

**THE TOWNSHIP OF HURON-KINLOSS
NUCLEAR WASTE COMMUNITY ADVISORY COMMITTEE
MINUTES**

Ripley Huron Community Centre

April 1, 2014 at 7:00pm

Chair	Mitch Twolan	(P)
Vice Chair	Wilfred Gamble	(P)
	Ricardo F. Gerdingh	(P)
	David Grant	(P)
	Dianne Heinisch	(P)
	Glenn Sutton	(P)
	Rob Thompson	(A)
Administrator	Mary Rose Walden	(P)
Clerk	Sonya Watson	(P)
Secretary	Kelly Lush	(P)
CNSC Senior Project Officer, Wastes and Decommissioning Division	Julie Mecke	(P)
CNSC Senior Communications Advisor	Suzette Argo	(P)
CNSC Geoscience Assessment Officer	Julie Brown	(P)
CNSC Project Officer	Lenora Makin	(P)
Other Present	Mike Krizanc NWMO, Paul Austin NWMO, Andy Keir AECOM, Doug Dahmer, Mike Gallant, Larry Allison, Don Farrell, Cathy Farrell, Jutta Spletstoesser, Taun Frosst, Jim Gowland, Brian Knox, Les Nichols, Liz Dadson, Steven Goetz, Barb McKay, Lillian Abbott	

1.0 Call to Order

Chair Twolan called the meeting to order at 7:00p.m.

2.0 Adoption of Minutes

Moved by David Grant
Seconded by Wilfred Gamble

ADOPT
COMMITTEE 17
MINUTES

THAT the Nuclear Waste Community Advisory Committee hereby adopts the [March 4, 2013](#) minutes as written.

Carried.

3.0 **Delegations**

3.1 Open Forum

At the March 4th Huron-Kinloss Council meeting the committee requested to allow an open forum for the public to ask question during the Canadian Nuclear Safety Commission delegation.

STAFF COMMENTS: We forwarded this request to the Huron-Kinloss Council which was approved as follows:

WHEREAS Section 2.1 of the Township of Huron-Kinloss *Procedural By-law 2012-20* governs the proceeding of its committees including the Nuclear Waste Community Advisory Committee (NWCAC);

AND WHEREAS Section 3.11 (o) of the *Procedural By-Law* states Council may permit a delegation not complying with section 13.11(l) at the meeting if Council considers such delegation have an urgent or necessary matter to bring forward that cannot wait until a subsequent meeting. The Mayor will announce the delegation and matter for consideration and seek the consent of the majority of Council through a show of hands in order for the delegation to proceed;

AND WHEREAS the Nuclear Waste Community Advisory Committee deems it desirable to allow an open forum for the public to ask questions during the Canadian Nuclear Safety Commission (CNSC) Delegation at the NWCAC meeting on April 1, 2014.

NOW THEREFORE BE IT RESOLVED that the Township of Huron-Kinloss Council exempts the NWCAC from Section 3.11 (o) of the *Procedural By-Law* and authorizes the committee to allow unscheduled delegations at the discretion of the Chair to speak at the April 1st, 2014 meeting of the NWCAC due to the nature of CNSC delegation.

ACTION: Noted

3.2 [Canadian Nuclear Safety Commission](#)

The Canadian Nuclear Safety Commission will make a 90 minute presentation to provide information on their role as Canada's nuclear regulator and to explain the safety and regulatory matters that would be examined if an application for a deep geological repository for used nuclear fuel was received. There will be a question and answer period, at the discretion of the chair.

STAFF COMMENTS: Correspondence is attached for your review.

ACTION: It was noted that the committee members and the public asked questions to the CNSC. Questions can be sent to Project Coordinator following the meeting and forwarded to the CNSC for a response.

The following is a list of questions that were asked and recorded at the meeting. Please note that the answers provided are not verbatim. The written answers below were provided by the CNSC as follows:

1. How are the Commission Members for the CNSC selected?

The Commission Members are selected by the Governor in Council. The Nuclear Safety and Control Act establishes the Commission (up to seven permanent members) and gives the Commission powers to make licensing decisions. Temporary members can also be appointed as needed. They consist of people who are knowledgeable in the particular field such as mining and/or engineering. One permanent member of the Commission is designated as the President. Currently, Dr. Binder being the President of the CNSC and the Chairman of the Commission. The Chairperson only votes if required. CNSC staff have no direct contact with the Commission Members outside of the Public Hearings and Commission Meetings. Public Hearings provide an opportunity for the Commission Members take into consideration views of the public through written and oral interventions.

The following information was provided after the meeting by CNSC staff, link to biographies on the current Commission Members to help CLC members obtain a better understanding of their backgrounds: <http://www.nuclearsafety.gc.ca/eng/the-commission/commission-members/index.cfm>

2. Has there been an application for a "cradle to the grave" scenario, specifically a Licence to Abandon?

The CNSC is involved in all stages of a nuclear project, from the "cradle to the grave". In other words, from the beginning of a project (site preparation and construction) to end the end of a project (decommissioning and abandonment), whereby the CNSC issues a new licence at each phase of the project, assuming the regulatory requirements have been met. Most recently, the CNSC has issued a Licence to Abandon for the Bruce Heavy Water Plant where OPG had to demonstrate that the plant had been decommissioned safely and all levels of radioactivity were below the regulatory limit. A Licence to Abandon has also been recently issued in Nova Scotia

at Dalhousie University for the SLOWPOKE-2 research reactor.

3. Many members of the public have brought up questions regarding the free trade agreement - can foreign used nuclear fuel be accepted?

Another government department, Natural Resources Canada or NRCan, is in charge of Government policies on radioactive waste and also administers the *Nuclear Fuel Waste Act* and therefore is the more appropriate department to answer this question. However, NRCan does have a FAQ on their website stating that under the *Nuclear Fuel Waste Act*, the deep geological repository being pursued by the NWMO is only for Canada's used nuclear fuel and that there is no intention to accommodate or manage foreign nuclear fuel waste at that facility.

The CNSC staff provided the following link the NRCan's FAQs following the meeting: <http://www.nrcan.gc.ca/energy/uranium-nuclear/nuclear-fuel-waste-Bureau/7743#nwmo->

4. What safety standards will be applied to this project?

CNSC has not received a licence application for the APM approach.

The CNSC has an Act and its associated regulations that must be followed. It is the role of the applicant to show how they meet the *Nuclear Safety and Control Act* (NSCA), the applicable regulations and regulatory document to demonstrate that project will be safe for the public and environment. If the NWMO were to submit a licence application to the CNSC in the future, they would have to show how they meet the our Act, its associated regulations and applicable regulatory documents.

The CNSC uses a comprehensive licensing system that covers the entire lifecycle of a nuclear facility from site preparation to construction, operation, decommissioning (closure and post-closure) and abandonment. This approach requires a separate licence at each phase, although the site preparation and site construction licenses can be combined. The NSCA and its associated regulations outline the application requirements at each licensing stage of the facility.

5. For such a very long-term project, will the standards be evolving over time?

An application for a licence submitted to the CNSC must demonstrate how the applicable requirements under the Nuclear Safety and Control Act and its regulations, and applicable CNSC regulatory documents are met. Copies of the NSCA and its associated regulations are available at: <http://www.nuclearsafety.gc.ca/eng/acts-and-regulations/regulations/index.cfm>

In many situations, an applicant may also have to demonstrate how national and international guides and best practices are implemented, such as standards from the

Canadian Standards Association (CSA), guides from the International Atomic Energy Agency (IAEA) and guides published by the Nuclear Energy Agency. In fact, many of the CNSC regulatory documents have referred to these types of documents as the basis for developing our requirements.

6. Attendee questioned what the emergency response plan is for the municipality of Kincardine?

Attendee has been trying to obtain plan to no avail. CNSC tasked the CLC Chair to look into the local emergency response plans. The Administrator and Clerk clarified that it is Kincardine information she is seeking and the request would have to be directed to them.

7. What is the dollar amount required by the CNSC to financially guarantee the cost for the construction and operation of a DGR?

Each licence application for a nuclear facility is assessed on an individual basis and the applicant is required to provide a financial guarantee for the project at each of these phases of the life-cycle for licensing – siting, construction, operation and decommissioning. Applicant would have to submit a preliminary decommissioning plan and the associated cost estimates, etc. included in their application.

8. Would the DGR be affected by glacial cycles?

If an application is received for a deep geological repository (DGR) for used nuclear fuel in the future, the applicant (in this case the NWMO) would have to demonstrate that the DGR would resist future glacial perturbations. This would in part be based on site specific studies of the effect of past glacial cycles.

The CNSC conducts its own independent research. To clarify, the study that CNSC staff discussed in its presentation was not been done specifically for Huron-Kinloss, but was done for a separate proposed project that is currently undergoing a regulatory review. The study was supervised by CNSC staff and was conducted to independently verify studies for a proposed DGR at a location of ~700 m at the Bruce site would resist future glacial events (3km of ice during glacial max). The project investigated the hydraulic and mechanical response of the geosphere around the proposed DGR, to ice loading during future glacial events.

Essentially, the study showed that any glacial perturbation expected to occur in the next 1 million years would affect only the top few hundred meters of the earth's crust, and that the proposed DGR would not likely be affected by future glacial cycles over the time frame of the safety case. Scientific studies have shown that approximately 9-10 glacial cycles occurred over the last 1 million years; so, one could reasonably expect 9-10 glacial cycles to occur in the next 1 million years. The next glacial cycle is expected in ~60,000 years.

9. There was a question regarding the Waste Isolation Pilot Project (WIPP) leak.

This project is regulated by the United States Environmental Protection Agency and the State of New Mexico. Both agencies are closely following both incidents at the waste isolation pilot plant. More information on this project is available on the United States Department of Energy (US DOE) website. CNSC is monitoring closely.

The CNSC staff provided the following link to the US DOE website following the meeting: <http://www.wipp.energy.gov/wipprecovery/recovery.htm>

10. How does the CNSC participate internationally to establish best practices?

Some examples were provided in the CNSC's presentation on how Canada collaborates internationally. In addition to this, the CNSC participates in a number of working groups for establishing new safety standards as they relate to nuclear safety. For example, the CNSC works closely with the International Atomic Energy Agency (IAEA) in the development or revision of radioactive waste safety standards. These standards and others are essentially a collection of best practices in themselves as a number of countries are represented to provide their experience.

11. What other long-term solutions are other countries looking at?

Most countries with nuclear power plants are looking at repositories for the long-term management of their used nuclear fuel (or high-level radioactive wastes); some countries already have existing near surface repositories for the long-term storage of low and intermediate level radioactive waste. However, according to international guidance, for example from the International Atomic Energy Agency, deep geological repositories are the preferred option for the long-term storage of used nuclear fuel (or high-level radioactive wastes).

12. Attendee requested to get the Nuclear Liability Act? CNSC will get revised Canadian Nuclear Liability Act.

After the meeting, the CNSC provided the following information:

The *Nuclear Liability Act* (NLA) establishes the legal regime that would apply in the event of a Canadian nuclear incident resulting in civil damages. The NLA is administered by the CNSC, while the Federal Department of Natural Resources (NRCan) has responsibility for policy direction. The NLA can be viewed at laws.justice.gc.ca

The CNSC has various responsibilities under the NLA including the designation of nuclear installations that are subject to the NLA as well as setting the amount of insurance the operator of that installation must carry.

Under the NLA, the operator of the installation is absolutely liable for damages caused by that installation. Currently, the NLA requires the operator to carry up to \$75 million in insurance and also provides for the establishment of a Nuclear Damage

Claims Commission, in the event the Government of Canada deems that a special tribunal is necessary (for example, if claims are likely to exceed \$75 million).

Status of the proposed new legislation

On January 30, 2014, the Minister of NRCan introduced in Parliament an omnibus Bill (C-22) which included the proposed new legislation called *Nuclear Liability and Compensation Act* (NLCA). Part of the proposed NLCA is to increase the liability limit of the operator of a nuclear power plant to \$1 billion and to be phased in over a 3-year period.

The Bill is currently is at Second Reading debate stage in the House of Commons and must pass through both the House of Commons and the Senate before it can become law. You can check the status at the following site:

<http://www.parl.gc.ca/LegisInfo/BillDetails.aspx?Mode=1&Language=E&billId=6392558&View=0>

Would a deep geological repository for used nuclear fuel be subject to nuclear liability legislation?

Yes, under the NLA (and the proposed NLCA if passed into law), a deep geological repository for used nuclear fuel would be subject to the Act if a CNSC licence to operate were to be issued in the future.

13. There are currently regulations in place now for no flight zones over nuclear power plants. What would the regulations be for the DGR? CNSC will report back on this question.

Regarding, the current interim (short-term) safe storage on used nuclear fuel, the Canadian Standards Association (CSA) has developed a standard consisting of best practices for the safe site preparation (siting), design, construction, operation and decommissioning of facilities and associated equipment for dry storage facilities for used nuclear fuel, known as CSA N292.2 "Interim Dry Storage of Irradiated Fuel", section 5.3.2.1, requires that the licence applicant to address credible abnormal events that may lead to abnormal operating conditions, this may include accidental aircraft crashes. The Canadian industry uses this standard as a guide in developing licence applications or request for licence renewal. This information would be submitted as part of a licence application, of which would undergo stringent review by the CNSC and other federal and provincial agencies.

Currently, no site has been selected and no application has been submitted by the NWMO to the CNSC for the Adaptive Phased Management approach. The first stages of licensing include a Licence to Prepare Site and a Licence to Construct. If CNSC were to receive an application for a Licence to Operate in the future for a deep geological repository for used nuclear fuel (which would be considered a Class I Facility), as part of the application, the NWMO would be required address section 6(l) of the *Class I Nuclear Facilities Regulations* which states that an application for a Class I Facility shall contain "the proposed measures to prevent acts of sabotage or

attempted sabotage at the nuclear facility, including measures to alert the licensee of such acts;..” Therefore as part of these application requirements the NWMO would have to evaluate credible abnormal events that may lead to abnormal operating conditions, such as accidental aircraft crashes.

The CNSC utilizes a joint regulatory review approach for specific licence applications with other federal departments, such as Transport Canada, to ensure that the legitimate concerns of the agencies are considered in the regulatory process and are reflected, as appropriate, in the licence in the form of site specific requirements. Additionally, CNSC staff can make recommendations to Transport Canada through this process. However, to be clear, it is up to the licence applicant to meet all federal, provincial and municipal requirements.

The Canadian Aviation Regulations (CAR) fall within Transport Canada’s jurisdiction. If the CLC requires further information on CAR, CNSC staff recommend following up with Transport Canada for a more detailed response and to further understand the intent behind the regulation. A contact name has been provided below:

Mr. Bob JG Grant
Air Navigation Standards Inspector
Transport Canada
Flight Standards
330 Sparks Street
Ottawa, Ontario K1A 0N5
Canada
Telephone: 613-990-5443
Fax: 613-954-1602
E-mail: bob.grant@tc.gc.ca

14. How is rock formation dated?

There are several ways to determine the ages of rocks and fossils. You could find fossils in rocks like limestones.

There are 2 ways to determine how old a rock is: Relative dating and Absolute dating.

For relative dating, the basic principles are that for sedimentary rocks (like limestones that have fossils) younger sedimentary rocks are deposited on top of older ones (unless the layer has been badly disturbed by some event, such as an earthquake). Looking at the layers, you can find out what order they were deposited in, but we don’t know exactly how old they are.

Fossils, can give important clues to the age of a rock because species change through time – so they can be used to help give an order to the deposits they are found in. Numerous fossils have been dated by scientists in different organizations. If

a fossil is found in a rock, this will help determine how old the rock is. Some fossils are characteristic of a particular period in geological time. For example, different species of ammonites (marine animals that are now extinct) are easy to recognize, lived over a wide geographic area but also existed only for relatively short time periods.

With the science of absolute age dating we can tell the actual age of a rock (with some uncertainty). Most absolute ages are obtained using radiometric methods. The dating method depends on the type of rock, and about when it formed, and various techniques are used.

4.0 Reports and Correspondence

4.1 Draft Community Profile

The draft Community Profile will be distributed at the April 1, 2014 meeting to committee members only.

STAFF COMMENTS: This document is in draft form and will be circulated to the committee for comment. Any comments or change requests can be sent directly to Kelly by April 11th, 2014. The revised draft will then be tabled at the May 6, 2014 NWCAC meeting and will be available to the public.

ACTION: Noted.

4.2 [Trip Report from the Waste Management Symposia 2014](#)

Glenn Sutton will present on his trip to the Waste Management Symposia 2014 at the June 3, 2014 NWCAC meeting.

STAFF COMMENTS: Materials from the trip will be distributed to the committee members. A copy of the materials will be available at the Municipal Office.

The following materials will be available:

Brochure - A Long Term Solution for Spent Nuclear Fuel in Our Municipality

Newsletter – Insight, WM Symposia 2014 March 2-3, 2014

Newsletter – Insight, WM Symposia 2014 March 4, 2014

Newsletter – Insight, WM Symposia 2014 March 5, 2014

Magazine – Nuclear News, a publication of the American Nuclear Society

ACTION: Noted

4.3 [NWCAC Newsletter Winter 2014](#)

Newsletter attached for your review.

STAFF COMMENTS: The NWCAC Newsletter Winter 2014 has been posted to the website and distributed to the Municipal Office lobby, Lucknow Library and Ripley Library.

ACTION: Noted

5.0 **Other Business**

None to report

6.0 **Adjourn**

Moved by Ricardo Gerdingh
Seconded by Glenn Sutton

ADJOURN 18 THAT The Nuclear Waste Community Advisory Committee do now adjourn to meet again on May 6, 2014 at 7:00 p.m. or at the Call of the Chair.

Carried

Originals signed by Mitch Twolan
Chair

Originals signed by Kelly Lush
Secretary