

Miyuki Tsuji

Who is commenting? *(choose the best fit)*

Representative of a product manufacturer(s)

If you are commenting as a representative, what is the name of the entity you are commenting on behalf of?

The Japan Refrigeration and Air Conditioning Industry Association (JRAIA)

If you represent a product manufacturer or industry group, what industry(ies) do you represent?

We represent the air conditioning, heat pump, refrigeration, and water heating equipment sector.

If you represent a product manufacturer, what types of components, products, or product categories do you manufacture that you will be requesting a CUU determination for?

Air conditioning, heat pump, and water heating equipment, including products composed of multiple integrated components supplied through multi-tier supply chains.

Do you have any recommended changes or other considerations that you think the MPCA should take into account when defining the term "essential for health, safety, or the functioning of society"? *(Please review the proposed definitions in the rule concept document prior to answering)*

While MPCA's definition is valid, we believe a more detailed consideration is necessary depending on the product category.

Air conditioning, heat pump, and water heating equipment are essential to maintaining safe and habitable indoor environments, supporting the operation of critical facilities such as hospitals and schools, and protecting public safety during extreme heat and cold events.
Because these societal functions are indispensable, CUU program design should ensure that product availability and continuity of servicing can be maintained without undermining the program's objectives.

Do you have any recommended changes or other considerations that you think the MPCA should take into account when defining the term "alternative"? *(Please review the proposed definitions in the rule concept document prior to answering)*

Equipment in our sector is typically long-lived, with expected service lives of approximately 15 to 25 years.
When evaluating alternatives, MPCA should consider not only short-term material substitution, but functional equivalence over the intended service life, compatibility with refrigerants and lubricants, reliability under temperature, pressure, and corrosive conditions, and compliance with applicable safety standards and building codes.

Do you have any recommended changes or other considerations that you think the MPCA should take into account when defining the term "reasonably available"? *(Please review the proposed definitions in the rule concept document prior to answering)*

An alternative should be considered "reasonably available" only if it can meet performance, safety, and durability requirements over the full intended service life and be supplied at commercial scale.
Cost should not be considered in isolation; evaluations should reflect a balanced assessment of safety, reliability, energy performance, supply stability, and the impacts of redesign and recertification.

When considering the proposed definition of "product category", how broadly should the agency group product categories? *(Examples: "vehicles" versus "sedans, SUV's, vans, trucks, RV's" or "printers" versus "receipt printers, thermal printers, label printers, residential printers, commercial printers, etc.")*

We support the use of product categories as a primary unit for CUU determinations.
Certain PFAS uses in our sector are not specific to individual manufacturers, but stem from industry-wide technical and safety requirements.
Excessively narrow or component-level categorization could lead to duplicative submissions for shared technical challenges and increase administrative burden without improving outcomes.
As noted above, certain PFAS uses are required to maintain product quality in order to meet technical and safety requirements that are common across air conditioning equipment.
We therefore strongly support granting CUU determinations on a product-category basis.
If product-category-based determinations are not permitted, we respectfully request that the CUU system be structured so that a CUU approved through an application by a specific company or industry association applies to all entities using the same use within that product category.

Should each request for a CUU determination be limited to a single product category, or should applicants be allowed to submit a request for a CUU determination for multiple product categories?

Applicants should be allowed to submit CUU requests based on product categories or through consolidated submissions for similar products.
This approach can reduce duplicative filings, support consistent determinations, and improve overall implementability while preserving program objectives.

What safety or other standards require the use of PFAS in a product? *(Please include the specific citation)*

In the air conditioning, heat pump, and water heating sector, product design and material selection are governed by the combined application of multiple safety standards, building codes, and regulatory requirements. These include requirements related to pressure containment, electrical safety, fire resistance, durability, and system reliability under extreme operating conditions.
While individual safety standards or codes may not explicitly mandate the use of specific chemical substances, compliance with the full set of

applicable requirements can, in practice, necessitate materials capable of withstanding high temperatures, pressures, chemical exposure, and long-term operational stress.
In addition, federal regulatory frameworks governing refrigerant transitions—such as EPA’s Significant New Alternatives Policy (SNAP) program and the HFC phase-down under the American Innovation and Manufacturing (AIM) Act—significantly influence equipment design, safety compliance, and certification pathways. These frameworks may constrain feasible design and material options and should therefore be considered holistically when assessing whether technically viable and reasonably available alternatives exist.

The agency is seeking feedback on the potential that the initial positive CUU determination duration for existing products will expire eight years from the date of issuance regardless of product category. This is intended to stagger renewal deadlines and ease the administrative burden of processing renewals.

- Do you have any concerns about unintended consequences with this proposal?
- Do you have any alternative recommendations to stagger renewal deadlines?

Product redesign, mandatory testing, and third-party certification require substantial time.
If CUU determinations involve fixed durations or renewals, MPCA should consider timelines aligned with product development and certification cycles, transparent procedures, and approaches that minimize unnecessary duplication.

The MPCA has developed a preliminary list of potentially eligible data categories that may be considered for trade secret requests. *(Please review the rule concept document for the list of potentially eligible data)*

- Do you have any concerns about unintended consequences with this proposal?
- Do you have any alternative recommendations for data that should or should not be eligible for trade secret requests?

We appreciate MPCA’s attention to trade secret protections. We do not have additional comments beyond the importance of safeguarding confidential technical and supply-chain information where appropriate.

What are the potential ongoing costs to society if the commissioner issues a positive currently unavoidable use determination for the continued use of PFAS within a product or product category? *(For example: environmental, human health, or remediation costs)*

Overly burdensome CUU requirements for low-exposure uses could produce unintended societal costs, including service delays, premature equipment replacement, increased waste generation, and higher lifecycle environmental impacts.
These considerations should be weighed alongside PFAS risk reduction objectives.

For manufacturers: Administrative cost of requesting a CUU determination (Part 1 of 2). *Please provide your best estimates or rough orders of magnitude (for example "approx. 200 hours"). Precise accounting data is not necessary to answer this question.*

If your company currently possesses information regarding intentionally added PFAS (to the CAS number level) for all components in your product lines, please estimate the number of technical staff hours that were required to establish this baseline.

Other (please specify)

See attachment for full comment.

For manufacturers: Administrative cost of requesting a CUU determination (Part 2 of 2). *Please provide your best estimates or rough orders of magnitude (for example "approx. 200 hours"). Precise accounting data is not necessary to answer this question.*

If your company does not possess information regarding intentionally added PFAS (to the CAS number level) for all components in your product lines, please estimate the number of technical staff hours needed to obtain this data from your Tier 2 or 3 suppliers for a single product line.

Other (please specify)

See attachment for full comment.

For manufacturers: Expenditure considerations when seeking non-PFAS alternatives (Part 1 of 2). *Please provide your best estimates or rough orders of magnitude (for example "primary cost is CapEx"). Precise accounting data is not necessary to answer this question.*

If you have identified a technically viable non-PFAS alternative for one of your products that contains intentionally added PFAS, does implementing this alternative require Capital Expenditure (such as purchasing new molds, retooling machinery) or primarily Operational Expenditure (such as purchasing more expensive raw materials)?

- Please estimate the ratio of Capital Expenditure to Operational Expenditure (or indicate which category is the dominant cost driver).

Identifying, validating, and certifying alternative materials can take many years due to safety testing, performance validation, and code compliance requirements.
These development cycles generally do not align with short exemption durations, underscoring the importance of realistic timelines and streamlined renewal processes.

For manufacturers: Expenditure considerations when seeking non-PFAS alternatives (Part 2 of 2).

If you have not identified a technically viable non-PFAS alternative for one of your products that contains intentionally added PFAS, have you conducted a Research & Development (R&D) feasibility study?

- If so, what was the cost of that study?

Identifying, validating, and certifying alternative materials can take many years due to safety testing, performance validation, and code compliance requirements.
These development cycles generally do not align with short exemption durations, underscoring the importance of realistic timelines and streamlined renewal processes.

For manufacturers: Research and development safety validation cycles.

What is the typical duration of the R&D and safety validation cycle for a reformulated product in your sector (from concept to market entry)?

Does this cycle align with the 5-year renewal period typically associated with regulatory exemptions?

- If not, please explain the specific technical barriers that would require a longer validation period.

Identifying, validating, and certifying alternative materials can take many years due to safety testing, performance validation, and code compliance requirements.
These development cycles generally do not align with short exemption durations, underscoring the importance of realistic timelines and streamlined renewal processes.

Please provide any additional information or documentation needed to support your answers to any of the questions posed.

Note - This comment has been uploaded by the MPCA on behalf of the commenter. Commenters located outside of the United States are unable to access the comment portal website due to network security. Accommodations were made to accept these comments in an alternative format and upload them on behalf of the commenters.

Do you have any additional questions or comments regarding the PFAS in products: Currently unavoidable use rule? *(Please note that we may be unable to respond to specific questions regarding rule content in this phase of the rulemaking process)*

We respectfully encourage MPCA to continue engaging with stakeholders as CUU program details are developed.
Dialogue with industry associations, suppliers, and service organizations can help ensure a CUU framework that meaningfully reduces PFAS risks while preserving access to essential products and safe servicing.

27th March, 2026

To: Minnesota Pollution Control Agency (MPCA)
(Submitted via email to: Addison.Otto@state.mn.us)

JRAIA's Request to Minnesota Pollution Control Agency (MPCA) regarding Minnesota's PFAS in Products: Currently Unavoidable Use (CUU) rule proposal

The Japan Refrigeration and Air Conditioning Industry Association (JRAIA) representing manufacturers of refrigeration and air conditioning equipment in Japan, and its member companies are committed to maintaining and improving living standards by providing environmentally sustainable refrigeration and air conditioning products/services for human comfort and industrial processes.

Currently, JRAIA understands that the Minnesota Pollution Control Agency is accepting comments from those seeking CUU (Currently Unavoidable Use) Rule determinations. As a significant downstream user of fluoropolymers and F-gases (HFCs/HFOs) in refrigeration, air conditioning, and heat pumps, JRAIA extends its gratitude for the opportunity to make such comments. We would like to inform you that we would like to submit its proposal with the associated comments to support our rationale.

We support MPCA's efforts to protect human health and the environment through effective PFAS management. At the same time, air conditioning, heat pump, and water heating equipment are essential to maintaining safe and comfortable indoor environments, supporting the continued operation of critical facilities such as hospitals and schools, and ensuring public safety during extreme weather events.

Because these societal functions are indispensable, CUU program design should ensure—without undermining the program's objectives—that product availability and the continuity of servicing can be maintained through a practical and implementable framework.

In summary, we respectfully submit the following **recommendations** to support the effectiveness of the CUU program while preserving reliable access to essential products and safe servicing. As program details continue to be developed, we also respectfully request opportunities for **dialogue and exchange of views**, not only with our association but together with relevant stakeholders, including industry associations, suppliers, and distribution and service organizations.

1. Consider a product-category-based CUU approach and convene stakeholder dialogue to support implementable program design (Recommendation)

Air conditioning, heat pump, and water heating products consist of numerous components supplied through multi-tier supply chains. Certain PFAS uses within these products are **not specific to individual manufacturers**, but rather stem from **industry-wide technical and safety requirements**.

Implementing CUU determinations and information requests at an overly granular, component-by-component level could result in duplicative submissions for shared technical challenges, significantly increasing administrative burden and potentially creating unintended impacts on product availability and service continuity.

In light of these considerations, we believe MPCA can enhance implementability without undermining program objectives by **using product categories—or consolidated submissions for similar products—as a core implementation approach**.

To ensure an appropriate balance between effectiveness and feasibility, we respectfully encourage MPCA to **convene opportunities for dialogue with a broad range of stakeholders**, including relevant industry associations, suppliers, distribution and service organizations, and other affected parties.

As noted above, with respect to PFAS uses that are necessary to maintain product quality in order to meet **technical and safety requirements that are common across air conditioning equipment**, we strongly request that CUU determinations be granted **on a product-category basis**.

If a product-category-based determination is not permitted, we respectfully request that the CUU framework be structured such that **a CUU approved through an application submitted by a specific company or industry association applies to all entities using the same use within that product category**.

2. Define “alternative” and “reasonably available” to reflect durability, safety compliance, and scalable feasibility over the intended service life (Recommendation)

Air conditioning, heat pump, and water heating equipment is typically long-lived, with expected service lives of approximately 15 to 25 years. Material and component selection is therefore constrained by durability, compatibility with refrigerants and lubricants, reliability under temperature, pressure, and corrosive conditions, electrical insulation requirements, and compliance with applicable safety standards and building codes.

Accordingly, determinations of “alternatives” should not be limited to short-term material substitution, but should explicitly consider **functional equivalence over the intended service life, compliance with applicable standards and codes, and feasibility of supply at commercial scale**.

In addition, we recommend that MPCA clarify evaluation principles that take into account redesign and recertification impacts. **Cost should not be considered in isolation**, and determinations should reflect a balanced assessment of safety, reliability, energy performance, and supply stability, as part of an overall feasibility evaluation.

3. Consider streamlining CUU procedures and aligning duration and renewal timelines with product development and certification cycles (Recommendation)

Product redesign, mandatory testing, and third-party certification require significant time. If CUU determinations involve fixed durations or renewals, MPCA should consider reasonable timelines aligned with product development and certification cycles, transparent processes, and mechanisms to reduce duplicative filings—such as category-based structuring or consolidated submissions.

4. Consider exempting service and replacement parts necessary to maintain installed equipment (Request)

Continued availability of service and replacement parts is essential for the safe operation of installed equipment and for consumer protection and public health. Many air conditioning, refrigeration, and water heating products are designed such that PFAS-containing components are **internal, enclosed, or otherwise not directly accessible during normal use**, resulting in limited potential for consumer or environmental exposure. Moreover, servicing and replacement activities are typically performed by **qualified professionals**, and handling and disposal are managed within existing regulatory frameworks.

Subjecting service and replacement parts to the same CUU procedures and reporting requirements as new products could impose burdens that are disproportionate to potential risk reduction benefits, delay servicing, increase the likelihood of premature equipment retirement, and contribute to waste and additional costs. In addition, service parts are often design-locked to installed equipment, making rapid substitution technically impractical.

For these reasons, we respectfully request that MPCA **exempt service and replacement parts required to maintain and repair installed equipment from CUU requirements**, or, at a minimum, establish a clear and workable treatment functionally equivalent to an exemption.

5. Consider coordinating refrigerant-related CUU considerations with existing federal frameworks (SNAP / AIM) (Recommendation)

Refrigerant transitions are already guided by federal frameworks, including EPA's Significant New Alternatives Policy (SNAP) program and the HFC phasedown under the American Innovation and Manufacturing (AIM) Act. These frameworks influence equipment design, safety compliance, and certification timelines. CUU implementation that duplicates or conflicts with these federal programs could increase administrative burden and affect the orderly transition and availability of compliant products.

We therefore encourage MPCA to consider CUU implementation approaches that are consistent with existing federal frameworks, avoid duplicative requirements, and adopt reasonable streamlining where appropriate.

In closing, we appreciate the opportunity to provide these comments and would welcome continued engagement. We respectfully encourage MPCA to pursue an approach that both reduces PFAS risks and ensures the continued availability and safe operation of essential air conditioning, heat pump, and water heating products. We remain available to provide additional information or participate in further dialogue as needed.

Contact Information

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About JRAIA

The Japan Refrigeration and Air Conditioning Industry Association (JRAIA) was originally established in February 1949 as the Japan Refrigerating Machine Manufacturers Association which was thereafter reorganized in February 1969 to become an incorporated association and renamed as it is at present.

JRAIA is the industry association representing over 170 manufacturers of refrigeration and air conditioning equipment in Japan. We, the members of JRAIA, have so far been dedicated to offering quality products to the global markets including the U.S. JRAIA aims to promote and improve production, distribution and consumption of refrigeration and air conditioning equipment and their applied products, as well as auxiliary devices and components, automatic controls and accessories and thereby contribute to the steady development of Japanese industry and the improvement in people's standard of living.

For more information, please see JRAIA's website: www.jraia.or.jp

Email: jraia-global@jraia.or.jp