<table>
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<tr>
<th>From:</th>
<th>Joe Minor</th>
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<tbody>
<tr>
<td>Sent:</td>
<td>August 25, 2012 7:05 PM</td>
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<tr>
<td>To:</td>
<td><a href="mailto:clerk@hamilton.ca">clerk@hamilton.ca</a></td>
</tr>
<tr>
<td>Subject:</td>
<td>PFOS: Health and National Defense</td>
</tr>
<tr>
<td>Attachments:</td>
<td>health.pdf; natdef.pdf</td>
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</tbody>
</table>

> To: The Mayor and All Members of Council c/o the Clerk
>
> Please include this communication in the next official (publicly accessible) information package for Hamilton City Council.
>
> These two attachments are letters from the Ministers for Health and National Defense regarding PFOS.
>
> Thanks,
>
> Joe Minor
Dear Mr. Minor:

This is in response to your environmental petition no. 332 of March 27, 2012, addressed to Mr. Scott Vaughan, the Commissioner of the Environment and Sustainable Development (CESD).

In your petition you raised concerns regarding the research and review of scientific literature on safe exposure limits to perfluorooctane sulfonate (PFOS). As well, you inquired if the Public Health Agency of Canada would consider public health implications of PFOS.

I am pleased to provide you with the enclosed Health Canada and Public Health Agency of Canada responses to your petition. I understand that the ministers of Transport, Infrastructure and Communities, Fisheries and Oceans, Public Works and Government Services, and National Defence will be responding separately to questions that come under the purview of their respective departments.

I appreciate your interest in this important matter.

Sincerely,

Leona Aqlukkaq

Enclosure

c.c. Mr. Scott Vaughan, CESD
Environmental Petition No. 332

Question 6: Will the federal government (e.g., Health Canada) research and review the scientific literature in order to establish safe exposure limits for perfluorooctane sulfonate (PFOS)?

Response (Health Canada):

In 2006, the Minister of the Environment and the Minister of Health published their final decision on the screening assessment of PFOS, its salts and certain other compounds (including precursors considered to have the potential to degrade to PFOS) under the Canadian Environmental Protection Act 1999 (CEPA 1999).

Human Health
Government of Canada scientists found that current levels of exposure for the general population to PFOS are below levels that would be harmful to human health. The scientific studies referenced in the petition have been reviewed by Health Canada scientists and do not provide new information that would be expected to change the outcome of the PFOS assessment.

Health Canada’s Food Directorate continues to monitor the levels of certain perfluorinated compounds (PFCs), including PFOS, in foods that are commercially sold in Canada as part of its ongoing Total Diet Study (http://www.hc-sc.gc.ca/finan/surveill/total-diet/index-eng.php).

The PFC levels detected in foods are within a similar range as reported in other countries. These values are low, in the order of nanograms per gram (ng/g), or equivalent to parts per billion (ppb). The low levels of PFCs present in some foods that are sold in Canada are well below levels associated with adverse health effects.

There are different approaches used to characterize risk. For PFOS in foods, the Food Directorate has used a margin of exposure approach (as opposed to development of a tolerable daily intake). With a margin of exposure approach, the magnitude between levels of exposure to the general population and key effect levels are compared. For PFOS exposure from foods, the resulting margins of exposure are considered sufficient to address any uncertainties in the health effects and exposure databases, therefore a tolerable daily intake has not been derived.
Health Canada continues to monitor the concentrations of PFOS in Canadians through various surveys and studies. These include the Canadian Health Measures Survey that measured levels of PFOS in human blood (called “blood PFOS”) in its first cycle (2007-2009; ages 20-79 years) and second cycle (2009-2011; ages 12-79 years). The Maternal-Infant Research on Environmental Chemicals Study is measuring blood PFOS in pregnant women and their infants from across Canada. Other targeted studies, such as research supported in Northern Quebec, are measuring PFOS in adults and women of child-bearing age.

The first cycle of the Canadian Health Measures Survey (2007-2009) has reported lower blood concentrations of PFOS in Canadians than those reported in earlier Canadian studies, which suggests a decrease over time. Blood levels in Canadians are well below levels that were the basis for characterizing risk to human health in the screening assessment published in 2006. As mentioned above, that assessment concluded that levels of exposure to PFOS were below levels that would be harmful to human health.

Ecological
The ecological screening assessment of PFOS supporting the 2006 final decision published under CEPA 1999 concluded that PFOS, its salts and certain other compounds are entering or may enter the environment in a quantity, concentration or under conditions that have or may have an immediate or long-term harmful effect on the environment or its biological diversity.

As a result, in December 2006, PFOS was added to Schedule 1 of CEPA 1999. The Perfluorooctane Sulfonate and Its Salts and Certain Other Compounds Regulations came into force on May 29, 2008 and prohibit the manufacture, use, sale, offer for sale and import of PFOS as well as products containing PFOS, with specific exemptions. Two of these exemptions are time-limited and will expire May 29, 2013. This includes the time-limited exemption to allow ongoing use of stockpiles of aqueous firefighting foams containing PFOS. More information on PFOS can be found on Environment Canada's Management of Toxic Substances Website: http://www.ec.gc.ca/toxiques-toxics/Default.asp?lang=En&n=98E80CC6-1&xml=ECD5A576-CEE5-49C7-B26A-88007131860D.

International
In addition to the above actions, the Government of Canada has signalled a commitment to international action on PFOS by ratifying the addition of this substance to two international agreements – the Protocol on Persistent Organic Pollutants under the Convention on Long-range Transboundary Air Pollution (LRTAP) and the Stockholm Convention on Persistent Organic Pollutants - to reduce the global production of PFOS.
Given the prohibition of PFOS in Canada and the ongoing international initiatives on PFCs and PFOS, the exposure of Canadians and the concentrations of PFOS in humans are expected to continue to decline.
Environmental Petition No. 332

Question 7: Will the federal government (e.g., the Public Health Agency) please consider the public health implications of PFOS contamination and living near highly concentrated sources of PFOS (and then take corrective action)?

Response (Public Health Agency of Canada):
There have been a few epidemiologic studies, as pointed out by the author of the petition, but evidence is insufficient to provide a clear link between perfluorocarbon compounds and any human chronic disease condition. The Public Health Agency of Canada will continue to monitor the level of evidence as new research is published.
Dear Mr. Minor:

I am pleased to respond to your Environmental Petition no. 332 to the Commissioner of the Environment and Sustainable Development in the Office of the Auditor General of Canada concerning the perfluorocarbon contamination at Hamilton International Airport. The Department of National Defence was implicated directly by Question 9 in your petition which stated the following:

Will the federal government (e.g. Transport Canada, the RCAF, Public Works and Government Services Canada, Real Property Institute of Canada, Environment Canada) please make its best efforts to publicly identify other locations contaminated with PFOS?

In response to this question, please find enclosed a list of sites under the Department of National Defence that have confirmed the presence of perfluoroctane sulfonate (PFOS). Although a list of sites is being provided, the Department does not assume any liability. Given that PFOS is an emerging contaminant, soil and groundwater guidelines/standards to assess an immediate or long-term hazard to human health or the environment, or to determine exceedances of contaminant levels, are not available. Moreover, recent sampling and analytical studies of groundwater have indicated that concentration levels of PFOS have been difficult to accurately quantify. Sound sampling and analytical procedures are necessary to ensure that data collected is scientifically defensible.

I appreciate the opportunity to respond to your petition and trust that you will find this information helpful.

Sincerely,

[Signature]

Peter MacKay

Enclosure: 1

c.c. Mr. Scott Vaughan
Commissioner of the Environment
and Sustainable Development of Canada

Ms. Mary-Lynne Weightman
Petitions Coordinator
**Department of National Defence Sites that have Confirmed the Presence of Perfluorooctane Sulfonate (PFOS)**

<table>
<thead>
<tr>
<th>Province</th>
<th>Defence Establishment</th>
<th>Federal Contaminated Site Inventory (FCSI) Number</th>
<th>Site Name</th>
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<tbody>
<tr>
<td>BC</td>
<td>19 Wing Comox</td>
<td>17970012</td>
<td>Fire Fighting Training Area</td>
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<tr>
<td>AB</td>
<td>4 Wing Cold Lake</td>
<td>996</td>
<td>Pull Up Pad (former engine test location; also called the Aircraft Fuel Dumping Ground)</td>
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<tr>
<td>AB</td>
<td>4 Wing Cold Lake</td>
<td>8538</td>
<td>CF18 Crash Site - Nov 2010</td>
</tr>
<tr>
<td>AB</td>
<td>4 Wing Cold Lake</td>
<td>8672</td>
<td>Hawk Crash Site - June 2011</td>
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<tr>
<td>ON</td>
<td>22 Wing North Bay</td>
<td>8648</td>
<td>Former Fire Fighting Training Area</td>
</tr>
<tr>
<td>ON</td>
<td>8 Wing Trenton</td>
<td>9540012</td>
<td>Fire Fighting Training Area</td>
</tr>
<tr>
<td>NL</td>
<td>5 Wing Goose Bay</td>
<td>1822018</td>
<td>Canadian Fire Fighting Training Area (FFTA)</td>
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<tr>
<td>NL</td>
<td>9 Wing Gander</td>
<td>978015</td>
<td>Fire Fighting Training Area</td>
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<tr>
<td>NS</td>
<td>14 Wing Greenwood</td>
<td>2717146</td>
<td>Former Fire Fighting Training Area - south west portion of site</td>
</tr>
<tr>
<td>NS</td>
<td>14 Wing Greenwood</td>
<td>To be determined</td>
<td>Building 99</td>
</tr>
<tr>
<td>NS</td>
<td>14 Wing Greenwood</td>
<td>To be determined</td>
<td>Northwestern end of runway</td>
</tr>
<tr>
<td>NS</td>
<td>MARLANT</td>
<td>03044007</td>
<td>DCD School (907) Fire Fighting Training Area</td>
</tr>
<tr>
<td>QC</td>
<td>METC* Nicolet</td>
<td>6872041</td>
<td>Former Firefighter Training Area</td>
</tr>
<tr>
<td>QC</td>
<td>METC* Nicolet</td>
<td>6872007</td>
<td>Building 76 (Foam Test)</td>
</tr>
<tr>
<td>QC</td>
<td>METC* Nicolet</td>
<td>6872010</td>
<td>Ditch D, E, G and H</td>
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*Munitions Experimental Test Centre*