays associated with obtaining information from suppliers, the proposed January 1, 2023 notification effective date coincident with the publication of a final rule is not long enough to determine whether components contain PFAS and then report that data to DEP. As EPA noted in its reporting and recordkeeping rule, the hundreds of targeted PFAS would need to be reported and, as such, manufacturers must contact each individual supplier to cross check the production of each component against the full list of PFAS substances.

Constantly changing supply chains and technology improvements as mandated by the U.S. Department of Energy (DOE) introduce a unique flux to the HVACR and water heating industry and make an instantaneous compliance

⁵ AHRI. May 17, 2021. Air Conditioning, Heating and Refrigeration Institute comments on EPA-HQ-OPPT-2021-0202. Accessed via <https://www.regulations.gov/comment/EPA-HQ-OPPT-2021-0202-0143>.

date impractical and sometimes impossible. Further, manufacturers do not retain samples of all components used in the past, or that even for service, not all parts are field replaceable so there would be no inventory available.

AHRI's [Directory of Certified Product Performance](#) lists over four million products with over nine million new products sold and installed annually in homes and businesses. Members are currently parsing through tens of thousands of stock-keeping units (SKUs), each having hundreds of associated components and spare parts, to better understand whether their products will be affected by this regulation. Collectively, this introduces hundreds of millions of potential chances for any given component to contain one of the hundreds of PFAS listed by EPA. Suppliers have generally not been forthright with their OEM customers, even after providing notification that they must disclose the use of PFAS in components. Some suppliers continue to claim that they will not disclose the chemical makeup of components as the composition is confidential intellectual property. Further, by regulating the addition of intentionally added⁶ PFAS to the date of manufacture of equipment, DEP would allow adequate time for manufacturers to make changes and ensure critical HVACR and water heating equipment is available in Maine.

Products containing *de minimis* levels, less than 1.0% by weight, of any PFAS should be exempt from the regulation.

PFAS in electrical and other components are difficult for manufacturers to track. OEMs have limited visibility and control over complex, multi-tiered, global electronics supply chains. Manufacturers must rely on the accuracy of reporting from every supplier throughout the entire supply chain on trace amounts of a chemical, even those that are present unintentionally. There are also components in use by the HVACR industries that could be manufactured at the same facilities producing components for industries that can contain PFAS. This could result in, unintentionally, cross-contamination and the continued presence of *de minimis* quantities of PFAS in components used in HVACR equipment. We urge DEP to exempt articles that contain only *de minimis* quantities of PBT or non-PBT PFAS of 1.0% by weight or less and may serve as reasonable proxy in this instance to allow for a practicable regulation that is reasonably implementable. Not having a *de minimis* exemption puts an unreasonable burden on manufacturers and therefore, DEP should provide permanent regulatory relief.

AHRI also asks DEP to limit its reporting requirement of “intentionally added” chemicals in components to the entity that has added the chemical, as any other requirement would create issues with reporting accuracy.

Concluding Remarks

AHRI recommends that DEP provide additional time for manufacturers of articles potentially containing PFAS to determine whether their products are affected by this proposed rule. As referenced in earlier comments to EPA for PBT substances, including PIP (3:1), even a year's worth of time is too limiting due to the uncertainty the HVACR and water heating industry has faced in obtaining data from suppliers. AHRI has a difficult time in providing definitive information to DEP at this time due to the uncertainty manufacturers have from not receiving necessary information from suppliers. Updating the PFAS definition to refer to non-polymeric perfluoroalkyl and polyfluoroalkyl substances that are a group of man-made chemicals that contain at least two fully fluorinated carbon atoms, excluding gases and volatile liquids and specifying that “PFAS” includes PFOA and PFOS would also help to provide further clarity and certainty to the HVACR and water heating industry.

A de minimis level should be set for any banned substance in case of cross-contamination of supply chains. Here, *de minimis* levels should be set to 1.0%.

Finally, AHRI notes that the proposed fee required on a per product could be significant depending on what is considered and individual product especially if it includes the same product line but have different model numbers/identifiers.

AHRI thanks DEP for the opportunity to comment on the Concept Draft for the Maine PFAS in Products Program and requests a discussion regarding ways to protect public health and the environment while considering the practical challenges to compliance with this concept draft.

We look forward to discussing this important matter with you at your earliest convenience.

Sincerely,

Helen Walter-Terrinoni

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