



Backgrounder:

The Ontario Drinking Water Advisory Council's Public Consultation Process on Ontario's Drinking Water Quality Standard for Tritium

Introduction

This Backgrounder was prepared by the Ontario Drinking Water Advisory Council (Council) to aid individuals and organizations intending to participate in, or learn more about, the Council's public consultation process relating to Ontario's Drinking Water Quality Standard for Tritium.

What is ODWAC?

The Ontario Drinking Water Advisory Council is an arms-length Agency of the Government of Ontario, known formally as the "Advisory Council on Drinking-Water Quality and Testing Standards" and enabled under the *Safe Drinking Water Act, 2002*. The Council is empowered to provide on-going advice to the Minister of the Environment on drinking water matters, which is to be taken into consideration in establishing and revising standards under the *Act*.

Council members are appointed by the Minister of the Environment from key professional fields representing a cross-section of academia, industry and municipalities, with expertise in the areas of microbiology, toxicology, risk assessment, engineering, utility operations, public health, and others with a record of interest and accomplishment related to drinking water. They are all active in their areas of knowledge and bring their current and direct experience to the Council's deliberations.

For more information on the Council, visit our website at: www.odwac.gov.on.ca.

Why is ODWAC interested in Tritium in Drinking Water?

On February 21, 2007, the Minister of the Environment requested that ODWAC review and provide advice on the current Ontario Drinking Water Quality Standard for Tritium of 7,000 Becquerels per Litre (Bq/L), in response to a request from the City of Toronto's Medical Officer of Health.

The Council was also requested at that time to take into consideration the 1994 report entitled “A Standard for Tritium” prepared by the former Ontario Advisory Committee on Environmental Standards (ACES), which recommended a Standard of 100 Bq/L, to be further reduced to 20 Bq/L after 5 years.

Subsequent to this request, on June 12, 2007, the Minister of the Environment also asked that the Council take into account a report entitled “Tritium Hazard Report: Pollution and Radiation Risks from Canadian Nuclear Facilities” released by Greenpeace Canada, and authored by Dr. Ian Fairlie of the UK.

What has ODWAC done so far on Tritium in Drinking Water?

In response to the requests from the Minister of the Environment, the Council formed a Tritium Working Group to assist in its review of the Standard. To date, the Tritium Working Group has collected, reviewed and analyzed pertinent research and literature on Tritium, undertaken an inter-jurisdictional comparison, attended seminars and workshops, and met with a number of public health, nuclear industry, government, and non-governmental organizations and individuals, including:

- Toronto Public Health
- Toronto Cancer Prevention Coalition, Occupational and Environmental Carcinogens Working Group
- Ontario Ministry of Labour’s Radiation Protection Service
- Canadian Nuclear Safety Commission
- Bruce Power
- Ontario Power Generation
- Greenpeace Canada
- Independent Researchers

Why is ODWAC consulting with the public on Tritium in drinking water?

The Council would like to hear from the general public, and in particular, citizens groups concerned about Tritium in their local environments, (e.g. nuclear plants, mining industries, and industries that use Tritium for a variety of reasons) as part of the process for developing its advice to the Minister of the Environment.

To this end, the Council is holding a public consultation meeting on Ontario’s Drinking Water Quality Standard for Tritium. The consultation meeting will be held March 26th and 27th, 2008, from 8:30 a.m. – 5:00 p.m., at The Sutton Place Hotel, Royal Sutton Ballroom, 955 Bay Street, in Toronto, Ontario.

The purpose of this meeting will be to provide a wide range of organizations and individuals with the opportunity to present their comments on the Tritium Standard for drinking water to the Council. Your input will help shape the Council's advice to the Ontario Minister of Environment on this topic.

What feedback is ODWAC seeking?

The Council is particularly interested in your answers to the following questions, but would welcome any other comments on the topic of Tritium in drinking water that you may have:

- Is the current Ontario Drinking Water Quality Standard for Tritium acceptable?
- If not, what is the basis for finding the current Standard unacceptable?
- If you propose a different Standard, what is your rationale?

How do I participate in the consultation process?

You can participate in the Council's Tritium consultation process by:

- Making a 10 minute presentation to the Council on March 26th or 27th, 2008;
- Attending the consultation meeting on March 26th and/or 27th, 2008; and/or
- Providing written comments to the Council by March 28, 2008

For more information on the consultation process, visit:

www.odwac.gov.on.ca/standards_review/tritium/tritium_consultation.htm.

What is Tritium and how is it produced?

Tritium is a form of radioactive hydrogen.

Tritium is produced naturally in the upper atmosphere when cosmic rays interact with atmospheric gases. Tritium then reaches the earth's surface via rainfall. The amount of Tritium found in rain water has ranged from below 0.05 Bq/L to 9 Bq/L in studies conducted in North America. Levels higher than this range would indicate human-made sources.

Human-made sources of Tritium include nuclear weapon explosions and nuclear reactors used for producing electricity. Tritium is also released by facilities producing glow-in-the-dark signs. These facilities obtain tritiated gas from nuclear facilities.

What information is available on Tritium in Drinking Water?

A sampling of some of the information available on Tritium with respect to drinking water includes:

- Ministry of the Environment's (MOE) Rationale Document for an Interim Tritium Standard (1993) (www.odwac.gov.on.ca/standards_review/tritium/1993_MOE_Rationale_Doc_Tritium.pdf)
- Advisory Committee on Environmental Standards (ACES) report on "A Standard for Tritium" (1994) (www.odwac.gov.on.ca/standards_review/tritium/1994_ACES_Report_Tritium.pdf)
- Health Canada's "Guidelines for Canadian Drinking Water Quality Summary Table" (2007) (www.hc-sc.gc.ca/ewh-semt/pubs/water-eau/sum_guide-res_recom/index_e.html)
- Health Canada's "Radiological Characteristics of Drinking Water" Document for Public Comment (2006) (www.hc-sc.gc.ca/ahc-asc/public-consult/consultations/col/rc-cr/rep-rapp_e.html)
- Greenpeace Canada's "Tritium Hazard Report: Pollution and Radiation Risk from Canadian Nuclear Facilities" (2007) (www.greenpeace.org/canada/en/documents-and-links/publications/tritium-hazard-report-pollu)
- Health Protection Agency's (HPA) (United Kingdom) "Review of Risks from Tritium" from the independent Advisory Group on Ionising Radiation (AGIR) (2007) (www.hpa.org.uk/publications/PublicationDisplay.asp?PublicationID=0)
- Canadian Nuclear Safety Commission's (CNSC) "Standards and Guidelines for Tritium in Drinking Water" (2008) (www.nuclearsafety.gc.ca/eng/newsroom/issues/tritium/tritium.cfm)

What is the current Standard in Ontario for Tritium in Drinking Water?

Ontario's current Standard of 7,000 Becquerels per Litre (Bq/L) for Tritium in Drinking Water was adopted from Health Canada's 1995 Canadian Drinking Water Quality Guidelines, and was made an enforceable Maximum Acceptable Concentration (MAC) in 2003 via Ontario Regulation 169/03 (Ontario Drinking-Water Quality Standards).

Ontario's Standards are generally adopted from the national Guidelines, but must be at least as stringent as their federal counterparts. Tritium is also part of Health Canada's current reassessment of "Radiological Characteristics in Drinking Water", which can be viewed at:

www.hc-sc.gc.ca/ahc-asc/public-consult/consultations/col/rc-cr/rep-rapp_e.html

As well, Health Canada is proposing a new Guideline for Organically-Bound Tritium (OBT) at 3,000 Becquerels per Litre.

How does Ontario's Standard for Tritium in Drinking Water compare to other jurisdictions?

In January, 2008, the Canadian Nuclear Safety Commission (CNSC) released a report entitled "Standards and Guidelines for Tritium in Drinking Water" which endeavors to compare Canada's Drinking Water Quality Guideline for Tritium in drinking water (and subsequently Ontario's Standard) with various jurisdictions around the world. You can view the document at:

www.nuclearsafety.gc.ca/eng/newsroom/issues/tritium/tritium.cfm.

Where can I get more information?

For more information, please visit ODWAC's website at www.odwac.gov.on.ca or contact:

Ontario Drinking Water Advisory Council
40 St. Clair Avenue West, 3rd Floor
Toronto, ON M4V 1M2

Telephone: 416-212-7596

Fax: 416-212-7595

E-mail: scott.barrett@ontario.ca



*ODWAC is an Agency of the Government of Ontario and was formed
to advise the Minister of the Environment on drinking water matters*