



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

June 27, 2012

**VIA ELECTRONIC MAIL**

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**AND ORDINARY MAIL**

Canadian Nuclear Safety Commission  
P.O. Box 1046, Station B  
Ottawa, Ontario  
K1P 5S9

Dear Sirs or Mesdames:

**Re: Discussion Paper on Process for Establishing Release Limits and Action Levels at Nuclear Facilities – DIS-12-02 – February 2012**

The Canadian Environmental Law Association (“CELA”) is an Ontario Legal Aid Clinic that uses existing laws to protect the environment and advocates environmental law reforms where appropriate. CELA has participated in numerous hearings before the Canadian Nuclear Safety Commission and in other fora respecting the impacts on human health and the environment arising from nuclear facilities. In this regard, CELA provides the following comments on the above Discussion Paper.

**GENERAL**

CELA has reviewed the June 2012 submission of the International Institute of Concern for Public Health (“IICPH”) on the Discussion Paper and is in general agreement with the concerns expressed by IIPCH.

Beyond this, CELA is unsure at the end of the day whether the CNSC proposes establishing generic emission limits for all nuclear facilities (Principle 1), different emission limits depending on which “sector” is involved (Principle 2), site specific emission limits on a case-by-case basis (Principles 3 and 4), or a combination thereof.

In the experience of CELA in other contexts, we would note that Ontario has established enforceable legal standards applicable to all facilities (air emissions and soil/groundwater contamination), and has moved away from site specific limits only found in individual licences and towards more generically enforceable sector standards (water). Given the gravity of potential exposure to ionizing radiation, the public is better served by a national standard of human health

and environmental protection, and not by ad hoc limits that may differ from one geographic area to another.

In this regard, the Discussion Paper is unclear where the CNSC proposes to land on this issue. A hodge-podge regime of case or site specific limits would not advance the cause of national human health or environmental protection contemplated by the *Nuclear Safety and Control Act*.

## **SPECIFIC**

CELA also wishes to address two specific points raised in the Discussion Paper. These include the adequacy of protections provided by: (1) existing guidelines for tritium in drinking water; and (2) point of impingement standards. These are discussed briefly below

### **Tritium in Drinking Water**

In the course of proposing a 100 Bq/L effluent/emission objective for tritium in groundwater, the Discussion Paper also states that: “It is recognized that the current Canadian drinking water guideline of 7,000 Bq/L for tritium is safe” (Discussion Paper, page 19). Because of the CNSC’s reliance on this guideline, the Discussion Paper argues that the 100 Bq/L objective is 100 times lower than the estimated dose associated with the Canadian drinking water guideline (Discussion Paper, page 19, footnote 18).

The problem with the CNSC rationale for the objective, is that the 7,000 Bq/L drinking water guideline for tritium has long been criticized as being too lenient. CELA raised concerns in the late 1990s when Ontario was considering adopting the 7,000 Bq/L Canadian Drinking Water Guideline for tritium as its drinking water objective. CELA noted at that time that the Canadian Drinking Water Guideline for tritium is 350 times higher than the recommendation made by the Ontario government’s own Advisory Committee on Environmental Standards (“ACES”) in 1994. CELA noted further in its 1999 submission to the province that ACES recommended a standard for Ontario in 1994 of 100 Bq/L that would be phased down to 20 Bq/L within five years. Accordingly, CELA recommended in 1999 that Ontario adopt 20 Bq/L as its drinking water standard for tritium.<sup>1</sup>

The 2012 IIPCH submission also refers to the arguments in this regard including the excess cancer risk per year per million people associated with the Canadian Drinking Water Guideline (350), and the cost achievability of a much lower standard (20 Bq/L), recognized by the nuclear industry itself, and recommended in 2009 by the Ontario Drinking Water Advisory Council.<sup>2</sup>

Accordingly, to the extent that the justification for the 100 Bq/L objective is the 7,000 Bq/L guideline, the CNSC should re-think both.

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<sup>1</sup> Canadian Environmental Law Association, *Comments to the Ontario Ministry of the Environment Regarding the Proposal to Adopt the Canadian Drinking Water Quality Guideline for Radiological Characteristics as an Ontario Drinking Water Objective for Radionuclides* (Toronto: CELA, October 1999). See also Canadian Environmental Law Association “Proposed Tritium Drinking Water Standard Too High Say Groups” (26 October 1999).

<sup>2</sup> Ontario Drinking Water Advisory Council, *Report and Advice on the Ontario Drinking Water Quality Standard for Tritium* (Toronto: ODWAC, 2009).

## Point of Impingement Standards

Finally, the Discussion Paper also expresses general support for a point of impingement (“POI”) approach for air emissions and release limits from nuclear facilities harmonized with that of Ontario’s POI regime (Discussion Paper, page 21). The problem with this approach is that Ontario has long been severely criticized by the Environmental Commissioner of Ontario (“ECO”) and others for continued reliance on the POI regime contained in O. Reg. 419/05, under the *Environmental Protection Act*. Facilities must use the dispersion models authorized in the regulation to predict contaminant concentrations at POI anywhere beyond their own property line. In 2005-2006, the ECO reported that continued reliance on a POI approach meant that while the Ontario Ministry of the Environment (“MOE”) has some control over short-term *concentrations* of contaminants (measured over minutes or hours), MOE is not directly controlling annual *loadings* of contaminants. According to the ECO, for some types of persistent contaminants that accumulate in the environment, such as mercury or certain organic toxic substances, the annual load to the environment is a parameter with a great deal of significance. Furthermore, the ECO reported that with regard to controlling cumulative loadings of persistent toxic substances over time, Environment Canada noted that MOE will never be able to assess or control cumulative loadings effectively until the POI approach is replaced (ECO, 2005/2006 Annual Report Supplement, pages 78, 83 and ECO, 2005/2006 Annual Report, 94, 96 – emphasis in original).

The ECO also reported at that time that O. Reg. 419/05 does not address the impacts that mixes of various contaminants may have on environment or health. Moreover, the ECO also reported that MOE has itself previously acknowledged that O. Reg. 419/05 needs more work in that “The Regulation does not explicitly deal with background concentrations, cumulative or synergistic effects, persistence and bioaccumulation of contaminants”. According to the ECO “These are thorny policy issues as well as complex science challenges, but they cannot be ignored if the ministry's goal is truly as stated, 'cleaner, healthier air, healthier communities and healthier Ontarians’”. (ECO, 2005/2006 Annual Report Supplement, pages 83, 87 and ECO, 2005/2006 Annual Report, pages 94-95).

In the circumstances, it is hardly precautionary for the CNSC going forward to rely on a regulatory approach that has been tested and found wanting. This too should be re-thought by CNSC.

## CONCLUSIONS AND RECOMMENDATIONS

1. A hodge-podge regime of case or site specific limits would not advance the cause of national human health or environmental protection contemplated by the *Nuclear Safety and Control Act*.
2. To the extent that the justification for the proposed groundwater objective is the existing Canadian drinking water guideline, the CNSC should re-think both.

3. It is hardly precautionary for the CNSC going forward to rely on a regulatory approach (the Ontario POI regime for air emissions) that has been tested and found wanting. This should be re-considered by CNSC.

Yours truly,

**CANADIAN ENVIRONMENTAL LAW ASSOCIATION**

A handwritten signature in cursive script that reads "Joseph Castrilli".

Joseph F. Castrilli  
Counsel