Before the Washington State Department of Ecology
Safer Products for Washington
Draft Report to the Legislature on Regulatory Determinations:

Comments of the Chemical Users Coalition

Chemical Users Coalition ("CUC") [1] appreciates the opportunity to provide these comments regarding the Washington State Department of Ecology's ("DOE") recent report, which contained a variety of regulatory recommendations including to restrict the use of organohalogen flame retardants ("OFRs") in plastic device casings for electronic and electrical equipment. CUC's comments focus primarily on DOE's proposed OFR restrictions.

CUC is an association of companies from diverse industries that typically acquire and use, rather than manufacture or import, chemical substances. Our members depend on the availability of certain existing substances for which there are not technically feasible substitutes, and our members depend on a reliable pipeline for innovative new chemistries to be able to thrive in a competitive, global economy. Thus, CUC supports measures that foster product safety and protect health and the environment in a manner that enables the regulated community to pursue technological innovation simultaneously with economic development in the United States. This is critical in the area of chemical regulatory policy, which necessarily addresses emerging information about health and environmental risk.

Background

The Washington Legislature enacted the Pollution Prevention for Healthy People and Puget Sound Act (Chapter 70A.350 RCW) in 2019. The Act directs DOE to implement a program to reduce priority chemicals in consumer products, including all OFRs and several other flame retardants, as classified in Washington's Children's Safe Products Act. DOE's regulatory program to implement the 2019 law is called "Safer Products for Washington." As part of this program, DOE is evaluating whether to restrict the use of OFRs in electronic and electrical equipment. In its report sent to the Legislature in July 2020, DOE identified the use of OFRs in "plastic device casings" for electronic and electrical equipment as one of 11 priority product categories.

The Department published its Draft Regulatory Determinations Report to the Legislature on November 17, 2021, and is accepting stakeholder comments until January 28, 2022. In this report, DOE is proposing restrictions on OFRs in device casings for electrical and electronic equipment. The proposed restrictions would apply to numerous consumer/professional electronic and household items, including but not limited to televisions, laptops, mobile phones, and various appliances.

[1] CUC's Members include Airbus S.A.S., The Boeing Company, Carrier Corporation, HP Incorporated, IBM Company, Intel Corporation, Lockheed Martin Corporation, Raytheon Technologies Corporation, Sony Electronics, Inc., and TDK U.S.A. Corporation.

CUC members assemble, manufacture, and distribute exceptionally complex products, including those used in a variety of essential sectors of the US economy, such as the aerospace and defense industries; medical, commercial, and industrial equipment; vehicles and other forms of transportation; consumer appliances; and electronics and their components. Electronic products (which can include critical components in items used in each of the previously-mentioned commercial sectors) are unique in many respects because they may have a potential ignition source that can be generated by the essential components of the product – circuit boards, transformers, batteries, connectors, and many other such parts. Consequently, the use of flame retardants in the manufacture of electronics is essential to society, as one of the most important benefits of flame retardants in product design is that they can stop small ignition incidents from becoming larger fire events. Because manufacturers, such as CUC members, serve the industrial, defense, aerospace, automotive, and consumer sectors, they must balance increased demand for smaller, lighter, and more powerful electronics, while still ensuring that those devices and their component parts meet safety and technical performance standards, which can range from military specifications to UL certification requirements such as achieving a V-0 rating under UL 94.[2] Such manufacturers use plastics in enclosures to help meet performance goals, including protection from fire and shock risk. If left untreated, most plastics can be flammable, so flame retardants can provide an important layer of fire safety.

Unfortunately, the approach to regulation adopted by DOE in its report raises many serious issues and will have a drastic effect on the ability of electronics manufacturers to continue developing and selling the consumer products that are vital to today's society. Furthermore, the methodology employed in the report runs counter to accepted science and uses a vastly oversimplified approach to evaluating feasibility and availability of alternatives. Accordingly, CUC must disagree with the conclusions and recommendations of the report and encourage DOE to rescind the current recommendations, pending further analysis and input from the regulated community. Should DOE decide to proceed with the current recommendations, CUC strongly encourages DOE to consider the exemptions and clarifications discussed later in these comments. We would welcome the opportunity to work through the issues with DOE so that a final proposal can meet the goals of the Safer Products program while still ensuring product availability, safety, and performance.

The single class approach is not supported by science and should not be utilized

In the report, DOE states that it defines OFRs "as meeting both of the following criteria:

1. The chemical is used with the intended function of slowing ignition and progression of fires.
2. The chemical contains one or more halogen elements bonded to carbon."

This simplistic definition fails to acknowledge differences between the numerous substances that fall within the description. In 2015, the U.S. Consumer Product Safety Commission (CPSC or Commission) received a request from a number of organizations to promulgate a rule

[2] UL-94 is the Standard for Tests for Flammability of Plastic Materials for Parts in Devices and Appliances. To attain the UL 94 V-0 standard, samples must have met the following criteria: Burning combustion is not sustained for more than 10 seconds after applying controlled flame.

under the Federal Hazardous Substances Act (FHSA) prohibiting children's products, upholstered furniture, mattresses/mattress pads, and casings surrounding electronics containing nonpolymeric, additive OFRs. CPSC staff, in recommending that the request be denied, stated that

> OFRs … represent a broad class of chemicals defined largely by their functional use and the presence of a halogen, such as a bromine or chlorine. The limited data on OFRs show varying toxicity and exposure potential among individual OFR compounds. These varying properties of individual OFR compounds indicate that OFRs, in fact, represent several subclasses of chemicals that should be examined separately. . . Due to the varying toxicological properties… staff believes that insufficient data exist to assess OFRs as a class under the FHSA, and one cannot conclude that they all would be considered "hazardous substances."[3]

Despite this recommendation, the CPSC voted to grant the request. This action required the CPSC staff to proceed with the hazard assessment of the whole chemical class. Because of the inherent complexities of an assessment of this chemical class, CPSC asked the National Academies of Sciences, Engineering, and Medicine (NASEM) to develop a scoping plan to conduct the hazard assessment for OFRs as a chemical class. As a result of the request, NASEM convened the Committee to Develop a Scoping Plan to Assess the Hazards of Organohalogen Flame Retardants.

NASEM, in its 2019 report,[4] concluded that the OFRs cannot be treated as a single class for the purposes of a CPSC hazard assessment. The report noted that OFRs can, however, be divided into subclasses based on chemical structure, physicochemical properties, and predicted biologic activity. The committee identified 14 subclasses that can be used to conduct a subclass-based hazard assessment. The CPSC is currently using this subclass approach for the ongoing hazard assessment.

DOE, however, has proposed to adopt the OFR definition that has been rejected by both CPSC staff and NASEM—an approach that focuses primarily on chemical function (suppressing combustion and increasing the probability of escape from fire)—rather than on any specific toxicity characteristic or chemical feature, other than presence of a halogen. As CPSC and NASEM found, it is not scientifically accurate or appropriate to treat all organohalogen flame retardants the same. DOE's approach is simply not founded on the best available science.

Furthermore, banning the use of all OFRs in the applications DOE proposes will have significant consequences for product availability. Manufacturers of the affected products will first need significant time to work with all the entities in the supply chain, which may include thousands of upstream entities, to ascertain if OFRs are used. Since many OFRs are not currently restricted or regulated for such a wide range of products, the task of determining which products are affected by a ban will be painstaking and substantial, requiring significant time and resources. Unless the scope of affected substances is limited or significant lead time is given prior to regulations taking affect, manufacturers will be compelled to simply not supply affected electronic products to the

[3] United States Consumer Product Safety Commission, Staff Briefing Package in Response to Petition HP15-1, Requesting Rulemaking on Certain products Containing Organohalogen Flame Retardants, May 24, 2017

[4] The National Academies of Sciences, Engineering, and Medicine 2019. *A Class Approach to Hazard Assessment of Organohalogen Flame Retardants*.

State of Washington. Furthermore, downstream users of components containing OFRs, including the aerospace and defense industry, could see significant supply chain disruptions and other matters related to product obsolescence. This is, of course, not feasible given the nation-wide nature of retail distribution channels for commercial and consumer electronics.

As noted, many OFRs are not restricted or regulated for all consumer and commercial electrical and electronic equipment. If DOE proceeds with banning all OFRs in all electronics casings, it will be adopting an approach that is not in use anywhere else: such a sweeping ban goes beyond any actions that have been taken in the United States, either federally or at the state level, nor have any comparable standards been implemented internationally. Global harmonization of regulations allows industry to function well and ensures the widest range of products are available to the widest possible population. DOE's proposed approach is simply without precedent, from both a scientific and regulatory perspective, and the disruption it may cause to the supply chain would be significant.

These concerns are not simply hypothetical. Throughout 2021, the United States Environmental Protection Agency (EPA) needed to address consequences of the ban of PIP (3:1) that EPA imposed at the beginning of the year. It quickly became clear to EPA that restricting this one chemical, which was used in countless imported electronics products, was no simple task, and the impact the ban had on industry was extremely disruptive. Consequently, EPA is still exploring the best path forward for full implementation of the ban of PIP (3:1). Now, DOE is proposing to ban an exponentially larger number of substances. DOE should take note of EPA's experience and consider how to tailor its regulatory determination to avoid unnecessary disruptions.

DOE must look at risk - not simply hazard properties

DOE's report only focuses on hazard characteristics of a few OFRs. DOE's recommendation to ban all OFRs is based on alleged hazard properties of a few substances. DOE never did any analysis to determine whether the actual use of any OFR in casings poses a risk. As discussed, the proposed ban will have significant consequences on those industries that employ electronics casings, yet DOE did not perform a basic study to see if OFRs in casings even present a risk to human health or the environment. A regulator, when proposing such a wide-scale regulation of products, should make a compelling case that such regulation is truly necessary. Such demonstration is absent from DOE's report.

DOE confined the analysis it did perform to the hazard characteristics of some OFRs. DOE did not do any study to determine the hazard that could be posed by the elimination of OFRs--namely, increased flammability risk. Because of these analytical failures, it is possible that not only will the ban have no positive effect on human health or the environment, but it may even result in an increased hazard risk, due to the increased flammability of electronics products and the injury, death, and destruction that could result from a fire.

DOE's evaluation for alternatives and feasibility was simplistic

To properly assess the impact of a proposed regulatory action, DOE needed to assess whether alternative substances are available to replace those being banned, and whether use of the

identified alternatives is feasible. Unfortunately, DOE's analysis was simplistic and failed to consider numerous factors.

First, the evaluation of the availability, feasibility, and equivalency of potential alternatives cannot be based solely on product marketing and sources lacking product-specific expertise. Product manufacturers operate in a complex, global regulatory environment. They are required to consider a broad range of product safety and design factors. While a substance, perhaps, could technically be replaced by another, that simple switch does not mean that the product will necessarily meet regulatory product safety requirements across the globe. Additionally, it does not mean that the product will necessarily function in the same manner as it did previously.

Furthermore, the simple availability of alternatives does not mean that the substitution is a simple process. As CUC advised EPA in the context PIP 3:1 rule[5], it could take at least five months to ascertain whether the alternative meets internal quality standards, followed by up to two years to obtain the required safety and quality certifications for components, and almost three years for finished products. Once all such approvals have been secured, the new substance needs to be integrated into the manufacturing process, which itself could take up to an additional year. The resulting disruption from a requirement that bans a significant and sizable class of substances is difficult to quantify.

There are additional considerations that DOE has failed to address. When identifying alternatives and determining feasibility, DOE should consider the environmental effects of the substitution, including the impacts on circularity and the effects on disposal/recycling of the end use product. Sustainability issues such as energy efficiency, durability, and light-weighting also merit consideration. Some of the alternatives identified by DOE are already restricted or are in the process of being studied by regulators. If DOE believes feasible alternatives exist, an analysis of the safety and continued availability of these alternatives is needed.

Any proposal to regulate should only come after DOE has fully vetted the important socio-economic considerations required under the Safer Products for Washington law and general Washington rulemaking requirements

In developing any regulations for priority products, DOE must conduct the relevant socio-economic analyses. These include:

- A cost-benefit analysis of the proposed regulation
- An analysis regarding whether proposed regulation implements the "least burdensome alternative"
- A small business economic impact statement

While these requirements ultimately will apply to the final rulemaking phase, it is critical that these factors be considered at this stage to guide effective policy recommendations and to permit the necessary discourse with the affected industries before

[5] See http://www.chemicaluserscoalition.org/ckfinder/userfiles/files/CUC%20-%20PIP%20deadline%20extension%20proposal%20122221%20(as%20submitted)_(US_170972002_1).PDF

unwarranted, or ill-advised, regulatory actions are taken in final form. DOE's proposal to move ahead with unprecedented regulation needs to be fully informed by these analyses.

Concerns About the Definition of PFAS

Although CUC members do not manufacture the priority products that would be restricted under DOE's proposals for products containing PFAS, CUC believes that the definition of PFAS being used by DOE should be one that is both scientifically relevant and consistent with the goals of the Safer Products program. DOE, in its recommendations, is using the definition contained in the Revised Code of Washington. Specifically, RCW 70A.350.01022 defines perfluoroalkyl and polyfluoroalkyl substances as a class of fluorinated organic chemicals containing at least one fully fluorinated carbon atom. This definition is extremely broad and captures many substances not generally considered to be PFAS. For example, this definition would capture hydrofluoroolefins (HFOs) which are gases or volatile liquids, and when released ultimately break down into naturally-occurring substances, that do not bioaccumulate in the environment and are not mobile in soil and water, in a matter of days. Similarly, fluoropolymers differ from significantly PFOA and PFOS in their molecular weight, toxicity, and their insolubility in water. The OECD has noted that, "*the term 'PFASs' does not inform whether a compound is harmful or not, but only communicates that the compounds under this term share the same trait for having a fully fluorinated methyl or methylene carbon moiety*."[6]

CUC is concerned that the use of an overly broad definition of PFAS for regulation could lead to several unintended and unnecessary consequences,[7] including the eventual restriction by DOE of substances with critical uses that do not pose a risk to public health or the environment. There is also a concern that replacement ingredients for restricted PFAS would perform less effectively or be unable to provide a similar level of functionality. CUC recommends that DOE focus those PFAS that are likely to pose specific concerns to human health or the environment when part of the subject priority products as used in the state.

Specific Recommendations

In light of the issues raised above, CUC believes the following need to be incorporated into any regulatory proposal. Specifically, DOE should:

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[6] Reconciling Terminology of the Universe of Per- and Polyfluoroalkyl Substances: Recommendations and Practical Guidance, Section 3.2. Practical guidance on how to identify and use suitable PFAS terms, https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=ENV/CBC/MONO(2021)25&docLanguage=en

[7] See Comments of the CUC on TSCA Section 8(a)(7) Reporting and Recordkeeping Requirements for Perfluoroalkyl and Polyfluoroalkyl Substances, http://www.chemicaluserscoalition.org/ckfinder/userfiles/files/TSCA%20Section%208(a)(7)%20Proposed%20PFAS%20Rule%20(092721).pdf

- Differentiate between individual flame retardants with chemical/CAS number specificity.
- Perform a new review for safety that includes flammability risks posed by elimination of OFRs from products.
- Perform a new review for "alternatives" that includes technical feasibility in meeting industry safety and performance standards.
- Regulate only based on actual risk (*i.e.*, a showing of release of the substance from the casing in such quantity that a risk to human health or the environment is present).
- Establish *de minimis* or allowable quantity (*i.e.*, concentration) thresholds for restricted OFRs and the products that contain them.
- Provide ample lead time so that restricted substance use can be identified, and products can then be reengineered or redesigned without threat of non-compliance or unavailability of products.
- Allow for sell-through of existing products, both those in the marketplace and warehoused, and for use of OFRs in spare/replacement parts.
- Clarify that the proposed restrictions are to apply solely to consumer electronics.
- Clarify the scope of "inaccessible components."
- Provide an exemption for repair and replacement parts/products, and well as an exemption for products used for research and development purposes.
- Provide guidance as to how electronics components that are used in both consumer and industrial, commercial, defense or aerospace applications will be treated.
- Ensure that its regulatory proposal aligns with other jurisdictions that currently regulate the use of OFRs for specific applications (*e.g.*, EU's Ecodesign Directive, which regulates the use of OFRs in the enclosures and stands of electronic displays).
- Clarify that products certified or regulated by the Federal Aviation Administration and Department of Defense to meet airworthiness requirements and products that are used or manufactured in a manner that is certified or regulated by those agencies are exempt pursuant to RCW 70A.350.030(5)(a)(v).
- Employ a definition of "PFAS" that appropriately focuses on the substances that are of true concern.

In closing, CUC members appreciate the opportunity to provide input on this important proposal. CUC members would be pleased to meet with DOE personnel to discuss these comments and related issues as they move forward with the process under the Safer Products for Washington program.