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Washington Department of Ecology
300 Desmond Drive SE
Lacey, Washington 98503

Re: Safer Products for Washington- Chapter 173-337 WAC, Safer Products Restrictions and Reporting

To whom it may concern:

On behalf of the Association of Home Appliance Manufacturers (AHAM), I would like to raise the following points concerning the proposed recommendations for products with flame retardants under Safer Products for Washington.

AHAM represents manufacturers of major, portable and floor care home appliances, and suppliers to the industry. AHAM's membership includes over 150 companies throughout the world. In the U.S., AHAM members employ tens of thousands of people and produce more than 95% of the household appliances shipped for sale. In Washington, the home appliance industry is a significant and critical segment of the economy. The total economic impact of the home appliance industry to Washington is \$2.2 billion, nearly 13,000 direct and indirect jobs, \$381.8 million in state tax revenue and more than \$763 million in wages. The factory shipment value of these products is more than \$30 billion annually. The home appliance industry, through its products and innovation, is essential to U.S. consumer lifestyle, health, safety and convenience. Through its technology, employees and productivity, the industry contributes significantly to U.S. jobs and economic security. Home appliances also are a success story in terms of energy efficiency and environmental protection. New appliances often represent the most effective choice a consumer can make to reduce home energy use and costs.

AHAM is also a standards development organization, accredited by the American National Standards Institute (ANSI). The Association authors numerous appliance performance testing standards used by manufacturers, consumer organizations and governmental bodies to rate and compare appliances. With respect to safety standards, we work closely with Underwriters Laboratory (UL), CSA, and other safety standards developers around the world. AHAM's consumer safety education program has educated millions of consumers on ways to properly and safely use appliances such as cooking products, portable heaters, and clothes dryers.

AHAM's members produce hundreds of millions of products each year. They design and build products at the highest levels of quality and safety. As such, AHAM members have demonstrated their commitment to strong internal design for safety procedures, monitoring, and evaluation/failure analysis systems. AHAM supports the petitioners' intent to protect consumers against all unreasonable risks, including those associated with the exposure to potentially harmful chemicals. AHAM also firmly supports the appropriate use of flame retardant chemicals in electronic and electrical devices. Together with industry test requirements, safety mechanisms and internal design for safety procedures, flame retardant chemicals play an important role in the safety of household appliances. Publically available field incident data shows that fire retardant enclosures reduce the severity and number of electrical appliance/device caused fires from a failure of an electrical component. That is why the use of flame retardants in electronic devices is essential to meet consensus safety standards including, for example, safety standards for clothes dryers (UL 2158), household electric ranges (UL 858), electric room heaters (UL1278) and electric coffee makers (UL1082).

Recent regulations such as PIP (3:1) risk management at the federal level, copper boat paint restrictions in Washington State, and PFAS reporting requirements in Maine suggest that simple substitution may not always be possible and that sufficient time is needed to comply with these regulations.

Inaccessible Electronic Component Exclusion

Through the rulemaking process, AHAM has raised several concerns specific to how home appliances would be included in the broad categories of "electronic devices" or "electronic device casings." **AHAM appreciates the exclusion of inaccessible components, such as printed circuit boards and internal fans as plastics devices used in appliances often are inaccessible to consumers and contain qualitatively low amount of flame retardant materials.** In addition, internal parts that are removable and replaceable, but not accessible once the product is in its fully assembled and functional forms would be excluded from the restrictions. However, AHAM asks for clarifying language around "functional form" (WAC 173-337-112(a)(iii)(b)) as this could mean the entire appliance or could mean a service part such as a fan or pump. It also raises question on whether flame retardants on the back of the appliance would be in scope. The rear side of an appliance is generally not accessible under general use, but it could still be considered external enclosure under this proposal.

AHAM also appreciates the exclusion from repair parts or replacement parts manufactured before the compliance schedules. It is crucial that this exclusion also encompasses all components that are accessible for servicing/repair in order to allow service providers to handle and fix these components that may contain flame retardants. However, we believe the exclusion for these parts must encompass the full useful life of products manufactured prior to the enforcement date. It will be extremely burdensome for a manufacturer to construct a new replacement part that meets the new HFR criteria to fit into an old SKU. Finally, we do ask that the exclusion for plastic external

enclosures (WAC 173-337-112(a)(iii)(c)) that weigh less than 0.5 grams expand up to 25 grams as very few products would fall under this exemption.

Electronic Display

Under the proposed rule, *an electronic displays means a display screen and associated electronics that, as its primary function, displays visual information from wired or wireless sources*. This definition is important in regards to the potential restriction compliance date of January 1, 2025. During the public hearings, it was articulated that this language seeks to harmonize with New York law. Under the New York law¹ there is a clear exemption for appliances, “Electronic display shall not include: (a)... or (e) displays that are integrated with appliances and are not available for purchase as separate products by end-users.” This exclusion follows Europe’s regulation in this area which excludes electronic displays that are component or sub-assemblies of products, e.g. displays integrated into appliances. We would request clear harmonization with New York requirements.

Product Scope Consideration

If the State of Washington continues to investigate the use of OFRs in the outer casings of electronic devices, the Department of Ecology should first clarify the scope of the work. The Department does not define either electrical products or electronic products. Electronic product is defined under the statute as including “personal computers, audio and video equipment, calculators, wireless phones, game consoles, and handheld devices incorporating a video screen that are used to access interactive software, and the peripherals associated with such products.”² Does outer casing mean the most outer casing or any internal casings housing electrical items or any parts of an outer casing? Having this answer, the proper parties can participate as required. However, due to the broad nature of the current proposal, it could potentially incorporate parts that consumers buy commercially including spare parts as well as service parts. Thus, the Department should clarify its intent and scoping process before moving forward with any rulemaking. The “organohalogen” family is extremely wide and inconsistent with the regulatory framework anywhere else in the world. For example, the RoHS Directive restricts only certain HFRs that manufacturers are able to test for and certify compliance with because it is not possible to search for all the chemicals of the organohalogen flame retardant family. This highlights the challenges of a broad restrictions on organohalogen flame retardants. This problem could be resolved through both compiling a comprehensive list of all parts subject to the regulation and specifying individual flame retardants by CAS Registry Number that it plans to regulate for each material. Without this information, manufacturers will have a difficult time surveying their supply chains to evaluate the

¹ New York [S4630B](#)

²Chapter 70A.350.010 Recorded Codes of Washington (RCW), <https://app.leg.wa.gov/RCW/default.aspx?cite=70A.350.010>.

enclosure for compliances. This information is needed to alleviate confusion and avoid potential supply chain disruptions that could harm availability of some electronic and electrical products available for purchase in Washington State.

In addition to a vague and potentially overly broad definition of electronic devices, it is important to acknowledge the difference between electronic devices and the other proposed categories of products. The use of flame retardant chemicals in children's products, stuffed furniture, and mattresses and mattresses covers are to prevent those items from becoming fuel for a fire cause by some external source. The purpose of flame retardant chemicals in electronics is to prevent those electronics from becoming the source of a fire and also to assure containment of a fire. All electrical devices inherently have some risk of starting a fire. AHAM's members work tirelessly to reduce these risks for home appliances. Nevertheless, the risk of fire inherent in all electrical components is a primary reason that electronics are contained in fire resistant enclosures. The protection from fire risks provided by electronic device enclosures is meaningfully different from preventing household goods from becoming additional fuel for a fire started by some other means. Back in 2018, United States Consumer Product Safety Commission (CPSC) held technical workshops to learn more about flame retardants in plastic enclosures for electronics. CPSC staff concluded that the Petition failed to show a connection between the exposure to a substance and personal injury or harm from that exposure. Thus, appliances were not included in the scope for enclosures of electronics. Similarly, the Department must consider this type of fire protection and safety considerations.

External Enclosure Clarifying Definition

Under the proposed rule, *an external enclosure means the plastic external part of the product that renders inaccessible all or any parts of the equipment that may otherwise present a risk of electric shock or retards propagation of flame initiated by electrical disturbances occurring within.* This definition specifically mentions that the scope of the enclosure is to "retards propagation of flame." As articulated in the comments, the purpose of flame retardant chemicals in electronics is to prevent those electronics from becoming the source of a fire and also to assure containment of a fire. By removing these flame retardants from electronics, one is potentially making the products that Washington families use every day less safe.

The Department of Ecology should default to what UL has defined as definitions of external enclosures as that is what the product will be certified to. If the State of Washington definitions are stricter than UL, that will require individual certification to the State of Washington before a product can enter the state for commerce. Potential redesign could take several years before the product to get back into market after UL certification.

Greater Consideration for Product Design & Viable Alternatives

As acknowledged in the regulatory analysis, it is expected that these requirements will result in additional costs to manufacturers, sellers, and distributors of priority consumer products containing

priority chemicals in Washington State. Transitioning to alternatives could have a different price for each appliance as one manufacturer may use one alternative while other manufacturers may use alternatives to meet specific product requirements. The costs would occur because manufacturers would have to reorient their production and investment patterns, and some would have to integrate or develop new chemistries, redesign, or reformulate the product, and recertify new products to meet safety standards, performance requirements, and aesthetic preferences.

AHAM members have been actively addressing the identification of alternative flame retardant plastics solutions for the enclosures. Going through their global supply chain, many manufacturers have not found it possible to replace these flame retardants that meet the necessary specifications required in terms of flame rating, IEC standards, mechanical properties (impact resistance, moisture resistance, humidity resistance, durability) and aesthetics requirements. This is especially important for products where moisture is a concern (dishwashers, washing machines, refrigerators), where the only option is using flame retardants to achieve the desired level of performance. Simple substitution is just not possible as product manufacturers need a broad array of material choices for differing product design needs. Non-PFAS flame retardant additives, including potentially transition from plastic to metal would be a significant redesign and would lead to compromises in the inability to reach proper flame ratings, lower heat resistance, and lower water resistance. Most importantly, is that the preferred alternative chemicals being proposed for use by Washington State are also restricted in some other jurisdiction including in Maine (PFAS alternative) and in New York and are proposed for restriction in the Europe Union. Effective January 1, 2030, the state of Maine will prohibit the use of any PFAS in any product in any amount, unless the state's Department of Environmental Protection issues an exemption by notice and comment rulemaking.³ Meaning, if electronics manufacturers wanted to sell products in Washington, the Ecology proposed rulemaking would potentially force them to design and build products with alternative materials that are restricted elsewhere. Ecology's current framework underweights the fire safety hazards of products that can be mitigated with the use of OFRs, and bears the burden, under the statute⁴, for demonstrating that a replacement chemical, or redesigned product, is safer.

Under the Proposed Rule, flame retardants used in plastic casings intended for outdoor use are subject to a reporting requirement, and not restrictions, due to weathering concerns. In this instance, the Department consider design considerations and performance criteria in developing its regulatory proposal. A consistent standard should be applied to both OFRs and identified alternatives. The Department should similarly consider product performance and design of

³ 38 Maine Rev. Stat. Ann. 1614.

⁴ RCW 70A.350.040(3).

household products, including the potential for fire risk or the containment of fires, as it finalizes possible regulatory actions for flame retardants used in plastic casings intended for indoor use.

Finally, the proposed end product requirements may be considered above and beyond the current safety requirements and through possible unintended consequences these new requirements may actually reduce safety levels. The appropriate method for requesting changes like these is requesting updates to the end product safety standards through UL and CSA. The proposed change then would have a deliberate, rigorous and thorough review by a Standards Technical Panel (STP) of experts to assure there is no loss of safety levels.

Alignment with Product Safety Standards

Together with industry test requirements, safety mechanisms and internal design for safety procedures, flame retardant chemicals play an important role in the safety of household appliances. Publicly available field incident data shows that fire retardant enclosures reduce the severity and number of electrical appliance/device caused fires from a failure of an electrical component. That is why the use of flame retardants in electronic devices is essential to meet consensus safety standards including, for example, safety standards for clothes dryers (UL 2158) household electric ranges (UL 858), electric room heaters (UL1278) and electric coffee makers (UL1082). This proposal may make it more challenging for product manufacturers to meet flammability requirements including UL 746C (Safety standard for polymeric materials). Electronic and electrical products can be required by UL 746C to undergo a specific test that assumes a flame threat occurs outside of the enclosure that the product must not propagate. In these instances, enclosures meeting specific size criteria must pass a larger scale fire test. Using an interior fire barrier (possibly metal) with a horizontal burn “shell” may not be enough to satisfy these additional requirements.

Fire safety standards should be viewed as minimum requirements for flammability and products can go beyond those standards. UL 746H, which certifies plastics to either be non-halogenated or non-chlorine and non-bromine. Electronic and electrical products can be required by UL 746C to undergo a specific test that assumes a flame threat occurs outside of the enclosure that the product must not propagate. In these instances, enclosures meeting specific size criteria must pass a larger scale fire test. Using an interior fire barrier (possibly metal) with a horizontal burn “shell” may not be enough to satisfy these additional requirements. The suggestion to require manufacturers to employ a change in process or design that reduces the flammability requirement of the exterior electric or electronic enclosure through the use of an internal fire barrier would be quite burdensome to manufacturers.

It is common for product standards to supersede UL 746C. These end product standards can contain additional or stricter requirements than UL 746C, such as an enclosure needing a minimum of UL 94 V-1 or V-0 for flammability. For example, UL 2158 Standard for Safety: Electric Clothes Dryer has criteria for large mass considerations. Section 28.13 requires a

polymeric part that meets the large mass criteria to have a flame spread of 200 or less in either UL 723, UL 94 (which uses the ASTM E162 test), or CAN/ULC-S102. End-product standards that require higher-rated flame ratings for polymeric materials (e.g. 5VA or V0 materials) indirectly require the use of flame retardants for polymeric materials to meet the end-product flammability requirements.

Ecology's proposal for OFR limits in casings and enclosures of electronic and electrical equipment intended for indoor use does not adequately consider that indoor products may have various design and performance criteria – such as moisture considerations – that make UL 746H an unsuitable option. Exemptions should be considered for the use of UL 746C instead of UL746H and for those end product standards that contain additional or stricter requirements than UL 746C.

The National Electrical Code requires all electrical products to be listed which requires certification to the appropriate safety standard. If the revised products meet the Washington requirements but do not meet the safety requirements required for certification and listing then these appliances won't be approved for use in the State of Washington. Ceasing production of their already third-party safety certified product would be the only option if there are no viable and non-burdensome alternatives. AHAM urges the State of Washington to take a more robust and complete approach for assessing alternatives, which takes into account overall safety, performance, innovation, and sustainability factors.

Reporting Requirements Clarifying Language

AHAM also asks for clarifying language in Section WAC 173-337-112(c) regarding PPM limits. It could be read that the restriction applies to the product as a whole, not just to its external enclosure. PPM limits of 1000 – 1500 for just the external enclosure would not allow sufficient flame retardancy for equipment with external plastic enclosures to comply with UL Listing requirements nor the building codes that incorporate those UL standards. Alternate flame retardants may exist, but their ability to meet the wide variety of uses and performance requirements for durable products and their supply availability is undetermined.

Exemptions

We appreciate the creation of an exemption process within this proposed Rule and just want to ensure a clear appeal process as well. This will allow for needed flexibility given the wide-ranging restrictions proposed in the Rule. Over the last few years, many appliance manufacturers have gone through their entire supply base across multiple regions and have been unable to identify any halogen-free flame retardant alternatives that meet the specifications required in terms on flame rating, IEC standards, and mechanical properties (UL 2158, dryer safety). There may be circumstances like these in the future where Ecology's proposed alternatives are not feasible and/or not available.

Extended Timeline Requirement

When a regulation would require manufacturers to change an integral part of a product, the amount of time that is required to retool and reapprove appliances for mass production would take an extended period of time, especially considering that the proposed alternatives are restricted in other states. This is because the appliance supply chain is global and complex. Appliances have thousands of product SKU's. Thus, manufacturers will first need a sufficient transition time to find an alternative followed by extensive product testing and potential re-tooling. In order to meet UL flammability standards compliance, manufacturers will need a least three to five years to prove out alternatives and to achieve re-certification to energy, performance and safety requirements. There is precedent for a 48-month compliance timeframe under both the RoHS 2 and REACH regulations. With this additional time comes extra costs for the manufacturers and potential increased costs on consumers. We would also encourage that compliance would be effective based on date of manufacturing, similar to what we see in Department of Energy efficiency standards.

PVC

Polyvinyl Chloride (PVC) is commonly considered a concern for health and the environment if it's not properly disposed of at the end of life. The end of life collection of appliances are normally managed via robust recollection schemes in all U.S. states. Since appliances are disposed of properly, and considering the safety advantages and low toxicity concerns of PVC for such applications, there should be a consideration on removing it from the scope of the regulation.

Conclusion

No other regulatory authority has proposed regulations for OFRs in casings and enclosures for electronic and electrical equipment as broad as what is in the proposed rule and would make Washington an outlier. An abrupt prohibition, unique to the State of Washington that is not appropriately targeted will cause serious disruptions for the appliance industry and will drastically reduce appliance product availability. We hope the State of Washington reconsiders moving forward on any regulations where if appliance safety and availability is potentially threatened. Thank you for considering our views and please contact me at jkeane@aham.org or 202-872-5955 if you would like to discuss in more detail.

Respectfully submitted,



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