

ACC North American Flame Retardant Alliance

Please find the attached comments from the American Chemistry Council's (ACC) North American Flame Retardant Alliance (NAFRA) regarding the Draft Rule for Safer Products for Washington – Cycle 1.

February 5, 2023

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

Re: Draft Rule for Safer Products for Washington – Cycle 1 and flame retardants in plastic external enclosures for electric and electronic products

To Whom It May Concern:

The American Chemistry Council's (ACC) North American Flame Retardant Alliance (NAFRA)¹ submits the following comments regarding the Washington Department of Ecology's (Department or Ecology) Draft Rule for Safer Products for Washington – Cycle 1 (Draft Rule).² NAFRA's comments focus specifically on the proposed regulations regarding the use of organohalogen flame retardants (OFRs) in plastic casings and enclosures for electric and electronic products. For broader issues related to the Draft Rule, NAFRA refers the Department to comments submitted by ACC on behalf of the association as a whole.

NAFRA appreciates the opportunity to comment on the Department's 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 electric and electronic products. If you have questions or need clarification, please contact me at ben_gann@americanchemistry.com or 202-249-7000.

Sincerely,



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 Washington Department of Ecology, Chapter 173-337 Washington Administrative Code (WAC): Safer Products for Restrictions and Reporting (Draft Rule), December 2022, <https://ecology.wa.gov/DOE/files/34/34868dd6-a7ea-4944-814f-010df10dde99.pdf>.



1. Introduction and Overview

NAFRA supports chemical safety and appreciates the opportunity to comment on the Draft rule for OFRs in plastic external enclosures for electric and electronic products. 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 – Cycle 1* 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 as part of the Draft Rule for Safer Products for Washington – Cycle 1 has proposed the following for OFRs in enclosures for electric and electronic products:

- Restrictions for indoor electric and electronic products that have OFRs in the plastic casing or enclosure; and,
- Reporting requirements for outdoor electric and electronic that have OFRs in the plastic casing or enclosure.

Washington State's regulatory proposal for the use of chemical in electronic casings is incredibly broad and would restrict thousands of products with broad implications for the electronics and electrical equipment sectors. Given the breadth of this proposal, the lack of clarity about which chemicals are being proposed for regulation and the lack of clarity and the complex nature of the EE&E supply chains many in the value-chain are unaware and/or do not have the necessary information to determine if they are indeed impacted by the proposal.

Overall, the analysis used to justify the regulatory proposal for OFRs in enclosures for electric and electronic products needs additional rigor and a more targeted approach for this important product category. While the underlying law for *Safer Products for Washington* identifies OFRs and some non-halogenated flame retardants as priority chemicals for evaluation,³ Washington State should take a more targeted approach in its policy recommendations by enhancing its evaluation of OFRs, focusing on appropriate subclasses/subcategories of OFRs, and narrowing the scope of electrical and electronic products subject to regulation.

The current regulatory approach is too broad and less restrictive measures are available – and should be pursued – to achieve the overall objectives of the program. NAFRA highlights the following recommendations to improve the Department's Draft Rule for OFRs in enclosures of electric and electronic products.

³ Chapter 70A.350 Recorded Codes of Washington (RCW), <https://app.leg.wa.gov/rcw/default.aspx?cite=70A.350>.

- Align regulations with other jurisdictions, including the need to consider conflicting regulatory requirements in other jurisdictions;
- Apply assessment criteria consistently and evenly for OFRs and potential alternatives;
- Recognize the diversity of OFRs as part of any regulations;
- Provide greater consideration for the challenges associated with the design of both indoor and outdoor products;
- Revise the Preliminary Regulatory Analyses to consider less burdensome regulatory approaches and better reflect commonly accepted practices for cost-benefit analysis; and,
- Take more time in developing regulations for this complex product category so that any regulations represent the least burdensome alternative as required by statute.⁴

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 electric and electronic products.

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

a. Need for alignment with existing regulations

Any proposed regulations should 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 proposed for Washington State. This would make the state an outlier, potentially both affecting electric and electronic products offered for purchase in the state and impacting broader product safety, innovation, sustainability, and trade. In addition, the proposed regulations are in some cases in direct conflict with existing or proposed regulations in other jurisdictions.

Although Ecology has identified some relevant regulations from other jurisdictions, rather than having the Draft Rule align with those regulations, it has proposed an expansion well beyond them. Such an approach would almost certainly have unintended consequences for Washington State and could affect the availability of some electric and electronic products. Summarized 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.⁵ While RoHS applies to numerous electronic

⁴ Chapter 70A.350.080(2)(c) RCW.

⁵ Directive (EU) 2015/863. <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32015L0863&from=EN>.

and electrical products, the restrictions on the use of OFRs is limited to 1,000 ppm for both polybrominated biphenyls and PBDEs. An update to EU RoHS is expected later this year that would add restrictions for additive applications – but not reactive applications – of tetrabromobisphenol A (TBBPA, CAS RN 79-74-7).⁶ All 27 EU member countries comply with RoHS to aid market compliance. Any business that manufactures or sells covered products to RoHS-directed countries must comply with the applicable regulations. Acceptance of this measure by Washington State would help manufacturers and align the state with a recognized market standard.

There is also the European Commission's Ecodesign Directive that restricts the use of OFRs in enclosures and stands of electronic displays, which includes televisions, monitors, and digital signage displays.⁷ The rationale for the restriction was not based on the toxicological profile of OFRs, but rather the disproven claim that OFRs hinder recycling of plastics from electronic products. Plastics containing OFRs are readily sorted and can be 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.⁸

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.⁹ 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 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.¹⁰ Restrictions on the use of OFRs in electronic displays take effect on December 1, 2024.¹¹

⁶ European Commission Delegated Directive, <https://ec.europa.eu/transparency/expert-groups-register/screen/expert-groups/consult?lang=en&do=groupDetail.groupDetail&groupID=2810&Lang=EN>.

⁷ Regulation (EU) 2019/2021. <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32019R2021&from=EN>

⁸ 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>.

⁹ New York Environmental Conservation Law, § 37-1001.

¹⁰ Ibid.

¹¹ New York Environmental Conservation Law, § 37-1007.

Conversely, Washington State is proposing restrictions for all OFRs in the casings of electric and electronic products, going well beyond just electronic displays. While electronic display manufacturers may be aware of the restrictions posed by the laws mentioned above, this will be a new concept for other electric and electronic manufacturers who may be either unaware of the proposal, or unable to meet the timelines proposed for compliance. The aforementioned regulations are all more narrowly tailored than what has been outlined in the Draft Rule. Historically, restrictions have applied to either 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 such approaches.

Finally, there have been important market, policy, and scientific developments that have occurred since publication of the Final Regulatory Determinations Report¹² in June 2022 that need to be further evaluated before finalizing any regulation for electronic and electrical equipment. Most importantly, the identified alternative chemicals being proposed for use by Washington State are restricted or proposed for restriction in some other jurisdictions. So if electronics manufacturers want to sell products in Washington State, the Draft Rule would potentially force them to design and build products with alternative materials that are restricted elsewhere. Any regulation for electric and electronic products needs to reconcile conflicting regulatory developments in other jurisdictions and ensure that manufacturers can meet required safety and performance standards while having access to alternative materials. This also has implications for Washington State markets and consumers. Faced with restrictions and reporting requirements for OFRs in enclosures of electric and electronic products offered for sale in the state that are out of step with regulations elsewhere, it is unclear how manufacturers will react and whether they will continue to offer the same quantity of electric and electronic products for sale in the state.

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

The current regulatory approach is too broad and less restrictive measures are available – and should be pursued – to achieve the overall objectives of the program. In its present form it could cause confusion and disruption for electric and electronic product supply chains. The Department does not clearly define either electrical products or electronic products. The underlying statute for Safer Products for Washington defines electronic product¹³ in a manner which includes fewer products than Ecology has indicated that it intends to regulate.

¹² Washington Department of Ecology, *Regulatory Determinations Report to the Legislature: Safer Products for Washington Cycle 1 Implementation Phase 3*, June 6, 2022, <https://apps.ecology.wa.gov/publications/documents/2204018.pdf>

¹³ Chapter 70A.350.010 RCW.

Electronic product is defined in 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.”¹⁴ A definition of electric product is not even included in the underlying statute. This suggests that the legislative intent of the regulatory program was for any regulation of chemicals in electronics to apply only to the universe of products defined in the statute, not to a broader segment of electric and electronic products.

The Department should also narrow the scope of the regulatory proposal by specifying 1) individual OFRs by CAS Registry Number (CAS RN) that it plans to regulate and 2) 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. Using the federal definition of “consumer product”¹⁵ could provide a more useful and widely accepted definition regarding the products covered by any regulation. These changes could potentially alleviate confusion and avoid supply chain disruptions that may harm availability of some electric and products for purchase in Washington State.

This is critical since given the complex supply chains for electronic and electrical equipment, it will be difficult if not impossible for manufacturers to identify within their supply chains whether the broad class of OFRs is used. There needs to be greater transparency and clarity for end use manufacturers regarding regulation of OFRs in enclosures of electric and electronic products.

In the Draft Rule, Ecology does not specify by CAS RN the OFRs that it plans to regulate. The Department states that it will not include a list of CAS RNs for every chemical it intends to regulate because this would prevent the Department from regulating chemical classes.¹⁶ This reasoning is circular and insufficient for a regulatory proposal of this magnitude. Moreover, Ecology’s intent to develop guidance that provides more information about known chemicals¹⁷ is inadequate to provide the clarity needed for electric and electronic product supply chains.

Ironically, in the Draft Rule, the Department proposes regulating the use of OFRs in enclosures of electric and electronic products without specifying either individual OFRs or individual products, and yet has proposed a reporting requirement for each affected outdoor product that must include 1) the name and CAS RN of any OFR in the casing or enclosure,

¹⁴ Ibid.

¹⁵ 15 USC § 2052(a)(5), <https://www.govinfo.gov/content/pkg/USCODE-2021-title15/pdf/USCODE-2021-title15-chap47-sec2052.pdf>.

¹⁶ Washington Department of Ecology, Preliminary Regulatory Analyses, Publication 22-04-042, December 2022, p. 64, <https://apps.ecology.wa.gov/publications/documents/2204042.pdf>.

¹⁷ Ibid.

2) the priority consumer product in which the OFR is used, 3) the product component within the product category that contains the priority chemical, 4) a description of the function of the priority chemical, and 5) the concentration range of each intentionally added priority chemical in each product component in each product category.¹⁸ This illustrates that more narrowly defining the universe of chemicals and products to be regulated could help alleviate confusion associated with regulatory compliance.

The regulatory approach also incorrectly assumes that all OFRs used in enclosures for electric and electronic products pose the same level of risk even though that has not been established by the Department. In fact, the Department has indicated that some OFRs are preferred over other OFRs but are ignored because they are not used in electronic casings. Perhaps these “preferred” OFRs could be safely used in electronic casings but have not been evaluated for such purpose since existing OFRs are already in use. Even more perplexing, the law does not allow for the innovation of new OFRs that could be developed and serve as preferred “safer” alternatives.

There are no drop in replacements for OFRs, as a change in the flame retardant also means a change in the resin system. By not specifying which OFRs or products it is seeking to regulate, Ecology is 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 the term “consumer product”¹⁹ so it does not apply to products used in commercial and industrial settings.

c. Implementation of Ecology’s “safer” chemical alternatives would likely cause conflicts with other laws

Implementation of the regulatory proposal would very likely lead to conflicts with federal and state legal requirements. One critical issue is that switching to the flame retardants identified by Ecology would likely require manufacturers to use PFAS substances in their products. The State of Maine will prohibit the use of PFAS substances in any product as of January 1, 2030. In Michigan, Executive Directive 2021-08 requires the state to purchase PFAS-free products whenever possible.²⁰ And other states and international jurisdictions have proposed their own regulations for PFAS substances. Another issue is that one of the chemical substances Ecology has identified as a “safer” alternative is currently undergoing

¹⁸ Chapter 173-337-060 WAC

¹⁹ Chapter 70A.350.010(1) RCW

²⁰ Michigan Executive Directive No. 2021-08, available at https://content.govdelivery.com/attachments/MIEOG/2021/10/27/file_attachments/1978458/ED%202021-08.pdf.

a risk evaluation by EPA under the Toxic Substances Control Act (TSCA),²¹ which has the potential to lead to regulations regarding the use of this chemical.

Each of the chemicals Ecology identified as a “safer” alternative to OFRs is an organophosphate flame retardant (OPFR).²² Ecology outlines 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 the addition of fluoroorganic additives (e.g., polytetrafluoroethylene (PTFE)) to the enclosure material.”²³ Some jurisdictions have classified PTFE as a PFAS substance for regulation.

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.²⁴ 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 alternatives to be workable. Ecology has not made this showing and not considered the conflict with regulations in other jurisdictions.

Additionally, one of the chemicals Ecology identified as a “safer” alternative – triphenyl phosphate – is undergoing a TSCA risk evaluation by EPA.²⁵ One of the conditions of use EPA is considering as part of the risk evaluation is use in electrical and electronic products.²⁶ If EPA concludes that this use presents an unreasonable risk, EPA could exercise its TSCA authority to regulate its use thereby impacting the feasibility and availability of a alternative identified by Ecology.²⁷

Electronic product manufacturers design their products for worldwide compliance. These are complex products that require multiple years for product design, testing, and certification; so more rigor needs to be applied to the alternative assessment for this complex product category. It would not be feasible, for example, for a manufacturer to formulate a Washington-compliant product and a different product for other states. Under such a scenario, in order to avoid conflict with Washington State law it is entirely

²¹ Triphenyl phosphate (CAS RN 115-86-6) is currently in the TSCA risk evaluation process.

²² Regulatory Determinations Report at pages 64-67.

²³ Regulatory Determinations Report at page 68.

²⁴ Regulatory Determinations Report at page 68.

²⁵ US EPA, Risk Evaluation for Phosphoric Acid, Triphenyl Ester, <https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/risk-evaluation-phosphoric-acid-triphenyl-ester-tpp>.

²⁶ US EPA, Final Scope of the Risk Evaluation for Triphenyl Phosphate, pages 25-27, https://www.epa.gov/sites/default/files/2020-09/documents/casrn_115-86-6_triphenyl_phosphate_tpp_final_scope.pdf.

²⁷ TSCA Section 6(a); 15 USC 2605(a).

foreseeable that manufacturers would need to stop selling some electronic products in the state. Likewise, forced substitution to an alternative that could also be regulated in the near future would require manufacturers to implement multi-year product redesign efforts only to have those not be consistent with new regulatory requirements. These are specific examples demonstrating how the proposed rulemaking is inconsistent with existing and anticipated regulations in other jurisdictions and could thereby create an untenable and unworkable scenario for product manufacturers.

d. WTO TBT Notification suggests a need for greater regulatory coordination

The need for additional regulatory coordination by the Department is underscored by recent action taken by the U.S. Department of Commerce. On January 6, 2023, the Draft Rule was notified to the World Trade Organization (WTO) Technical Barriers to Trade (TBT) Committee by the U.S. Commerce Department.²⁸ The action was taken because as a WTO member, the U.S. Government is required to provide notification of technical regulations at an early stage of the process so that amendments can still be made.²⁹ This includes notification for technical regulations of governments at the level directly below that of the central government.³⁰

The notification by the U.S. government suggests that the Department of Ecology has not sufficiently coordinated with federal agencies, the Washington Department of Commerce, or other state agencies to avoid the creation of trade barriers or potential supply chain disruptions that could arise from the rulemaking.

e. States have historically recognized the benefits of flame retardants in electronics

Even policymakers in states that have enacted restrictions on flame retardants in products such as upholstered furniture, mattresses, and children's products, have recognized the benefits that flame retardants can have in electronics for regulated products. Circuit boards and other interior parts like fans, cables, and connectors carry electrical currents. These currents generate heat and can be an internal ignition source, which is why flame retardants are used to mitigate the risk of fire and to help meet flammability standards.

Several states with flame retardant restrictions have still allowed flame retardants that are polymeric. Large, stable, inert polymeric molecules are generally too large to cross biological membranes and therefore will not present a potential risk to human health or the environment. The large size of polymeric flame retardants also generally inhibits their migration out of the substrate and therefore present little potential for human or

²⁸ Notification to the World Trade Organization Committee on Technical Barriers to Trade, G/TBT/N/USA/1958 Safer Products Restrictions and Reporting, January 6, 2023.

²⁹ WTO Agreement on Technical Barriers to Trade, Article 5.6.2, https://www.wto.org/english/docs_e/legal_e/17-tbt_e.htm.

³⁰ WTO TBT Agreement, Article 3.2.

environmental exposure. A comprehensive assessment of flame retardants through the EPA's Design for the Environment Program readily demonstrates the lower mobility, volatility, and bioavailability of reactive flame retardants.³¹ Yet, this has been ignored by Washington State. NAFRA suggests the Department consider such a distinction as it explores regulatory options for OFRs in enclosures for electric and electronic products.

3. Inconsistent and incomplete assessment criteria for OFRs and potential alternatives

a. Assessment approach is uneven and treats OFRs differently than alternatives

The Department's approach to regulating OFRs as a class has led to inconsistent and uneven application of its hazard criteria, and has chosen a model that virtually assumes that all chemicals within an identified priority chemical class – in this case OFRs – will not qualify as safer. This has raised questions about whether additional criteria applied to OFRs, and not the alternatives, was intended to achieve a preferred outcome. Or put another way, that 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 at a minimum needless and costly – substitution.

Under Ecology's Working Criteria for Feasible and Available³² if an OFR achieves a Benchmark 2 score as part of a GreenScreen Assessment, it still may not meet its "safer" criteria. This is because such chemicals can fail additional within-class criteria established by the Department only for priority chemicals and not for chemicals it has identified as alternatives.³³

Several OFRs meet the Department's minimum criteria for "safer" but are still being proposed for regulation. For one OFR, decabromodiphenyl ethane ((DBDPE) (CAS RN 84852-53-9)) a GreenScreen® Assessment was conducted with the chemical assigned a Benchmark 2 score.³⁴ However, since DBDPE is an OFR additional within-class criteria applies. This higher bar applies despite no relevant environmental transformation products for this chemical.³⁵

More recently, a GreenScreen® Assessment was conducted for another OFR, 1,3,5-triazine, 2,4,6-tris(2,4,6-tribromophenoxy) ((TTBPT or TTBP-TAZ) (CAS RN 25713-60-4)) and submitted to the Department. That OFR has also been assigned a Benchmark 2

³¹ US EPA Design for the Environment, Flame Retardants Used in Flexible Polyurethane Foam: An Alternatives Assessment Update, EPA 744-R-15-002, August 2015, Page 3-2, https://www.epa.gov/sites/default/files/2015-08/documents/ffr_final.pdf.

³² Regulatory Determinations Report at pages 301-305.

³³ Regulatory Determinations Report at page 42.

³⁴ Gradient. GreenScreen® Assessment for [Decabromodiphenyl ethane; DBDPE (CAS # 84852-53- 9)]; Prepared for: American Chemistry Council: December 2021.

³⁵ Ibid.

score.³⁶ Both DBDPE and TTBPT are not considered safer by the Department because as part of the class-based approach being employed, OFRs are not allowed to score high or very high for persistence. Both DBDPE and TTBPT score very high for persistence. Notably, the Department has also concluded that two non-halogenated flame retardants identified as alternatives – triphenyl phosphate (TPP, CAS RN 115-86-6) and resorcinol bis(diphenyl Phosphate) (RDP, CAS RN 125997-21-9) – meet the minimum criteria for “safer” despite having the same Benchmark 2 score as DBDPE and TTBPT.³⁷

Additionally, if within class criteria regarding persistence were applied in the same fashion for identified alternatives as it has for OFRs, four of the seven identified alternatives would not be considered safer. That is because three of the identified alternatives score very high for persistence^{38 39} and another alternative scores high for persistence.^{40 41} For many manufacturers, what is described as persistence by the Washington Department of Ecology, would be called chemical stability in manufacturing and use. Stability in manufacturing and use is a preferred performance characteristic for many durable electronic goods with plastic casings. The plastics must often withstand repeated heat cycles during manufacture, not degrade during the life of the product, and allow for recycle or reuse of the plastic at the end of the product life cycle. NAFRA maintains that electric and electronic product manufacturers need a variety of material choices as part of the product design process. Some products are designed for a short duration and some products for decades of use. Therefore, these choices should include options allowing for the safe use of OFRs, as well as options allowing for the safe use of non-halogenated flame retardants.

b. Expert analysis reinforces that the current alternatives assessment criteria is inconsistent

Recently, NAFRA contracted with an authorized GreenScreen® Profiler to review the Department's assessment of OFRs and select OPFRs as part of Safer Products for Washington – Cycle 1. Benchmark 2 is categorized under GreenScreen® as "use but search

³⁶ Gradient. GreenScreen® Assessment for [1,3,5-triazine, 2,4,6-tris(2,4,6-tribromophenoxy) TTBPT (CAS # 25713-60-4)]; Prepared for ICL Group: June 2022.

³⁷ Regulatory Determinations Report at pages 64 - 65.

³⁸ GreenScreen® assessment scores for Phosphoric acid, P,P'-1,3-phenylene P,P',P'-tetrakis(2,6-dimethylphenyl) ester (CAS RN 68664-06-2), Aluminum diethylphosphinate (CAS RN 225789-38-8), courtesy of <https://pharosproject.net/>.

³⁹ GreenScreen Assessment score for Carbonic acid, diphenyl ester, polymer with diphenyl P-methylphosphonate and 4,4'-(1-methylethylidene)bis(phenol) (CAS RN 77226-90-5), courtesy of the Ministry of Environment and Food of Denmark, Environmental and Health Screening Profiles of Phosphorus Flame Retardants, page 13, <https://www2.mst.dk/udgiv/publications/2016/01/978-87-93435-23-0.pdf>

⁴⁰ Gradient. GreenScreen® Assessment for [Bisphenol A Bis-(diphenyl phosphate); BADP (CAS # 181-028-79-5/5945-33-5)]; Prepared for: American Chemistry Council: January 2023.

⁴¹ Hazard scores are provided for illustration purposes only. GreenScreen hazard scores and benchmarks can only be used to make claims about products if accompanied by a full GreenScreen Report.

for safer substitutes." This implies that while Benchmark 2 chemicals are not optimal, they can be used if there is no chemical with a Benchmark 3 or 4 score suitable for a specific need (e.g., electronic enclosures). The authorized GreenScreen® Profiler raised concerns that by creating a new, more stringent categorization for OFRs based on additional within-class criteria, it could lead to confusion and undermine the assurance provided in the other programs that have adopted GreenScreen®.⁴²

The authorized GreenScreen® Profiler further noted that OFRs are a priority class of chemicals and therefore can be subject to additional within-class criteria, but that the Department did not take a similar approach for individual OPFRs it identified as alternatives, instead reviewing them as individual chemicals using the minimum criteria for safer. A review of GreenScreen® Benchmark scores for OFRs and OPFRs shows that each category contains chemicals with a substantial number of high and very high scores, as well as chemicals with a substantial number of low and very low scores. Applying within-class criteria for the assessment of OFRs, while assessing OPFRs individually based on minimum criteria for safer, results in some lower hazard OFRs being proposed for restrictions while some OPFRs with higher hazards are not being proposed for restrictions.⁴³

Further underscoring the complications in inconsistently applying assessment criteria, two additional OPFRs identified as alternatives – RDP and TPP – that score as moderate for carcinogenicity, would also fail to meet the minimum criteria for safer if within-class criteria were applied. That is because OFRs are required to score as low for carcinogenicity as part of additional within class criteria. This means that if the seven OPFRs identified as alternatives by the Department were required to meet the additional within-class criteria that OFRs are required to meet, at least six of the seven would fail this additional criteria.

Both DBDPE and TTBPT score as GreenScreen® Benchmark 2 chemicals largely due to very high persistence. However, both OFRs have low bioaccumulation potential, low aquatic toxicity and are not carcinogens, mutagens, reproductive or developmental toxicants or endocrine-disrupting (CMRDE), and thus meet the Ecology's minimum criteria for safer.⁴⁴ This further reinforces that the Department's assessment criteria should be the same for priority chemicals and any alternatives it identifies.

⁴² American Chemistry Council North American Flame Retardant Alliance comments to the Washington Department of Ecology on the Draft Rule for Safer Products for Washington – Cycle 1, submitted on January 18, 2023, found at https://scs-public.s3-us-gov-west-1.amazonaws.com/env_production/oid100/did200002/pid_204575/assets/merged/990dio8_document.pdf?v=FEK4QG89W.

⁴³ Ibid.

⁴⁴ Ibid.

c. Comparison of OFR loading in electronic casings compared to alternatives is cursory and incomplete

The Department considers the combination of the identified Benchmark 2 and Benchmark 3 OPFRs, or those listed on the TCO Certified Accepted Substance List with a maximum of 0.5% PTFE, to be a safer alternative to using OFRs in electric and electronic enclosures.⁴⁵ Ecology's rationale for this is based on data showing that OFRs are used in products at up to 25% by weight, and the relatively lower concentration of PTFE (up to 0.5%) required to provide the anti-drip function.⁴⁶ PTFE provides an anti-drip function in electronic enclosures when used in combination with OPFRs for flame retardancy.

However, the analysis used as a justification that the combination of OPFRs with PTFE in electric and electronic enclosures are safer alternatives to that of OFRs is comparing dissimilar things. A more relevant comparison would be to compare the OPFR loading for the enclosure of an electric and electronic product to the OFR loading for the enclosure in a comparable product. Alternatively, the Department could use the combined loading of OPFR and PTFE in the enclosure of an electric and electronic product to the OFR loading for the enclosure in a comparable product.

Ecology's analysis is shallow and does not even directly compare the loading of OFRs in enclosures for electric and electronic products to the loading of OPFRs in enclosures of comparable products. At a minimum, such a comparison should be conducted by the Department as part of its alternatives assessment for OFRs used in plastic enclosures for electric and electronic products.

4. 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 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,

⁴⁵ Regulatory Determinations Report at page 68.

⁴⁶ Ibid.

upholstered furniture, and electronics – as a proxy for other flame retardants.⁴⁷ 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.⁴⁸

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.”⁴⁹ 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.

The risk posed by fire remains a public health concern for Washington State residents. In 2021, the last year that data is publicly available, there were 5,342 residential structure fires (one every 98 minutes) resulting in \$205 million in property loss.⁵⁰ In addition, consumer products are sometimes recalled due to fire or shock risk. In 2021, the U.S. Consumer Product Safety Commission (CPSC) recalled over 6.2 million units due to fire and shock hazards.⁵¹

Ecology’s bears the burden under the statute, for demonstrating that a replacement chemical or redesigned product is safer,⁵² but their current framework fails to do so because it does not sufficiently consider the fire safety hazards of products that can be mitigated with the use of OFRs. That analysis must include not only a toxicological perspective but a fire safety perspective as well, which includes the efficacy of OFRs and alternatives. The Department should balance any hazards associated with the priority chemical within the product, with the hazards that the chemical helps to address.

⁴⁷ 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.

⁴⁸ Washington Department of Ecology, Flame Retardants in Ten Washington Lakes, 2017-2018, December 2019. <https://apps.ecology.wa.gov/publications/documents/1903021.pdf>

⁴⁹ Chapter 70A.350.010(13) RCW.

⁵⁰ Washington State Fire Marshal’s Office, “2021 Fire in Washington,” April 2022, page 13, https://www.wsp.wa.gov/wp-content/uploads/2022/04/Fire_in_Washington_Report.pdf.

⁵¹ U.S. CPSC, 2021 Product Recall Data, found at <https://www.cpsc.gov/Recalls>.

⁵² Chapter 70A.350.040(3) RCW.

c. 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 each OFR be sorted into one of 14 subgroups based on chemical structure, physicochemical properties, and predicted biologic activity for purposes of further assessment.⁵³ Despite this, the Department has stated that it has not further separated OFRs into subclasses and does not plan to group them by any specific mechanism of action.⁵⁴

d. Current regulatory approach does not differentiate between individual OFRs, including emerging technologies

The Department's regulatory approach in the Draft Rule does not differentiate between additive and reactive OFRs. This is curious since in the Final Determinations Report, Ecology distinguished between additive and reactive flame retardants.⁵⁵ The Department contrasted additive flame retardants with reactive flame retardants, finding that reactive flame retardants have a lower potential for release because they are chemically reacted with the materials used in the product.⁵⁶ Despite this recognition, Ecology still collectively considered and assessed exposure risk of additive and reactive flame retardants.

Flame retardants can be liquids or solids that can be physically incorporated into a material (additive) or chemically transformed to create a new fire-resistant material (reactive). Additive flame retardants are incorporated into compounds via physical mixing. Compounds containing flame retardant elements are mixed with existing polymers without undergoing any chemical reactions. By contrast, reactive flame retardants are incorporated into polymers via chemical reactions.

Ecology's focus on source reduction across the product lifecycle also likely overstates the potential exposure risk from OFRs. First, there are major differences between additive OFRs, with some achieving a Benchmark 2 score as part of a GreenScreen® Assessment. Consequently, there is a need to distinguish even among additive flame retardants. Second, it ignores the continued research and development by companies to chemically react OFRs with existing polymers to create new fire-resistant materials for electronic casings and enclosures. Restricting the use of all OFRs in casings and enclosures unnecessarily lumps together a diverse range of compounds intended to improve fire safety and product

⁵³ National Academies of Sciences, Engineering, and Medicine. 2019. A Class Approach to Hazard Assessment of Organohalogen Flame Retardants. <https://doi.org/10.17226/25412>

⁵⁴ Regulatory Determinations Report at page 45.

⁵⁵ Regulatory Determinations Report at page 44.

⁵⁶ Ibid.

performance. This could stifle innovation and lead to the use of alternatives that are less desirable in terms of both toxicological profile and product performance.

NAFRA recommends that Ecology separately consider additive and reactive flame retardants in order to avoid overstating exposure risk. Taking this approach would allow Ecology to make regulatory decisions regarding flame retardants with more readily identifiable exposure risks and prevent unnecessary risk management measures for flame retardants that present low or no exposure risk. Ecology already recognizes in its criteria for safer products that chemicals being bound or encapsulated, or behind a functional barrier, could impact exposure magnitude.⁵⁷ NAFRA recommends that the Department apply this same reasoning to flame retardants in enclosures for electric and electronic products, acknowledge that most flame retardants are embedded within the polymer matrix, and therefore unlikely to result in significant exposure.

5. Greater consideration is needed for product design and performance

a. Design options needed for product manufacturers

Ecology's regulatory approach fails to consider the breadth of design and performance factors for this wide range of products. There is a tremendous difference within and amongst different types of electronic products. They have different functional and safety needs, so taking a one size fits all approach 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. Not all resins and not all flame retardants are the same. Different resin systems and different flame retardants have implications for overall product design performance – influencing other factors such as thermal stability, corrosivity, appearance, resistance to ultraviolet light, electrical properties, and circularity.

Manufacturers may also design their products for performance beyond minimum standards, therefore it is not accurate or appropriate to assume that the ability to meet

⁵⁷ Regulatory Determinations Report at page 284.

certain standards is sufficient for all product design and performance scenarios, including overall product safety.

b. Any regulations should more accurately reflect the range of product safety standards

In the Draft Rule, Ecology assumes that OFRs have been intentionally added to the enclosure of an electric or electronic product if 1) total bromine or total chlorine concentrations are above 1,000 parts per million (ppm) or 2) total fluorine concentrations are above 1,000 ppm and accompanied by less than 5,000 ppm total phosphorus. As part of the Preliminary Draft Rule, the Department identified UL 746H, which certifies plastics to either be non-halogenated or non-chlorine and non-bromine,⁵⁸ in the development of regulations for OFRs in enclosures for indoor electric and electronic products. UL 746H is an optional certification rating and is not always a viable design option for electric and electronic products.

Electric and electronic products with larger enclosures can be required by UL 746C⁵⁹ 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, the UL 2158 Standard for Safety for 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. There are other safety standards for indoor electric and electronic products where heat may be a primary design consideration (e.g., electric ranges,⁶⁰ microwave cooking appliances,⁶¹ and toasters⁶²) and as such may require the use of OFRs to meet or exceed relevant product safety standards.

⁵⁸ UL 746H is an optional non-halogenated certification ratings requirement that uses combustion-ion chromatography.

⁵⁹ 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.

⁶⁰ UL 858 is the standard for household electric ranges.

⁶¹ UL 923 is the standard for microwave cooking appliances.

⁶² UL 1026 is the standard for electric household cooking and food serving appliances.

Ecology's proposal for OFR limits in casings and enclosures of electric and electronic products intended for indoor use does not adequately consider that indoor products may have various design and performance criteria that make restrictions inspired by 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.⁶³

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

At the public session for the Preliminary Draft Rule 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 management. OFRs can be used in combination with high impact polystyrene resin (HIPS), polypropylenes, and polyethylene systems in casings and enclosures for electronic and electrical equipment to meet or exceed performance requirements. The Department has acknowledged that there are a lack of alternatives to OFRs in casings and enclosures for electric and electronic products used outdoors and as such have proposed a reporting requirement but not restrictions.

Yet, in the 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, heat and moisture can be factors for electronic and electrical equipment used indoors 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.

6. Suggested improvements for Draft Rule provisions

a. Clarity needed regarding products intended for indoor and outdoor use

The Department proposes restricting OFRs in enclosures for electric and electronic products intended for indoor use, and a reporting requirement covering all electronic and electrical equipment intended for outdoor use where OFRs are used in the casing or enclosure. This is reportedly due to the lack of identified flame retardant alternatives to OFRs for casings and enclosures intended for outdoor use.

The current regulatory proposal naturally raises the question of when and how electric and electronic products that can be used both indoors and outdoors would be regulated. In the

⁶³ UL 746R is a standard that provides an outline for restricted use substances in polymeric materials, IEC 62321 - determination of certain substances in electrotechnical products.

Draft Rule, the Department defines “intended for indoor use” as “a product designed for primarily use in buildings” and “intended for outdoor use” as “a product designed to maintain functionality after exposure to ultraviolet (UV) light, water, or immersion when used outdoors for an extended time.”⁶⁴

However, there are electric and electronic products that are marketed for both indoor and outdoor use. Products marketed for use both indoors and outdoors include, for example, portable Bluetooth speakers, wireless security cameras, digital thermometers, power hand tools (e.g., drills and saws), and electric vehicle chargers. The example of electric vehicle chargers may present some of the biggest challenges based on the way Ecology has defined indoor and outdoor products. An electronic vehicle charger is often designed to be windproof and waterproof. However, many electric vehicle chargers are marketed for use indoors (e.g., garage) or outdoors (e.g., driveway). This raises the question as to how the Department intends to regulate products that are designed to withstand outdoor exposure but can be installed and used indoors.

b. Provide a definition for “small business”

The Department should more clearly distinguish between small businesses and large businesses in considering compliance dates. The Department proposes that companies of all sizes must not manufacture, sell, or distribute electronic displays or televisions containing OFRs in enclosures starting on January 1, 2025. Additionally, the Department proposes that companies whose gross sales equal or exceed \$1 million in 2022 shall not manufacture, sell, or distribute indoor electric and electronic products (excluding electronic displays and televisions) containing OFRs in the enclosure starting on January 1, 2026. Companies with gross sales of less than \$1 million in 2022 have an additional year, until January 1, 2027, to comply.⁶⁵

Increasing the threshold to qualify as a large business will allow more retailers time to comply with any new regulations for indoor products. However, the current approach is grouping companies by revenue rather than clearly defining criteria to qualify as a small business. NAFRA suggests providing a clear definition of small business that can serve as a basis to assist in meeting any regulatory requirements.

c. Improvements needed for the exemption process

The Draft Rule identifies factors that the electric and electronic product value chain can point to when submitting an exemption request. Those factors include 1) the priority chemical is functionally necessary to the priority consumer product and there is no alternative, 2) it is not currently possible to comply with the restriction and also comply

⁶⁴ Chapter 173-337-025 WAC.

⁶⁵ Chapter 173-337-112 WAC.

with another legally imposed requirement, and 3) an unforeseen event or circumstance limited the availability of alternatives.⁶⁶

While such criteria does address some concerns with respect to requesting an exemption, Ecology is silent as to how much weight it will give these factors, or if there is a threshold number of factors that weigh in favor of granting an exemption. NAFRA asserts that the presence of any of these stated exemption bases should warrant an exemption. Moreover, the request for an exemption should not be limited to the stated exemption bases but also requested on other bases, including technical feasibility or newly identified use cases where cost-effective alternatives do not exist.

The Department should also provide a formal appeals process for entities that have their initial exemption request denied. As proposed, Ecology is only offering appeals to the Pollution Control Hearings Board for penalties.⁶⁷ NAFRA suggests that the Department reinstate the Appeals section that was part of the Preliminary Draft Rule⁶⁸ and include the following language, “a manufacturer may appeal any adverse Ecology decision under this chapter to the pollution control hearings board.” In addition, any manufacturer requesting an exemption should be allowed to continue use of the OFR in question while the request for an exemption, and any subsequent appeal, is being considered.

Given the complexity of electric and electronic product supply chains, as well as length of time required for product design, testing, and certification for this complex product category, more time and process clarity needs to be provided for how exemptions will be considered and granted.

d. Need for clarifying definitions

NAFRA offers the following comments seeking clarity for some definitions included in the Draft Rule, as well as the need for additional definitions to improve regulatory compliance.

Definition of Electronic Product: The Department does not define electronic product in the Draft Rule. The underlying statute for Safer Products for Washington does define electronic product,⁶⁹ but includes a narrower set of products than what Ecology has indicated that intends to regulate. Electronic product is defined under the statute as

⁶⁶ Chapter 173-337-020 WAC.

⁶⁷ Chapter 173-337-030 WAC.

⁶⁸ Preliminary Draft Rule at page 6, proposed Chapter 173-337-035 WAC, https://www.ezview.wa.gov/Portals/_1962/Documents/saferproducts/PreliminaryDraftRuleLanguage_Cycle1_August2022.pdf.

⁶⁹ Chapter 70A.350.010 Recorded Codes of Washington (RCW), <https://app.leg.wa.gov/RCW/default.aspx?cite=70A.350.010>.

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.”⁷⁰ This suggests that the legislative intent of the regulatory program was for the regulation of chemicals in electronics to apply only to the universe of products defined under the statute, not a broader segment of electric and electronic products.

Definition of Electric Product: The Department also does not define electric product, and the underlying statute for Safer Products for Washington does not define it either. As an initial matter, this raises the question regarding legislative intent to regulate electric products. At minimum, Ecology should provide a definition for electrical product to foster needed clarity regarding the product scope for any regulations.

Definition of Electronic Display: In the Draft Rule, “electronic display” is defined as a display screen and associated electronics that, as its primary function, displays visual information from wired or wireless sources.⁷¹ The Department may want to refer to the definition of electronic display used by New York State, which defines it 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 for personal use in a residential space. Electronic display shall 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.”⁷²

Definition of External Enclosure: In the Draft Rule “external enclosure” is defined as “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.”⁷³ NAFRA suggests aligning with UL’s definition for external enclosures to simplify compliance.

Definition of Inaccessible Electronic Component: In the Draft Rule, “inaccessible electronic component” is defined as “a part or component of an electronic product that is located inside and entirely enclosed within another material and is not capable of coming out of the product or being accessed during any reasonably foreseeable use or abuse of the product.” NAFRA seeks clarifying language around “functional form” to

⁷⁰ Ibid.

⁷¹ Chapter 173-337-025 WAC.

⁷² New York Environmental Conservation Law, § 37-1001.

⁷³ Chapter 173-337-025 WAC.

alleviate confusion concerning when internal components may be inaccessible once the product is in its fully assembled and functional form.⁷⁴

Definition of intended for indoor use: In the Draft Rule, “intended for indoor use” is defined as “a product designed primarily for use or storage inside buildings.”⁷⁵ It lacks sufficient detail and raises questions regarding what is the regulatory intent. For example, by stating that products that are “designed primarily for...storage inside buildings” are covered, the Department may be scoping in products such as lawn mowers, leaf blowers, and string trimmers that are used outdoors but often stored indoors.

Definition of intended for outdoor use: In the Draft Rule, “intended for outdoor use” is defined as “a product designed to maintain functionality after exposure to ultraviolet (UV) light, water, or immersion when used for an extended time.”⁷⁶ As mentioned earlier, some products are marketed and intended for both indoor and outdoor use. The Department has not offered a meaningful way for manufacturers of such products that are affected by the proposal to determine their regulatory obligation.

e. Timing of reporting requirements for outdoor products

NAFRA recommends delaying the effective date for reporting requirements for OFRs in enclosures of outdoor electric and electronic products set to take effect on January 1, 2025. Based on the current regulatory timing, a final rule will be published in June 2023, with reporting requirements beginning in 2025 for covered outdoor products offered for sale during the 2024 calendar year. In practice, affected businesses would need to begin their compliance obligations seven months after a final rule – starting in January 2024 – to track covered products offered for sale in Washington State.

Additionally, manufacturers of indoor electric and electronic products need more time as well in complying with proposed OFR restrictions. The implementation timeline proposed for restrictions of indoor electric and electronic products ignores the amount of time it takes for product manufacturers to reformulate and recertify. It can often take a minimum of several years for electric and electronic product manufacturers to certify a product. And that assumes that an alternative resin system and flame retardant exists that meets the design and performance requirements for the product. If such an alternative combination does not exist, it would take even longer to recertify the product.

NAFRA asserts that more time is needed to educate the value chain once the rule is finalized and before any reporting requirements, or restrictions, take effect to foster better

⁷⁴ Chapter 173-337-112 WAC.

⁷⁵ Chapter 173-337-025 WAC.

⁷⁶ Ibid.

coordinated regulatory compliance. This is further reinforced by the lack of clarity about which specific chemicals and products are covered and the process for product manufacturers to request exemptions.

f. Considerations for Confidential Business Information

The Department should ensure that all confidential business information (CBI) submitted is afforded the protection described in the December 2020 Ecology document Information for Businesses Submitting Confidential Business Information to Ecology under Chapter 70A.350 RCW.⁷⁷ This includes: 1) ensuring that any of Ecology's contractors that review the information do so under a separate confidentiality agreement; 2) Ecology notifying the submitter if the Department believes any information submitted as CBI does not meet required criteria for protection; and 3) Ecology 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. This safeguard is necessary to drive innovation and protect competitive advantages, which are the reasons the Legislature enacted the CBI protections in Chapter 43.21A.160 RCW. 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."⁷⁸ Information regarding product formulation is generally considered CBI that would harm a company's competitive position if released.

g. 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 rule⁷⁹ and to the TSCA quadrennial Chemical Data Reporting rule requirements.⁸⁰ It would be unreasonable to hold industry to a strict liability standard, especially for very complex products like electric and electronic products.

⁷⁷ Available at https://www.ezview.wa.gov/Portals/_1962/Documents/saferproducts/CBI_Process_SaferProductsWA.pdf.

⁷⁸ Chapter 43.21A.160 RCW, <https://app.leg.wa.gov/RCW/default.aspx?cite=43.21A.160>.

⁷⁹ 86 FR 33926 (proposing to require manufacturers to report certain information "to the extent known to or reasonably ascertainable by them").

⁸⁰ 40 CFR 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").

7. Draft Rule for OFRs in enclosures for electric and electronic products 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 supply chain for components and subcomponents. Any proposed recommendations should take these important global considerations into account, including how regulations may affect the reliability and resilience of the electronics supply chain.

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 Regulatory Determinations Report, Ecology states that it will consider cost for scenarios like this. Washington State requires that a significant legislative rule, such as Safer Products for Washington – Cycle 1, include a cost-benefit analysis of the rule and be the least burdensome alternative.⁸¹

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 Draft Rule and would make Washington State 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. Electric and electronic products 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.⁸² In the Final Determinations Report, Ecology claimed that products may be redesigned so that no flame retardants need to be used.⁸³ 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.⁸⁴ With

⁸¹ Chapter 34.05.328 RCW, <https://app.leg.wa.gov/rcw/default.aspx?cite=34.05.328>.

⁸² Chapter 70A.350.040(3)(a) RCW.

⁸³ Regulatory Determinations Report at pages 68-72.

⁸⁴ Regulatory Determinations Report at pages 68, 70, 72.

regards to non-flammable enclosures, Ecology stated that this is something that manufacturers should consider when designing electric and electronic products.⁸⁵ Regarding the fire barrier, Ecology provided little detail as to the specifics of the materials required, such as the material thickness, cost, or weight.⁸⁶ Ecology also failed to consider important design and safety considerations for alternative materials, including weight and increased shock hazard.

Electronic products vary widely by power source, size and weight requirements, and other key factors impacting performance needs and safety considerations. Electronic equipment of varying types accounts for more than a hundred pages of the Harmonized Tariff Schedule codes.⁸⁷ 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.⁸⁸ 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."⁸⁹ 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 manufacturers. Ecology should add a scaling component to its availability analysis.

⁸⁵ Regulatory Determinations Report at page 72.

⁸⁶ Ibid.

⁸⁷ See Chapters 84-85 of the Harmonized Tariff Schedule of the United States, available at <https://hts.usitc.gov/current>.

⁸⁸ Chapter 70A.350.040(3)(a) RCW

⁸⁹ Regulatory Determinations Report at page 301.

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.”⁹⁰ The statute defines “safer alternative” as “an alternative that is less hazardous to humans or the environment than the existing chemical or chemical process.”⁹¹ 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.⁹² An alternative chemical that presents an increased fire safety risk in a product cannot be considered “safer.” NAFRA urges Ecology to equally consider consumer fire safety when assessing what is a “safer” alternative.

For instance, proposed alternatives are more likely to degrade in high heat environments and/or over extended periods of time. Degradation products of the alternatives can lead to electronic failures due to corrosion from the degradation products. Additionally, alternatives could lose fire safety efficacy in some durable goods versus the OFR it is replacing. What would be deemed an effective fire safe product as a new product could lose fire safe efficacy as it nears end of life.

e. Ecology has not meaningfully considered cost

The State of Washington 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.⁹³ To that end, the Department conducted a cost-benefit analysis as part of its Preliminary Regulatory Analyses.⁹⁴ Ultimately, Ecology concluded that the benefits associated with reduction in exposure and releases to the environment from OFRs outweigh the costs to manufacturers.⁹⁵

⁹⁰ Regulatory Determinations Report at 279.

⁹¹ Chapter 70A.350.010(13) RCW.

⁹² Hirschler, M. M. (2015). Flame retardants and heat release: review of traditional studies on products and on groups of polymers. *Fire and Materials*, 39(3), 207-231.

⁹³ Chapter 34.05.328 RCW.

⁹⁴ Washington Department of Ecology, Preliminary Regulatory Analyses, Publication 22-04-042, December 2022, pages 58-61, <https://apps.ecology.wa.gov/publications/documents/2204042.pdf>.

⁹⁵ Preliminary Regulatory Analyses at page 61.

The Department relied on the dollar amount of the U.S. sale for NAICS groupings corresponding with the priority consumer product categories to estimate cost impacts.⁹⁶ The “electric and electronic products” category is quite broad. Unless the Department looked at each NAICS code for each product covered under the restriction for “electric and electronic products”, it is unlikely that Ecology’s cost estimate accurately reflects the costs manufacturers will face complying with the proposed rule.

In addition, the finding for sales losses for the electronic product categories appears to be at odds with the cost-benefit comparison. Maximum sales losses for the electronic product categories are estimated to be \$286 million over five years.⁹⁷ In addition, the number of businesses affected is estimated to be 3,388, which means each affected business could face up to \$84,511 in additional costs over the five-year period based on this analysis.⁹⁸

Recognizing that the aforementioned estimate represents a worst-case scenario by the Department regarding the regulation of flame retardants in the enclosures of electric and electronic products, it is still puzzling how Ecology estimated that the best case cost-benefit scenario assumes that the annual costs of the regulation could be \$0.⁹⁹ Especially when the low-end of the range for costs is zero and the low-end of the range for benefits is \$780 million.¹⁰⁰

A more rigorous and thorough cost-benefit analysis is needed for a rulemaking of this significance. It should demonstrate that the actions being proposed represent the least burdensome alternative to achieve the overall objectives of the regulation. However, such analysis is missing. The Preliminary Regulatory Analyses should be redone, and any final rules for flame retardants in enclosures for electric and electronic products should not move forward until appropriate analyses can be conducted to better inform the regulatory decision making process.

NAFRA has previously sent recommendations to the Department regarding best practices for the cost-benefit analysis and least-burdensome alternative analysis. Those recommendations are included in Appendix I of these comments. In conducting its cost-benefit analysis, the Department should utilize the established principles and practices outlined in guidance for federal regulatory agencies: Executive Order 12866,¹⁰¹ Executive

⁹⁶ Preliminary Regulatory Analyses at page 28.

⁹⁷ Preliminary Regulatory Analyses at page 37.

⁹⁸ Ibid.

⁹⁹ Preliminary Regulatory Analyses at page 13.

¹⁰⁰ Ibid.

¹⁰¹ 76 FR 3821; January 21, 2011, <https://www.govinfo.gov/content/pkg/FR-2011-01-21/pdf/2011-1385.pdf>.

Order 13563,¹⁰² and Office of Management and Budget (OMB) Circular A-4.¹⁰³ In addition, as part of its least-burdensome alternative analysis, Ecology must adequately evaluate alternative, less burdensome regulatory approaches.

f. Ecology has not meaningfully considered less burdensome regulatory approaches

The Department is required for significant legislative rules (e.g., Safer Products for Washington) as part of its least-burdensome alternative analysis to evaluate alternative, less burdensome regulatory approaches.¹⁰⁴ Throughout the regulatory process, NAFRA has provided recommendations for alternative approaches that 1) more directly addresses the stated objectives for the priority product area, and 2) provides for overall less burden on the state, consumers, and producers, with equivalent environmental, health and safety benefits. Those recommendations are also included in Appendix I and are reiterated here as part of these comments. Ecology should evaluate each of these alternative approaches and clearly indicate why these less burdensome approaches were not considered.

8. Other regulatory efforts relevant to Safer Products for Washington

a. Washington State

Prior regulatory experiences in Washington State highlight the importance of considering the true impact of requiring substitutions. In 2011, Washington State adopted the Antifouling Paints Law¹⁰⁵ to gradually phase out antifouling paints containing copper used for recreational water vessels, such as boats. As originally enacted, starting in 2018, new boats sold in Washington State were required to not have antifouling paint containing copper, and starting in 2020 existing boats were required to not have antifouling paint containing copper. The law also required the Department of Ecology to survey the types of antifouling paints sold in Washington, study how antifouling paints affect marine life, and present the findings to the Legislature by the end of 2017.

The Department's review of studies and available science on non-copper antifouling boat paints raised concerns that in trying to move away from antifouling paint containing copper, it would push the boating industry toward regrettable substitutes that could worsen environmental degradation.¹⁰⁶ As such, Ecology recommended delaying the copper boat

¹⁰² 58 FR 51735; October 4, 1993, https://archives.federalregister.gov/issue_slice/1993/10/4/51724-51752.pdf#page=12.

¹⁰³ White House Office of Management and Budget, OMB Circular A-4, https://www.whitehouse.gov/wp-content/uploads/legacy_drupal_files/omb/circulars/A4/a-4.pdf.

¹⁰⁴ Chapter 34.05.328 RCW.

¹⁰⁵ Chapter 70.300 RCW. It was recodified as Chapter 70A.445 RCW.

¹⁰⁶ Washington Department of Ecology, Report to the Legislature on Non-copper Antifouling Paints for Recreational Vessels in Washington, Publication 17-04-039, December 2017, <https://apps.ecology.wa.gov/publications/documents/1704039.pdf>.

paint ban, giving it time to study the relative impacts of copper versus non-copper biocides.¹⁰⁷

Consequently, in 2018, changes were made to the law.¹⁰⁸ If the Department finds safer alternatives that are feasible, reasonable, and readily available by June 30, 2024, Washington law will restrict the use of most copper-based antifouling paints beginning on January 1, 2026.¹⁰⁹ However, if safer and effective alternatives are not identified by then, the ban will not take effect, and the Department will continue to study the issue and submit a new report by June 30, 2029.¹¹⁰ The Antifouling Paints Law provides a valuable case study for Washington State regarding regrettable substitution and the need for robust analysis to support regulatory actions.

In another regulatory action, Washington State enacted restrictions on the use of PBDEs in products.¹¹¹ As part of the restrictions, a person cannot manufacture, knowingly sell, or distribute products containing PBDEs for use in the state. Several types of products are exempted from this prohibition, including aviation, military or federally funded space program application, vehicles, medical devices, and certain recycled materials.¹¹² As part of the law, restrictions for decaBDE were phased-in more gradually than for other PBDEs.¹¹³ Despite the exemptions, because of the restrictions in Washington State and elsewhere, decaBDE became scarce for exempted industries. The regulations put in place for decaBDE over 15 years ago serve as a reminder that simply allowing the continued use of restricted substances for some industries does not ensure that they will remain available once restrictions take effect.

b. Other state regulatory efforts

Challenges that other states have experienced in implementing more narrow and targeted flame retardant regulations than what has been proposed for Safer Products for Washington – cycle 1 are also instructive. As mentioned previously, New York State enacted regulations for OFRs in enclosures and stands of electronic displays in December 2021 that also requires manufacturers of affected electronic displays to submit an annual report to the New York Department of Environmental Conservation (DEC) identifying all OFRs used in the enclosure or stand.

¹⁰⁷ Ibid.

¹⁰⁸ Chapter 70A.445 RCW, <https://apps.leg.wa.gov/rcw/default.aspx?cite=70A.445>.

¹⁰⁹ Chapter 70A.445.020 RCW.

¹¹⁰ Ibid.

¹¹¹ Chapter 70.76 RCW, Recodified as Chapter 70A.405 RCW.

¹¹² Chapter 70A.405.020 RCW.

¹¹³ Chapter 70A.405.030 RCW.

DEC is now required to accept reports between November 1 and December 31 annually, which must cover the products sold or offered for sale, or products that will be offered for sale, during the current calendar year.¹¹⁴ The reporting requirement took effect on January 1, 2023.¹¹⁵ However, a regulatory proposal was not published until September 2022¹¹⁶ and was not finalized until November 30, 2022.¹¹⁷ This left little time for affected manufacturers to put systems in place to manage compliance, and serves as a reminder that even for implementation of less restrictive risk management measures such as reporting requirements, time is needed to seek stakeholder feedback, educate those affected regarding their compliance obligations, and allow the regulated community time to implement processes to satisfy the compliance obligations.

A separate law in Massachusetts enacted on January 1, 2021, prohibits a manufacturer or retailer from selling, offering, or manufacturing for sale, distributing in commerce, or importing bedding, carpeting, children's products, residential upholstered furniture, and window treatments that contain specified flame retardants. Despite requiring restrictions on the distribution and sales of affected products manufactured after December 31, 2021,¹¹⁸ the Massachusetts Department of Environmental Protection did not publish a regulatory proposal until September 16, 2022¹¹⁹ and has still not finalized a regulation.

Moreover, the broad definition of window treatments has placed unprecedented restrictions on flame retardants used in a segment of products that previously had not been subject to such restrictions. Consequently, this has created a new and unfamiliar compliance obligation for the window treatment supply chain. Window treatment manufacturers can use flame retardants to meet independent flammability requirements, and the regulatory approach in Massachusetts may be in conflict with requirements by local jurisdictions, public entities such as schools, or hospitals. The proposed regulation in Massachusetts demonstrates that when a state seeks to restrict a substance in a product where it has not previously been restricted, sufficient time is needed to check if the proposal conflicts with other regulations and to assist the regulated community with compliance.

¹¹⁴ New York Department of Environmental Conservation (DEC), DMM-6 / Guidelines for Annual Reporting of Organohalogen Flame Retardants per ECL 37-1009, November 30, 2022, https://www.dec.ny.gov/docs/materials_minerals_pdf/flameretardantform.pdf.

¹¹⁵ New York DEC, DMM-6 at page 1.

¹¹⁶ New York Department of Environmental Conservation (DEC), Notice of Availability: Division of Materials Management (DMM) Program Policy on Flame Retardants in the Enclosure or Stand of Electronic Displays: DMM-6 Guidelines for Annual Reporting of Organohalogen Flame Retardants per ECL 37-1009, September 7, 2022, https://www.dec.ny.gov/enb/20220907_not0.html.

¹¹⁷ New York DEC, DMM-6.

¹¹⁸ Massachusetts General Laws, Part 1 Title II, Chapter 21 A, § 28, <https://malegislature.gov/Laws/GeneralLaws/PartI/TitleII/Chapter21A/Section28>.

¹¹⁹ Massachusetts Department of Environmental Protection, 310 CMR 78.00: Distribution and Sales Ban of covered Products Containing Certain Flame Retardants, <https://www.mass.gov/doc/310-cmr-7800-proposed-ban-if-covered-products-containing-certain-flame-retardants/download>

c. Federal regulatory efforts

Restricting the use of a chemical without sufficient time for product manufacturers to find alternatives can lead to challenges with regulatory implementation. For example, on January 6, 2021, EPA announced risk management rules for a chemical, isopropylated phosphate (3:1),¹²⁰ better known as PIP (3:1), despite it not ever being evaluated for risk by the Agency. Product manufacturers across many sectors were surprised by EPA's announcement banning the processing and distribution of products containing PIP (3:1) after March 8, 2021.

Due to the incredibly short compliance window initially proposed by the Agency, it was a challenge for product manufacturers to identify its potential presence in supply chains. Consequently, EPA twice had to postpone the compliance date for PIP (3:1) restrictions and eventually had to push out the compliance date several years until October 31, 2024.¹²¹ The extensions were created to ensure that critical supply chains were not disrupted for key consumer and commercial goods.

PIP (3:1) provides an interesting case study for proposed regulations in the state of Washington. The supply chain confusion resulting from EPA's original announcement regarding risk management rules for PIP (3:1) occurred in part because the Agency did not have a full understanding of the impact the prohibition would cause. Notably, this confusion was caused by restrictions for one chemical, and by contrast the Department of Ecology has proposed restrictions and reporting requirements for an entire class of chemicals.

On another federal regulatory matter with direct applicability to the Draft Rule for OFRs in enclosures for electric and electronic products in Washington State, CPSC continues its work studying the use of additive, non-polymeric OFRs in upholstered furniture, mattresses, children's products, and plastic casings surrounding electronic devices, which has been informed by recommendations from the NAS.

CPSC staff have developed a plan to assess the 14 subclasses of OFRs identified by the NAS. For the current federal fiscal year (Fiscal Year 2023, which ends on September 30, 2023), CPSC staff will prepare scoping documents for each of the subclasses, which will identify the chemicals in the class, health effects, and product types that will be included in the risk assessment. The scoping documents will also help to prioritize assessment of the subclasses.¹²²

¹²⁰ 86 FR 894

¹²¹ 87 FR 12875

¹²² US CPSC, Fiscal Year 2023 Operating Plan, October 26, 2022, page 17, <https://www.cpsc.gov/s3fs-public/FY2023CPSCOperatingPlan.pdf?VersionId=Z.vZzSezwTIX224uG66J5fHTkFclvL.G>.

CPSC has worked with contractors to assist with the effort. This includes efforts to 1) characterize the use of OFR chemistries in the U.S. and international markets,¹²³ 2) perform a scientific literature survey of OFRs,¹²⁴ 3) draft scoping reports for each of the 14 OFR subclasses,¹²⁵ 4) offer read-across approaches to address data gaps in subclasses,¹²⁶ 5) provide a process guide and case study application for up to two subclasses to inform assessment approaches,¹²⁷ 6) consult and scope technical support activities for chemical hazards of consumer products,¹²⁸ and 7) exposure assessment of the polyhalogenated organophosphate subclass using human biomonitoring data.¹²⁹ To date, CPSC has awarded over \$2 million to contractors to assist the government agency in its assessment of OFRs.

Considerable work has already been undertaken with respect to CPSC's OFR assessment, but additional work is still needed before CPSC staff will consider whether the risks from OFRs in electronic casings are sufficient to recommend a rulemaking. The Department of Ecology may want to wait for CPSC to regulate the use of OFRs in electronic casings, or at a minimum collaborate with the federal agency, to avoid regulatory duplication, inconsistencies, or reliance on incomplete science in developing regulations.

9. Recommendations and Conclusions

NAFRA has serious concerns with the Draft Rule for OFRs in enclosures of electric and electronic products, as outlined above in greater detail, and recommends that the Department take additional time to perform a more rigorous alternatives assessment and thorough regulatory analyses as it considers potential regulations for a diverse set of flame retardant chemicals used in a wide range of electric and electronic products. This should include a more complete cost-benefit analysis and that considers less burdensome regulatory approaches as required by the underlying statute.¹³⁰

¹²³ US CPSC contract with Industrial Economic, Incorporated,
https://www.usaspending.gov/award/CONT_AWD_61320621F0021_6100_47QRAA20D0044_4732.

¹²⁴ US CPSC contracts with the University of Cincinnati,
<https://www.usaspending.gov/search/?hash=86ad97cb32642761602d6033b390f65d>.

¹²⁵ US CPSC contract with ICF Incorporated, LLC,
https://www.usaspending.gov/award/CONT_AWD_61320622F2013_6100_61320622A0005_6100.

¹²⁶ US CPSC contract with ICF Incorporated, LLC,
https://www.usaspending.gov/award/CONT_AWD_61320622F2011_6100_61320622A0005_6100.

¹²⁷ US CPSC contract with ICF Incorporated, LLC,
https://www.usaspending.gov/award/CONT_AWD_61320622F2012_6100_61320622A0005_6100.

¹²⁸ US CPSC contract with ICF Incorporated, LLC,
https://www.usaspending.gov/award/CONT_AWD_61320622F2014_6100_61320622A0005_6100.

¹²⁹ US CPSC contract with the University of Cincinnati,
https://www.usaspending.gov/award/CONT_AWD_61320622F1004_6100_CPSCD170001_6100.

¹³⁰ Chapter 70A.350.080 RCW.

Suggested areas for improvement include 1) aligning any regulations with relevant state, federal, and international laws, including consideration of conflicting regulatory requirements in other jurisdictions, 2) narrowing the scope of products and chemicals subject to regulation, 3) applying assessment criteria consistently and evenly for OFRs and potential alternatives, 4) recognizing the diversity of OFRs as part of any regulations, 5) giving greater recognition of the need for options in product design, including fire safety and overall product performance, and 6) redoing the Preliminary Regulatory Analyses and delaying any final rules for OFRs in enclosures for electric and electronic products until a more thorough cost-benefit analysis and least-burdensome alternative analysis is conducted to better inform the rulemaking.

December 5, 2022

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

Submitted via: SaferProductsWA@ecy.wa.gov

Re: Rulemaking on organohalogen flame retardants in external device casings for electronic and electrical equipment intended for indoor use and intended for outdoor use

The American Chemistry Council's North American Flame Retardants Alliance (NAFRA) offers the following public comments to inform Washington Department of Ecology ("Department" or "Ecology") and its cost-benefit analysis (CBA) and least-burdensome alternative analysis (LBA) for the proposed rulemaking under Cycle 1 of Safer Products for Washington (SPW).

While some of these comments apply to the overall regulatory process and requirements for SPW, the particular focus is on the proposed regulations for organohalogen flame retardants (OFRs) in external device casings for electronic and electrical equipment both intended for indoor use and intended for outdoor use.

Consistent with regulations made pursuant to the Washington Administrative Procedures Act (APA), Revised Code of Washington (RCW) 34.05.328,¹ and when proposing or adopting rules under SPW, the Department is required to identify the expected costs and benefits of the rules to both State agencies to administer and enforce, and private persons or businesses, by category of type of person or business affected. Consistent with conducting a CBA, Ecology must determine that:

- The rule is needed to achieve the goals and objectives, analyze alternatives to rulemaking, and the consequences of not adopting the rule.
- The probable benefits of the rule are greater than its probable costs, considering both the qualitative and quantitative benefits and costs and the specific directives of the statute being implemented.
- The rule to be adopted is the least burdensome alternative for those required to comply with that will achieve the general goals and specific objectives.

¹ RCW 34.05.328, Significant Legislative Rules, Other Selected Rules.
<https://apps.leg.wa.gov/rcw/default.aspx?cite=34.05.328>



In conducting its CBA analysis, the Department should utilize the established principles and practices outlined in guidance for federal regulatory agencies: Executive Order 12866,¹ Executive Order 13563,² and Office of Management and Budget (OMB) Circular A-4.³

Appendix 1 provides additional information and recommendations to inform Ecology's cost benefit and least burdensome alternative analyses, but the proposed rulemaking for OFRs in external plastic device casings for electric and electronic products should address the following:

- The overall costs and benefits of the proposed regulations for all OFRs, including the relevant supply chain costs noted below.
 - Costs, availability, and required volumes of potential alternatives;
 - Costs, availability and required volumes of the different plastic resin systems that are necessary for the use for the potential alternatives;
 - Cost to end users and suppliers of product redesign, testing and recertification using potential alternatives;
 - Costs to consumers of the modified end products using potential alternatives;
 - Market size and availability of potential alternatives, including supply chain considerations such as sourcing from other countries; and,
 - Relative socioeconomic costs and benefits of potential alternatives, including consideration of relevant environmental, health and safety factors, efficacy, energy efficiency, resource utilization and climate change.
- Overall costs and benefits of the proposed reporting requirements for outdoor products, including the extensive supply chain costs for generating such information.
- Potential impact on overall product design and safety including product performance, fire safety, etc.
- Cost to the state in terms of employment, tax revenue, and availability of products in the state.
- Costs to the State in terms of monitoring and enforcing compliance of the proposed regulations, including ensuring protection of appropriate proprietary and confidential business information.
- Benefits of regulating all OFRs as opposed to the specific OFRs found in the Washington environment and which are the stated objective of the proposed regulations.

² 76 FR 3821; January 21, 2011, <https://www.govinfo.gov/content/pkg/FR-2011-01-21/pdf/2011-1385.pdf>.

³ 58 FR 51735; October 4, 1993, https://archives.federalregister.gov/issue_slice/1993/10/4/51724-51752.pdf#page=12.

⁴ White House Office of Management and Budget, OMB Circular A-4, https://www.whitehouse.gov/wp-content/uploads/legacy_drupal_files/omb/circulars/A4/a-4.pdf.

In addition, as part of its LBA, Ecology must adequately evaluate alternative, least burdensome regulatory approaches. The above-mentioned CBA considerations should be fully evaluated against other available regulatory approaches.

Throughout the regulatory process, NAFRA has provided recommendations for alternative approaches that 1) more directly addresses the stated objectives for the priority product area, and 2) provides for overall less burden on the state, consumers, and producers with equivalent environmental, health and safety benefits. Specific alternative approaches that the Department should evaluate in the proposed rulemaking include:

- Regulating specific OFRs identified as being present in the Washington State environment and which are a priority.
- Identifying individual chemicals by Chemical Abstract Services Registry Number to guide implementation as opposed to identifying all OFRs.
- Focusing on additive, non-polymeric OFRs.
- Focusing on specific products as opposed to all plastic casings and enclosures for electrical and electronic equipment.
- Utilizing existing codes and standards, including those suggested by NAFRA, as a mechanism to minimize exposure of OFRs.
- Establishing expanded monitoring as a mechanism to further guide the scoping of any rulemaking and to measure its effectiveness.

NAFRA offers this input, to help inform and enhance the quality of the Department's proposed rulemaking consistent with adopting a significant legislative rule under RCW 34.05.328. Please let us know if you have any questions or if we can provide additional information to help inform Ecology's work.

Sincerely,



Ben Gann
Director
American Chemistry Council

APPENDIX 1: RECOMMENDATIONS FOR COST BENEFIT ANALYSIS

This appendix provides recommendations for regulators and for legislators. Its purpose is to improve the design and implementation of state laws designed to regulate chemicals in commerce. Each recommendation reflects established principles of sound regulation and guidance for cost-benefit analysis (CBA).

Recommendations for Regulators

Follow best practices for CBA – Use long-established principles of good regulation and guidance for regulatory analysis (e.g., CBA).⁵ For example, start with defining the problem. If the problem relates to a commercial chemical product, a focus on risk, not hazard, is appropriate. Defer to federal regulation when the problem can best be addressed at that level (e.g., when the problem relates to interstate commerce). When constructing the baseline (of how the world will behave in the absence of a regulation), include all important anticipated actions, such as existing or future regulatory restrictions, including restrictions in other nations or regions of the world. When identifying a manageable number of regulatory alternatives, adjust the scope to focus narrowly on the problem and leverage the use of informational approaches, including consensus standards. Differentiate the expected impact to citizens of the state from citizens of other states or countries.

Allow adequate time for markets to adjust to restrictions – Any restriction that changes the composition of commercial products will take a certain amount of time to implement. For products with longer and complicated supply chains, more time will be needed. For example, producers of a consumer product consisting of multiple components employ a 15-step process (e.g., formulation, chemical testing, modify manufacturing process, etc.) before substituting one chemical for another. This process often takes years. Information on the expected timeframe for compliance is only known to affected firms, and therefore regulators should solicit this information early in the regulatory development process.

Recommendations for Legislators

Be wary about regulating competitive markets – Competitive markets are a powerful tool for allocating scarce resources because they reflect aggregate actions and voluntary choice. Government intervention, including regulation, may be appropriate in the presence of a market failure or when the goal is to improve an existing governmental activity. Even when regulation is necessary, state regulation may not be appropriate if the activity is primarily a local, regional, or federal issue.

The goal should be risk reduction, not hazard reduction – If the purpose of the law is to improve the environment, safety, or human health, the appropriate goal is to reduce risk (which comprises

⁵ These principles are embodied in federal guidance for federal regulatory agencies: Executive Orders 12866 and 13563, and OMB Circular A-4.

both hazard and exposure) to an acceptable level. When chemicals are the subject of concern, regulation based on hazard alone is likely to have unanticipated consequences.

Perform CBA earlier in the process – If the law impacts commerce, it should be informed by benefit-cost analysis, and this analysis should be done before a regulatory recommendation is made, not after. BCA can save regulators' time by focusing attention on the problem and informing promising regulatory recommendations.

Leverage the power of markets with information approaches – When a law impacts a competitive market, often the best way to regulate is to leverage information (through required labeling, reporting, and/or disclosure, etc.) over more intrusive interventions (bans, restrictions, etc.). Information allows market participants (producers and consumers) to adjust without constraining choice.

Allow adequate time for markets to respond – When a law imposes requirements for commercial establishments to undertake, allow sufficient time for implementation and compliance. An arbitrary effective date could have unintended consequences. It may be reasonable to allow years for markets to comply with a new law or regulation. Market participants should be consulted when determining the appropriate time for compliance.

Include a sunset clause and a requirement for periodic retrospective review – When the purpose of the law is to intervene in markets, lawmakers are wise to include a sunset clause coupled with periodic retrospective review—a mandatory look back at the law/regulation by qualified professionals to ensure the impact is what legislators/regulators intended. If the regulation is working as intended, the legislature can extend the sunset date until the next retrospective review.