



JAPAN CONSTRUCTION EQUIPMENT MANUFACTURERS ASSOCIATION
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Written comments on the Annex XV Restriction Report

Restrictions on the manufacture, market placement, and use of PFAS, jointly proposed by Germany, the Netherlands, Sweden, Norway, and Denmark, have been published in the Annex XV Restriction Report.

The Japan Construction Equipment Manufacturers Association (CEMA) submits the following comments in response:

I. Introduction

CEMA is composed of 62 construction equipment manufacturers. Sales by member companies account for approximately 97% of all sales for Japan's construction equipment industry.

In these comments, the term *construction equipment* refers to equipment used in civil engineering, construction, mining, and forestry. Examples include excavators, tractors, bulldozers, loaders, cranes, generators, and harvesters.

CEMA is a member of the International Associations Committee (IAC), together with AEM, CECE, KOCEMA, CCMA, and ICEMA,* similar associations in the US, Europe, South Korea, China, and India.

* AEM (Association of Equipment Manufacturers),

CECE (Committee for European Construction Equipment),

KOCEMA (Korea Construction Equipment Manufacturers Association),

CCMA (China Construction Machinery Association),

ICEMA (Indian Construction Equipment Manufacturer's Association)

CEMA and its member companies fully support the EU's efforts to reduce the risks of hazardous substance via the REACH Regulation. We have been collecting chemical substance information through the supply chains since the REACH Regulation took effect, and for all products brought to market, we work to ensure compliance and closely monitor conditions to confirm that requirements are met. We select



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suppliers based on component quality standards, and our customers receive products confirmed to be safe and durable.

Nevertheless, we ask that you consider the following significant concerns of the PFAS restriction on proposal:

II. Concerns and requests regarding the proposed restrictions

1. Issues in gathering information

The proposed PFAS restrictions would apply restrictions to more than 10,000 organofluorine compounds (PFAS) due to the risks they pose, which are said to be equivalent to those of already regulated PFOS and PFOA substances, due to persistence in the environment. Compared to the 233 candidate substances currently subject to authorization ("CL substances" hereafter), the substances to which the proposed restrictions would apply include many chemical substances other than CL substances. This information is beyond the reach of supply chain investigations. Determining usage would pose significant difficulties.

Additionally, the absence in the proposal of a list of target substances complicates investigations.

2. Concerns regarding risk assessment

Article 68 (1) of the REACH Regulation refers to the scope of the restrictions, which regulates unacceptable risks to human health or the environment that need to be addressed by society as a whole. The proposed restriction lumps fluorine compounds together as "a universal PFASs". This means that a wide range of substances are covered, even those for which the hazard and risk assessment is not clear. Descriptions of alternative substances are also very broad and require time to review, although the list of apparent alternative substances is ultimately relatively narrow.

The restrictions proposed emphasize the persistent nature of PFAS and target a broad range of PFAS (universal PFAS) (Annex XV report, pp. 21–22). We believe that this approach is not consistent with the hazard and risk assessment approach of the REACH regulation. Regarding bioaccumulation potential, it is inconsistent and insufficient as a risk assessment to state that "there is a justified concern" (Annex XV Report p. 28) while stating that "large uncertainties remain for the majority of compounds due to lack of data.". If concern is the sole reason for taking such action, we believe placing the substances on the CL as SVHCs in accordance with Article 59 should be considered as an initial measure.

3. Requests regarding proposed restrictions



(1) We believe it would be difficult to uniformly restrict PFAS in accordance with the REACH Regulation. A list of chemical substances subject to restrictions should be prepared for each substance or subgroup (such as OECD classification) to reduce the burden of information collection.

For each substance, in line with Article 68 of the REACH Regulation, data-based scientific evaluations are required to determine “unacceptable risk to human health or the environment.” We request that, instead of restricting fluorinated compounds as a single 'broad PFAS', substances for which an 'unacceptable risk' has been identified should be prioritized according to the magnitude of the risk and restricted.

(2) For exemption purposes, substance contents must be reported, as discussed in Paragraphs 4 and 7. While Annex E.4 appendix includes recommended analytical methods, it is unclear that these analytical methods are established as valid. It must be established that analyses performed by these methods are valid for determining and reporting substance content. This can be understood most clearly by adopting established analytical methods as EN standards. We request the standardization of these methods as EN standards. This would allow analysis by accredited laboratories.

(3) Regarding the transition period, the proposal provides for 18 months, while "C9-C14 PFCAs" and "PFHxA" are specified as "36 months". Since Paragraph 3 covers a much larger number of substances than those listed above, we anticipate that it will be very difficult to comply with the 18-month period. We request either a substance-by-substance restriction, or a subgroup with a similar level to the above-mentioned substances and a transition period of 36 months or longer.

(4) The concept of *essential use* mentioned in the Chemicals Strategy for Sustainability has not been defined. For this reason, the concept has not been considered in the proposal for the sake of establishing exemptions. We anticipate that this will cause confusion, as there will be a need to reconsider the uses and substances that should be exempted after an 'essential use' decision has been made, we request consideration to allow the submission of comments after essential use has been defined and exemptions clarified.

(5) We request a clear statement that certain substances are not subject to the proposal—specifically, PFOS, PFOA, and PFHxS, as regulated under POPs regulations; C9-C14 PFCAs, as already entered in Annex XVII of the REACH Regulation; and PFHxA and Bisphenol AF, for which legislative procedures are currently underway.

(6) The proposal indicates that the more rigorous restrictions apply in cases involving overlaps with other regulations, directives, or matters of restriction. However, we believe the broad scope of the restrictions



makes it difficult to determine the actual meaning and practical interpretation of "stricter restrictions." We request that you specify in a restriction clause what takes precedence or establish guidelines.

III. Examples of PFAS applications in the construction equipment sector and requests

Construction equipment is designed for long-term use under harsh conditions. Materials, parts, and components must meet rigorous design and testing requirements to ensure safe, uninterrupted and effective function at construction sites.

Due to their many useful chemical and physical properties, PFAS play a key role in meeting these requirements. The high efficiency and durability of PFAS also help address climate change and support sustainability, which in turn supports European Green Deal policies.

1. Examples of applications

(1) Refrigerants: Because construction equipment is used under harsh conditions, air conditioners are important occupational health and safety systems that provide healthier work environments. Some devices require their own cooling systems. PFAS are used as refrigerants in both air conditioning and cooling systems. Despite widespread use of HFC-134a, there has been a shift to HFO-1234yf (also a PFAS, with a GWP of 4) as a climate change measure, in line with F-Gas regulations. HFO-1234yf is not a persistent substance; no unacceptable risks have been identified for it.^{1,2}

Although the proposed restrictions suggest natural refrigerants as alternatives, no records of performance in construction equipment have been established to date. Improving efficiency remains a challenge. We expect relevant developments to take at least a decade. For these reasons, we request a 12-year derogation period, with the status of development monitored and this issue reconsidered in 12 years.

(2) Seals: Various fluids are essential to the function of construction equipment, including hydraulic fluid, lubricants, fuel, and coolant. O-rings and gaskets are among the sealing technologies used to prevent fluid leaks due to water, dirt, dust, or other factors and to protect equipment from water, dirt, dust, and debris. These seals also prevent the environmental pollution that would result from such leaks. PFAS stand apart from other chemical families in providing an unmatched combination of thermal stability, chemical resistance, low-friction properties, and sealing capabilities, all requirements for use in harsh equipment environments.

Polytetrafluoroethylene (PTFE) is among several PFAS chemical substances widely known as fluoropolymers that possess many of these key chemical properties and have become essential in construction equipment due to the absence of effective substitutes. Replacing PFAS with unsuitable



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alternatives would impair the functionality of these parts or components, contributing to higher failure rates, leaks, safety issues, and shorter equipment life.

(3) Hoses: Hoses transfer fluids and prevent leaks while keeping various components and systems clean. In hoses used under high temperature and pressure, fluoropolymer linings are used to ensure component durability and long-term reliability. Use of unsuitable materials poses the risk of leaks, reduced efficiency, and damage to equipment.

(4) Paints/coatings: Paints or coatings with added PFAS offer enhanced weather resistance and equipment protection. Benefits include longer service life and maintenance intervals.

(5) Grease/lubricants: Greases or lubricants with PFAS added offer reduced friction and enhanced durability, efficiency, and equipment protection. Likewise, benefits are longer service life and maintenance intervals.

(6) Electrical and electronic equipment and circuit boards: PFAS offer both excellent insulation and heat resistance in electrical and electronic equipment. Materials of such versatility are rare and difficult to replace.

(7) Sliding parts: Pins, shafts, and similar parts coated or otherwise treated with PFAS offer reduced friction and enhanced efficiency and durability. The sliding portions must have both low friction and heat resistance; in this regard, PFAS are important chemical substances.

(8) Alternative power: Alternative power sources are being considered by engine manufacturers and other companies to meet ESG goals. Companies will continue to study power and technology solutions as they innovate and experiment. Batteries and hydrogen fuel cells are the two most widely discussed solutions. Both use PFAS to fulfill these important roles.

2. Requests from the construction equipment sector

(1) 12-year derogation period: As described above, PFAS are used in various ways in construction equipment. The proposed restriction derogations in Paragraphs 5 and 6 do not account for the construction equipment sector. Nevertheless, many aspects of this sector overlap those of automotive parts, thus this sector shares similar supply chains to that industry.

For example, a 12-year derogation period is proposed for engine bay textiles (for noise and vibration insulation) as used in the automotive industry.

Because the same conditions apply to most of the construction equipment powered by internal combustion engines, we request the same 12-year derogation period.



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Regarding applications and essential use cases, most of the arguments supporting use in the automotive sector also apply to construction equipment. Operating conditions for construction equipment are more extreme and assume more rigorous performance requirements than from automobiles. Construction equipment presents added challenges with regard to maintaining durability and sustainability. These characteristics complicate the search for suitable alternative materials for use in this sector. For these reasons, applying the same conditions as those applying to automobiles would pose major difficulties.

These facts compel us to request derogation (“proposed” or “for reconsideration”) for the construction equipment sector—specifically, a 12-year derogation period before restrictions apply, as well as a reconsideration of the proposed restrictions at the end of the 12-year period.

(2) Spare parts: We request an indefinite exemption for spare parts (including refrigerants for air conditioners). Construction equipment is designed for long-term use in harsh environments. Ensuring that customers can safely use the equipment over many years requires regular maintenance and servicing. For this, a supply of spare parts is essential.

If the proposed restrictions were applied to spare parts, switching to alternative materials would require extremely costly and time-consuming redesign and review. Moreover, parts redesigned with alternative materials must be tested and evaluated on the actual equipment to confirm performance and durability; obtaining this equipment would be difficult if the equipment had already been discontinued. This would prevent testing and evaluation.

In general, spare parts for construction equipment are produced and stocked in the quantities required for certain periods following the end of equipment production, based on the anticipated declining use of fewer and fewer machines in the field that require parts replacement. Ultimately, these spare parts are no longer produced. Unless spare parts are exempted from the restrictions, current inventories of spare parts would have to be disposed of, leaving no parts available to maintain the construction equipment.

This could therefore lead to the early disposal of machines that would otherwise be still usable if they could have been serviced. Additionally, the absence of suitable repair and maintenance services may compromise equipment safety. The regulations proposed would require users to purchase new equipment. Given the cost of construction equipment, this would pose significant burdens.

To avoid these problems, we request an indefinite exemption from these restrictions for spare parts.

This request is consistent with European Green Deal policies to protect the right to repair and supports a circular economy.



IV. Conclusion

For the reasons mentioned, CEMA requests the following:

1. Scope of application of PFAS restrictions and transition period

- (1) Data-based scientific evaluations are needed. Substances designated to pose unacceptable risk should be classified by restricted substance or subsector. Restrictions for each classification should be based on scientific risk assessments.
- (2) To clarify restrictions and to facilitate investigations, a list of target substances based on (1) should be prepared. Established analytical methods should be adopted as standards to enable analysis by accredited laboratories.
- (3) To clarify the scope of the exemptions, the concept of *essential use* must be defined as soon as possible.
- (4) The transition period of this proposal is 18 months, but since there are so many restricted substances and it takes time to respond to them, a transition period of 36 months or longer should be provided, which is equivalent to "C9-C14 PFCAs (Entry 68)" or "Restriction of PFHxA".
- (5) It should be clearly stated that the proposal does not apply to substances already addressed by the POPs Convention or REACH Regulation or for which legislative procedures are currently underway. These substances include PFOS, PFOA, PFHxS, PFHxA, and Bisphenol AF.
- (6) Where restrictions overlap, the rule appears to be that the more restrictive restrictions apply. However, since this can be difficult to determine, guidelines should be prepared that clearly identify which restrictions take precedence.

2. Due to the key role of PFAS in construction equipment, the difficulty of examining and developing alternatives, and the harsh operating conditions in which this equipment operates, a derogation period of 12 years should be set before the restrictions enter into effect, and a period of 12 years should be left before the issue be reconsidered.

3. Spare parts should be exempted indefinitely in consideration of the characteristics of construction equipment.



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1: German Environment Agency, Reducing chemical input into water bodies - trifluoroacetate (TFA) as a persistent and mobile substance from many sources, 2021

2: Norwegian Environment Agency, Study on environmental and health effects of HFO refrigerants, 2017

Respectfully submitted,

A handwritten signature in black ink, reading 'S. Koyama' followed by a horizontal flourish.

Satoru Koyama

Executive Managing Director
Japan Construction Equipment Manufacturers Association (CEMA)