Dan Mustico

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 Outdoor Power Equipment Institute, Inc.

OPEI is an international trade association representing more than 100 manufacturers and their
suppliers of gas and electric-/battery-powered outdoor power equipment ("OPE"), golf cars, and personal
transport and utility vehicles. OPEI member products are ubiquitous in U.S. households and businesses,
including equipment such as lawnmowers, garden tractors, grass trimmers, chain saws, snow throwers,
generators, utility vehicles and other similarly powered lawn and garden and vehicle applications. The
industry currently contributes approximately $16 billion to U.S. GDP, domestically ships nearly 35 million
products each year, and estimates as many 250 million legacy products in service across the U.S. OPEI
members currently distribute their products across all 50 states, through a diversity of retail outlets
including independent dealers who are authorized to sell and service their equipment through a contractual
arrangement.

If you represent a product manufacturer or industry group, what industry(ies) do you represent?
OPEI represents manufacturers that make the following products:
• Power applications. Power applications include non-road gasoline and diesel-powered engines, electric motors,
batteries, battery packs, and recharge equipment;
• Non-road mobile machinery. Non-road mobile machinery includes any mobile machine, item of transportable industrial equipment, or vehicle with or without bodywork or wheels which: 1) is not intended for carrying passengers or goods on the road, 2) includes machinery installed on the chassis;
• Consumer and commercial lawn & garden equipment and outdoor power equipment. The category includes for example, lawnmowers, garden tractors, trimmers, edgers, chain saws, snow throwers, tillers, leaf blowers, cut-off machines, drills, pressure washers;
• Utility terrain vehicles / all-terrain vehicles / side-by-sides;
• Golf carts, and;
• Attachments and implements associated with the above equipment. Attachments and implements associated with the equipment above include for example,
mower decks, snow throwers, and sprayers.

Some of these products have gasoline-powered engines while others are powered by battery, AC
(electric), diesel, propane and other sources. For many of these products there are hundreds if not
thousands of different models which contain hundreds and thousands of individual components. They are
ubiquitous to both households and businesses alike as essential products. These products are sold through
a diverse retail network that includes "big-box" home improvement stores, hardware stores, contracted
dealers, and e-commerce. These comments refer interchangeably to all such member products as non-road equipment (NPE)

and/or OPE.
Generally, OPEI members manufacture complex durable goods with tens of thousands of
spare/service parts and components. Non-road equipment meets the definition for complex durable goods
established by EPA and the California Department of Toxic Substances Control (DTSC). The EPA defines
complex durable goods as goods that are composed of 100 or more manufactured parts, intended to last
at least 5 years, and not intended for single-use or rapid disposal. 15 U.C.S. § 2605(c)(2)(D)(ii). The California
Department of Toxic Substances Control (DTSC) defines complex durable products or goods as those that
are assembled from 100 or more manufactured components; have a useful life of five or more years; and
are not consumed, destroyed, or discarded after a single use. 22 C.C.R. §69503.5(d). We encourage MPCA
to adopt this definition for complex durable goods in the CUU regulation.
The hundreds, or thousands, of components that are compiled to form finished articles or non-road
mobile machinery share common supply chains, in both substance and complexity, with the heavy non-road equipment and automotive sectors. However, unlike those sectors, OPEI members include some
small-to-medium size businesses with limited resources to address the alternatives analysis process
embedded in the CUU application process and included in these regulations.
OPEI members design and manufacture a diverse range of assembled whole-good and component
products which must comply with safety and performance requirements and perform in diverse operating
environments. OPEI members also rely on extensive supply chains which in some cases can be 20 layers
deep and include suppliers manufacturing both domestically and abroad. OPE products can also have
10,000 or more unique parts per product, many of which may rely on PFAS to provide critical functions and
characteristics.

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? OPEI requests that MPCA clarify the federal preemption exemption included in Minn. Stat. § 116.943

OPEI recommends that MPCA clarify in the CUU regulation that products, such as OPE, which must comply with federal safety and performance laws qualify for the exemption included in Minn. Stat. § 116.943 which expressly exempts “a product for which federal law governs the presence of PFAS in the product in a manner that preempts state authority.”
OPEI understands this language to mean that where PFAS enables a product to comply with federal safety, performance, and other requirements, these products are exempt from Minn. Stat. § 116.943. While some federal safety and performance laws applicable to OPE do not always specifically require the use of PFAS in a product, the PFAS enables these products to meet such laws and regulations. This is demonstrated by the fact that any chemical change in a component requires the component, and the complex durable good that contains the component, to undergo new safety and performance testing to verify these requirements are still met following the change in materials.
 An example of these requirements includes regulation of evaporative emissions for OPE products powered by fuel. These products are required to comply with EPA evaporative emission requirements for engines of various kinds and their polyethylene fuel tanks regulated under 40 C.F.R. Chapter 1, Subchapter U, Air Pollution Controls; requirements for control of emissions from new nonroad spark-ignition engines and

equipment included in 40 C.F.R. Part 1054; and control of evaporative emissions from new and in-use nonroad and stationary equipment under 40 C.F.R. Part 1060. Polyethylene fuel tanks used in conjunction with those engines are subject to these standards. While these regulations do not specify the use of PFAS, it is its use that enables OPE products to comply with these regulations. Additional examples of products that must comply with federal laws are included in the list of products in HF 4257 for exemption from the statute. We support this list with one slight modification. Specifically, we recommend the list included in HF 4257, be modified to include “non-road mobile machinery” in the exemption for motor vehicle or motor vehicle equipment as outlined below:
“(5) a motor vehicle or motor vehicle equipment regulated under a federal motor vehicle
safety standard, as defined in United States Code, title 49, section 30102(a)(10), and any
other motor vehicle, including an off-highway vehicle or a specialty motor vehicle, such as
an all-terrain vehicle, a side-by-side vehicle, farm equipment, non-road mobile machinery or a personal assistive mobility device.”
We ask MPCA to confirm our interpretation that, where PFAS is necessary to enable compliance with federal safety and performance laws, the product is exempt from Minn. Stat. § 116.943.

We recommend that MPCA determine by rule that the products listed in HF 4257 are CUUs

We recommend that MPCA exercise its statutory authority provided in Minn. Stat. § 116.943, Subd. 5(c) to determine by rule, without the need for CUU applications, that the products listed in HF 4257 are currently unavoidable uses of PFAS.
Subd. 5(d) of Amara’s Law which states:
(d) Beginning January 1, 2032, a person may not sell, offer for sale, or distribute for sale in this state any product that contains intentionally added PFAS, unless the commissioner has determined by rule that the use of PFAS in the product is a currently unavoidable use. The commissioner may specify specific products or product categories for which the commissioner has determined the use of PFAS is a currently unavoidable use. The commissioner may not determine that the use of PFAS in a product is a currently unavoidable use if the product is listed in paragraph (a).
The term “currently unavoidable use” is defined in Subd. 1(j) as:
(j) "Currently unavoidable use" means a use of PFAS that the commissioner has determined by rule under this section to be essential for health, safety, or the functioning of society and for which alternatives are not reasonably available.
The language included in this definition establishes a two-part test for positive CUU determination. A product must: (1) qualify as essential and (2) MPCA must conclude that a non-PFAS alternative is not reasonably available. In addition, Minn. Stat. § 116.943 Subd. 8(a)(1) expressly exempts “a product for which federal law governs the presence of PFAS in the product in a manner that preempts state authority” from all of the requirements of Section 116.943. This would mean that no CUU determination is required for these products.
OPE are essential to a healthy, safe and functioning society. These products maintain the built and natural environments that enable a healthy, safe and functioning society in all conditions, including extreme conditions, and include the following essential sectors:
Lawn and Garden:
Lawn mowers and other wheeled (ground-supported) turf care equipment, handheld products (e.g., trimmers, blowers) and other various forms of outdoor power equipment are essential for safe and healthy managed landscapes, whether it be the backyard or public spaces (e.g., parks, sports fields, commercial properties).
Also included in this broader residential sector, essential for health and safety, are generators for home power in the cases of undue outages, including

natural disasters, and pressure washers for general home cleaning and maintenance.
Construction:
The construction sector involves building, repairing, and maintaining infrastructure, including housing, commercial real estate, and public infrastructure. Common OPE uses in these sectors, essential to commercial work, are generators, cut-off saws, and utility vehicles.
Agriculture:
The agricultural sector includes the cultivating of crops and the raising of livestock. Virtually all products manufactured by OPE members can be essential to commercial and residential farm operations, but examples include lawnmowers and turf care equipment, forestry and tree care OPE including chain saws, log splitters, and chipper shredders, utility vehicles, and generators.
Forestry/Tree Care:
The forestry and tree care sector includes commercial and residential applications, to manage forests and woodlands, and the backyard. Common OPE utilized in this sector includes chain saws, pole saws, log splitters, chipper shredders, generators, and utility vehicles.
Utility/Public Safety:
The utility sector includes the maintenance of public infrastructure, both in urban and rural settings, including operations for electric power, natural gas, water supply, and sewage among others. OPE utilized in this sector can include lawnmowers and other various forms of OPE for landscape management in public spaces and on public roadways, and various other maintenance, repair, safety related tasks. Also included here are public safety entities and emergency responders who rely on OPE.
Further, some OPE products can expect prolonged service lives exceeding 10 years, which increases the need for robust design considerations. To meet these requirements, OPE components rely in many cases on PFAS when they are the only known materials with the technical characteristics to provide the necessary safety functions while withstanding, particularly over extended lifetimes, the following types of physical impacts.
• Pressure up to 500 bar.
• Temperatures as high as 1500°F and cyclical temperatures of -70 to +450°F.
• A high degree of mechanical wear and shear forces.
• Electrical and flammability resistance.
• Vibration up to 45.0mm/s causing alternating stress between joint components.
• Chemical resistance to substances such as fuel, hydraulic fluid, coolant with additives like 2-ethyl hexanoic acid, and carboxylic acids, exhaust gas fumes (highly acidic) and engine oil (highly alkaline).
• Long-term durability (10 years or more) against factors such as ultra-violet (UV) light, mechanical damage, dusty, humid, we t, muddy, damp environments, and exposure to salt spray.
• Lightweight composition to ensure the energy consumption required to operate certain systems is minimized.
• Operation in hazardous or explosive environments.
Due to the safety and operational requirements demanded of OPE, the supply change challenges associated with these complex durable goods, the hundreds if not thousands of components these products contain, the long product design lifecycles, and the need to validate compliance with federal laws for material changes, alternatives are not “reasonably available.”
In addition to meeting operational requirements, these products must comply with federal safety and performance laws and standards. If it is not legally possible to use an alternative due to the inability to comply with another federal law or requirement within the timeframes provided under MN law, the alternative is not “reasonably available,” technically feasible, or capable of implementation. We urge MPCA to recognize its authority to specify by rule that the use of PFAS in components of OPE qualify as CUUs by rule, without the need to submit a CUU application for each individual component.

OPEI supports a broad product category approach

for CUUs
We prefer that MPCA clarify federal preemption and determine by rule that the products listed in HF 4247 qualify as a CUU. If MPCA does not take these actions, we recommend MPCA recognize the challenges for conducting the embedded alternatives assessment in the CUU application process for complex products like OPE products and provide flexibility to submit CUU applications at a broad product level. This approach is needed to avoid overwhelming OPE products and MPCA with a voluminous number of CUU applications for individual products that contain hundreds of components.
Product categories could include those listed in HF 4247, with a slight modification to include non-road mobile machinery, or broad product categories like those listed below for OPE products:
• Power applications
a. Power applications include non-road gasoline and diesel-powered engines, electric motors, batteries, battery packs, and recharge equipment;
• Non-road mobile machinery.
a. Non-road mobile machinery includes any mobile machine, item of transportable industrial equipment, or vehicle with or without bodywork or wheels which: 1) is not intended for carrying passengers or goods on the road, 2) includes machinery installed on the chassis;
• Consumer and commercial lawn & garden equipment and outdoor power equipment
a. The category includes for example, lawnmowers, garden tractors, trimmers, edgers, chain saws, snow throwers, tillers, leaf blowers, cut-off machines, drills, pressure washers;
• Utility terrain vehicles / all-terrain vehicles / side-by-sides;
• Golf carts, and;
• Attachments and implements associated with the above equipment
a. Attachments and implements associated with the equipment above include for example, mower decks, snow throwers, and sprayers.
These OPE products contain hundreds of components. Some of these components may contain PFAS to provide safety and performance characteristics such as high temperature durability, low friction properties, resistance to sticking, resistance to corrosion, resistance to fuel, water repellency, electrical contact stability, waterproofing, binding characteristics, and evaporative emission protections. Common components that may contain PFAS include:
Seals: OPE uses fluids to ensure the equipment performs its intended functions. Fluid applications include hydraulic fluid, oil, fuel, refrigerants, coolant, among others. Sealing technology, such as O-rings and gaskets, prevents fluid leaks and ensures water, dirt, dust, and debris stays out of the equipment.
Hoses: Similar to seals, hoses are required and critical to the transmission of fluids from one location to another. Many hoses in the OPE industry use fluoropolymers to safeguard the durability of the machine by protecting its components from various internal pressure, temperature, and chemical stressors.
Fluorinated fuel tanks: Provide a chemical resistance and low permeation barrier that allow federal (EPA) emission standards to be met. PFAS has been found to be an unintentional impurity in these products.
Paints: These coatings protect OPE from natural, chemical, weather, or water erosion and damage. Paint coatings help extend the useful life, and maintenance requirements, for many forms of OPE. Many paint suppliers use PFAS in their paints to improve the flow, spread, and glossiness of the coating, as well as to decrease bubbling and peeling. They are also used in specialty paints to give stain-resistant, and water-repellent properties.
Refrigerants/Coolants: Temperature management is a crucial product design requirement in the OPE industry. Regulating and controlling engine and product temperatures ensures proper operation for peak performance within the temperature limits of the materials used.
Hydraulic Fluid: Hydraulic fluid enables the transfer of power from the engine to end-use hydraulic systems in some forms

of OPE. Hydraulic fluid is also heavily used within our manufacturing facilities and is a critical element for functionality in building OPE.
Exterior Finishes and Materials: UV protection is critical for parts and components such as dashboards, handlebar grips, fenders, seat covers, etc. PFAS acts in a way with these pieces, so that it protects from extended outdoor use and UV exposure by not severely degrading the exterior piece(s) by drying and/or cracking the piece(s) beyond normal wear and tear or safe functionality.
Electrical: Protective coatings on electrical wires and within electrical systems insulate and protect key electronic functionalities for all OPE. PFAS is regularly found within these protective coatings.
Batteries: Batteries utilize chemical binders to hold the internal active materials together to maintain a strong contact between the electrodes and the current collectors. Battery manufacturers use Polyvinylidene Fluoride (PVDF) as a binder in lithium-ion batteries due to its electrochemical and thermal stability, as well as its acceptable binding properties for the cathode. Additionally, certain fluorinated compounds are also used to coat the anodes to prevent unwanted reactions with the electrolyte. Due to their long lasting and chemical stable properties, the fluorinated compounds help extend the useful life of the battery.

Again, requiring an alternatives assessment for each individual component for each individual product creates an unworkable approach for complex products like OPE. Should MPCA require this approach, we strongly recommend MPCA acknowledge the limitations of such approach on complex products and limit the number of alternatives assessments, and associated CUU applications for components in these products to no more than ten in a three-year period. This relief is consistent with the approach California takes for complex durable products under the Safer Consumer Products Regulations and would be required to provide a workable approach at the component level. Additionally, we ask MPCA to specifically include a provision in the rule to recognize CUU determinations by other states. For example, a manufacturer could obtain a CUU determination in Maine before the 24-month deadline begins for applying in Minnesota.

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)*

OPEI recommends that MPCA revise the definition to include consideration of products that not only provide but also help to maintain a healthy, safe, and functioning society.
Proposed revisions to this definition are underlined below:
"Essential for health, safety, or the functioning of society" means a use of a PFAS in a product or component when the function provided by the PFAS is, at the time of a determination by the commissioner, necessary for the product, component, or spare or replacement component to perform as intended, such that the unavailability of the PFAS for use in the product would cause the product’s service to be unavailable, which would result in:
A. A significant increase in negative health outcomes;
B. An inability to mitigate significant risks to human health or the environment; or,
C. A significant disruption of commercial, public, or ecosystem services on which society relies, including:
(1) Provision and maintenance of food, water, shelter, health, hygiene, or bare necessities for human survival;

(2) Provision and maintenance of transportation and utilities such as gas, electricity, data, communications, and sewer;
(3) Provision and maintenance of personal, occupational, or public safety particularly for extreme conditions of use; and,
(4) Other services not covered under subitems (1) through (3) that serve the basic needs of human beings.

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)*
OPEI recommends that MPCA include consideration of functional equivalency and regrettable substitutions in the definition of alternative. MPCA has proposed a definition for "alternative" to mean a non-PFAS chemical substance, material, manufacturing process change, non-chemical change, or other product that, if used in place of PFAS or PFAS-containing product, would result in a functionally equivalent product."
To be "reasonably available" alternatives, they must be "functionally equivalent," meaning the alternative is equivalent in form, fit, and function to the chemical it is replacing in a product. Both the California Safer Consumer Products Regulations and the Safer Products for Washington Program include consideration of technical feasibility when evaluating "safer alternatives." The California Safer Consumer Products Regulations define a technically feasible alternative as one that "the technical knowledge, equipment, materials, and other resources available in the marketplace are expected to be sufficient to develop and implement an alternative product or replacement chemical." Further under the Safer Products for Washington Program an alternative is "technically feasible" if it meets the same functional and performance requirements as the chemical it is replacing and is (1) already used for the application, (2) marketed for the application, or (3) identified as feasible by an authoritative body.
Defining functional equivalency either separately or as part of the definition of an "alternative" is essential to ensure products that contain an "alternative" can continue to comply with federal and state law; voluntary industry standards such as those developed by ISO, ANSI, SAE, and UL; and corporate compliance and product requirements. We encourage alignment of the requirement that alternatives be functionally equivalent with the definition of "reasonably available" which specifies that alternatives "can perform comparably." These definitions should align to the functionally equivalent standard for purposes of determining whether an "alternative" is "reasonably available."
Additionally, the definition of an "alternative" should seek to avoid use of regrettable substitutions. As the California DTSC has recognized, "when hazardous chemicals are banned or voluntarily removed from the market, they may be replaced with chemicals that are similar but less well studied. Sometimes these replacement chemicals turn out to be similarly harmful to human health or the environment, a situation known as regrettable substitution." Including consideration of regrettable substitutions in the evaluation of an "alternative" as part of the CUU process is essential to ensure that the replacement of PFAS or other chemicals of concern does not inadvertently result in the adoption of alternatives that pose equal or greater risks to human health or the environment. This concept is notably missing from the proposed CUU application proposal.

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*)
We recommend MPCA revise the definition of “reasonably available” to clarify that “reasonably available” alternatives are ones that have identical functionality to the PFAS they are replacing, and include consideration of economic feasibility and commercial availability. MPCA has proposed a definition for “reasonably available” to mean “that one or more alternatives to a PFAS can perform comparably to the PFAS being considered for replacement in a product or component and is currently available in sufficient quantity. PFAS alternatives that are in use in equivalent products or components are considered “reasonably available.” Conditions of current reasonable availability may change over time as a result of new research or innovation.”

OPEI recommends MPCS include a requirement that “reasonably available” alternatives be functionally equivalent to the PFAS they are replacing.
A CUU requires a finding that alternatives are not reasonably available. OPEI strongly disagrees with MPCA’s proposal to define the term “reasonably available” as an alternative that “can perform comparably”, while the proposed definition of “alternative” specifies that the alternative must result in a “functionally equivalent” (i.e., the same rather than a comparably performing) product. These definitions should align to the functionally equivalent standard for purposes of determining whether an alternative is “reasonably available.” Moreover, the proposed definition of “reasonably available” seems to be a further description of an alternative that speaks to sufficient quantities and use in equivalent products. More frequently, the definition of reasonably available in environment laws addresses three areas. The alternative must be: (1) technically feasible in form, fit and function, (2) economically reasonable, and (3) capable of implementation within an allotted timeframe. This proposed definition is devoid of all three considerations, and it should be re-examined for this reason.

OPEI recommends that MPCA include consideration of economic feasibility in the definition of “reasonably available.”
Both California and Washington, two states with robust green chemistry regulations that seek to identify “safer” alternatives, include consideration of the economic feasibility when determining whether safer alternatives are “reasonably available.” We urge MPCA to learn from these programs and include economic feasibility as a requirement for identifying an “alternative.” In the Final Statement of Reasons for California’s Safer Consumer Products Regulations (SCPR), the California Department of Toxic Substances Control (DTSC) notes that:
“The term “economically feasible” is used in Articles 3, 5, and 6. This criterion includes the economic viability of the alternative that would allow the product to be profitable for the manufacturer. The responsible entity must consider the effect on the operating margin of the manufacturer. This factor reflects marketplace realities and business realities in determining whether there is an economically viable alternative to a Priority Product. Thus, this term is necessary to make clear that one of the considerations during the AA is whether the use of an alternative will significantly reduce the operating margin of a manufacturer. The purpose of this program is not to put companies out of business, but to ensure a fair and reasonable search for safer alternatives that may actually be used.”
OPEI recommends that “reasonably available” alternatives should have equivalent performance to the PFAS they are replacing, be available in sufficient quantities, and at a cost that does not put companies

out of business. A framework that disregards economic feasibility risks compelling the use of “alternatives” that may exist on paper but are not cost-effective in practice, leading to product discontinuations, supply-chain disruption, reduced availability of essential goods, and significant price increases for consumers. Including economic feasibility in CUU determinations will help ensure a fair and workable evaluation of safer substitutes while preserving the flow of commerce and the continued provision of critical products and services.
Washington’s Toxic Pollution Law does not define “feasible” or “available,” but the Washington Department of Ecology (DOE) does—providing a second useful benchmark for what it means, in practice, for an alternative to be capable of replacing a chemical of concern. Under DOE’s framework, an alternative is “feasible” if it meets the same functional and performance requirements as the chemical it is replacing and is (1) already used for the application, (2) marketed for the application, or (3) identified as feasible by an authoritative body. “Available” means the alternative is currently used for the application or offered for sale at a comparable price—recognizing that a substitute that exists but is not obtainable at a similar price point is not “available.” Under the California Safer Consumer Products Regulations “technically feasible” means that the “technical knowledge, equipment, materials, and other resources available in the marketplace are expected to be sufficient to develop and implement an alternative product or replacement chemical.” An “economically feasible” alternative product or replacement chemical is one that does not significantly reduce the manufacturer’s operating margin.
By not considering economic factors when reviewing chemical alternatives, the current CUU framework creates supply chain, product availability, and cost challenges for manufacturers, consumers, and the MPCA. A more balanced approach, based on proven alternatives assessment programs, is needed.

OPEI recommends that “reasonably available” alternatives must be commercially available.
To qualify as “reasonably available,” an alternative must be commercially available at a scale that can reliably support the specific product and use case—meaning sufficient quantity, consistent quality, predictable lead times, and a stable supply chain over the relevant product lifecycle. Where an alternative exists but cannot be sourced in the volumes needed (or cannot be sourced consistently across suppliers or regions), it is not “reasonably available” in practice. A CUU framework that does not account for these real-world commercial constraints risks product discontinuation, delayed launches, or market withdrawal rather than accelerating the adoption of safer substitutes that can actually be implemented. Again, we urge MPCA to include consideration of functional equivalence, economic feasibility, and commercial availability in the definition of “reasonably available” alternatives.

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.")*

OPEI asks MPCA to use its authority to determine by rule that PFAS used in OPE components qualifies as a CUU. If MPCA does not do so, we ask MPCA to consider the following OPE product categories for purposes of CUU applications.
• Power applications including non-road gasoline and diesel-powered engines, electric motors, batteries, battery packs, and recharge equipment;
• Non-road mobile machinery. Non-road mobile machinery includes any mobile machine, item of transportable industrial equipment, or vehicle with or without bodywork or wheels which: 1) is not intended for carrying passengers or goods on the road, 2) includes machinery installed on the chassis;
• Consumer and commercial lawn & garden equipment and outdoor power equipment (e.g., lawnmowers, garden tractors, trimmers, edgers, chain saws, snow throwers, tillers, leaf blowers, cut-off machines, drills, pressure washers);
• Utility terrain vehicles / all-terrain vehicles / side-by-sides;
• Golf cars, and;
• Attachments and implements associated with the above equipment (i.e., mower decks, snow throwers, sprayers).

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?
We recommend allowing applicants to submit a single CUU application that covers multiple product categories to improve administrative efficiency. If MPCA permits multi-category submissions, however, MPCA should evaluate and issue a separate CUU determination for each product category included in the submission. In other words, CUU determinations should be severable by category: if MPCA denies a CUU for one category, that denial should not affect a positive CUU determination for any other category (or use) in the same submission.

What safety or other standards require the use of PFAS in a product? *(Please include the specific citation)*
Fuel for outdoor power equipment is usually gasoline, sometimes diesel or other fuels. These fuels are volatile, so that they will evaporate and create emissions unless they remain contained. EPA has recognized that these fuels may permeate through polyethylene fuel tanks, resulting in evaporative emissions, unless prevented from doing so through protective barriers.

EPA has adopted a series of standards to prevent evaporative emissions from engines of various kinds and their polyethylene fuel tanks. 40 C.F.R. Chapter 1, Subchapter U, Air Pollution Controls. Non-electric outdoor power equipment is mostly powered by spark-ignition engines. The standards in Subchapter U include requirements for control of emissions from new nonroad spark-ignition engines and equipment, 40 C.F.R. Part 1054, and control of evaporative emissions from new and in-use nonroad and stationary equipment, 40 C.F.R. Part 1060. Polyethylene fuel tanks used in conjunction with those engines are subject to those standards.
In adopting those standards in 2008, EPA stated that they “will substantially reduce emissions from these engines.” It went on to explain: “We estimate that by 2030, this rule will result in significantly reduced pollutant emissions from regulated engine and equipment sources,

including estimated annual nationwide reductions of 604,000 tons of volatile organic hydrocarbon emissions, 132,200 tons of NOX emissions, and 5,500 tons of directly-emitted particulate matter (PM2.5) emissions. These reductions correspond to significant reductions in the formation of ground-level ozone. We also expect to see annual reductions of 1,461,000 tons of carbon monoxide emissions, with the greatest reductions in areas where there have been problems with individual exposures. The requirements in this rule will substantially benefit public health and welfare and the environment. We estimate that by 2030, on an annual basis, these emission reductions will prevent 230 PM-related premature deaths, between 77 and 350 ozone-related premature deaths, approximately 1,700 hospitalizations and emergency room visits, 23,000 work days lost, 180,000 lost school days, 590,000 acute respiratory symptoms, and other quantifiable benefits every year."

To reduce or eliminate those emissions, EPA has long recommended fluorination of polyethylene fuel tanks. In 2002, EPA stated: "A specific example of technology that could be used to meet the fuel tank permeations would be surface barrier treatments such as sulfonation or fluorination. With these surface treatments, more than a 95-percent reduction in permeation emissions from new fuel tanks is feasible." In 2008, EPA stated specifically with respect to polyethylene fuel tanks for nonroad spark-ignition engines: "Regardless of the molding process, another type of low-permeation technology for HDPE fuel tanks will be to treat the surfaces with a barrier layer. Two ways of achieving this are known as fluorination and sulfonation. The fluorination process causes a chemical reaction where exposed hydrogen atoms are replaced by larger fluorine atoms, which creates a barrier on the surface of the fuel tank. In this process, batches of fuel tanks are generally processed post-production by stacking them in a steel container. The container is then voided of air and flooded with fluorine gas. By pulling a vacuum in the container, the fluorine gas is forced into every crevice in the fuel tanks. Fluorinating with this process treats both the inside and outside surfaces of the fuel tank, thereby improving the reliability and durability of the permeation-resistance."

Under TSCA section 6(c)(2)(A)(iii), before promulgating a section 6(a) rule, EPA must consider "the benefits of the chemical substance or mixture for various uses." The unintentional formation of very small amounts of LCPFACs, such as PFOA, PFNA, and PFDA, in the fluorination process does not create any direct benefits. As to downstream customers, who did not manufacture them, they are impurities, substances that are "unintentionally present with another chemical substance." However, their unintended creation leads directly to substantial indirect benefits by allowing the cost-effective creation of excellent barriers to fuel permeation through polyethylene fuel tanks, including those used in most non-electric outdoor power equipment.

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?

The proposed MPCA CUU process would require simultaneous assessments for alternatives for many components of OPEs, which is extremely challenging for complex durable products that may be required to generate multiple CUU applications for each PFAS containing component. Further, the proposed CUU application process envisions the need to conduct an AA assessment every five years for novel products and every eight years for existing products. This continuous process does not account for product design cycles that exceed these timeframes. We recommend MPCA draw on experience from the California Safer Consumer Products Regulations and the Safer Products for Washington Programs, recognize the relief these programs provide to complex products like OPE products, and allow for flexibility to provide broad product CUU requests or component specific CUU requests whichever is most appropriate.

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?

OPEI thanks MPCA for recognizing that trade secret information will require protection as part of the CUU determination process. For example, in the last five years the growth of new energy technologies and additional infrastructure has led to investments in existing products and their componentry in a highly evolving market innovation landscape to meet the growing electro-system needs. OPEI appreciates the clarity MPCA is providing to navigate CUU determinations by identifying information that qualifies as trade secret information under Minn. Stat. § 13.37. The potentially eligible data categories that the agency is seeking feedback on include:
• Chemical name;
• Chemical identifying number;
• Chemical concentration or formula;
• Reformulation or redesign of the product, technique, or production process that a manufacturer may need to implement an alternative;
• The physical description that would best identify a non-chemical alternative; and
• Specific supply chain information.
We agree with these trade secret designations. We seek flexibility for any data that is deemed not public by the commissioner for whether an applicant has to provide alternative information that will be designated as public data. In addition, OPEI asks MPCA to consider the need for trade secret protection with respect to one additional area, which is “extreme conditions of use”. This is a factor that is likely to be highly relevant and commercially sensitive to CUU determinations, given the environment in which key assets must operate to ensure safety and reliability.

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)*

OPE products have long lifespans that utilize substances approved under EPA's SNAP program and fluoropolymers which do not represent a significant risk to the environment or human health in their intended use. We support the comments filed by the CPMC on this topic and specifically recommend that MPCA make the following CUU determinations by rule with no associated time limitation to recognize the stability of these molecules:
• A product consisting of polymeric substances for which the backbone of the polymer is either a per- or polyfluorinated carbon-only backbone or a perfluorinated polyether backbone that is a solid at standard temperature and pressure.
• A product that contains intentionally added per- or poly-fluoroalkyl substances with uses that are currently listed as acceptable, acceptable subject to use conditions or acceptable subject to narrowed use limits in the United States Environmental Protection Agency's rules under the significant new alternatives policy program; provided that the product contains per- or poly-fluoroalkyl substances that are being used as substitutes for ozone-depleting substances under the conditions specified in the rules.
We also encourage Minnesota to consider broader economic impacts of banning the use of PFAS in products including lost jobs, sector losses particularly in the agricultural industry, and other societal impacts from the loss of essential products such as the ability to acquire new emergency vehicles, etc.

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.
More than 500 hours

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.
More than 500 hours

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).

Several OPEI members estimate it would take more than 500 technical staff hours to obtain, from Tier 2 and Tier 3 suppliers, CAS-number–level information on intentionally added PFAS for all components in a single product line when that information is not already available. It is difficult to put an exact number on the cost of requesting a determination and the staff hours to determinate the baseline but given the different categories of use this would be a significant undertaking involving several hundred hours of work if not more. The impact would also depend on the final form of the CUU arrangements put in place. We anticipate significant costs, both financial and time, would be incurred.

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.

While the exact design cycle may vary by OPE product, in general for complex durable goods, R&D and safety validation requires on average three to five years per design; this can extend to 10-20 years for a family of products. This estimate takes a typical customer validation cycle into account which includes a trial use. Depending on the specific product, the scope of the change/novelty of the product and subcomponents, trial use by customers can take between 1 and 5 years prior to engineering approval and the ability to start designing with and/or purchasing the new equipment.

This design cycle does not align with the 5-year renewal period. Complex durable goods timelines are much longer

than eight years, and renewal applications will need to be submitted well in advance of regulatory deadlines. Even seemingly straightforward chemical substitutions can take years to evaluate and can cost millions of dollars. Substituting a chemical or material often requires redesign to ensure the product still meets applicable regulations, safety requirements, and customer expectations. The level of complexity—and the time required—increases substantially when changes affect the interaction of hundreds or thousands of components. For example, once a potential non-PFAS alternative is identified and appears reasonably feasible, validating a new core component used in outdoor power equipment (e.g., a seal, hose, or wire coating) typically requires extensive design verification and qualification testing under applicable industry standards. That process can require a significant investment per design. If the same component is used across multiple models or platforms, the required testing and certification may need to be repeated for each unique design and operating profile. Where multiple materials or formulations are being evaluated, testing may be needed for each iteration depending on the material's function and the performance and safety requirements it supports. Even after a component is tested and certified to applicable standards, manufacturers must then scale production and supply chains to support market adoption—often requiring additional capital investment in tooling, processes, and manufacturing capacity.
EPA recognized the long development cycles for OPE products, and the additional time needed to identify, test, certify and adopt alternatives parts, components and finished products, as well as time to modify manufacturing processes to accommodate an alternative in the final risk management rule for PIP 3:1. The agency provided a 10-year phase-out for manufacturing and processing of PIP (3:1)-containing parts for use in new electronic equipment and an additional 15 years to phase out PIP 3:1 in replacement parts after the manufacturing ban goes into effect. We ask MPCA to recognize the technical barriers OPE products have and provide similar validation periods in the CUU regulations.

Please provide any additional information or documentation needed to support your answers to any of the questions posed.
Attached please find OPEI comments on the proposal.

Outdoor Power Equipment Institute

Transmitted electronically

March 29, 2026

The Honorable Katrina Kessler
Commissioner
Minnesota Pollution Control Agency (MPCA)
520 Lafayette Road North
St. Paul, MN 55155-4194

Re: OPEI comments on PFAS in products: Currently unavoidable use - Rulemaking

Dear Commissioner Kessler:

The Outdoor Power Equipment Institute (OPEI) thanks MPCA for the opportunity to provide comments and respond to MPCA's questions included in the Draft Rule Concept Summary for PFAS in products: Currently unavoidable use (CUU) rule. OPEI filed comments with MPCA in March 2024 responsive to some of these very same questions including OPEI concerns with this regulation. OPEI is also a member of the Complex Products Manufacturers Coalition (CPMC) and supports the comments filed by this Coalition in addition to our industry specific comments outlined below.

1. Who is commenting?

Representative of a product manufacturer(s).

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

The Outdoor Power Equipment Institute, Inc.

OPEI is an international trade association representing more than 100 manufacturers and their suppliers of gas and electric-/battery-powered outdoor power equipment ("OPE"), golf cars, and personal transport and utility vehicles. OPEI member products are ubiquitous in U.S. households and businesses, including equipment such as lawnmowers, garden tractors, grass trimmers, chain saws, snow throwers, generators, utility vehicles and other similarly powered lawn and garden and vehicle applications. The industry currently contributes approximately $16 billion to U.S. GDP, domestically ships nearly 35 million products each year, and estimates as many 250 million legacy products in service across the U.S. OPEI members currently distribute their products across all 50 states, through a diversity of retail outlets including independent dealers who are authorized to sell and service their equipment through a contractual arrangement.

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

OPEI represents manufacturers that make the following products:

- Power applications
    a. Power applications include non-road gasoline and diesel-powered engines, electric motors, batteries, battery packs, and recharge equipment;

- Non-road mobile machinery.
    a. Non-road mobile machinery includes any mobile machine, item of transportable industrial equipment, or vehicle with or without bodywork or wheels which: 1) is not intended for carrying passengers or goods on the road, 2) includes machinery installed on the chassis;
- Consumer and commercial lawn & garden equipment and outdoor power equipment
    a. The category includes for example, lawnmowers, garden tractors, trimmers, edgers, chain saws, snow throwers, tillers, leaf blowers, cut-off machines, drills, pressure washers;
- Utility terrain vehicles / all-terrain vehicles / side-by-sides;
- Golf carts, and;
- Attachments and implements associated with the above equipment
    a. Attachments and implements associated with the equipment above include for example, mower decks, snow throwers, and sprayers.

Some of these products have gasoline-powered engines while others are powered by battery, AC (electric), diesel, propane and other sources. For many of these products there are hundreds if not thousands of different models which contain hundreds and thousands of individual components. They are ubiquitous to both households and businesses alike as essential products. These products are sold through a diverse retail network that includes "big-box" home improvement stores, hardware stores, contracted dealers, and e-commerce. These comments refer interchangeably to all such member products as non-road equipment (NPE) and/or OPE.

Generally, OPEI members manufacture complex durable goods with tens of thousands of spare/service parts and components. Non-road equipment meets the definition for complex durable goods established by EPA and the California Department of Toxic Substances Control (DTSC). The EPA defines complex durable goods as goods that are composed of 100 or more manufactured parts, intended to last at least 5 years, and not intended for single-use or rapid disposal. 15 U.C.S. § 2605(c)(2)(D)(ii). The California Department of Toxic Substances Control (DTSC) defines complex durable products or goods as those that are assembled from 100 or more manufactured components; have a useful life of five or more years; and are not consumed, destroyed, or discarded after a single use. 22 C.C.R. §69503.5(d). We encourage MPCA to adopt this definition for complex durable goods in the CUU regulation.

The hundreds, or thousands, of components that are compiled to form finished articles or non-road mobile machinery share common supply chains, in both substance and complexity, with the heavy non-road equipment and automotive sectors. However, unlike those sectors, OPEI members include some small-to-medium size businesses with limited resources to address the alternatives analysis process embedded in the CUU application process and included in these regulations.

OPEI members design and manufacture a diverse range of assembled whole-good and component products which must comply with safety and performance requirements and perform in diverse operating environments. OPEI members also rely on extensive supply chains which in some cases can be 20 layers deep and include suppliers manufacturing both domestically and abroad. OPE products can also have 10,000 or more unique parts per product, many of which may rely on PFAS to provide critical functions and characteristics.

4. 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?

OPEI requests that MPCA clarify the federal preemption exemption included in Minn. Stat. § 116.943

OPEI recommends that MPCA clarify in the CUU regulation that products, such as OPE, which must comply with federal safety and performance laws qualify for the exemption included in Minn. Stat. § 116.943 which expressly exempts "a product for which federal law governs the presence of PFAS in the product in a manner that preempts state authority."

OPEI understands this language to mean that where PFAS enables a product to comply with federal safety, performance, and other requirements, these products are exempt from Minn. Stat. § 116.943. While some federal safety and performance laws applicable to OPE do not always specifically require the use of PFAS in a product, the PFAS enables these products to meet such laws and regulations. This is demonstrated by the fact that any chemical change in a component requires the component, and the complex durable good that contains the component, to undergo new safety and performance testing to verify these requirements are still met following the change in materials.

An example of these requirements includes regulation of evaporative emissions for OPE products powered by fuel. These products are required to comply with EPA evaporative emission requirements for engines of various kinds and their polyethylene fuel tanks regulated under 40 C.F.R. Chapter 1, Subchapter U, Air Pollution Controls; requirements for control of emissions from new nonroad spark-ignition engines and equipment included in 40 C.F.R. Part 1054; and control of evaporative emissions from new and in-use nonroad and stationary equipment under 40 C.F.R. Part 1060. Polyethylene fuel tanks used in conjunction with those engines are subject to these standards. While these regulations do not specify the use of PFAS, it is its use that enables OPE products to comply with these regulations. Additional examples of products that must comply with federal laws are included in the list of products in HF 4257 for exemption from the statute. We support this list with one slight modification. Specifically, we recommend the list included in HF 4257, be modified to include "non-road mobile machinery" in the exemption for motor vehicle or motor vehicle equipment as outlined below:

> "(5) a motor vehicle or motor vehicle equipment regulated under a federal motor vehicle safety standard, as defined in United States Code, title 49, section 30102(a)(10), and any other motor vehicle, including an off-highway vehicle or a specialty motor vehicle, such as an all-terrain vehicle, a side-by-side vehicle, farm equipment, **non-road mobile machinery** or a personal assistive mobility device."

We ask MPCA to confirm our interpretation that, where PFAS is necessary to enable compliance with federal safety and performance laws, the product is exempt from Minn. Stat. § 116.943.

We recommend that MPCA determine by rule that the products listed in HF 4257 are CUUs

We recommend that MPCA exercise its statutory authority provided in Minn. Stat. § 116.943, Subd. 5(c) to determine by rule, without the need for CUU applications, that the products listed in HF 4257 are currently unavoidable uses of PFAS.

Subd. 5(d) of Amara's Law which states:

> (d) Beginning January 1, 2032, a person may not sell, offer for sale, or distribute for sale in this state any product that contains intentionally added PFAS, unless the commissioner has determined by

> rule that the use of PFAS in the product is a currently unavoidable use. The commissioner may specify specific products or product categories for which the commissioner has determined the use of PFAS is a currently unavoidable use. The commissioner may not determine that the use of PFAS in a product is a currently unavoidable use if the product is listed in paragraph (a).

The term "currently unavoidable use" is defined in Subd. 1(j) as:

> (j) "Currently unavoidable use" means a use of PFAS that the commissioner has determined by rule under this section to be essential for health, safety, or the functioning of society and for which alternatives are not reasonably available.

The language included in this definition establishes a two-part test for positive CUU determination. A product must: (1) qualify as essential and (2) MPCA must conclude that a non-PFAS alternative is not reasonably available. In addition, Minn. Stat. § 116.943 Subd. 8(a)(1) expressly exempts "a product for which federal law governs the presence of PFAS in the product in a manner that preempts state authority" from all of the requirements of Section 116.943. This would mean that no CUU determination is required for these products.

OPE are essential to a healthy, safe and functioning society. These products maintain the built and natural environments that enable a healthy, safe and functioning society in all conditions, including extreme conditions, and include the following essential sectors:

Lawn and Garden:

Lawn mowers and other wheeled (ground-supported) turf care equipment, handheld products (e.g., trimmers, blowers) and other various forms of outdoor power equipment are essential for safe and healthy managed landscapes, whether it be the backyard or public spaces (e.g., parks, sports fields, commercial properties).

Also included in this broader residential sector, essential for health and safety, are generators for home power in the cases of undue outages, including natural disasters, and pressure washers for general home cleaning and maintenance.

Construction:

The construction sector involves building, repairing, and maintaining infrastructure, including housing, commercial real estate, and public infrastructure. Common OPE uses in these sectors, essential to commercial work, are generators, cut-off saws, and utility vehicles.

Agriculture:

The agricultural sector includes the cultivating of crops and the raising of livestock. Virtually all products manufactured by OPE members can be essential to commercial and residential farm operations, but examples include lawnmowers and turf care equipment, forestry and tree care OPE including chain saws, log splitters, and chipper shredders, utility vehicles, and generators.

Forestry/Tree Care:

The forestry and tree care sector includes commercial and residential applications, to manage forests and woodlands, and the backyard. Common OPE utilized in this sector includes chain saws, pole saws, log splitters, chipper shredders, generators, and utility vehicles.

Utility/Public Safety:

The utility sector includes the maintenance of public infrastructure, both in urban and rural settings, including operations for electric power, natural gas, water supply, and sewage among others. OPE utilized in this sector can include lawnmowers and other various forms of OPE for landscape management in public spaces and on public roadways, and various other maintenance, repair, safety related tasks. Also included here are public safety entities and emergency responders who rely on OPE.

Further, some OPE products can expect prolonged service lives exceeding 10 years, which increases the need for robust design considerations. To meet these requirements, OPE components rely in many cases on PFAS when they are the only known materials with the technical characteristics to provide the necessary safety functions while withstanding, particularly over extended lifetimes, the following types of physical impacts.

- Pressure up to 500 bar.
- Temperatures as high as 1500°F and cyclical temperatures of -70 to +450°F.
- A high degree of mechanical wear and shear forces.
- Electrical and flammability resistance.
- Vibration up to 45.0mm/s causing alternating stress between joint components.
- Chemical resistance to substances such as fuel, hydraulic fluid, coolant with additives like 2-ethyl hexanoic acid, and carboxylic acids, exhaust gas fumes (highly acidic) and engine oil (highly alkaline).
- Long-term durability (10 years or more) against factors such as ultra-violet (UV) light, mechanical damage, dusty, humid, wet, muddy, damp environments, and exposure to salt spray.
- Lightweight composition to ensure the energy consumption required to operate certain systems is minimized.
- Operation in hazardous or explosive environments.

Due to the safety and operational requirements demanded of OPE, the supply change challenges associated with these complex durable goods, the hundreds if not thousands of components these products contain, the long product design lifecycles, and the need to validate compliance with federal laws for material changes, alternatives are not "reasonably available."

In addition to meeting operational requirements, these products must comply with federal safety and performance laws and standards. If it is not legally possible to use an alternative due to the inability to comply with another federal law or requirement within the timeframes provided under MN law, the alternative is not "reasonably available," technically feasible, or capable of implementation. We urge MPCA to recognize its authority to specify by rule that the use of PFAS in components of OPE qualify as CUUs by rule, without the need to submit a CUU application for each individual component.

<u>OPEI supports a broad product category approach for CUUs</u>

We prefer that MPCA clarify federal preemption and determine by rule that the products listed in HF 4247 qualify as a CUU. If MPCA does not take these actions, we recommend MPCA recognize the challenges for conducting the embedded alternatives assessment in the CUU application process for complex products like OPE products and provide flexibility to submit CUU applications at a broad product level. This approach is needed to avoid overwhelming OPE products and MPCA with a voluminous number of CUU applications for individual products that contain hundreds of components.

Product categories could include those listed in HF 4247, with a slight modification to include non-road mobile machinery, or broad product categories like those listed below for OPE products:

- Power applications
    a. Power applications include non-road gasoline and diesel-powered engines, electric motors, batteries, battery packs, and recharge equipment;
- Non-road mobile machinery.
    a. Non-road mobile machinery includes any mobile machine, item of transportable industrial equipment, or vehicle with or without bodywork or wheels which: 1) is not intended for carrying passengers or goods on the road, 2) includes machinery installed on the chassis;
- Consumer and commercial lawn & garden equipment and outdoor power equipment
    a. The category includes for example, lawnmowers, garden tractors, trimmers, edgers, chain saws, snow throwers, tillers, leaf blowers, cut-off machines, drills, pressure washers;
- Utility terrain vehicles / all-terrain vehicles / side-by-sides;
- Golf carts, and;
- Attachments and implements associated with the above equipment
    a. Attachments and implements associated with the equipment above include for example, mower decks, snow throwers, and sprayers.

These OPE products contain hundreds of components. Some of these components may contain PFAS to provide safety and performance characteristics such as high temperature durability, low friction properties, resistance to sticking, resistance to corrosion, resistance to fuel, water repellency, electrical contact stability, waterproofing, binding characteristics, and evaporative emission protections. Common components that may contain PFAS include:

Seals: OPE uses fluids to ensure the equipment performs its intended functions. Fluid applications include hydraulic fluid, oil, fuel, refrigerants, coolant, among others. Sealing technology, such as O-rings and gaskets, prevents fluid leaks and ensures water, dirt, dust, and debris stays out of the equipment.

Hoses: Similar to seals, hoses are required and critical to the transmission of fluids from one location to another. Many hoses in the OPE industry use fluoropolymers to safeguard the durability of the machine by protecting its components from various internal pressure, temperature, and chemical stressors.

Fluorinated fuel tanks: Provide a chemical resistance and low permeation barrier that allow federal (EPA) emission standards[1] to be met. PFAS has been found to be an unintentional impurity in these products.

Paints: These coatings protect OPE from natural, chemical, weather, or water erosion and damage. Paint coatings help extend the useful life, and maintenance requirements, for many forms of OPE. Many paint suppliers use PFAS in their paints to improve the flow, spread, and glossiness of the

[1] 40 C.F.R Part 1060, Control of Evaporative Emissions from New and In-Use Nonroad and Stationary Equipment

coating, as well as to decrease bubbling and peeling. They are also used in specialty paints to give stain-resistant, and water-repellent properties.

Refrigerants/Coolants: Temperature management is a crucial product design requirement in the OPE industry. Regulating and controlling engine and product temperatures ensures proper operation for peak performance within the temperature limits of the materials used.

Hydraulic Fluid: Hydraulic fluid enables the transfer of power from the engine to end-use hydraulic systems in some forms of OPE. Hydraulic fluid is also heavily used within our manufacturing facilities and is a critical element for functionality in building OPE.

Exterior Finishes and Materials: UV protection is critical for parts and components such as dashboards, handlebar grips, fenders, seat covers, etc. PFAS acts in a way with these pieces, so that it protects from extended outdoor use and UV exposure by not severely degrading the exterior piece(s) by drying and/or cracking the piece(s) beyond normal wear and tear or safe functionality.

Electrical: Protective coatings on electrical wires and within electrical systems insulate and protect key electronic functionalities for all OPE. PFAS is regularly found within these protective coatings.

Batteries: Batteries utilize chemical binders to hold the internal active materials together to maintain a strong contact between the electrodes and the current collectors. Battery manufacturers use Polyvinylidene Fluoride (PVDF) as a binder in lithium-ion batteries due to its electrochemical and thermal stability, as well as its acceptable binding properties for the cathode. Additionally, certain fluorinated compounds are also used to coat the anodes to prevent unwanted reactions with the electrolyte. Due to their long lasting and chemical stable properties, the fluorinated compounds help extend the useful life of the battery.

Again, requiring an alternatives assessment for each individual component for each individual product creates an unworkable approach for complex products like OPE. Should MPCA require this approach, we strongly recommend MPCA acknowledge the limitations of such approach on complex products and limit the number of alternatives assessments, and associated CUU applications for components in these products to no more than ten in a three-year period. This relief is consistent with the approach California takes for complex durable products under the Safer Consumer Products Regulations and would be required to provide a workable approach at the component level. Additionally, we ask MPCA to specifically include a provision in the rule to recognize CUU determinations by other states. For example, a manufacturer could obtain a CUU determination in Maine before the 24-month deadline begins for applying in Minnesota.

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”?

OPEI recommends that MPCA revise the definition to include consideration of products that not only provide but also help to maintain a healthy, safe, and functioning society.

Proposed revisions to this definition are underlined below:

"Essential for health, safety, or the functioning of society" means a use of a PFAS in a product or component when the function provided by the PFAS is, at the time of a determination by the commissioner, necessary for the product, component, or spare or replacement component to perform as intended, such that the unavailability of the PFAS for use in the product would cause the product’s service to be unavailable, which would result in:

A. A significant increase in negative health outcomes;

B. An inability to mitigate significant risks to human health or the environment; or,

C. A significant disruption of commercial, public, or ecosystem services on which society relies, including:

(1) Provision **and maintenance** of food, water, shelter, health, hygiene, or bare necessities for human survival;

(2) Provision **and maintenance** of transportation and utilities such as gas, electricity, data, communications, and sewer;

(3) Provision **and maintenance** of personal, occupational, or public safety particularly for extreme conditions of use; and,

(4) Other services not covered under subitems (1) through (3) that serve the basic needs of human beings.

6. Do you have any recommended changes or other considerations that you think the MPCA should take into account when defining the term "alternative"?

OPEI recommends that MPCA include consideration of functional equivalency and regrettable substitutions in the definition of alternative. MPCA has proposed a definition for "alternative" to mean a non-PFAS chemical substance, material, manufacturing process change, non-chemical change, or other product that, if used in place of PFAS or PFAS-containing product, would result in a functionally equivalent product."

To be "reasonably available" alternatives, they must be "functionally equivalent," meaning the alternative is equivalent in form, fit, and function to the chemical it is replacing in a product. Both the California Safer Consumer Products Regulations and the Safer Products for Washington Program include consideration of technical feasibility when evaluating "safer alternatives." The California Safer Consumer Products Regulations define a technically feasible alternative as one that "the technical knowledge, equipment, materials, and other resources available in the marketplace are expected to be sufficient to develop and implement an alternative product or replacement chemical."[2] Further under the Safer Products for Washington Program an alternative is "technically feasible" if it meets the same functional and performance requirements as the chemical it is replacing and is (1) already used for the application, (2) marketed for the application, or (3) identified as feasible by an authoritative body.[3]

Defining functional equivalency either separately or as part of the definition of an "alternative" is essential to ensure products that contain an "alternative" can continue to comply with federal and state law; voluntary industry standards such as those developed by ISO, ANSI, SAE, and UL; and corporate compliance and product requirements. We encourage alignment of the requirement that alternatives be functionally equivalent with the definition of "reasonably available" which specifies that alternatives "can perform comparably." These definitions should align to the functionally equivalent standard for purposes of determining whether an "alternative" is "reasonably available."

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[2] 22 C.C.R. §69501.1(65).

[3] Washington Department of Ecology, Safer Products for Washington, Cycle 1 Implementation Phase 3, June 2022, pg. 301.

Additionally, the definition of an "alternative" should seek to avoid use of regrettable substitutions. As the California DTSC has recognized, "when hazardous chemicals are banned or voluntarily removed from the market, they may be replaced with chemicals that are similar but less well studied. Sometimes these replacement chemicals turn out to be similarly harmful to human health or the environment, a situation known as regrettable substitution."[4] Including consideration of regrettable substitutions in the evaluation of an "alternative" as part of the CUU process is essential to ensure that the replacement of PFAS or other chemicals of concern does not inadvertently result in the adoption of alternatives that pose equal or greater risks to human health or the environment. This concept is notably missing from the proposed CUU application proposal.

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"?

We recommend MPCA revise the definition of "reasonably available" to clarify that "reasonably available" alternatives are ones that have identical functionality to the PFAS they are replacing, and include consideration of economic feasibility and commercial availability. MPCA has proposed a definition for "reasonably available" to mean "that one or more alternatives to a PFAS can perform comparably to the PFAS being considered for replacement in a product or component and is currently available in sufficient quantity. PFAS alternatives that are in use in equivalent products or components are considered "reasonably available." Conditions of current reasonable availability may change over time as a result of new research or innovation."

<u>OPEI recommends MPCS include a requirement that "reasonably available" alternatives be functionally equivalent to the PFAS they are replacing.</u>

A CUU requires a finding that alternatives are not reasonably available. OPEI strongly disagrees with MPCA's proposal to define the term "reasonably available" as an alternative that "can perform comparably", while the proposed definition of "alternative" specifies that the alternative must result in a "functionally equivalent" (i.e., the same rather than a comparably performing) product. These definitions should align to the functionally equivalent standard for purposes of determining whether an alternative is "reasonably available." Moreover, the proposed definition of "reasonably available" seems to be a further description of an alternative that speaks to sufficient quantities and use in equivalent products. More frequently, the definition of reasonably available in environment laws addresses three areas. The alternative must be: (1) technically feasible in form, fit and function, (2) economically reasonable, and (3) capable of implementation within an allotted timeframe. This proposed definition is devoid of all three considerations, and it should be re-examined for this reason.

<u>OPEI recommends that MPCA include consideration of economic feasibility in the definition of "reasonably available."</u>

Both California and Washington, two states with robust green chemistry regulations that seek to identify "safer" alternatives, include consideration of the economic feasibility when determining whether safer alternatives are "reasonably available." We urge MPCA to learn from these programs and include economic feasibility as a requirement for identifying an "alternative." In the Final Statement of Reasons for California's Safer Consumer Products Regulations (SCPR), the California Department of Toxic Substances Control (DTSC) notes that:

[4] https://dtsc.ca.gov/scp/#:~:text=When%20hazardous%20chemicals%20are%20banned,as%20a%20%E2%80%9Cregrettable%20substitution.%E2%80%9D

> "The term "economically feasible" is used in Articles 3, 5, and 6. This criterion includes the economic viability of the alternative that would allow the product to be profitable for the manufacturer. The responsible entity must consider the effect on the operating margin of the manufacturer. This factor reflects marketplace realities and business realities in determining whether there is an economically viable alternative to a Priority Product. Thus, this term is necessary to make clear that one of the considerations during the AA is whether the use of an alternative will significantly reduce the operating margin of a manufacturer. The purpose of this program is not to put companies out of business, but to ensure a fair and reasonable search for safer alternatives that may actually be used."

OPEI recommends that "reasonably available" alternatives should have equivalent performance to the PFAS they are replacing, be available in sufficient quantities, and at a cost that does not put companies out of business. A framework that disregards economic feasibility risks compelling the use of "alternatives" that may exist on paper but are not cost-effective in practice, leading to product discontinuations, supply-chain disruption, reduced availability of essential goods, and significant price increases for consumers. Including economic feasibility in CUU determinations will help ensure a fair and workable evaluation of safer substitutes while preserving the flow of commerce and the continued provision of critical products and services.

Washington's Toxic Pollution Law does not define "feasible" or "available," but the Washington Department of Ecology (DOE) does—providing a second useful benchmark for what it means, in practice, for an alternative to be capable of replacing a chemical of concern. Under DOE's framework, an alternative is "feasible" if it meets the same functional and performance requirements as the chemical it is replacing and is (1) already used for the application, (2) marketed for the application, or (3) identified as feasible by an authoritative body. "Available" means the alternative is currently used for the application or offered for sale at a comparable price—recognizing that a substitute that exists but is not obtainable at a similar price point is not "available."[5] Under the California Safer Consumer Products Regulations "technically feasible" means that the "technical knowledge, equipment, materials, and other resources available in the marketplace are expected to be sufficient to develop and implement an alternative product or replacement chemical."[6] An "economically feasible" alternative product or replacement chemical is one that does not significantly reduce the manufacturer's operating margin.[7]

By not considering economic factors when reviewing chemical alternatives, the current CUU framework creates supply chain, product availability, and cost challenges for manufacturers, consumers, and the MPCA. A more balanced approach, based on proven alternatives assessment programs, is needed.

<u>OPEI recommends that "reasonably available" alternatives must be commercially available.</u>

To qualify as "reasonably available," an alternative must be commercially available at a scale that can reliably support the specific product and use case—meaning sufficient quantity, consistent quality, predictable lead times, and a stable supply chain over the relevant product lifecycle. Where an alternative exists but cannot be sourced in the volumes needed (or cannot be sourced consistently across suppliers or regions), it is not "reasonably available" in practice. A CUU framework that does not account for these real-world commercial constraints risks product discontinuation, delayed launches, or market withdrawal rather

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5 Washington Department of Ecology, Safer Products for Washington, Cycle 1 Implementation Phase 3, June 2022, pg. 300-301.

6 22 C.C.R. §69501.1(65).

7 Final Statement of Reasons, Safer Consumer Products, Department Reference Number: R-2011-02 Office of Administrative Law Notice File Number: Z-2012-0717-04, Page 67.

than accelerating the adoption of safer substitutes that can actually be implemented. Again, we urge MPCA to include consideration of functional equivalence, economic feasibility, and commercial availability in the definition of "reasonably available" alternatives.

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.")

OPEI asks MPCA to use its authority to determine by rule that PFAS used in OPE components qualifies as a CUU. If MPCA does not do so, we ask MPCA to consider the following OPE product categories for purposes of CUU applications.

- Power applications including non-road gasoline and diesel-powered engines, electric motors, batteries, battery packs, and recharge equipment;
- Non-road mobile machinery.
    a. Non-road mobile machinery includes any mobile machine, item of transportable industrial equipment, or vehicle with or without bodywork or wheels which: 1) is not intended for carrying passengers or goods on the road, 2) includes machinery installed on the chassis;
- Consumer and commercial lawn & garden equipment and outdoor power equipment (e.g., lawnmowers, garden tractors, trimmers, edgers, chain saws, snow throwers, tillers, leaf blowers, cut-off machines, drills, pressure washers);
- Utility terrain vehicles / all-terrain vehicles / side-by-sides;
- Golf cars, and;
- Attachments and implements associated with the above equipment (i.e., mower decks, snow throwers, sprayers).

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?

We recommend allowing applicants to submit a single CUU application that covers multiple product categories to improve administrative efficiency. If MPCA permits multi-category submissions, however, MPCA should evaluate and issue a separate CUU determination for each product category included in the submission. In other words, CUU determinations should be severable by category: if MPCA denies a CUU for one category, that denial should not affect a positive CUU determination for any other category (or use) in the same submission.

10. What safety or other standards require the use of PFAS in a product?

For OPE products, below are examples of safety and other standards that apply to our products:

- **OPE products must comply with all federal safety and performance standards; voluntary industry safety and performance standards such as those created under ISO, ANSI, SAE, IECE, UL for example, and company specific performance requirements. The CUU regulations should not effectively roll back safety and performance criteria and requirements, where they are not required by law, but are required to meet product safety, performance and liability requirements.**

- **EPA evaporative emissions requirements for engines of various kinds and their polyethylene fuel tanks.**

Fuel for outdoor power equipment is usually gasoline, sometimes diesel or other fuels. These fuels are volatile, so that they will evaporate and create emissions unless they remain contained. EPA has recognized that these fuels may permeate through polyethylene fuel tanks, resulting in evaporative emissions, unless prevented from doing so through protective barriers.[8]

EPA has adopted a series of standards to prevent evaporative emissions from engines of various kinds and their polyethylene fuel tanks. 40 C.F.R. Chapter 1, Subchapter U, Air Pollution Controls. Non-electric outdoor power equipment is mostly powered by spark-ignition engines. The standards in Subchapter U include requirements for control of emissions from new nonroad spark-ignition engines and equipment, 40 C.F.R. Part 1054, and control of evaporative emissions from new and in-use nonroad and stationary equipment, 40 C.F.R. Part 1060. Polyethylene fuel tanks used in conjunction with those engines are subject to those standards.

In adopting those standards in 2008, EPA stated that they "will substantially reduce emissions from these engines." It went on to explain: "We estimate that by 2030, this rule will result in significantly reduced pollutant emissions from regulated engine and equipment sources, including estimated annual nationwide reductions of 604,000 tons of volatile organic hydrocarbon emissions, 132,200 tons of NO_X emissions, and 5,500 tons of directly-emitted particulate matter ($PM_{2.5}$) emissions. These reductions correspond to significant reductions in the formation of ground-level ozone. We also expect to see annual reductions of 1,461,000 tons of carbon monoxide emissions, with the greatest reductions in areas where there have been problems with individual exposures. The requirements in this rule will substantially benefit public health and welfare and the environment. We estimate that by 2030, on an annual basis, these emission reductions will prevent 230 PM-related premature deaths, between 77 and 350 ozone-related premature deaths, approximately 1,700 hospitalizations and emergency room visits, 23,000 work days lost, 180,000 lost school days, 590,000 acute respiratory symptoms, and other quantifiable benefits every year."[9]

To reduce or eliminate those emissions, EPA has long recommended fluorination of polyethylene fuel tanks. In 2002, EPA stated: "A specific example of technology that could be used to meet the fuel tank permeations would be surface barrier treatments such as sulfonation or fluorination. With these surface treatments, more than a 95-percent reduction in permeation emissions from new fuel tanks is feasible."[10] In 2008, EPA stated specifically with respect to polyethylene fuel tanks for nonroad spark-ignition engines: "Regardless of the molding process, another type of low-permeation technology for HDPE fuel tanks will be to treat the surfaces with a barrier layer. Two ways of achieving this are known as fluorination and sulfonation. The fluorination process causes a chemical reaction where exposed hydrogen atoms are replaced by larger fluorine atoms, which creates a barrier on the surface of the fuel tank. In this process, batches of fuel tanks are generally processed post-production by stacking them in a steel container. The container is then voided of air and flooded with fluorine gas. By pulling a vacuum in the container, the

[8] See, e.g., Control of Air Pollution; Emission Standards for New Gasoline Spark-ignition and Diesel Compression-ignition Marine Engines, 59 Fed. Reg. 55930, 55947 (Nov. 9, 1994) ("Fuel permeation is another issue related to evaporative emissions. Gasoline is known to permeate through plastic and rubber components to the atmosphere at surprisingly high rates.").

[9] EPA, Control of Emissions From Nonroad Spark-Ignition Engines and Equipment, 73 Fed. Reg. 59034 (Oct. 9, 2008).

[10] EPA, Control of Emissions From Nonroad Large Spark-Ignition Engines, and Recreational Engines (Marine and Land-Based), 67 Fed. Reg. 68242, 68289 (Nov. 8, 2002). To OPEI's knowledge, the sulfonation process referenced there is no longer available and has not been available for many years.

fluorine gas is forced into every crevice in the fuel tanks. Fluorinating with this process treats both the inside and outside surfaces of the fuel tank, thereby improving the reliability and durability of the permeation-resistance."[11]

Under TSCA section 6(c)(2)(A)(iii), before promulgating a section 6(a) rule, EPA must consider "the benefits of the chemical substance or mixture for various uses." The unintentional formation of very small amounts of LCPFACs, such as PFOA, PFNA, and PFDA, in the fluorination process does not create any direct benefits. As to downstream customers, who did not manufacture them, they are impurities, substances that are "unintentionally present with another chemical substance."[12] However, their unintended creation leads directly to substantial indirect benefits by allowing the cost-effective creation of excellent barriers to fuel permeation through polyethylene fuel tanks, including those used in most non-electric outdoor power equipment.

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.

The proposed MPCA CUU process would require simultaneous assessments for alternatives for many components of OPEs, which is extremely challenging for complex durable products that may be required to generate multiple CUU applications for each PFAS containing component. Further, the proposed CUU application process envisions the need to conduct an AA assessment every five years for novel products and every eight years for existing products. This continuous process does not account for product design cycles that exceed these timeframes. We recommend MPCA draw on experience from the California Safer Consumer Products Regulations and the Safer Products for Washington Programs, recognize the relief these programs provide to complex products like OPE products, and allow for flexibility to provide broad product CUU requests or component specific CUU requests whichever is most appropriate.

12. The MPCA has developed a preliminary list of potentially eligible data categories that may be considered for trade secret requests.

OPEI thanks MPCA for recognizing that trade secret information will require protection as part of the CUU determination process. For example, in the last five years the growth of new energy technologies and additional infrastructure has led to investments in existing products and their componentry in a highly evolving market innovation landscape to meet the growing electro-system needs. OPEI appreciates the clarity MPCA is providing to navigate CUU determinations by identifying information that qualifies as trade secret information under Minn. Stat. § 13.37. The potentially eligible data categories that the agency is seeking feedback on include:

- Chemical name;
- Chemical identifying number;
- Chemical concentration or formula;
- Reformulation or redesign of the product, technique, or production process that a manufacturer may need to implement an alternative;

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[11] EPA, Control of Emissions From Nonroad Spark-Ignition Engines and Equipment, 73 Fed. Reg. 59034, 59125 (Oct. 9, 2008).

[12] 40 C.F.R. § 720.3(m) (definition of "impurity").

- The physical description that would best identify a non-chemical alternative; and
- Specific supply chain information.

We agree with these trade secret designations. We seek flexibility for any data that is deemed not public by the commissioner for whether an applicant has to provide alternative information that will be designated as public data. In addition, OPEI asks MPCA to consider the need for trade secret protection with respect to one additional area, which is "extreme conditions of use". This is a factor that is likely to be highly relevant and commercially sensitive to CUU determinations, given the environment in which key assets must operate to ensure safety and reliability.

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)*

OPE products have long lifespans that utilize substances approved under EPA's SNAP program and fluoropolymers which do not represent a significant risk to the environment or human health in their intended use. We support the comments filed by the CPMC on this topic and specifically recommend that MPCA make the following CUU determinations by rule with no associated time limitation to recognize the stability of these molecules:

- A product consisting of polymeric substances for which the backbone of the polymer is either a per- or polyfluorinated carbon-only backbone or a perfluorinated polyether backbone that is a solid at standard temperature and pressure.
- A product that contains intentionally added per- or poly-fluoroalkyl substances with uses that are currently listed as acceptable, acceptable subject to use conditions or acceptable subject to narrowed use limits in the United States Environmental Protection Agency's rules under the significant new alternatives policy program; provided that the product contains per- or poly-fluoroalkyl substances that are being used as substitutes for ozone-depleting substances under the conditions specified in the rules.

We also encourage Minnesota to consider broader economic impacts of banning the use of PFAS in products including lost jobs, sector losses particularly in the agricultural industry, and other societal impacts from the loss of essential products such as the ability to acquire new emergency vehicles, etc.

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)**

Given the complexity of our supply chains and the fact that our products are composed of hundreds, or thousands, of components and products to form a multicomponent/multiproduct finished complex durable good, we expect this work to well exceed 500 hours.

15. **For manufacturers: Administrative cost of requesting a CUU determination (Part 2 of 2).** P**lease 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 <u>does not</u> 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)**

Several OPEI members estimate it would take more than 500 technical staff hours to obtain, from Tier 2 and Tier 3 suppliers, CAS-number–level information on intentionally added PFAS for all components in a single product line when that information is not already available. It is difficult to put an exact number on the cost of requesting a determination and the staff hours to determinate the baseline but given the different categories of use this would be a significant undertaking involving several hundred hours of work if not more. The impact would also depend on the final form of the CUU arrangements put in place. We anticipate significant costs, both financial and time, would be incurred.

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 (or indicate which category is the dominant cost driver).

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

Several OPEI members estimate it would take more than 500 technical staff hours to obtain, from Tier 2 and Tier 3 suppliers, CAS-number–level information on intentionally added PFAS for all components in a single product line when that information is not already available. It is difficult to put an exact number on the cost of requesting a determination and the staff hours to determinate the baseline but given the different categories of use this would be a significant undertaking involving several hundred hours of work if not more. The impact would also depend on the final form of the CUU arrangements put in place. We anticipate significant costs, both financial and time, would be incurred.

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

If you <u>have not</u> 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)?

While the exact design cycle may vary by OPE product, in general for complex durable goods, R&D and safety validation requires on average three to five years per design; this can extend to 10-20 years for a family of products. This estimate takes a typical customer validation cycle into account which includes a trial use. Depending on the specific product, the scope of the change/novelty of the product and subcomponents, trial use by customers can take between 1 and 5 years prior to engineering approval and the ability to start designing with and/or purchasing the new equipment.

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

No

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

Complex durable goods timelines are much longer than eight years, and renewal applications will need to be submitted well in advance of regulatory deadlines. Even seemingly straightforward chemical substitutions can take years to evaluate and can cost millions of dollars. Substituting a chemical or material often requires redesign to ensure the product still meets applicable regulations, safety requirements, and customer expectations. The level of complexity—and the time required—increases substantially when changes affect the interaction of hundreds or thousands of components. For example, once a potential non-PFAS alternative is identified and appears reasonably feasible, validating a new core component used in outdoor power equipment (e.g., a seal, hose, or wire coating) typically requires extensive design verification and qualification testing under applicable industry standards. That process can require a significant investment per design. If the same component is used across multiple models or platforms, the required testing and certification may need to be repeated for each unique design and operating profile. Where multiple materials or formulations are being evaluated, testing may be needed for each iteration depending on the material's function and the performance and safety requirements it supports. Even after a component is tested and certified to applicable standards, manufacturers must then scale production and supply chains to support market adoption—often requiring additional capital investment in tooling, processes, and manufacturing capacity.

EPA recognized the long development cycles for OPE products, and the additional time needed to identify, test, certify and adopt alternatives parts, components and finished products, as well as time to modify manufacturing processes to accommodate an alternative in the final risk management rule for PIP 3:1.[13] The agency provided a 10-year phase-out for manufacturing and processing of PIP (3:1)-containing parts for use in new electronic equipment and an additional 15 years to phase out PIP 3:1 in replacement parts after the manufacturing ban goes into effect. We ask MPCA to recognize the technical barriers OPE products have and provide similar validation periods in the CUU regulations.

[13] EPA-HQ-OPPT-2023-0376.

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

Again, we endorse the comments filed by CPMC and thank MPCA for careful review of these comments.

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).*

We thank MPCA for consideration of these comments. OPEI welcomes the opportunity for dialogue with MPCA about the concepts raised in these comments to advance a workable CUU program for complex durable products, including OPE products. I can be contacted as detailed below.

Best regards,

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