



North American Flame
Retardant Alliance

August 23, 2022

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

Re: Preliminary Draft Rule Language: Safer Products for Washington

To Whom It May Concern:

The American Chemistry Council's (ACC) North American Flame Retardant Alliance ("NAFRA")¹ submits the following comments regarding Washington Department of Ecology's ("Department" of "Ecology") Preliminary Draft Rule as part of Safer Products for Washington.² NAFRA's comments focus specifically on the Preliminary Draft Rule regarding the use of organohalogen flame retardants (OFRs) in plastic casings and enclosures for electronic and electrical equipment.

NAFRA appreciates the opportunity to comment on the Department's Preliminary Draft Rule and looks forward to additional opportunities during the regulatory process to discuss with Ecology the benefits of flame retardants in casings and enclosures for electrical and electronic equipment. If you have questions or need clarification, please contact me at ben_gann@americanchemistry.com or 202-249-7000.

Sincerely,

A handwritten signature in black ink that reads "Ben Gann".

Ben Gann
Director
American Chemistry Council

¹ The American Chemistry Council's North American Flame Retardant Alliance represents the leading producers of flame retardants used in wide variety of industrial and consumer applications. NAFRA members represent cutting edge fire-safety chemistry and technology and are dedicated to improving fire safety performance in key product applications. NAFRA members are Albemarle Corporation, ICL Industrial Products, and Lanxess. For more information on NAFRA, visit <https://www.americanchemistry.com/industry-groups/north-american-flame-retardant-alliance-nafra>.

² Preliminary Draft Rule Language: Safer Products for Washington Implementation Phase, August 9, 2022. https://www.ezview.wa.gov/Portals/_1962/Documents/saferproducts/PreliminaryDraftRuleLanguage_Cycle1_August2022.pdf



NAFRA supports chemical safety and appreciates the opportunity to comment on the preliminary draft rule language for OFRs in casings and enclosures for electrical and electronic equipment. Flame retardants are used in electronic and electrical equipment by product manufacturers to meet or exceed flammability standards as part of an overall approach to product safety.

Washington Department of Ecology as part of *Safer Products for Washington* is developing regulations on the use of OFRs in device casings and enclosures for electronic and electrical equipment – including but not limited to TVs, laptops, mobile phones, kitchen appliances, washing machines, irons, coffee makers, vacuum cleaners, hair dryers, appliances, power tools, and various other electronic and electric devices – used in both residential and commercial settings.

The Department's draft recommendations extend beyond consumer products to all electronic and electrical products available for sale in Washington. This is the broadest regulatory proposal of its kind and could have implications for a huge assortment of products used every day by consumers and businesses in the Evergreen State.

Overall, the factors outlined below argue for additional rigor in the regulatory process and a more targeted approach for this important product category. While the underlying law for *Safer Products for Washington* identifies OFRs and non-halogenated flame retardants as priority chemicals for evaluation,³ there is nothing that prevents Washington State from taking a more targeted approach in its policy recommendations and enhancing its evaluation of certain subcategories of OFRs, as well as narrowing the scope of electrical and electronic products as part of any regulatory proposal.

Outlined below and expanded upon in greater detail are key issues and concerns that the Department should consider in developing regulations for a diverse set of chemicals used in a wide range of electrical and electronic products.

1. Regulatory actions outlined by the Department are not supported by the state of the science and ignore fire safety

a. Many of the OFRs proposed for regulation have not been found in the Washington environment

The current state of the science does not support the scope of regulatory actions that have been outlined by the Department in the Preliminary Draft Rule. While there is data demonstrating some level of specific OFRs both in various media and in the environment, this is not the case for all OFRs, and Ecology has not established that plastic casings and enclosures for electronic and electrical equipment are a significant source of any potential releases.

In many instances, Ecology has utilized measurement of a subclass of older flame retardants, polybrominated diphenyl ethers (PBDEs) – which were used in textiles,

³ RCW 70A.350 <https://app.leg.wa.gov/rcw/default.aspx?cite=70A.350>

upholstered furniture, and electronics – as a proxy for other flame retardants.⁴ This data should not serve as a basis for making conclusions about other flame retardants, much less an entire class of flame retardants. As noted by Ecology in earlier assessments, beyond PBDEs, actual monitoring data indicates that some of the other referenced flame retardants (DBDPE, TBBPA, BTBPE, or TTBP-TAZ) are not found in the Washington environment or are found at extremely low levels not likely to present a risk.⁵

b. Regulatory proposal does not consider the risk that OFRs help mitigate

The underlying statute for Safer Products for Washington defines a “safer alternative” as “an alternative that is less hazardous to humans or the environment than the existing chemical or chemical process.”⁶ The Legislature did not limit the hazards to those Ecology believes are posed by the priority chemical itself, but Ecology’s current criteria for “safer” does not appear to adequately account for the hazards that flame retardants help mitigate.

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 statute, for demonstrating that a replacement chemical, or redesigned product, is safer.⁷ That analysis must include not only a toxicological perspective but a fire safety perspective as well, which includes the efficacy of OFRs and identified alternatives. The Department should balance any hazards associated with the priority chemical within the product, with the hazards that the chemical helps to address.

c. Inconsistent approach evaluating OFRs compared to identified alternatives

The Department’s approach to regulating OFRs as a class has led to inconsistent application of its hazard criteria and has chosen an approach that assumes all chemicals within an identified priority chemical class – in this case OFRs – will not qualify as safer. Conversely, in its desire to find acceptable alternatives, the Department has applied a lower level of scrutiny to identified alternatives. This could lead to regrettable – or needless and costly – substitution.

Under Ecology’s Working Criteria for Feasible and Available⁸ if an OFR achieves a Benchmark-2 score as part of a GreenScreen Assessment, it still may not meet its “safer”

⁴ In the United States, the manufacture and import of pentaBDE and octaBDE ceased in 2004, and the manufacture and import of decaBDE ceased in 2013.

⁵ Washington Department of Ecology, Flame Retardants in Ten Washington Lakes, 2017-2018, December 2019. <https://apps.ecology.wa.gov/publications/documents/1903021.pdf>

⁶ RCW 70A.350.010(13).

⁷ RCW 70A.350.040(3).

⁸ Washington Department of Ecology, *Regulatory Determinations Report to the Legislature: Safer Products for Washington Cycle 1 Implementation Phase 3*, June 6, 2022, pages 301-305. <https://apps.ecology.wa.gov/publications/documents/2204018.pdf>

criteria. This is because, Ecology claims, such chemicals can fail within-class criteria.⁹ The Department has also concluded that two non-halogenated flame retardants (triphenyl phosphate and resorcinol bis(diphenyl Phosphate)) identified as alternatives meet the minimum criteria for “safer” despite having the same Benchmark-2 score as part of a GreenScreen Assessment.¹⁰

For one OFR, decabromodiphenyl ethane ((DBDPE) (CAS RN 84852-53-9)) a GreenScreen Assessment was conducted with the chemical assigned a Benchmark-2 score.¹¹ The Department has identified a Benchmark-2 score as meeting its minimum criteria for safer. However, since DBDPE is an OFR additional within-class criteria applies. This higher bar applies despite no relevant environmental transformation products for this chemical.¹² It is NAFRA's understanding that there may also be an additional OFR with a Benchmark-2 score. This raises further questions as to why OFRs are being held to a different standard than alternatives identified by the Department.

d. National Academy of Sciences (NAS) finds that OFRs should not be assessed as a single class

Notably, the NAS found that this diverse group of chemicals cannot be treated as a single class for purposes of assessment. Instead, the NAS has recommended that OFRs be sorted into 14 subgroups based on chemical structure, physicochemical properties, and predicted biologic activity for purposes of further assessment.¹³ Despite this, the Department has stated that it has not further separated OFRs into subclasses and does not attempt to group them by any specific mechanism of action.¹⁴

2. Preliminary draft rule language for OFRs in casings and enclosures for electronic and electrical equipment does not represent the least burdensome alternative

a. Potential impact on supply chain and product availability

Product manufacturers operate in a global regulatory environment and must take into account a broad range of product safety and design factors. This includes complex considerations related to product certification, performance, use and end of life, and even chemical registration and use. In addition, electronics manufacturers rely on a global

⁹ Regulatory Determinations Report at page 42.

¹⁰ Regulatory Determinations Report at pages 64 - 65.

¹¹ Gradient. GreenScreen® Assessment for [Decabromodiphenyl ethane; DBDPE (CAS # 84852-53- 9)]; Prepared for: American Chemistry Council: December 2021.

¹² Ibid.

¹³ National Academies of Sciences, Engineering, and Medicine. 2019. A Class Approach to Hazard Assessment of Organohalogen Flame Retardants. <https://doi.org/10.17226/25412>

¹⁴ Regulatory Determinations Report at page 45.

supply chain for components and subcomponents. Any proposed recommendations should take these important global considerations into account.

The Department to-date has failed to meaningfully consider the cost of removing OFRs from the casings and enclosures of electronics and electrical equipment. In Appendix D of the final report, Ecology states that it will consider cost for scenarios like this. Washington State requires that any significant legislative rule being adopted include a cost-benefit analysis of the rule and be the least burdensome alternative for those required to comply with it to achieve the general goals.¹⁵

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 Preliminary Draft Rule Language and would make Washington an outlier. If enacted, such regulations would potentially decrease the availability of electronic and electric products for purchase in the state, while also potentially increasing the fire risk posed by the products that are available for purchase. Electronic and electrical equipment present unique fire risks and restricting the use of flame retardants in their plastic enclosures could undermine overall product safety and performance.

b. Ecology's analysis on potential product redesign is unworkable

Restricting the manufacture, sale, or distribution of consumer products that contain more than a specified amount of OFRs requires a determination that safer alternatives are feasible and available.¹⁶ In the Final Determinations Report, Ecology claimed that products may be redesigned so that no flame retardants need to be used.¹⁷ This conclusion is poorly supported and does not help justify the restrictions Ecology has proposed.

Ecology claimed, for example, that products could incorporate a non-flammable material (e.g., metal) for the device casing or an internal enclosure to serve as a fire barrier.¹⁸ With regards to non-flammable enclosures, Ecology stated that this is something that manufacturers should consider when designing electric and electronic products.¹⁹ Regarding the fire barrier, Ecology provided little detail as to the specifics of the materials required, such as the material thickness, cost, or weight.²⁰

Electronic products vary widely by power source, size and weight requirements, and other key factors impacting performance needs and safety considerations. Electronic equipment

¹⁵ Chapter 34.05.328 RCW, <https://app.leg.wa.gov/rcw/default.aspx?cite=34.05.328>

¹⁶ RCW 70A.350.040(3)(a).

¹⁷ Regulatory Determinations Report at 68-72.

¹⁸ Regulatory Determinations Report at 68, 70, 72.

¹⁹ Regulatory Determinations Report at 72.

²⁰ Ibid.

of varying types accounts for more than a hundred pages of the Harmonized Tariff Schedule codes.²¹ Ecology's current feasibility analysis does not adequately consider this variation (e.g., portability), and instead takes a one-size-fits-all approach. NAFRA recommends that Ecology reassess the feasibility of its suggested alternative processes and its application for each type of electronic and electrical product as it develops regulations.

c. Ecology's current approach does not consider the availability of alternatives at scale

Any decision to restrict the use of a chemical requires Ecology to conclude that alternatives are feasible and available.²² Ecology's "availability" analysis was limited to whether a chemical is both: "[c]urrently used for the application of interest [and] [o]ffered for sale at a price that is close to the current."²³ In order for chemical alternatives to be workable, however, the chemicals must also be available at a scale necessary to support industry's uses.

Ecology failed to consider the availability of alternatives at scale. Identified alternatives would need to be available in quantities sufficient to support an entire industry switching from one chemical to another prior to the phased compliance dates. The fact that one manufacturer may use one of these chemicals does not suffice to demonstrate this. Additionally, Ecology did not consider the significant scale-up pressures (and associated costs) the proposed compliance timeline would impose on existing manufacturers. Ecology should add a scaling component to its availability analysis.

d. Ecology has an improperly narrow view as to what makes products "safer"

Ecology's spectrum-based approach to its "criteria for safer" improperly narrows what is required in order for an alternative to be considered "safer."²⁴ The statute defines "safer alternative" as "an alternative that is less hazardous to humans or the environment than the existing chemical or chemical process."²⁵ The "hazardous to humans" component requires Ecology to consider not only the safety of replacement flame retardants in regards to toxicity, but also in regards to performance.

Ecology's criteria for "safer" does not sufficiently account for the hazards that flame retardants mitigate, such as inhibiting or suppressing the combustion process, reducing the heat released from a combustion event, or minimizing the potential for the fire to spread.²⁶

²¹ See Chapters 84-85 of the Harmonized Tariff Schedule of the United States, available at <https://hts.usitc.gov/current>.

²² RCW 70A.350.040(3)(a).

²³ Regulatory Determinations Report at 301.

²⁴ Regulatory Determinations Report at 279.

²⁵ RCW 70A.350.010(13).

²⁶ <https://www.americanchemistry.com/industry-groups/north-american-flame-retardant-alliance-nafra/electronics-and-flame-retardants>.

Instead, Ecology's framework assessment for its "safer" criteria does not adequately consider the fire safety hazards of products that are treated with flame retardants. An alternative chemical that presents an increased fire safety risk in a product cannot be considered "safer." NAFRA urges Ecology to equally consider consumer safety when assessing what is a "safer" alternative.

e. Ecology has not meaningfully considered cost

The Department's availability analysis specified that "[t]o be available, an alternative must meet at least one of the following criteria: currently used for the application of interest or offered for sale at a price that is close to the current."²⁷ However, Ecology's analysis of alternatives for flame retardants did not meaningfully consider cost. Instead, Ecology's availability assessment focused on whether identified alternatives are currently used.²⁸

NAFRA recommends that Ecology consider cost as part of its feasibility and availability analysis. This cost analysis should not simply consider the cost of the replacement flame retardant. The flame retardant switch would likely necessitate a switch to different plastic resins, which in turn would require industry to design and fabricate replacement molds. This would be quite costly even if a replacement chemical were available, at scale, for a similar price as the chemical currently being used. These additional costs would call into question whether the alternative is truly feasible and available.

Ecology should also consider how the costs of using the identified alternatives would vary by product category. Even though Ecology identifies various product categories that use identified alternatives (e.g., displays), transitioning to an identified alternative in one product category could have a different price point than using the same alternative in another.²⁹ Merely because one manufacturer may use an identified alternative in one of its products does not mean that all manufacturers may use that alternative in all products. Ecology should consider these factors when assessing the feasibility and availability of alternatives.

Furthermore, NAFRA reminds Ecology of its statutory obligation to perform a cost-benefit analysis of any rulemaking under the Safer Products for Washington program. Ecology may not implement a rule where the costs outweigh the benefits.³⁰ NAFRA expects to have further comments on this topic in the future.

²⁷ Regulatory Determinations Report at 301.

²⁸ Regulatory Determinations Report at 73-74.

²⁹ Regulatory Determinations Report at 74.

³⁰ RCW 70A.350.080(2)(c); RCW 34.05.328(1).

3. Scope of the regulation should be narrowed and align with existing regulations

a. Current regulatory scope is overly broad and should be narrowed

The Department should narrow the scope of the regulatory proposal by 1) specifying individual OFRs by CAS Registry Number (CAS RN) that it plans to regulate and 2) specifying individual finished electronic and electrical products that it plans to regulate. In addition, the definition of "consumer product" should not apply to products used in commercial and industrial settings. This 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 the Preliminary Draft Rule, Ecology does not specify by CAS RN the OFRs that it plans to regulate. Instead, the Department proposes regulating casings and enclosures for electronic and electrical equipment intended for indoor use with an intentionally added individual OFR containing more than 1,000 parts per million (ppm) or any intentionally added combined OFRs containing more than 1,500 ppm.

Additionally, the Department proposes a reporting requirement covering all electronic and electrical equipment intended for outdoor use where OFRs are in the casing or enclosure. This reporting requirement applies regardless of the OFR concentration level and requires a level of information that may be difficult for the manufacturer to ascertain.

Ironically, in the Preliminary Draft Rule, the Department is seeking to regulate the use of OFRs in casings and enclosures of electronic and electrical equipment without specifying either individual OFRs or individual products, and yet has proposed a reporting requirement for each outdoor product that includes 1) the name and CAS RN of any OFR in the casing or enclosure, 2) the priority consumer product in which the OFR is used, and 3) the total concentration of the priority chemical in each product component in the priority consumer product. This illustrates that more narrowly defining the universe of chemicals and products to be regulated will limit unnecessary compliance burdens.

The regulatory approach also incorrectly assumes that all OFRs used in casings and enclosures for electrical and electronic equipment pose the same level of risk even though that has not been established by the Department. By not specifying which OFRs or which products it is seeking to regulate, Ecology may be causing the regulatory scope to be overly broad. Moreover, failing to publish a complete list of chemicals and products that the Department intends to regulate limits the ability of manufacturers, distributors, and retailers to provide valuable feedback regarding design, feasibility of alternatives, and other considerations as part of an overall approach to product safety. The scope of any regulation should also be narrowed by more appropriately defining "consumer product"³¹ so it does not apply to products used in commercial and industrial settings.

³¹ RCW 70A.350.010(1)

b. Need for alignment with existing regulations

Any proposed regulations should seek to align with relevant state, federal, and international regulations. No state, federal, or international regulatory authority has proposed or implemented restrictions on flame retardants in electronics as broad as that being considered in Washington. This would make the state an outlier, potentially both decreasing electronic products available for purchase in the state and potentially impacted broader product safety, innovation, and sustainability.

Although Ecology has identified some relevant regulations, rather than having the Preliminary Draft Rule align with those regulations, it has proposed an expansion well beyond them. Such an approach would almost certainly have unintended consequences for the state and could affect the availability of some electronic and electrical products in the state. Outlined below are several relevant regulations, including the scope of products, to help the Department develop a more streamlined regulatory approach.

The European Union's (EU) Restriction on Hazardous Substances (RoHS) came into effect in 2006 and has been updated several times.³² While RoHS applies to numerous electronic and electrical products, the restrictions on the use of OFRs is limited to 1,000 ppm for both polybrominated biphenyls and PBDEs. Any business manufacturing or selling covered products to RoHS-directed countries must comply with the applicable regulations.

There is also the European Commission's Ecodesign Directive that restricts the use of OFRs in enclosures or stands of electronic displays, which includes televisions, monitors, and digital signage displays.³³ The rationale for the restrictions was that OFRs hinder recycling. However, plastics containing OFRs are readily sorted and reclaimed by recyclers in Europe. A study conducted by SOFIES, experts on recycling of waste electrical and electronic equipment (WEEE), for BSEF – The Internal Bromine Council – confirms that brominated flame retardants are not hindering the recycling of WEEE plastics in Europe.³⁴

More recently, New York State enacted restrictions for OFRs in enclosures and stands of electronic displays regularly used or purchased to be used for personal, family or household purposes.³⁵ Additionally, electronic display is defined as a consumer product with a display screen and associated electronics that, as its primary function, displays visual information from wired or wireless sources and is available for purchase by individuals or households

³² Directive (EU) 2015/863. <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32015L0863&from=EN>

³³ Regulation (EU) 2019/2021. <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32019R2021&from=EN>

³⁴ Sofies, "Study on the Impacts of Brominated Flame Retardants on the Recycling of WEEE plastics in Europe," <https://www.bsef.com/wp-content/uploads/2020/11/Study-on-the-impact-of-Brominated-Flame-Retardants-BFRs-on-WEEE-plastics-recycling-by-Sofies-Nov-2020.pdf>.

³⁵ New York Environmental Conservation Law, § 37-1001.

for personal use in a residential space. The definition does not include: (a) any electronic display with a screen area smaller than or equal to one hundred square centimeters or fifteen and one-half square inches; (b) projectors; (c) virtual reality headsets; (d) all-in-one video conference systems; or (e) displays that are integrated with appliances and are not available for purchase as separate products by end-users.³⁶ Restrictions on the use of OFRs in electronic displays takes effect on December 1, 2024.³⁷

The aforementioned regulations are all more narrowly tailored than what has been outlined in Preliminary Draft Rule by Ecology. In addition, any restrictions have either applied to a narrow range of chemicals in wide variety of electronic products, or a wide range of chemicals in a narrow range of electronic products. Any regulation developed by Ecology regarding the use of OFRs in casings and enclosures for electronic and electrical equipment should more fully consider these approaches.

c. Products exempt from regulation should be made clear to all stakeholders

The Department should more clearly itemize products that are exempt from any regulations of OFRs in casings and enclosures of electronic and electrical equipment. The underlying statute exempts 1) internal electronic components; 2) plastic shipping pallets manufactured prior to 2012; 3) food or beverages; 4) tobacco products; 5) drug or biological products regulated by the U.S. Food and Drug Administration (FDA); 6) finished products certified or regulated by the Federal Aviation Administration (FAA) or the Department of Defense (DOD), or both, when used in a manner that was certified or regulated by such agencies, including parts, materials, and processes when used to manufacture or maintain such regulated or certified finished products; and, 7) motorized vehicles, including on and off-highway vehicles, such as all-terrain vehicles, motorcycles, side-by-side vehicles, farm equipment, and personal assistive mobility devices; and chemical products used to produce an agricultural commodity, as defined in RCW 17.21.020.³⁸ Ecology should make clear what products are exempt from any regulation to avoid needless regulatory confusion.

4. Considerations for product design and performance

a. Options needed for product manufacturers

Ecology's regulatory approach fails to consider the vastly different product design and performance factors for this wide range of products. There is a tremendous difference within and amongst different types of electronic products. As highlighted further relative to the assessment of potential alternatives; different products within this broad product category have different functional and safety needs, so taking a one size fits all approach

³⁶ Ibid.

³⁷ NY Environmental Conservation Law, § 37-1007.

³⁸ RCW 70A.350.030.

to this broad range of products does not make sense and likely undermines overall product safety and performance.

Electronic device manufacturers must balance the need to meet consumer demand for smaller, lighter, and more powerful electronics with the need to ensure that those devices meet performance and safety standards. Plastics have revolutionized electronic product designs. Manufacturers use plastics to achieve device performance goals, and plastic casings serve as an enclosure that protects from fire and shock risk. If left untreated, these plastics are flammable, so flame retardants serve as a critical line of defense against fire.

Likewise, when designing products, original equipment manufacturers (OEMs) need to consider specific plastic resin types and the flame retardant systems that are appropriate for those resins. Simple substitution is just not possible in many cases. Therefore, the electronics sector needs a broad array of material choices for differing product design needs, which includes the use of OFRs.

b. Implementation of Ecology's "safer" chemical alternatives would likely cause conflicts with other laws

Implementation of the Preliminary Draft Rule Language would very likely lead to conflicts with other U.S. federal and state legal requirements. One critical issue is that switching to the flame retardants Ecology identifies would likely require manufacturers to use PFAS in their products. The State of Maine will forbid the use of PFAS in any product as of January 1, 2030, and other states and the federal government may soon follow with their own restrictions. Another issue is that one of the chemical substances Ecology has identified as a "safer" alternative is currently undergoing a risk evaluation by EPA under the Toxic Substances Control Act (TSCA), which is likely to lead to restrictions on the use of this chemical.

Each of the chemicals Ecology identified as a "safer" alternative to OFRs is an organophosphate flame retardant (OPFR).³⁹ Ecology acknowledged in the Final Determinations Report that "the identified OPFRs need to be combined with additives that provide an anti-drip function. This is commonly achieved by addition of fluoroorganic additives (e.g., polytetrafluoroethylene (PTFE))."⁴⁰ PTFE falls under various key domestic PFAS definitions.⁴¹

³⁹ Regulatory Determinations Report at 64-67.

⁴⁰ *Id.* at 68.

⁴¹ *See, e.g.*, Proposed 40 C.F.R. 705.3 ("Per- and polyfluoroalkyl substances or PFAS, for the purpose of this part, means any chemical substance or mixture that structurally contains the unit R-(CF₂)-C(F)(R')R". Both the CF₂ and CF moieties are saturated carbons. None of the R groups (R, R' or R") can be hydrogen."); 38 Maine Rev. Stat. Ann. 1614.1.F ("Perfluoroalkyl and polyfluoroalkyl substances' or 'PFAS' means substances that include any member of the class of fluorinated organic chemicals containing at least one fully fluorinated carbon atom.").

The federal government and many U.S. states are considering, or have already enacted, restrictions on the use of PFAS in products. As noted above, effective January 1, 2030, Maine will prohibit the use of any PFAS in any product in any amount, unless the state Department of Environmental Protection issues an exemption by notice and comment rulemaking.⁴² The U.S. Environmental Protection Agency (EPA) has proposed – for finalization later this year – sweeping reporting requirements that will cover imported products that contain any PFAS in any amount.⁴³ Restrictions under EPA's TSCA authority could follow. In Michigan, Executive Directive 2021-08 requires the state to purchase PFAS-free products whenever possible.⁴⁴ Other states are also considering restrictions on the use of PFAS in a wide range of products.

In the Final Determinations Report, Ecology stated that because enclosures are identified as priority products for OFRs, but not PFAS, Ecology need not evaluate whether safer alternatives to PFAS anti-drip agents are feasible and available.⁴⁵ This analysis misses the point. If Ecology's identified alternatives require the use of an anti-drip agent, that anti-drip agent must be feasible and available in order for Ecology's identified alternative to be workable. Ecology has not made this showing.

Additionally, one of the chemicals Ecology identified as a "safer" alternative – triphenyl phosphate – is undergoing a TSCA risk evaluation by EPA.⁴⁶ One of the conditions of use EPA is considering as part of the risk evaluation is use in electrical and electronic products.⁴⁷ If EPA concludes that this use presents an unreasonable risk, EPA could use its TSCA authority to forbid the use.⁴⁸

Electronic product manufacturers design their products for worldwide compliance. It would not be feasible, for example, for a manufacturer to formulate a Washington-compliant product that contains PFTE and a PTFE-free product for other states. Under such a scenario, in order to avoid conflict with Washington law it is entirely foreseeable that manufacturers would need to stop selling certain electronic products in Washington.

⁴² 38 Maine Rev. Stat. Ann. 1614.

⁴³ TSCA Section 8(a)(7), 15 U.S.C. 2607(a)(7); Proposed 40 C.F.R. Part 705.

⁴⁴ Michigan Executive Directive No. 2021-08, available at https://content.govdelivery.com/attachments/MIEOG/2021/10/27/file_attachments/1978458/ED%202021-08.pdf.

⁴⁵ Regulatory Determinations Report at 68.

⁴⁶ Risk Evaluation for Phosphoric Acid, Triphenyl Ester, <https://www.epa.gov/assessing-and-managing-chemicals-under-tasca/risk-evaluation-phosphoric-acid-triphenyl-ester-tpp>.

⁴⁷ Final Scope of the Risk Evaluation for Triphenyl Phosphate at 25-27, available at https://www.epa.gov/sites/default/files/2020-09/documents/casrn_115-86-6_triphenyl_phosphate_tpp_final_scope.pdf.

⁴⁸ TSCA Section 6(a); 15 U.S.C. 2605(a).

c. Any regulations should more accurately reflect the breadth of product safety standards

In the Preliminary Draft Rule, Ecology proposes a limit of 1,000 ppm for individual organohalogen flame retardants and 1,500 ppm for combined OFRs in casings and enclosures of electronic and electrical equipment. The Department cites UL 746H, which certifies plastics to either be non-halogenated or non-chlorine and non-bromine.⁴⁹ However, UL 746H is an optional certification rating and is not always a viable option for electronic and electrical equipment. That notwithstanding, Ecology cites that it sought to align restrictions for OFRs in casings and enclosures for electronic and electrical equipment intended for indoor use with UL 746H.

Electronic and electrical products with larger enclosures can be required by UL 746C⁵⁰ to undergo a specific test that assumes a flame threat occurs outside of the enclosure. In these instances, enclosures meeting specific size criteria must pass a larger scale fire test (either ASTM E162 or UL 723 can be used per UL 746C). Using an interior fire barrier (possibly metal) with a horizontal burn "shell" may not be enough to satisfy these additional requirements.

There are over 385 product standards where UL 746C is referenced. It is common for some of these 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.

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. A more flexible standard that Ecology may wish to research is UL 746R, which is used to certify compliance with EU RoHS.⁵¹

⁴⁹ UL 746H is an optional non-halogenated certification ratings requirement that uses combustion-ion chromatography

⁵⁰ UL 746C specifies standards for parts made of polymeric materials that are used in electrical equipment and describe the various test procedures and their use in the testing of such parts and equipment.

⁵¹ UL 746R is a standard that providing an outline for restricted use substances in polymeric materials, IEC 62321 - determination of certain substances in electrotechnical products.

d. Ecology is already considering performance criteria for outdoor products and should also more fully-consider performance criteria for indoor products

At the public session held by the Department on August 16, Ecology staff noted that it was not restricting the use of OFRs in casings and enclosures for outdoor electronic and electrical equipment due to considerations related to weatherization. OFRs are often the preferred flame retardant option when product manufacturers have performance criteria to meet related to UV exposure, extreme fluctuations in temperatures, or moisture. OFRs can be used in combination with high impact polystyrene resin (HIPS) systems in casings and enclosures for electronic and electrical equipment to meet or exceed performance requirements. The Department has acknowledged that there is a lack of alternatives to OFRs in casings and enclosures for electronic and electrical equipment used outdoors and as such has recommended a reporting requirement but not restrictions.

Yet, in the Preliminary Draft Rule, Ecology fails to consider the performance criteria that would allow for OFRs to be used in casings and enclosures for indoor electronic and electrical equipment. In particular, moisture can be a factor for electronic and electrical equipment used indoors – such as washing machines – and consequently OFRs may be the most appropriate design option for use in casings and enclosures for indoor electronic and electrical equipment. The Department should consider a broader set of performance and design criteria regarding the use of OFRs in casings and enclosures for indoor products just as it has for outdoor products.

5. A more deliberate approach is needed for the regulatory process, including additional time for stakeholders to provide feedback

a. Confidential business information (CBI) protections should apply to all CBI provided to Ecology under the Safer Products for Washington program

It is critical that all CBI provided to Ecology be protected from public disclosure. The Preliminary Draft Rule Language provides some assurance, but only for information required to be reported to Ecology under proposed Section 065. The same protection should apply to all other submissions including, for example, information provided to Ecology by a company seeking an exemption under proposed Section 020. Thus, NAFRA recommends that Ecology draft a standalone CBI section that applies to all submissions of CBI.

Ecology should ensure that all CBI submitted is afforded protection described in the December 2020 Ecology document Information for Businesses Submitting Confidential Business Information to Ecology Under RCW 70A.350.⁵² This includes: 1) ensuring that any of Ecology's contractors that review the information do so under a separate confidentiality agreement; 2) Ecology notify the submitter if the Department believes any information submitted as CBI does not meet required criteria for protection; and 3) Ecology

⁵² Available at

https://www.ezview.wa.gov/Portals/1962/Documents/saferproducts/CBI_Process_SaferProductsWA.pdf.

requesting a protective order for any documents reviewed by a court to confirm they are CBI.

The Department should also understand that companies strictly protect certain formulation information from each other in addition to from other entities. This safeguard is necessary to drive innovation and protect competitive advantages, which are the reasons the Legislature enacted the CBI protections of RCW 43.21A.160. Because companies keep this information from each other, it can be difficult for a submitter to determine whether a certain process is “unique” to the submitter under that statutory provision. However, a submitter still qualifies for CBI protection if it can show that the disclosure of information “may affect adversely [its] competitive position.”⁵³ Information regarding product formulation is generally considered CBI that would harm a company’s competitive position if released.

b. Any reporting requirements for OFRs should leverage existing chemical reporting requirements for Washington State

Ecology has proposed reporting requirements for all electronic and electrical equipment intended for outdoor use that has OFRs in its casing or enclosure. The level of specificity that the Department is requesting the reporting party to disclose, includes the name and CAS RN of any OFRs in the casing or enclosure, the priority consumer product, and the total concentration of the priority chemical in each product component in the priority consumer product. Reporting of such information as presently proposed could require businesses to publish CBI.

An approach that could allow for disclosure of some information, while also addressing CBI concerns, would be to follow the model that has been created for reporting chemicals in children’s products under the Children’s Safe Products Act (CSPA).⁵⁴ Under CSPA, and the Children’s Safe Products – Reporting Rule,⁵⁵ a manufacturer of a children's product sold or offered for sale in Washington that contains a chemical of high concern to children (CHCC) by January 31 of each year must submit a report regarding any covered products sold in the prior calendar year.⁵⁶

The company is required to disclose 1) its name, 2) product category, 3) component where the CHCC is found, 4) the individual chemical, 5) the CAS RN for the individual chemical, 6) one of six concentration ranges for the chemical, and 7) the chemical function.⁵⁷ NAFRA questions the necessity of such a reporting requirement for OFRs in casings and enclosures

⁵³ RCW 43.21A.155.

⁵⁴ RCW 70A.430.

⁵⁵ WAC 173-334.

⁵⁶ WAC 173-334-100.

⁵⁷ WAC 173-334-080.

used in electronic and electrical equipment; however, should Ecology ultimately decide on a reporting requirement, leveraging the existing model under CSPA would be a more appropriate approach to a reporting requirement than what has been proposed in the Preliminary Draft Rule.

c. Ecology's notification requirements should incorporate the "known or reasonably ascertainable" standard commonly used by EPA

Any reporting requirements Ecology implements should incorporate the "known or reasonably ascertainable" standard currently used by EPA in similar situations. EPA has incorporated this standard, for example, into its proposed EPA PFAS reporting rule⁵⁸ and to the TSCA quadrennial Chemical Data Reporting rule requirements.⁵⁹ It would be unreasonable to hold industry to a strict liability standard, especially for very complex products like electronic and electrical equipment.

d. The complexity of the product category requires a more deliberate approach that allows a reasonable amount of time to provide stakeholder feedback

The Preliminary Draft Rule covers an extremely broad range of products and product categories. Moreover, performance and design considerations for electronic and electrical equipment encompasses a variety of factors, including durability, weight, fire resistance, exposure to ultraviolet light, and sustainability. It is therefore reasonable for the Department to work in a timely but deliberate manner to help ensure that any regulations for OFRs in casings and enclosures for electronic and electrical equipment is supported by the best available science.

Ecology has noted on multiple occasions that it is sometimes limited in its ability to incorporate stakeholder feedback due to the statutory deadlines for Safer Products for Washington. NAFRA agrees that the Department should do everything possible to meet its statutory obligations, but we are concerned that in Ecology's effort to meet those timelines it is not allowing for a reasonable amount of time for stakeholder feedback.

For example, the Department released the Preliminary Draft Rule on August 8 and announced it would accept comments on the proposal until August 23. This only allowed for a 14-day comment period. Consequently, ACC and several other groups submitted an extension request on August 15 requesting that the comment period be open for 30 days until September 8.

⁵⁸ Proposed 40 C.F.R. 705.15 (proposing to require manufacturers to report certain information "to the extent known to or reasonably ascertainable by them").

⁵⁹ 40 C.F.R. 711.15 (requiring that a "submitter of information under this part must report information as described in this section to the extent that such information is known to or reasonably ascertainable by that person").

On August 16, the Department granted an extension until August 31 suggesting that it could not meet its statutory obligations if it accepted comments until September 8. Ecology held public sessions on both August 16 and August 18. A supplemental document regarding the regulatory proposal for electronic and electrical equipment titled, *Draft Decision Tree and Supply Chain Resource for Electric and Electronic Product Manufacturers*, was distributed on the evening of August 15. This provided little time for review of the document prior to the public session held on August 16.

In addition, on both the August 16 and 18 public sessions, Ecology staff stated that although the comment period is open until August 31, in order for feedback to be incorporated into the draft Rule expected to be published in December 2022, all substantive comments must be received by August 23, the original comment deadline. Again, NAFRA agrees that the Department should do everything possible to meet its statutory obligations, but that should not come into conflict with allowing a reasonable amount of time for stakeholders to provide feedback.

NAFRA plans to submit supplementary comments on the Preliminary Draft Rule next week ahead of the August 31 deadline but is submitting comments now in order for them to be fully considered by the Department.

6. Conclusion

NAFRA has concerns with the Preliminary Draft Rule, as outlined above in greater detail, and requests that the Department consider these concerns as it continues to develop regulations for a diverse set of flame retardant chemicals used in a wide range of electronic and electrical products.

Suggested areas for improvement include 1) ensuring that any regulations for OFRs in casings and enclosures for electronic and electrical equipment are the least burdensome alternative, 2) narrowing the regulatory scope, 3) align any regulations with relevant state, federal, and international laws, and 4) greater recognition of the need for options in product design, including fire safety and overall product performance.