

ENERGY AND ENVIRONMENTAL BULLETIN

June 2005

A 300-YEAR PLAN: NWMO RECOMMENDS LONG-TERM NUCLEAR WASTE STORAGE DEEP BELOW CANADIAN SHIELD

On May 24, 2005, the Nuclear Waste Management Organization (NWMO) released its Draft Study on long-term fuel disposal for public comment. The Study's strategy recommends depositing Canada's nuclear waste deep below the Canadian Shield or Ordovician sedimentary deposits in Ontario, Quebec, or Saskatchewan. Setting a new precedent for public consultation in Canada, the study will be open to one more round of public input before it is submitted to the Government of Canada in November 2005.

BACKGROUND AND IMPETUS FOR THE STUDY

In Ontario, Quebec and New Brunswick, 22 nuclear reactors currently generate energy. The reactors have produced over 2 million used fuel bundles to date, and are projected to produce a total of 3.7 million before being decommissioned. Today, the used fuel is stored on an interim basis on each reactor site; no agreement for managing this nuclear waste in the long-term exists.

In 2002, Canada's Government passed the *Nuclear Fuel Waste Act (NFWA)* that created the NWMO with a mandate to develop and implement a long-term management approach. The Government is expected to adopt the NWMO's recommendation in 2006 and begin implementation soon after.

THE RECOMMENDATION: "ADAPTIVE PHASED MANAGEMENT"

The Study found that although technically sound in the short-term, conventional waste management approaches are not consistent with the public goal of developing a safe, long-term solution. In response, the NWMO settled on Adaptive Phased Management, a multi-phase strategy to achieve both security and flexibility for future generations in its 300-year implementation period. Combining deep geological disposal with a possible shallow storage phase, the strategy allows for monitoring and retrieving the waste from deep storage until year 300.

Phase One: 2006 - 2035

Waste will continue to be stored at the nuclear reactors while the NWMO consults with the public on a process for final site selection. A community able and willing to host both deep and shallow underground storage will be chosen through this process by 2025, when the NWMO will construct an underground testing laboratory, and decide whether to implement the transitional shallow storage stage.

Phase Two: 2035 – 2065

If shallow storage is implemented, the used fuel will be transported to the central site and stored in shallow underground caverns until the deep repository is built in 2065. If shallow storage is abandoned, the waste will remain at the nuclear reactor sites until the deep repository is constructed. It will then be transported and prepared for storage.

Phase Three: 2065 +

Used fuel will be repackaged into “long-lived” containers for final isolation in holes drilled into underground rock formations and filled with a clay-based material. The underground laboratory will continue to monitor and retain access to the fuel for up to 240 years to assess its performance. At the end of the 300-year implementation, a future generation will decide when to close the repository permanently.

SITE SELECTION

The deep repository site must be located 500 – 1000 metres under either the Canadian Shield or Ordovician sedimentary rock. The security of the site will depend on a combination of natural rock bed and engineered barriers. The search for a host site will then focus on the provinces directly involved in the nuclear fuel cycle: Ontario, Quebec, and possibly Saskatchewan (because of its role in uranium mining).

TRANSPORTATION

Although the Study identifies many risks associated with the transportation of nuclear waste, it neither specifies how the waste will be transported, nor how these risks will be reduced. A Canadian Nuclear Safety Commission (CNSC) license is required to transport nuclear waste in Canada.

GOVERNANCE AND FUNDING

The NWMO is administered by a board of directors comprised of Canada’s three nuclear energy corporations: Ontario Power Generation Inc. (“OPG”), NB Power Nuclear, and Hydro-Quebec. Under the policy guidance of the Government and Natural Resources Canada, the NWMO will execute the final plan the government chooses. The CNSC, along with Transport Canada and provincial regulators, will ensure that the NWMO meets its regulatory and licensing requirements.

Each NWMO director must establish the trust funds that will finance the plan’s implementation. The Study projects the total cost to be \$24.4 Billion CDN (present value \$6.1 Billion CDN). The NWMO’s funding formula will work on a “polluter pays” principle, meaning each waste producer will bear a percentage of the cost based on its proportion of fuel used. Under this formula, OPG would be responsible for over 88% of the cost, NB Power Nuclear and Hydro-Quebec would fund 5% each, and Atomic Energy of Canada Ltd. would fund 1%.

PUBLIC ENGAGEMENT AND CONSULTATION

The *NFWA* mandates extensive public consultation throughout the process. To date, over 15,000 Canadians and 400 experts have been involved in a series of nation-wide surveys, focus groups, workshops, roundtables, e-dialogues, and commissioned papers. The Canadian public was consulted from the beginning to set the study’s issues and objectives, and determine the basic values that would underpin the recommendations.

ABORIGINAL CONSULTATION

Recent Supreme Court of Canada decisions place a duty on government to consult with and accommodate Aboriginal groups affected by land and resource development. The *NFWA* also specifically requires Aboriginal consultation. Eighty meetings and workshops with over 2,000 participants in Aboriginal communities have occurred so far, with Aboriginal groups raising concern over the potential for waste importation, the fairness of the site selection process to remote communities, the possible economic benefits for Aboriginal communities, and the status of existing land claims and treaties under the plan.

NEXT STEPS AND IMPLICATIONS

The Study will remain open to further public comment until August 15, 2005. The final study will then be drafted and submitted to the Government of Canada by November 15, 2005. After the Government makes a decision based on the Study's recommendations in 2006, extensive public consultations to select the waste storage site will begin.

The NWMO Draft Study represents a new benchmark for public and Aboriginal consultation. Industry should be mindful of this new standard when pursuing large development projects.

Written by Michael Peterson, Kristi Sebalj and Geoff Moysa, Student-at-Law

The foregoing provides only an overview. Readers are cautioned against making any decisions based on this material alone. Rather, a qualified lawyer should be consulted.

© Copyright 2005 McMillan Binch Mendelsohn LLP

For further information, please contact your McMillan Binch Mendelsohn lawyer or one of the following lawyers listed below:

Chris N. Germanakos	416.865.7865	chris.germanakos@mbmlex.com.com
Michael M. Peterson	416.865.7839	michael.peterson@mbmlex.com
Mike Richmond	416.865.7832	mike.richmond@mbmlex.com
Kristi Sebalj	416.865.7854	kristi.sebalj@mbmlex.com
Scott Stoll	416.865.7861	scott.stoll@mbmlex.com

McMILLAN BINCH MENDELSON

TORONTO | TEL: 416.865.7000 | FAX: 416.865.7048

MONTRÉAL | TEL: 514.987.5000 | FAX: 514.987.1213

www.mbmlex.com