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February 20, 2024

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**Re: Comments on - *Implementation of the interim per-and
polyfluoroalkyl substances standard for municipal biosolids
imported or sold in Canada as fertilizers***

To whom it may concern:

The Water Environment Association of Ontario (WEAO) is an organization comprised of over 1,300 wastewater professionals and practitioners dedicated to the preservation of Ontario's water environment and protection of human health. More specifically WEAO membership includes representatives from municipal government, academia, supporting private and public enterprise, and non-profit entities. Our mission, as Ontario's water sector leader, is to connect members, the industry, and the public through education, training, and networking collectively ensuring a resilient water environment.

Purpose of this Document

This document, prepared by WEAO, is submitted to the Canadian Food Inspection Agency (CFIA) in response to the proposed implementation of an interim PFAS standard (as published December 22, 2023 and closing February 20, 2024). While we agree with the concept of developing a limit and agree that the interim 50 ppb limit is reasonable, based on other jurisdictions, we trust that prior to final regulations being released in the future, CFIA and ECCC will conduct more research, work with municipalities and focus efforts on source control and eliminating upstream discharges. We offer the following comments.

Throughout the history of the land application of biosolids to farmlands in Ontario, when regulatory procedures are followed, there have never been

any infectious diseases, illnesses, agricultural or environmental damage associated with this practice. WEAO is confident that by working with federal and provincial regulators, we can establish and monitor testing and land application procedures that reduce the introduction of and mitigate the risk associated with the proposed class of substances to farmlands.

While it is clear that PFOS, PFOA, and other PFAS compounds are captured in the wastewater system and therefore can be found in biosolids (at very low ppb levels), **what is not clear** is how PFAS compounds found within biosolids and applied to farms lands may or may not be taken up into any products grown on these lands. Nor is it clear what PFAS compounds may be present in farm soils at background levels before any biosolids have been applied since PFAS is ubiquitous across the environment (i.e. rainwater). There has been little to no research completed in these areas to answer these questions.

Preliminary testing conducted on Ontario soils by the University of Guelph and University of Toronto, which was limited in scope, found no significant difference between soils that had been amended with biosolids and those that had not. That is, the testing found no evidence that biosolid-amended soils are contributing materially to PFAS exposure than what is already present from atmospheric deposition (mostly through precipitation). This necessitates more research prior to setting any further regulations.

In addition, we offer the following considerations:

1. The rules must apply to all fertilizer and organic materials applied on land, not only to municipal biosolids

The draft report notes that:

“Due to their widespread use in products and industrial applications, their persistence and mobility, they can be found in our soil, air, water and in the waste stream including biosolids”. And further, “To mitigate the risks of contamination, the CFIA is proposing to implement and interim standard to address PFAS contamination in municipal biosolids.... The CFIA’s proposed action is part of a broader Govt. of Canada response intended to reduce human and environmental exposure to PFAS containing products from point of manufacture to their disposal (product life cycle approach)”. Further, “The current approach is applicable only to municipal biosolids and does not include products that contain or are made from biosolids inputs such as composts, anaerobic digestates, ash, pulp and paper sludges”.

Why has the CFIA decided to only focus on biosolids, when the Govt. of Canada has prioritized exposure from products from point of manufacture to their disposal? Why are the interim regulations not also focussed on other fertilizers and organic amendment materials that are used in larger volumes with wider distribution than biosolids? We recommend this limit be applied to all fertilizer products.

2. The limits should apply to all materials applied to land, and Federal and provincial regulations and limits must be co-ordinated

As the CFIA is acting from a broader Govt. of Canada basis, these rules and limits (50ppb) should not only apply to sewage biosolids that are sold or imported into Canada, but to all material applied to land under federal or provincial regulations and that may contain PFAS.

As the CFIA's product regulations are generally based on pathogen content and transfer, and metals, the same differentiation with fertilizing materials that are managed under provincial regulations need not apply for PFAS limits, as there is no known PFAS qualitative or quantitative difference whether the material is a product that is regulated under the Fertilizers Act or not (e.g. Class B biosolids equivalents across Canada).

The intent of CFIA to regulate the PFAS in sewage biosolids puts pressure on provincial jurisdictions to justify why similar standards are not being implemented simultaneously. Provincial regulations that may be developed with separate and different limits over time will cause much confusion amongst generators, applicators and the public (metal limits are different). Federal and provincial limits and rules must be coordinated. In fact, based on CFIA rules, there could unfortunately be much larger amounts of PFAS being added to soils since the nutrient application controls (e.g. annual loading rate restrictions) for NASM/Class B biosolids often do not apply to Fertilizer Products. It is important to note that NASM/Class B biosolids far exceed biosolid Fertilizer Products in volume and sources across Canada, so federal regulations actually apply to a much smaller segment of biosolids generated by municipalities.

The CFIA references the interim standards enacted by the Michigan Department of Environment, Great Lakes, and Energy (EGLE) as the basis for the proposed CFIA interim standard. Notably, Michigan EGLE regulates Class A (product quality equivalent) and Class B (NASM quality equivalent in Ontario) quality biosolids products with the same PFAS standards to effectively mitigate risk. Understanding regulatory nuances in Canada, we question why the CFIA is not taking a more coordinated approach to standards with Provincial regulatory agencies.

3. Prior to any future regulatory decisions, beyond the interim limits proposed, there is a need for further extensive testing and research.

While the interim limit of 50 ppb is acceptable in the immediate term, before establishing future regulations, there is a critical need for rigorous scientific testing of agriculture soils, ground water, watersheds, and the farm products grown from fields land-applied with and without biosolids (including uptake to the products and any further uptake and any bioaccumulation into livestock that use these products as feed). This research should focus on the complete cycle of the use of biosolids as fertilizer and soil enhancers, from land application to plant uptake, feed uptake, and the impacts, if any on the livestock and their products (meat, dairy, eggs, etc.).

We recommend that CFIA, ECCC and the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) collaborate with a credible academic institution such as the University of Guelph to scope, fund, and implement such a research initiative. Through the collaborative efforts of these groups, the start of the research could be in place in time for the 2024 growing season. In this way, both land applied and non land applied fields could be tested from background PFAS status, through fertilizer application, seeding, harvesting, and product consumption. The research program could be completed by 2026.

4. Focus on upstream generators who are discharging contaminants

The criteria for a substance to be declared toxic under section 64 of the Canadian Environmental Protection Act (1999) are that the substance “is entering or may enter the environment in a quantity or concentration or under conditions that,

- a) have or may have an immediate or long-term harmful effect on the environment or its biological diversity,
- b) constitute or may constitute a danger to the environment on which life depends; or
- c) constitute or may constitute a danger in Canada to human life or health.”

The draft ECCC report proposes that the PFAS class meets the criterion of (a). PFAS is not created in a wastewater treatment plant that only accepts what is discharged into the sanitary system. Environment Canada and CFIA therefore need to focus their efforts on source regulation to prevent discharges of PFAS into the municipal sanitary sewer system at the source, rather than imposing limits on concentrations of PFAS in the biosolids. There has been much conversation in the US at the Federal regulatory and legislative levels classifying water and wastewater agencies as ‘passive receivers’ of PFAS substances. Increasing focus on source control initiatives would align with this philosophy and effectively reduce PFAS production and distribution in the environment. ECCC should work with the Ministry of Environment, Conservation and Parks (MECP) to develop rules that would control PFAS discharges to sewers. Michigan has taken this policy approach for reducing PFAS discharges to sewers and has had great success, achieving PFOS reduction in the range of 85%-99% in effluent and biosolids.

5. Proposed Risk Management Approach and Laboratory Analysis

The interim report states, “A certificate of analysis will be required from a laboratory accredited for US EPA method 1633 for biosolids. This is an interim measure that will change as more validated methodologies become available and laboratories obtain accreditation”.

Due to the very limited number of laboratories that can currently do this work, the demand for this limited service will increase the cost of testing. Laboratories will have to deal with the huge influx of samples to be analyzed and timing for effective biosolids management will be affected. Furthermore, this will put additional strain on already depleted regulatory and municipal

resources. As new methodologies become validated, the laboratories will again have to gear up for changes. Additionally, the strict sampling protocols will have to change in the compliance verification process to prevent contamination, and standard operating procedures and training of staff will have to be adjusted each time a change is made. We recommend waiting for the appropriate sampling and analytical methodologies to be fully in place and validated, prior to creating permanent regulations or that a characterization (monitoring) phase be put in place for a 2 year period before issuing a PFAS limit.

6. Protecting the Canadian environment and climate change initiatives

Besides the economic benefit derived from the nutrient value of biosolids beneficial use in Canadian agriculture, a major advantage of land applying biosolids is contributing to Canada's climate change efforts in sequestering carbon through incorporation of such nutrients into the soil and preventing the release of greenhouse gases in the atmosphere. Beneficially utilizing biosolids on land also prevents the release of greenhouse gases by limiting the use of unsustainable management methods such as incineration and landfilling. Further benefits include enhanced climate resiliency with improved soil health, drought resistance, and water holding capacity to mitigate flood / run off risk, and soil loss. Additionally, there are proven benefits associated with overall soil biodiversity associated with increased organic fraction in soils. The beneficial use of biosolids is essential, as a socially, environmentally and economically sound practice for all Canadians. Imposing stringent PFAS limits in biosolids, without further research, will limit the ability of municipalities to manage biosolids and adversely affect the overall environment.

The Biosolids Emissions Assessment Model (BEAM), created through the efforts of the Canadian Council of Ministers of the Environment (CCME) and being used by various municipalities, clearly indicates the benefits of biosolids beneficial use considering all transport and application processes. Land application has the least amount of GHG and NO₂ emissions, compared to other disposal options. The estimated emissions from landfilling one tonne of biosolids is 40 tonnes CO₂e/yr/tonne of biosolids landfilled, whereas land applying biosolids for beneficial use sequesters carbon and has a net emissions of -20 tonnes CO₂e/yr/tonne of biosolids land applied.

7. Stakeholder collaboration is essential before setting future limits

In an era when many provinces are focussing efforts and resources on effective recycling, composting, and digestion of organics from commercial, industrial, and agricultural sources to preserve ever depleting landfill capacity, imposing future unreachable limits of PFAS in organics, beyond the interim limits, will kill these programs and move Canada backwards by decades. It is acknowledged that the 50 ppb is a reachable goal as has been effective in Michigan, as it can motivate source control, limit discharge of contaminants, and improve the overall quality of industrially impacted biosolids (and other) products.

Municipalities, the industry, and farmers have proven their ability to work with regulators to successfully managing any risks of applying biosolids to farmland. We are confident that we can do the same regarding risk management of PFAS. This will also allow the regulatory authorities to focus on the producers of per- and polyfluoroalkyl substances and their dominant role in exposing the environment to this hazard.

We also strongly recommend that an effective communications strategy involving subject matter experts and experienced professionals needs to be in place when these standards are implemented.

WEAO and its members remain committed to the protection of the environment and human health. We have and will continue to support research focused on the assessment and the mitigation of risk of PFAS and any other Emerging Substances of Concern. We do however, strongly recommend that government takes an objective and scientific approach, and further engage municipalities and other industry associations such as the Canada Compost Council, Canadian Water and Wastewater Association, and the Ontario Biosolids Council to balance the economics and health risks with the perpetual need to provide the essential services that our membership provides. So far, source reduction of PFAS compounds and phasing out their usage through strong and decisive actions, such as has been done in Michigan, are deemed to be the most efficient actions to reduce risk and potential concerns related to PFAS in water and recycled biosolids and residuals.

Thank you in advance for taking WEAO's comments into consideration as CFIA moves forward with the implementation of interim PFAS standards for municipal biosolids imported or sold in Canada as fertilizers. Please do not hesitate to contact us if you have any questions regarding these comments. WEAO's member expertise can be consulted and provide significant contributions from a variety of perspectives.

Thank you for allowing WEAO to present this submission. If you should require any further information, please reach out at the numbers below.

Regards,

A handwritten signature in blue ink that reads "Danielle Anders".

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