

March 27, 2026

VIA ELECTRONIC SUBMISSION

Minnesota Pollution Control Agency

Re: Draft Rule Concept Summary for PFAS in products: Currently unavoidable use (CUU) rule

The Truck and Engine Manufacturers Association (EMA) hereby submits comments on the February 26, 2026, Draft Rule Concept Summary for PFAS in products: Currently unavoidable use (CUU) rule (The draft rule concept).

Introduction

EMA represents worldwide manufacturers of internal combustion engines and on-highway medium and heavy-duty vehicles (greater than 10,000 pounds gross vehicle weight rating). EMA member companies design and manufacture internal combustion engines that are used in a wide variety of applications, including: trucks and buses (including school buses); farm, construction, and industrial equipment; marine vessels; locomotives; lawn, garden and utility equipment, and electric generators and other stationary applications. PFAS is widely used in a variety of applications to provide products with strength, durability, stability, and resilience. It is also known to be used for its flame retardant properties.

Engines, vehicles and equipment support every aspect of life as we know it, including the functioning of hospitals, data centers, power plants, public transport (including student transportation), emergency and military equipment, food production, infrastructure development and transportation and delivery of goods (including food and medicine), just to name the most obvious. PFAS is present at the component level, in extremely small quantities, (often de minimus levels), to ensure the functionality and safety of these products. Consequently, EMA's members are significantly and directly impacted by the proposed rules. EMA's members will be seeking CUU determinations for engines, vehicles and equipment. If CUU determinations are delayed or denied, there will be significant disruptions to commercial, public and ecosystem services upon which society relies.

EMA also submitted comments on November 21, 2023, on the Minnesota Pollution Control Agency (MPCA) PFAS in Products Reporting Rule and on February 28, 2024, on the planned new rules for the MPCA determination of Currently Unavoidable Uses of PFAS in products and May 25th, 2025, on the Proposed New Rules Governing Reporting and Fees by Manufacturers Upon Submission of Required Information about Products Containing Per-and

polyfluoroalkyl substances (PFAS), Revisor's ID Number R-4828).

The MPCA feedback period questions are included below (*italicized*) with EMA responses:

5. 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 prior to answering)

6. 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 prior to answering)

Alternatives must be demonstrated to provide functionally equivalent performance in the specific use case, not merely in theory or under limited laboratory conditions. In addition, the term “functionally equivalent” is not defined. This term must include consideration of the durability, performance and safety of products. A PFAS alternative is not acceptable if it has not been demonstrated to maintain equivalent performance, functionality, safety and integrity of the product, in the specific use conditions.

7. 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 prior to answering)

Identifying and validating PFAS alternatives requires significant research, design, tooling changes, and system-level validation, especially for safety-critical applications. Alternatives that may exist in limited or experimental settings, may not be available at production scale, or may require multi-year qualification cycles to meet durability and safety expectations.

The identification and validation of PFAS alternatives is a long-term effort, with no guarantee of success for all PFAS-containing components in complex durable goods. Reasonably available must also consider factors including scalability, supply chain readiness, cost feasibility and validation timelines. The alternative must be validated for use in the same or comparable application, perform equivalently in real-world operating conditions for the intended service life and meet all applicable regulatory and safety requirements. The alternative must be available at sufficient scale to reliably support production and long-term service. Technical feasibility cannot be the sole determining factor of “reasonably available”.

The assessment of alternatives is a potentially open-ended requirement to demonstrate the unsuitability of potential options. It is unclear what evidence will be accepted to meet the requirements. Engineering assessments, supplier declarations and existing validation data should be acceptable. Detailed testing and field validation data at the component or part level to prove unsuitability of possible “alternatives” is impractical. There is a reason that PFAS is widely used in a variety of applications to provide products with strength, durability, stability, and resilience. Options are limited or non-existent and the choice is not driven by cost.

8. 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.”)

The approach for identifying product categories should be flexible and include broad categories. Engine manufacturers should be able to request a CUU determination for an engine category. Complete vehicle manufacturers should be able to request a CUU determination for a vehicle category that includes an engine. Products that have the same basic form and function and include PFAS to provide the same basic property function (for example, flame retardant, durability, etc.) should not be unnecessarily subdivided for the purposes of CUU determinations. It is unclear if MPCA plans to create a defined product category list for the purposes of CUU determinations. There should be a path for manufacturers to identify and define a product category based on their product offerings. Manufacturers will be able to identify categories that align with the use of PFAS in their product offerings.

Component level CUU determinations would be impossibly burdensome for engine, vehicle and equipment manufacturers to manage and would result in duplicative submissions of CUU determination requests with a corresponding mountain of duplicative data for review by MPCA. There is no added benefit to the collection of data at this level and the review process will inevitably be negatively impacted. An engine assessed at the component level could generate hundreds of CUU determination requests. A heavy-duty vehicle assessed at the component level could generate thousands of CUU determination requests. Dividing by vehicle type or end-use (agriculture, transportation, construction, etc.) could introduce a multiplier in the magnitude of hundreds. It is impossible to overstate the magnitude of the administrative burden associated with a component level approach. The burden for manufacturers and MPCA would be staggering.

Similarly, assessments of alternatives should apply to broad product categories. Alternatives assessments cannot reasonably be completed at the component level for complex durable products like engines, vehicles and equipment with potentially hundreds of PFAS-containing components. Heavy duty vehicles and engines are built through complex, multi-tier global supply chains, involving hundreds of suppliers and components with varying levels of data availability. Data often resides with suppliers who may be unable or unwilling to share detailed information.

9. 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 determination requests that include multiple categories. Depending upon how product categories are identified, multiple product categories may contain the same or similar PFAS-containing parts or components, where the PFAS use, functional requirements and technical justifications are the same or similar.

Furthermore, CUU determinations should also include parts and components for those products, that may be subsequently sold as service parts. Service parts designed to the original specification must be available for PFAS containing products, even if a subsequent design of the

product does not contain PFAS. Service parts and components cannot be redesigned to meet new requirements and must be available for long-lasting products like engines and vehicles that are designed for long service lives, like heavy-duty vehicles and engines that may remain in service for decades.

Component level requests for CUU determinations should not be required. Complex durable products like engines, and vehicles often contain thousands of components. Product level CUU determinations, and system or subsystem level determinations must be permitted.

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

Heavy-duty engines and vehicles utilize materials that are critical for durability, long-term reliability and safety performance. Engines and vehicles are designed to maintain safety and operational characteristics in real-world operating conditions including extreme temperatures, load cycles, and long service life. Many materials have been validated over years of engineering development, laboratory testing, and field performance. Although PFAS may not be specifically identified by a safety standard, these substances are necessary to meet operational requirements, including safety standards like FMVSS Standard 302, related to the flammability of interior materials in motor vehicles. See 49 CFR 571.302. Alternatives that do not compromise performance and/or safety have not been identified.

11. 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?*

CUU determinations should be valid for a minimum of 10 years. The identification, development, implementation and testing of alternatives for some complex durable products may require up to 10 years. The rule also includes a 5 year timeline for renewals for new products. Complex durable products like engines, vehicles and equipment are subject to comprehensive and onerous certification, testing and durability requirements. Additionally, there is a high level of customization with heavy-duty vehicles and equipment, with a variety of options and therefore differing components. Given the nature of the use of PFAS in complex durable products like vehicles, engines and equipment and the quantity of parts and components that are impacted by the PFAS bans, there will be significant work involved in identifying potential alternatives for existing products, if any exist at all.

Identifying and validating PFAS alternatives requires significant research, design, possible tooling changes, and system-level validation, especially for safety-critical applications. Alternatives that may exist or be anticipated in experimental settings and/or limited applications, may not be available at production scale, or may require multi-year qualification cycles to meet durability and safety expectations.

Feasibility studies for non-PFAS alternatives would include material screening, laboratory testing, prototype development, durability and performance evaluation, supplier engagement, and preliminary system-level impact analysis. For safety and emissions critical components, feasibility studies must evaluate long-term durability and regulatory compliance must be assessed under extreme operating conditions.

Complex durable products like heavy-duty engines and vehicles are composed of multiple complex systems. Systems include the vehicle platform, the engine, the transmission, the axle, aftertreatment and electronics. Critical systems or components of those systems often remain in production and service unchanged through iterations of a product design cycle. Component level changes and validation would typically occur less frequently than the CUU durations under consideration.

Furthermore, manufacturers cannot investigate multiple alternatives simultaneously and unsuccessful efforts to identify potential alternatives will consume time and resources. It is unrealistic to propose a timeline on the basis of an assumption that the first alternative identified for investigation will result in a successful option for substitution. If a potential alternative proves to be inadequate, the process of identification, validation testing, certification, begins anew and that might only occur after years of investment into the failed alternative.

Moreover, if the burden of reporting, or the burden of seeking a CUU determination, or the combined burden, is too excessive, manufacturers will act accordingly. The burden of each rule rests on the same entity and must be considered together to fairly assess the potential impacts of each part of the process.

Engines, vehicles and equipment support every aspect of life as we know it, including the functioning of hospitals, data centers, power plants, public transport (including student transportation), emergency and military equipment, food production, infrastructure development and transportation and delivery of goods (including food and medicine). PFAS is present at the component level, in extremely small quantities, (often de minimus levels), to ensure the functionality and safety of these products. If CUU determinations are delayed or denied, products will be prevented from being sold or distributed in Minnesota, including trucks and engines that meet EPA's new heavy-duty low NOx regulation, which provide significantly reduced emissions and ambient air quality benefits. Product availability will be impacted and there will be significant disruptions to commercial, public and ecosystem services upon which society relies.

12. The MPCA has developed a preliminary list of potentially eligible data categories that may be considered for trade secret requests. (Please review the list of potentially eligible data prior to answering)

- 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?*

13. 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)

14. 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.

- Not applicable
- Less than 40 hours
- 40 to 100 hours
- 101 to 500 hours
- More than 500 hours
- Other (please specify)

15. 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.

- Not applicable
- Less than 40 hours
- 40 to 100 hours
- 101 to 500 hours
- More than 500 hours
- Other (please specify)

The estimated effort for a single product line is more than 500 hours based on the reality of complex, multi-level supply chains for complex durable products containing hundreds to thousands of parts with an unpredictable response level from suppliers in control of required data.

16. 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).

17. 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?*

18. 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.*

See Question 11 above.

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

20. 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).

EMA is concerned that delayed CUU determinations or denials will result in supply disruptions with critical impacts. MPCA should note that only Minnesota requires manufacturers to demonstrate the validity of the use of PFAS in heavy-duty vehicles and engines, including the requirement to seek a CUU determination that includes an assessment of PFAS alternatives. Currently, to our knowledge there is no other jurisdiction in the world that has implemented PFAS substance bans and reporting requirements without concluding that exemptions are necessary for certain product categories including engines, motor vehicles, and motor vehicle equipment, among others.

Heavy-duty vehicles and engines may remain in service for decades and at end of life they are largely recycled, such that PFAS is much less likely to end up in a landfill or in the environment than PFAS in limited-use, frequently disposed, consumer products. The life cycle and PFAS exposure risk related to these complex durable products is not comparable to the risk associated with PFAS containing, limited life, consumer products, that are destined for landfills in significant quantities.

These products are among the most complex products subject to the requirements, with long production lead times, complex multi-layered supply chains, limited ability to rapidly redesign or substitute materials. They are subject to advanced safety and durability requirements, and they play a vital role supporting commercial, public and ecosystem services upon which society relies. PFAS is present at the component level, in extremely small quantities, (often de minimis levels), to ensure the functionality and safety of these products. The potential impacts to society resulting from supply disruptions to these products are significant compared to the relative risk of de minimis PFAS presence in components with minimal impact on overall PFAS exposure risk.

We urge MPCA to consider including an exemption or permanent CUU determination for engines (including for stationary applications), motor vehicles and motor vehicle equipment, including buses. If other jurisdictions follow Minnesota's lead and require CUU determinations for engines, motor vehicles and motor vehicle equipment, MPCA should recognize CUU determinations from other states.

The CUU process allows for a public comment period. MPCA should be capable of evaluating the submissions without opening the CUU application process to comment. The comment period invites abuse by non-experts and parties with a vested interest in promoting unproven options. It will also exacerbate confidentiality concerns and impact the willingness of suppliers to disclose information. The information required to support a CUU request will almost certainly contain confidential technical information and the protection of that information will significantly limit the value of commentary from individuals whose access to such information, must be limited.

The public comment period will also delay consideration of the primary CUU request by introducing an additional layer of unrestricted and unspecified information. Submissions for CUU determinations must be "certified" to be accurate and complete. There is no discussion of limits or requirements on the content of public comments. In any event, MPCA staff will need to review and evaluate public comments. Evaluation of a CUU request is, and should remain, an MPCA staff function. The CUU process should not include an invitation and opportunity to engage in public debate over the validity of PFAS use in a product, with the potential to derail and delay a legitimate CUU request submitted by a manufacturer meeting the extensive and burdensome information requirements that MPCA has outlined.

As described, the process is more than 90 days from submission of CUU request to a final determination. The timeline for the CUU process will likely land closer to 100 to 120 days, since the 90 days does not provide time for MPCA to conduct the completeness review, or the time from the end of the applicant rebuttal period to the final MPCA determination. In fact, the outline contains no timelines for the MPCA portions of the review. MPCA will be dealing with thousands of CUU requests. It seems reasonable to anticipate that delays in processing CUU requests will occur. This is a very extended timeline for a determination that decides the lawfulness of sale of a product in the state.

We appreciate the opportunity to provide these comments. Please do not hesitate to contact Dawn Friest at (519) 999-4480 (or at dfriest@emamail.org) if you have any questions.

Respectfully submitted,

TRUCK & ENGINE
MANUFACTURERS ASSOCIATION