



August 5, 2022

Hazardous Waste and Toxics Reduction Program, Washington Department of Ecology
P.O. Box 47600
Olympia, WA 98504-7696

Re: Japan 4EE Comments on final report on regulatory determinations of Safer Products for Washington

JEITA (Japan Electronics & Information Technology Industries Association)

CIAJ (Communications and Information Network Association of Japan)

JBMIA (Japan Business Machine and Information System Industries Association)

JEMA (The Japan Electrical Manufacturers' Association)

The Japanese electric and electronic industrial associations - JEITA, CIAJ, JBMIA and JEMA¹ hereby express gratitude to Washington Department of Ecology (hereinafter, Ecology) for the opportunity to provide comments on Regulatory Determinations Report on Safer Products for Washington Cycle 1 Implementation Phase 3.

We have been vigorously committed to improving energy efficiency and to complying with chemical regulations set by other countries, including Europe, the U.S. and China, etc.

We support the basic policy of "Safer Products for Washington program" as electric and electronic equipment (hereinafter, EEE) industry, because it would be able to protect the consumers' health and environment based on risk assessment via identifying and managing the priority chemicals and priority consumer products which may be main sources of exposure to such substances.

However, regulating all organohalogen flame retardants, hereinafter abbreviated as HFRs, by class in external plastic device casings for EEE would not reduce risks to humans and the environment, and would only undermine social benefits instead. We recommend to appropriately limit EEE external plastic device casings and HFRs.

¹ The Japanese electric and electronic (E&E) industrial associations - JEITA, CIAJ, JBMIA and JEMA represent 900 member companies in total including electrical and electronic equipment, products and components manufacturers of electronics and information technology (IT) industries, info-communication network industries, business machine and information system industries, and electrical industries such as power & industrial systems, home appliances and related industries. Our members provide vast variety of products for homes and businesses in Canada and global. See details of each association at the end of this letter.

In addition, it is also recommended that thermal paper used as consumables in some products, but not in EEE itself, bisphenols to be restricted should be clearly identified with identifier instead of being regulated as a class.

In January 2022, we made similar comments in response to the draft of this report.

This time, we have included more concrete recommendations which would be useful for developing regulations that would reduce risks to humans and the environment as well as lead to social benefits. We would be very happy if you consider the following comments carefully.

I. About Regulation of Organohalogen Flame Retardants in “EEE external device casings”

The report has determined that it is appropriate to regulate organohalogen flame retardants (HFRs) as a class in external plastic device casings for electric and electronic products intended for indoor use. This determination could effectively protect the health of consumers if the conclusions were based on appropriate assessments.

On the other hand, there is a concern that excessive regulations without an appropriate risk assessment will not only pose a burden on businesses but also cause a greater disadvantage to consumers. This is because consumers will not be able to enjoy the benefits of useful chemicals that do not pose a significant risk as a result of restricting all HFRs.

In the first place, HFRs are essential fire retardants used to prevent the spread of EEE during fires and to protect human lives. Hastily regulating all HFRs based on inadequate evaluation would not only endanger the lives of Washingtonians, but would also place an enormous burden on EEE manufactures in selecting and evaluating alternative flame retardants, which would not contribute to achieve the policies of this regulation.

We are concerned that the regulatory measures determined by Ecology are not based on an appropriate evaluation, and in addition to the lack of expected benefits to humans and the environment, which may impose an excessive burden on industries and consumers.

In order for appropriate assessments to be carried out and appropriate regulations to take social benefits into account, we would like to strongly suggest the following:

- 1) Limit HFRs to substances that have been identified as toxic in other countries and are regulated, or to substances with a hazard class that may affect humans**
 - 2) Limit EEE external plastic device casings to consumer electronic displays and stands with screen sizes of 10 inches or greater**
- In addition to the above, we believe that the following measures are necessary to make the regulation practicable.**
- 3) Set an appropriate threshold (e.g., 0.1%)**
 - 4) Set an appropriate grace period (4 years or more)**
 - 5) Establish an enforcement date based on the manufacturing date**
 - 6) Establish exclusions for spare parts, repaired or refurbished parts, and R & D applications**

The evidence is given below.

- 1) Limit HFRs to substances that have been identified as toxic in other countries and are regulated, or to substances with a hazard class that may affect humans**
- 2) Limit the EEE external plastic device casings to consumer electronic displays and stands with screen sizes of 10 inches or greater**

There is no merit in regulating organohalogen flame retardants (HFRs) as a class.

First, there is no scientific basis for concluding and regulating all HFRs as harmful as a class.

Ecology used the class approach² proposed by NASEM in response to a request from the CPSC to conduct a toxicity assessment of HFRs. Only 22 HFRs were searched for toxicity on GreenScreen, and it estimated that tens of thousands of HFRs were all harmful because "there is no evidence that they were not toxic.". NASEM also proposes that HFRs be divided into 14 subclasses and evaluated on a subclass-by-subclass basis, but we found that the 22 HFRs studied by Ecology belong to only 10 subclasses out of 14.

Ecology, on the other hand, explains that the decision is based on its own criterion of "Lack of data may be considered toxic if safer alternatives exist and are available" but this theory is not acceptable.

As a basis for asserting the existence and availability of safer alternative technologies, data are provided that Organophosphate flame retardants (Hereinafter abbreviated as OPFRs) that meet Ecology's safety standards and resin materials containing these OPFRs are commercially available. However, EEE external plastic device casings vary in size, shape, required technical and quality standards, usage environment, etc., depending on the product, and there is no evidence that all EEE external plastic device casings can be commercialized using OPFRs presented by Ecology and resin materials containing OPFRs, and these alternative materials are not necessarily commercially available in all countries where EEE is manufactured.

As for flame-retardant standards, Ecology claims that the strictest V 0 standard of UL 94 can be met by using OPFRs. However, this is a limited result only when the resin contains more than a predetermined weight of OPFRs and the thickness of the resin is more than a predetermined number. In addition, it is necessary to add a fluorine compound such as PTFE as a drip-proof material. It is questionable whether the technology that requires the use of fluorine compounds can be established in a situation where PFAS (all fluorine compounds) regulations have been proposed worldwide, including in Washington State.

As such, the decision to regulate HFRs as a class is not based on scientific evidence, and there is a concern that it may cause havoc by forcing industries to take unnecessary alternative actions. After all, CPSC, which requested NASEM to develop a class approach, gave up developing regulations for HFRs as a class, and began collecting information on 30 individual flame retardants under Article 8 of the TSCA in response to a request from the Federal EPA under the Federal Toxic

² A Class Approach to Hazard Assessment of Organohalogen Flame Retardants
<https://www.nap.edu/read/25412/chapter/1>

Substances Act (FHSA), and is conducting a risk assessment³.

Regulating all EEE external device casings has no benefit to humans and the environment

Second, there is no scientific basis for regulating all EEE external plastic device casings, and there is no benefit for human and the environment.

Ecology claims that HFRs are emitted from EEE external plastic device casings, followed by adsorbed to house dust, and float around the room, causing damage to infants and other people who stay in the room for a long time by inhalation. However, there is no data to prove that HFRs are emitted from EEE external plastic casings in amounts that are harmful to their health.

In EEE external plastic device casings, HFRs are incorporated into resin matrix, and with its very low vapor pressure (around 10^{-4} Pa), they do not diffuse into the environment. Moreover, since HFRs are insoluble in water, they do not elute from acid rain after use. In the first place, EEE is properly collected, disposed of, or recycled after use according to the laws, so there is no chance to be illegally disposed of in the environment and exposed to acid rain.

In the ANNEX F of the report, Ecology points out that other States in the United States also have HFRs in place for EEE external plastic device casings, but this is not true. The final legal texts in both cases exclude EEE external plastic device casings from the regulation.

Currently, there is no laws in the United States or globally that regulate all HFRs in all EEE external plastic device casings.

•Delaware HB 77:

It restricts mattresses only.

<https://legis.delaware.gov/BillDetail?LegislationId=48303>

•Maine 38 MRS Section 1609 -A:

Only upholstered furniture is restricted and electronic components, casings of electronic components are excluded.

<https://legislature.maine.gov/legis/statutes/38/title38sec1609-A.html>

From the reasons above, regulating all HFRs in all EEE external plastic device casings has no scientific basis and does not contribute to the protection of people and the environment, which is the purpose of this Law.

In spite of this, hastily regulating all HFRs in all EEE external plastic device casings would impose a huge time and cost on the industries for activities required for substitution. It is expected that some manufactures will have to give up sales of their products because they cannot ensure product qualities with substitute materials. The enormous cost of this useless substitution is surely passed

³ [EPA-HQ-OPPT-2020-0474; FRL-10020-38]

RIN 2070-AB11

Health and Safety Data Reporting; Addition of 20 High-Priority Substances and 30 Organohalogen Flame Retardants

<https://www.govinfo.gov/content/pkg/FR-2021-06-29/pdf/2021-13212.pdf>

on to the price of the product, causing further price increases not only in Washington State but throughout North America and a financial hit to citizens.

Properly limit EEE external casings and HFRs

As we suggested above, regulating of all HFRs in all EEE external plastic device casings has no scientific basis and would only harm social benefits.

Therefore, it is requested to appropriately assess the risk of exposure of HFRs from EEE external plastic device casings to humans and the environment, and to limit the regulated EEE external plastic device casings and HFRs to the minimum necessary.

Nevertheless, if it is considered necessary to regulate certain HFRs in the EEE external plastic device casings, it is desirable to limit the EEE external plastic device casings and HFRs as follows;

(1) It is recommended that HFRs be limited to substances that have been identified as toxic in other countries and are regulated (e.g., SCCP, TCEP, TDCPP).

Alternatively, identify and prohibit HFRs with the following hazard classes that have the potential to affect humans.

- Carcinogenicity Carc. 1A, 1B
- Germ cell mutagenicity Muta. 1A, 1B
- Reproductive toxicity Repr. 1A, 1B

(2) EEE external plastic device casings do not expose HFRs to consumers, however, if Ecology believes it is absolutely necessary to regulate some of them, it should be limited to large enclosures. For example, it is appropriate to limit this to consumer electronic displays and stands with screen sizes of 10 inches or larger, as covered by the EU Amended Ecodesign Regulations⁴ and New York State Law (Section 4630 B/A 5418 B⁵).

Following products, which are excluded under the revised EU Amended Ecodesign Regulations and New York State Law (Section 4630 B/A 5418 B), should be excluded as well.

- Screen area of 100 cm² or less or 15.5 inch² or less.
- Projector
- Virtual Reality headset
- All-in-one video conferencing system
- Displays that are incorporated into appliances and are not sold separately to end users

As for EEE intended for outdoor use, the information request should be deleted because the

⁴ <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32019R2021&from=EN>

⁵ <https://www.governor.ny.gov/news/governor-hochul-signs-legislation-protect-new-yorkers-harmful-flame-retardant-chemicals>

exposure scenario through house dust from the case of EEE, which is a concern of Ecology, is not considered at all.

In addition to the above, we believe that the following measures are necessary to make the regulation practicable.

- 3) Set an appropriate threshold (e.g., 0.1%)
- 4) Set an appropriate grace period (4 years or more)
- 5) Set the enforcement date of the manufacturing date basis
- 6) Establish exclusions for spare parts, repaired or refurbished parts, and R & D applications

The evidence is given below.

Set an appropriate threshold (e.g., 0.1%)

We request that appropriate thresholds be set (e.g. 0.1% consistent with EU RoHS) for the management of restricted substances in industries. If this is difficult, it is recommended that only intentional additions be regulated.

This is also essential from the operational perspective of chemical substance management in industries. In general, the regulation of substances in articles without appropriate threshold creates problems to the extent that investigations must be carried out in the supply chain. In other words, it is always a problem to identify impurities and by-products of a substance. In practice, it is almost impossible for final product manufacturers to identify the presence of impurities and by-products, in particular, in articles. The management of impurities and by-products must be requested to the upstream of the supply chain with clear conditions in advance.

Set an appropriate grace period (4 years or more)

EEE consists of a large number of parts, which are manufactured in complex global supply chains around the world. Therefore, the management of restricted substances in products cannot be carried out by EEE manufacturers alone, and is carried out through communication in the supply chain. The method is internationally standardized, and the list of controlled substances is uniform throughout the industry. IEC 62474 "Material Declaration for products of and for the electrotechnical industry" is available in the EEE industry.

Substitution of a functioning substance in EEE generally requires at least about 4 years, even assuming that the restricted substance is clearly identified, the threshold is set at 0.1 wt. %, and a suitable substitute is already available. Therefore, the EU RoHS Directive⁶ provides a preparation period of approximately four years for the designation of new restricted substances. In view of the smooth implementation of legal compliance for goods in the EU, we request a grace period of at least four years for substituting substances in consumer EEE.

The timeline of the process our members undertake to phase chemicals out of the supply chain is outlined below. Each step indicates the fastest possible date when the restricted substances are

⁶ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32011L0065>

clearly identified and its threshold are set appropriately, but it is unlikely that the entire process will be completed in the shortest time and a four-year grace period is required. Note that individual steps and time frames may vary from company to company.

- Procurement and evaluation of substitute parts with suppliers: minimum 6 months, usually longer. If there is no suitable replacement, it stops at this step in the first place.
- Internal Quality Assessment: 3 months minimum, usually longer.
- Quality and safety certification: Minimum 6 months, usually longer.
- Supplier Adjustments and Manufacturing Changes: Minimum 6 months, usually longer.
- US Shipping, Import, and Delivery: 3 months minimum

It should be noted, however, that the above is a timeline when HFRs are limited as we proposed in (1) above, that is;

"HFRs are limited to substances that have been identified as toxic in other countries and have been regulated (e.g., SCCP, TCEP, TDCPP), or HFRs with the following hazard classes that have the potential to affect humans are identified and banned:"

- Carcinogenicity Carc. 1A, 1B
- Germ cell mutagenicity Muta. 1A, 1B
- Reproductive toxicity Repr. 1A, 1B

In the unlikely event that all HFRs are subject to regulation, the grace period for substitution cannot even be estimated, as it would take a huge amount of time to investigate the content itself and a huge variety of EEE would need to be considered.

Set an enforcement date based on a "Manufactured by date"

The mandatory enforcement date should be set based on a "manufactured by date."

EEE manufacturers may control only the date of manufacture, not the date of commercial distribution. As a manufacturer, even if we complete our compliance actions, U.S. retailers and distributors will still have existing distribution inventory. Finished EEE products move through distribution channels and typically remain in stock for weeks or months. Retailers cannot control the speed at which these finished products are sold and do not necessarily operate under a "first in, first out" operation. In addition, retailers may find it extremely difficult to distinguish between EEE with and without regulated HFRs. Thus, since the distribution of inventory is outside the control of manufacturers, retailers may return their entire inventory of finished goods (regardless of they contain or don't contain regulated HFRs) or seek compensation.

Therefore we encourage Ecology to establish a mandatory enforcement date on a manufactured by date basis for EEE external device casings containing regulated HFRs.

In addition, mandatory enforcement based on manufactured by date would also extend the useful life of the "finished product" and provide benefits to consumers. Because manufacturers are obligated to supply spare parts and consumables to customers over time and there is a risk that some of the parts and raw materials that make up the spare parts and consumables may be discontinued, they must store them in warehouses as spare parts, components, or raw materials.

Failure to distribute spare parts and consumables containing regulated HFRs not only creates significant disruption in the supply chain, but also creates a significant waste of spare parts and consumables. This represents a major disadvantage from the view point of the common global issue of effective use of resources.

As a result of the supply of spare parts and consumables being cut off, defective main products cannot be repaired and used continuously, and they have to be discarded because spare parts and consumables are not replenished. Sellers who undertake the disposal and consumers who buy new finished products incur significant costs.

Therefore, we request the exclusion of spare parts and consumables used in finished products manufactured before the mandatory enforcement date based on manufactured by date.

If the start of the restriction on articles becomes uniformly based on "manufactured by date", many parts, including spare parts and consumables, would be saved as long as they are manufactured before the mandatory enforcement date.

Please also see our comments below on the exclusion of spare parts.

Establish exclusions for spare parts, repaired or refurbished parts, and R & D applications

[Exclude Spare Parts]

We request to exclude spare parts and consumables used for finished products manufactured prior to mandatory enforcement dates on manufactured by date basis.

To establish a circular economy, spare parts and consumables must be available. In a complex product such as EEE, modifying an existing part is not a simple procedure, as follows, so the same spare parts and consumables are required as were used in the initial production of each product. In particular, if a model is discontinued, only older spare parts manufactured before the regulation will be available. If an EEE does not have spare parts available at the time of manufacture, the EEE cannot be repaired, has a short life, and may be disposed of sooner than intended.

The exclusion of spare parts and consumables has similar benefits for the circular economy and industry, as described below.

Spare parts of finished products with a shorter life can be covered by parts manufactured before the mandatory application date on a manufactured by date basis and stored in warehouses, although many products have a longer life. A manufacturer may repair such a finished product to "as-built" status by replacing it with the same parts as before, but may not redesign parts, components, or the entire system to use similar but different parts. In such a case, it is almost impossible to ensure performance, safety, and reliability equivalent or equivalent to those of the prior art.

Replacing parts and consumables (including replacing materials) is never an easy task. Even if a chemical manufacturer proposes an alternative, there is no guarantee that it will achieve the same performance as before. The equipment manufacturer must evaluate the performance, reliability, safety or other characteristics of such alternatives. Furthermore, changes in critical areas often require a redesign of the entire finished product. Such a redesign goes beyond the normal "repair" process.

The difficulty of spare parts of an existing finished product model is explained as follows.

(i) When examining substitutes for spare parts and consumables that have been found to contain regulated substances, evaluation using finished products is essential to ensure quality and

performance (functionality). The evaluation may not be performed if the finished product is discontinued.

(ii) Parts and consumables are obligated to be supplied over a long period of time, during which time the production of parts and raw materials is often stopped, making it difficult to continuously procure parts. As a result, spare parts are stored either as is or as parts or raw materials in the manufacturer's warehouse. In such cases, it is almost impossible to obtain information on the content of discontinued parts and raw materials from suppliers located upstream in the supply chain.

Therefore, we believe that excluding spare parts and consumables from finished products manufactured before the regulation and using recycled materials will contribute to building a sustainable society and a recycling-oriented economy.

[Exclude repaired or refurbished products that were originally manufactured before mandatory enforcement on manufactured-by basis]

Repair of a product using replacement parts may be performed in the United States. For example, if the repair requires specialized technology or precision equipment and there are no such repair skills in the United States, the repair may be performed in another countries, such as Japan, and the repaired product may then be returned to the United States. Also, some products already in circulation in the US are returned with defects (For example, returning a damaged package) or initial defects and are resold after repair or refurbishment.

If reshipments after repair are restricted, defective products cannot be repaired and must be disposed of. This will have a significant negative impact on the U.S. environment and economy. In addition, if the article to be repaired was manufactured before mandatory enforcement, it is not possible to check the conformity of the article because it has not been managed to comply with the regulations.

For the reasons above, we would like to request that re-launch or re-sell of repaired or refurbished articles and logistics for their repair should be exempted permanently as long as the original product has been manufactured or placed on the US market prior to the "manufactured by" compliance date.

[Exclude R & D products]

R&D activities in the United States are critical for the world to develop and introduce cutting-edge technologies and products including fighting the COVID-19 or investigations into alternative material as substitutes for use in articles to be manufactured or imported for use in the US.

Without the ability to conduct R&D on such products and articles in the United States, it is essentially impossible for member companies to meet highly technical performance specifications for their products. Responsible chemical management programs should be permitted and encouraged. Manufacture/importation/distribution in commerce of EEE external device casings containing HFRs for R & D activities, such as prototypes, should be excluded. At least, the following cases should be excluded:

- (i) The number of articles used for R & D activities in the United States is limited (e.g., 100 or less).
- (ii) Articles recovered and shipped outside the United States after being used in R & D activities.

II. About Regulation of Bisphenols in Thermal Paper

As we mentioned on the HFRs in the EEE external device casings above, when considering regulations of bisphenols in thermal paper, we would like to request that appropriate assessment be carried out to make regulations which consider social benefits. We would like to strongly request as follows;

- 1) **Set an appropriate threshold (e.g. 0.02%) and identification for regulated substances**
- 2) **Set an appropriate grace period (36 months or more)**
- 3) **Set an enforcement date based on a "Manufactured by date"**

The evidence is given below.

Set an appropriate threshold and identification for restricted substances

While there are no existing regulations on bisphenols as a class in thermal paper in other countries, there are many regulations on thermal paper (or receipt paper) containing bisphenol A (or BPA). The European Union (EU) limits the concentration of BPA in thermal paper products to 0.02% by weight, and Switzerland limits its alternative, bisphenol S (or BPS), to similar concentrations.

Efficient management of substances in articles manufactured through the supply chain requires simplicity and clarity that can be understood by manufacturers in any part of the world. Since the types of bisphenols used in the thermal paper are limited, it is desirable to clearly identify the restricted substances with an identifier such as CAS RN.

In addition, it is necessary to prohibit "intentional addition of restricted substances" or to set a threshold appropriate for risk management. If a threshold is to be set, it is reasonable to set a minimum threshold at 0.02% by weight, the same level as that set by the EU REACH regulation limiting BPA in thermal paper and Swiss ChemRRV limiting BPA and BPS in thermal paper. At this threshold, the exposure risk from the substances has been significantly reduced without compromising consumer benefits. These are substances and threshold that can be realized as BPA-free thermal paper. At present, there are no appropriate methods to analyze the content of 0.02% or less and to evaluate the risk, and it would be extremely costly to do so.

Set an appropriate grace period (36 months or more)

A grace period of 36 months after the entry into force of the EU REACH Regulation was established for the restriction of BPA. In view of the fact that we have been able to smoothly implement the compliance of goods in the EU, we would like to request a grace period of at least 36 months.

Set an enforcement date based on a "Manufactured by date"

For the same reason as the HFRs in the EEE external device casings described above, we request to set the mandatory enforcement date based on the manufacturing by date.

III. Conclusion

As EEE industry, Japanese electric and electronic industrial associations support the policy of "Safer Products for Washington program", which identifies and regulates priority chemicals and priority consumer products that are main sources of exposure to such substances.

However, we strongly request that the regulated substances and regulated consumer products be appropriately limited based on appropriate risk assessment and social benefit assessments in order to develop feasible regulations.

Finally, as an example of "social benefit assessment," which we mentioned many times throughout the comments, we would like to share an assessment report⁷ conducted in 2014 by the National Institute of Advanced Industrial Science and Technology (AIST), one of Japan's most prestigious national research institutions.

The report concludes as follows;

"Socioeconomic analysis showed that the cost-effectiveness of replacing decaBDE (HFRs) with BDP * (OPFRs) was extremely poor."

*Bisphenol A Bis – (diphenylphosphate) CAS 5945 -33 -5

We sincerely hope to work with Ecology to ensure implementation is effective and sustainable for current and future generations in Washington State and the United States.

Sincerely yours,



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⁷ [RiskTradeoffAssessment_summary_FlameRetardant.pdf \(aist.go.jp\)](#)

About Japanese electric and electronic (E&E) industrial associations:

About JEITA

The objective of the Japan Electronics and Information Technology Industries Association (JEITA) is to promote the healthy manufacturing, international trade and consumption of electronics products and components in order to contribute to the overall development of the electronics and information technology (IT) industries, and thereby further Japan's economic development and cultural prosperity.

About CIAJ

Mission of Communications and Information network Association of Japan (CIAJ). With the cooperation of member companies, CIAJ is committed to the healthy development of info-communication network industries through the promotion of info-communication technologies (ICT), and contributes to the realization of more enriched lives in Japan as well as the global community by supporting widespread and advanced uses of information in socio-economic and cultural activities.

About JBMIA

Japan Business Machine and Information System Industries Association (JBMIA) is the industry organization which aims to contribute the development of the Japanese economy and the improvement of the office environment through the comprehensive development of the Japanese business machine and information system industries and rationalization thereof.

About JEMA

The Japan Electrical Manufacturers' Association (JEMA) consists of major Japanese companies in the electrical industry including: power & industrial systems, home appliances and related industries. The products handled by JEMA cover a wide spectrum; from boilers and turbines for power generation to home electrical appliances. Membership of 291 companies, <http://www.jema-net.or.jp/English/>