



NUCLEAR WASTE  
MANAGEMENT  
ORGANIZATION

SOCIÉTÉ DE GESTION  
DES DÉCHETS  
NUCLÉAIRES



## Preparing for Implementation

The NWMO was established by Ontario Power Generation, Hydro-Québec and New Brunswick Power Corporation in 2002, as required under the *Nuclear Fuel Waste Act*. NWMO's first mandate was to study options for the long-term management of used nuclear fuel. In 2005, NWMO completed its study and put forward its recommendation to Government. On June 14, 2007, the Government of Canada selected the NWMO's recommendation for Adaptive Phased Management (APM). APM moves towards a goal Canadians have themselves identified: safe and secure long-term isolation and containment of used nuclear fuel that we produce, and flexibility for future generations to act in their own best interests. The NWMO now has the mandate to implement the recommendation.

The NWMO intends to move forward in stages with the participation of interested individuals and organizations at each step. We will do this in an open, transparent and inclusive manner, taking the time that is necessary to collaboratively plan and then confirm each step before moving forward together.

This document invites input and discussion on the NWMO's plans for implementing APM.

### » Adaptive Phased Management

Adaptive Phased Management (APM) is both a technical method and a management system. The key features are summarized in the figure below.





The plan provides a path forward toward an end point, the placement of used nuclear fuel in a deep geological repository for safe, secure long-term management. The plan draws on the extensive technical and scientific research, development and designs developed in Canada and internationally over several decades of study of geological repositories.

Implementation is set out in phases – each marked by explicit decision points with opportunities for input by interested Canadians. APM is flexible. Like a roadmap, APM allows us to adjust our course at any stage to take advantage of new knowledge and changing societal priorities. APM builds “expecting the unexpected” into the process. It allows us to learn and adapt as we move forward, to continually explore, evaluate, adjust and reaffirm our course. See [NWMO Final Study Report, Choosing a Way Forward](#), November 2005, for additional information about APM.

Implementing APM will take sustained effort over many decades. One of the early steps will be to conduct a dialogue to design the process collaboratively for selecting a site to be hosted by a willing community. The next step would then be to implement this site-selection process. It may take 10 years just to identify a site and a willing community and another 20 years to confirm the site’s suitability and to secure the required regulatory approvals and licences. Constructing the deep repository at the site, transporting the used fuel and placing it in the repository will also require at least several decades.

Flexibility in design will allow for research, new learning and new technologies to be incorporated into the designs and planning.

In *Choosing a Way Forward*, we set out our intentions for implementation which include commitments to continue real dialogue and transparency and openness in decision-making. At this time, we invite dialogue and input of interested Canadians and Aboriginal peoples as we set priorities and prepare for the first five years of our new implementation mandate. (See side bar on *Dialogue and Collaboration*.)

### **Dialogue and Collaboration**

*The work of the NWMO is premised on the understanding that citizens have the right to know about and participate in discussions and decisions that affect their quality of life, including the long-term management of used nuclear fuel. Citizens bring special insight and expertise which result in better decisions. Decisions about safety and risk are properly societal decisions and for this reason the priorities and concerns of a broad diversity of citizens, particularly those most affected, need to be taken into account throughout the process. A critical component of APM is the inclusive and collaborative process of dialogue and decision-making through the phases of implementation.*

*The NWMO is building its capacity to both engage citizens in dialogue and collaboration as well as to reflect on the direction which emerges and to ensure this is reflected in the implementation of APM. The NWMO is a strong participant in joint research and international collaborative efforts to identify and develop new and more effective processes for encouraging dialogue and collaboration on the types of difficult decisions which will need to be addressed during the implementation process. We are in the early stage of our efforts and will report out regularly on our activities.*



Our work will continue building on the foundation of knowledge, in the scientific and technical domains of the natural and social sciences, Aboriginal Traditional Knowledge and ethics that supported our study and development of Adaptive Phased Management.

### **Technical Research and Development**

*A strong research and development program will ensure that Canada benefits from leading-edge technological innovation in radioactive waste management developed domestically and elsewhere, and that we maintain the necessary human resource capacity to manage APM through all phases of implementation.*

*The NWMO has assumed responsibility for managing and directing all aspects of the established technical research program on used nuclear fuel in Canada. The program focuses on long-term used fuel storage and repository engineering, geoscience, safety assessment and technical support to the development of a collaborative siting process.*

*The NWMO has contracted with eleven different Canadian universities in 2007 to support the technical program.*

*The NWMO is also active in joint research and development projects at the Äspö Hard Rock Laboratory in Sweden and continues to benefit from international cooperation agreements with other national radioactive waste management organizations including SKB in Sweden, Posiva in Finland, NAGRA in Switzerland and ANDRA in France. We also support research initiatives through Canada's membership in the OECD Nuclear Energy Agency.*

*We will continue to draw on the best available knowledge in radioactive waste management in Canada and internationally.*



## » A Starting Point

In preparing to implement Adaptive Phased Management (APM), we have proposed seven Strategic Objectives to guide our way forward for the next five years. These Strategic Objectives flow from the NWMO's Vision, Mission and Values, and the principles and intentions that Canadians said were important for APM.

- We are seeking to build **long-term relationships with interested Canadians and Aboriginal people** and involve them in setting future direction.
- We are continuing to build a strong **research** program designed to broaden NWMO's foundation of technical and social knowledge. This will bring to bear the most advanced international expertise to support implementation of APM.
- We are developing and refining a funding formula and trust fund deposit schedules that address **financial surety** and long-term program funding.
- We are developing processes to ensure the organization and its activities are fully adaptive. This includes continuing to **review, adjust and validate plans** against factors such as advances in technical learning, evolving societal expectations and values, and changes in energy and environmental policies, composition, volume and form of used nuclear fuel.
- We are developing a **governance structure** that provides Government, the Members (Ontario Power Generation, Hydro Quebec and New Brunswick Power Nuclear Corporation), Board, management, and the public with greater assurance, oversight, advice, and guidance about NWMO activities during the implementation phase.
- We are re-forming NWMO as an **implementing organization** – one with a full range of social and technical research and environmental and financial capabilities.
- We will **collaboratively design a process to select a site**, supported by a public engagement program. A later step will involve initiation of a site selection process.



### » **Questions to Start the Discussion**

We are interested in your views.

1. Do you think these are the appropriate strategic objectives for the NWMO? Are there others?
2. At this point do you have any questions about the NWMO or Adaptive Phased Management?
3. From your perspective, what do you think are some important considerations for implementation?
4. How would you like to see yourself or your group involved in the work going forward?

### » **We Encourage You To Become Involved**

We are committed to providing many opportunities for Canadians and Aboriginal people to continue to shape NWMO work going forward. We welcome your comments and submissions on the material you have read today and in the future.

Since September 2007, the NWMO has sent updates on the government decision concerning Adaptive Phased Management and the NWMO's mandate to approximately 1,000 Canadians and Aboriginal people who joined our subscribers list on the NWMO website or who called us to express an interest. We are now seeking meetings and offering briefings on request to interested individuals and organizations.

### » **Coming Soon**

We will be organizing multi-party dialogues in the nuclear provinces of Ontario, New Brunswick, Quebec and Saskatchewan. These opportunities are meant to invite input and seek direction on a range of specific implementation topics.

The first set of dialogues will take place early in 2008 with follow-up sessions planned later in the spring.

Please continue to monitor the NWMO web site for details about the times and locations for these dialogues.

For those who are unable to come out to these meetings but would like to contribute, we invite you to provide a submission or comment through our website, complete a survey on the website (coming soon), or call the NWMO to share your perspective.