CANADIAN ENVIRONMENTAL LAW ASSOCIATION
L'ASSOCIATION CANADIENNE DU DROIT DE L'ENVIRONNEMENT

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Ms. Susan Fraser
Environment Canada
351 St. Joseph Blvd., 12th Floor
Gatineau, QC K1A 0H3

Original transmission: by email to Susan.Fraser@ec.gc.ca

Dear Ms. Susan Fraser:

Re: Comments on government proposal to develop Environmental Performance Agreements on residual PFCAs and precursors

Thank you for providing the opportunity to participate and prepare comments to the government's proposal on Environmental Performance Agreement's (EPA) for residual PFCAs and precursors.

The comments below should be considered complementary to the substantive comments submitted by the Canadian Environmental Law Association to the department on the government's efforts to manage and regulate fluorotelomer based substances in February 2006 and again in a submission dated August 2006. In CELA's August 2007 submission, we indicated that "…**Any effort to address PFCAs should include regulatory tools and not be based solely on voluntary initiatives." (CELA submission of August 2006, *Comments on Canada Gazette Notice, Part 1, Vol. 140, No. 24 (June 17, 2006) and Notice of Action Plan for the Assessment and Management of Perfluorinated Carboxylic Acids and their Precursors,* Recommedation 17).** We are extremely concerned that the government's effort to develop an Environmental Performance Agreement with industry on residual PFCA significantly weakens the announcement by government to address PFCAs in a progressive and precautionary manner. Our organization emphasized the need for the overall objectives for addressing PFCAs should be elimination. Any measures taken in the short and long term should be in support of elimination of these substances as they are part of a larger class of fluorinated substances that exhibit very similar hazardous properties and have similar range of uses (e.g., PFOAs, fluorotelomer based substances).

To date, no public report analyzing the effectiveness of EPAs for substances considered "toxic" under the *Canadian Environmental Protection Act* (CEPA) has been released to demonstrate that this is the route to take. Similarly, the proposed action to develop EPAs on PFCA residuals may pre-empt other measures that may be taken on fluorinated substances identified through the results of categorization of the Domestic Substances List process by government completed in September 2006. The results of categorization should identify a list of PFCAs that are of concern in Canada and the focus of further efforts. Furthermore, the result of the government's assessment on PFOA

has yet to be released. In this context, CELA is concerned that the development of the EPA would justify a government management strategy that relies heavily on voluntary initiatives to reduce the level of exposure to Canadians and its environment to PFCA substances. At the same time, the reliance on voluntary initiatives may undercut the urgency of a management strategy that should be focused on elimination. CELA is supportive of efforts that have a preventative and elimination component to address these substances.

The discussions at the meeting were very insightful on various topics related to the development of the EPAs. At this time, CELA is opposed to supporting the development of an EPA for residual PFCAs for the following reasons[1]:

1. **The science basis of developing EPAs is flawed.** There is an assumption that the residuals in products can be decreased. However, neither the government nor industry has provided any evidence that residuals can be decreased. In fact the chemical nature of these fluorotelomer alcohol containing polymers indicates the opposite: residual fluorotelomer alcohols will continue to be created. The fluorotelomer alcohols are bonded to the backbone of the polymer via an ester bond. Ester bonds are not static. Esters hydrolyze and reform continually because the relationship between esters and its parents, alcohols and acids, is a dynamic one. This hydrolysis happens with no assistance, but the speed is increased in the presence of acid or base and is accelerated tremendously by esterases which are ubiquitous in the environment and human body. If residuals at the time of manufacture can be decreased in some way the decrease would likely only be temporary.

   The chemistry of these products makes the focus on residuals inappropriate for another reason; the fluorotelomer alcohols can be freed from the polymer in our digestive tract, in the soil and by simply sitting on the shelf. These freed substances can volatilize or be taken up by biota. The hydrolysis products for fluorotelomer alcohols based polymers do not necessarily stay around as residuals. So, to focus on residuals that very likely are minor inputs to the environment is penny wise and pound foolish. A comprehensive management strategy for PFCAs with an objective goal of elimination should effectively result in reductions of residuals.

2. **The lack of framework by Environment Canada to identify the targets and timelines for achieving reductions of residual PFCAs.** Given the information on toxicity already gathered on PFCAs on persistence and bioaccumulative potential, it is inappropriate to respond to a government proposal that does not include clear timelines and reduction targets for PFCA.

3. **The absence of a comprehensive list of PFCAs substances that would be the focus of the EPA**. Understanding whether the EPA will address one or several PFCAs is necessary to ensure that the timelines and targets established are appropriate. Furthermore, the assessments conducted under the New Substances Notification Regulations for four fluorotelomer based substances and PFOS substances and its precursors (and perhaps the PFOA assessment) demonstrate that the entire class of perfluorinated substances should be scrutinized very closely. The ability of these substances to persist and bioaccumulate in the

[1] For further comments on the chemistry of PFCAs, CELA retains Dr. Rich Purdy, toxicologist to provide technical advice.

environment and in organisms suggests that no PFCAs should be excluded from the scope of a voluntary or regulatory framework if the government's objective is protect health and environment. Appendix 1 provides a list of PFCAs and precursors. At a minimum, CELA wants to ensure that any measures taken on PFCAs (regulatory and non-regulatory) will focus on these substances. There may be other PFCAs not captured on this list.

4. **The restriction of the EPA to focus on PFCAs with chain lengths greater than C8 is very troublesome and not supported.** All chain lengths (short and long) should be included in the EPA and information gathering exercises through surveys. In the context of the meeting discussion, it would have been more helpful to the discussion if information on the degradation process for PFCAs were made available. It was not surprising that the industry representatives at the meeting, who have expressed support for the US Stewardship Program on PFOAs which focuses on C8 and longer chains, were very clear to express their support for targeting only those chain lengths larger than 8.

We urge the government not to bend to industry pressure in this context. In our previous submission, we indicated that "shorter chain length PFCAs also require further consideration. A cumulative assessment of these substances should be undertaken…" The lack of consideration of the shorter chains would be a significant gap in the government approach since there is concern that chain lengths less than 9 may be considered as replacements for longer chains. To the extent possible, documenting whether shorter chain PFCAs are detected is useful in developing an effective management strategy on PFCAs.

5. **The public participation component in developing EPAs appears to be inconsistent to the information presented by government at the meeting.** In good faith, the environmental and health representatives at the meeting were under the assumption that input at the meeting would include full and effective participation in developing the EPA at all stages and, in particular, the beginning phases.

At the meeting, the level of ENGO participation in the development of an EPA was a focus of considerable discussion by industry and government officials. More specifically, it was suggested that details of the EPA should be discussed between only industry and government with involvement by ENGOs at the later phases. *Lack of full ENGO participation is inappropriate and unacceptable.* If the government hopes to gain support and understanding by public interest organizations in developing management measures, the level of participation and access to the process should be made clear prior to meetings and consultations. ENGOs should be fully integrated at **all** stages of the process. This would include the development of any survey/data collection. Involvement focused at the later stage of the process after the details of the agreement have been negotiated between the government and industry would not provide the needed opportunity to debate relevancy of specific information. Furthermore, limited participation and access to information significantly affects the transparency component of the process.

6. **ENGOs have expressed their concern with the government's preference for an EPA with industry on residual PFCAs without an effective regulatory backstop.** CELA's concern on EPAs is further heightened with the possibility that individual EPAs are being considered with each of the companies affected by the government's strategy to manage

PFCAs. We urge the government not to negotiate separate EPAs with each company. It would further detract from the overall efficiency, monitoring and dedication of resources.

7. **The timing for developing an EPA is very questionable.** The time needed to negotiate and implement the EPA for residuals is lengthy. However, this does not provide adequate justification for not applying a regulatory tool to achieve reductions in residuals. The data gathering process and review of the data alone may take several months while review and approvals for the final EPAs may take some months to complete.

8. **The absence of discussion on residual PFCAs found in finished formulated products is a significant gap in the government approach.** Given the increasing concerns around the relationship between indoor dust and levels of PFCAs detected in humans, all efforts to gain a better understanding of the contribution of PFCAs found in consumer products should be a significant focus in the development of the PFCA management strategy. In the efforts to address residuals, the government does not provide an adequate explanation why the current discussions cannot address PFCAs residuals in formulated products.

We hope these comments contribute to the debate. Please do not hesitate to contact me should you have questions.

Yours truly,

Fe de Leon
Researcher

c.c. Bernard Madé, EC; Jackie Sitwell, HC; Josée Portugais, EC

Appendix 1: Listing of PFCA substances and precursors on the Domestic Substances List[2]

CAS number	Chemicals
Organics	
647427	1-Octanol, 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluoro-
678397	1-Decanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluoro-
865861	1-Dodecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-heneicosafluoro-
1799844	2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,6-nonafluorohexyl ester
1996889	2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl ester
2043472	1-Hexanol, 3,3,4,4,5,5,6,6,6-nonafluoro-
2144538	2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl ester
2144549	2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-heneicosafluorododecyl ester
3825261	Octanoic acid, pentadecafluoro-, ammonium salt
4980534	2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,16-nonacosafluorohexadecyl ester
6014751	2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,14-pentacosafluorotetradecyl ester
6130434	Heptanoic acid, tridecafluoro-, ammonium salt
17527296	2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl ester
17741605	2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-heneicosafluorododecyl ester
21615474	Hexanoic acid, undecafluoro-, ammonium salt
27905459	2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl ester
39239775	1-Tetradecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,14-pentacosafluoro-
52591272	2-Propenoic acid, 3,3,4,4,5,5,6,6,6-nonafluorohexyl ester
59778971	2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,17,17,18,18,18-tritriacontafluorooctadecyl ester
60699516	1-Hexadecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,16-nonacosafluoro-
65104656	1-Eicosanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,17,17,18,18,19,19,20,20,20-heptatriacontafluoro-
65104667	2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,17,17,18,18,19,19,20,20,20-heptatriacontafluoroeicosyl ester

[2] The above list of PFCAs and precursors were identified from the Domestic Substances List using the results of categorization contained in the CD dated September 2006. This list may not include all PFCA substances and precursors that require elimination and reduction strategies to be developed by the Canadian government. There may be other PFCA substances that are on the Confidential Domestic Substances List that should be included in the government's efforts to eliminate PFCAs.

65104678	1-Octadecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,17,17,18,18,18-tritriacontafluoro-
68259110	Pentanoic acid, nonafluoro-, ammonium salt
82199073	Carbamic acid, [2-(sulfothio)ethyl]-, c-(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl) ester, monosodium salt
UVCBs	
68187-25-7	Butanoic acid, 4-[[3-(dimethylamino)propyl]amino]-4-oxo-, 2(or 3)-[(â- -perfluoro-C6-20-alkyl)thio] derivs.
68187-42-8	Propanamide, 3-[(â- -perfluoro-C4-10-alkyl)thio] derivs.
68391-08-2	Alcohols, C8-14, â- -perfluoro
68412-68-0	Phosphonic acid, perfluoro-C6-12-alkyl derivs.
68412-69-1	Phosphinic acid, bis(perfluoro-C6-12-alkyl) derivs.
70969-47-0	Thiols, C8-20, â- -perfluoro, telomers with acrylamide
85631-54-5	2-Propenoic acid, â- -perfluoro-C8-14-alkyl esters
86508-42-1	Perfluoro compounds, C5-18
Polymers	
65545-80-4	Poly(oxy-1,2-ethanediyl), α-hydro-ω-hydroxy-, ether with α-fluoro-ω-(2-hydroxyethyl)poly(difluoromethylene) (1:1)
68239-43-0	2-Propenoic acid, 2-methyl-, 2-ethylhexyl ester, polymer with α-fluoro-ω-[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]poly(difluoromethylene), 2-hydroxyethyl 2-methyl-2-propenoate andN-(hydroxymethyl)-2-propenamide
65605-58-5	2-Propenoic acid, 2-methyl-, dodecyl ester, polymer with α-fluoro-ω-[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]poly(difluoromethylene)
115592-83-1	2-Propenoic acid, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-heneicosafluorododecyl ester, polymer with 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl 2-propenoate, hexadecyl 2-propenoate, N-(hydroxymethyl)-2-propenamide, octadecyl 2-propenoate, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,14-pentacosafluorotetradecyl 2-propenoate and 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl 2-propenoate
65636-35-3	Ethanaminium, N,N-diethyl-N-methyl-2-[(2-methyl-1-oxo-2-propenyl)oxy]-, methyl sulfate, polymer with 2-ethylhexyl 2-methyl-2-propenoate, α-fluoro-ω-[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]poly(difluoromethylene), 2-hydroxyethyl 2-methyl-2-propenoate
53515-73-4	2-Propenoic acid, 2-methyl-, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluorooctyl ester, polymer with 2-propenoic acid
144031-01-6	2-Propenoic acid, dodecyl ester, polymers with Bu (1-oxo-2-propenyl)carbamate and γ-ω-perfluoro-C8-14-alkyl acrylate
125328-29-2	2-propenoic acid, 2-methyl-, C10-16-alkyl esters, polymers with 2-hydroxyethyl methacrylate, Me methacrylate and perfluoro-C8-14-alkyl acrylate
129783-45-5	2-propenoic acid, 2-methyl-, C10-16-alkyl esters, polymers with 2-hydroxyethyl methacrylate, Me methacrylate and γ-ω-perfluoro-C8-14-alkyl acrylate
65530-74-7	Ethanol, 2,2 -iminobis-, compd. with α-fluoro-ω-[2-(phosphonooxy)ethyl]poly(difluoromethylene) (1:1)
65530-63-4	Ethanol, 2,2 -iminobis-, compd. with α-fluoro-ω-[2-(phosphonooxy)ethyl]poly(difluoromethylene) (2:1)
65530-64-5	Ethanol, 2,2 -iminobis-, compd. with α, α'-[phosphinicobis(oxy-2,1-ethanediyl)]bis[ω-fluoropoly(difluoromethylene)] (1:1)
65530-62-3	Poly(difluoromethylene), α, α'-[phosphinicobis(oxy-2,1-ethanediyl)]bis[ω-fluoro-
65530-70-3	Poly(difluoromethylene), α, α'-[phosphinicobis(oxy-2,1-ethanediyl)]bis[ω-fluoro-, ammonium salt
65530-85-0	Poly(difluoromethylene), α-(cyclohexylmethyl)-ω-hydro-
71002-41-0	Poly(difluoromethylene), α-[2-(acetyloxy)-2-[(carboxymethyl)dimethylammonio]ethyl]-ω-fluoro-, hydroxide, inner salt
123171-68-6	Poly(difluoromethylene), α-[2-(acetyloxy)-3-[(carboxymethyl)dimethylammonio]propyl]-ω-fluoro-, hydroxide, inner salt
65530-83-8	Poly(difluoromethylene), α-[2-[(2-carboxyethyl)thio]ethyl]-ω-fluoro-

65530-69-0	Poly(difluoromethylene), α-[2-[(2-carboxyethyl)thio]ethyl]-ω-fluoro-, lithium salt
79070-11-4	Poly(difluoromethylene), α-chloro-ω-(2,2-dichloro-1,1,2-trifluoroethyl)-
68891-05-4	Ethene, tetrafluoro-, homopolymer, α-fluoro-ω-(2-hydroxyethyl)-, citrate, reaction products with 1,6-diisocyanatohexane
65605-57-4	Poly(difluoromethylene), α-fluoro-ω-(2-hydroxyethyl)-, hydrogen 2-hydroxy-1,2,3-propanetricarboxylate
65530-59-8	Poly(difluoromethylene), α-fluoro-ω-(2-hydroxyethyl)-, 2-hydroxy-1,2,3-propanetricarboxylate (3:1)
65605-56-3	Poly(difluoromethylene), α-fluoro-ω-(2-hydroxyethyl)-, dihydrogen 2-hydroxy-1,2,3-propanetricarboxylate
65530-58-7	Poly(difluoromethylene), α-fluoro-ω-(2-hydroxyethyl)-, ester with 2,15-bis(carboxymethyl)-4,13-dioxo-3,14-dioxα-5,12-diazahexadecane-1,2,15,16-tetracarboxylic acid (6:1)
65530-61-2	Poly(difluoromethylene), α-fluoro-ω-[2-(phosphonooxy)ethyl]-
65530-72-5	Poly(difluoromethylene), α-fluoro-ω-[2-(phosphonooxy)ethyl]-, diammonium salt
65530-71-4	Poly(difluoromethylene), α-fluoro-ω-[2-(phosphonooxy)ethyl]-, monoammonium salt
65605-70-1	Poly(difluoromethylene), α-fluoro-ω-[2-[(1-oxo-2-propenyl)oxy]ethyl]-
65530-66-7	Poly(difluoromethylene), α-fluoro-ω-[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]-
65530-57-6	Poly(difluoromethylene), α-fluoro-ω-[2-[[2-(trimethylammonio)ethyl]thio]ethyl]-, methyl sulfate