



Implementing Adaptive Phased Management 2010 to 2014



What We Heard - Comments Received about *DRAFT PLAN*

March 2010

nwmo

NUCLEAR WASTE
MANAGEMENT
ORGANIZATION

SOCIÉTÉ DE GESTION
DES DÉCHETS
NUCLÉAIRES



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Introduction

Every year since 2007 when the Government of Canada selected Adaptive Phased Management (APM) as the preferred approach for the safe long-term management of Canada's used nuclear fuel, the NWMO has published a five-year strategic plan. Titled *Implementing Adaptive Phased Management*, the Plan describes how the NWMO will implement APM in the planning period. The NWMO invites all interested individuals and organizations to get involved in the long-term management of used nuclear fuel. To encourage public review and comment, the Plan is distributed by mail to our subscribers and posted on the NWMO's website. The comments that we receive in response help to inform the planning and production of the subsequent Plan.

The purpose of this document is to report on the comments received about the two most recent Plans, *Implementing Adaptive Phased Management 2009 to 2013* and *2010 to 2014* (draft), and how these comments have been applied to finalize the Plan for the period 2010 to 2014.

Four questions were identified for consideration during review of the Plans:

1. The Plan is built around seven strategic objectives. Are the objectives that we have identified appropriate? Have we missed key areas?
2. Have we set out appropriate activities?
3. What more would you like to know about the NWMO's implementation plan?
4. Other comments?

The NWMO received almost 150 submissions in response to the mailing of the two Plans. A modest response given that each mailing consisted of approximately 1700 copies to individuals and organizations who had previously expressed interest. Overall, the comments received were generally supportive of the Plans. The NWMO was acknowledged for transparency in its annual reporting and commitment to regular review and update of its plans for the implementation of APM.

The NWMO continues to receive comments and suggestions about its work programs and plans, despite the close of the official comment period for the 2010 to 2014 Plan at the end of January 2010. All comments are welcome and will be considered as the NWMO continues to develop and adapt its plans.

Questions about the Plans and suggested adjustments are presented and discussed in the following sections, grouped by topic.



Strategic Objectives

The Plan is organized along seven Strategic Objectives. The Objectives and initiatives in each area reflect our priorities for the planning period. For the period 2010 to 2014, the Strategic Objectives were updated. An objective specific to the generic design and safety case for a deep geological repository was added reflecting progress and the importance of this work. Changes to the governance objective reflect the maturity of the organization.

Suggestions received for changes to the Strategic Objectives tended to focus on safety and transportation issues, specifically,

- » include a health focus
- » incorporate an objective to ensure the safe transportation of nuclear waste
- » include the international context or learning

One comment focussed on the NWMO's research program, specifically, research is a means not an end: [the NWMO] is not a funding agency for pure research. Strategic objectives should refer to relevant research.

With respect to wording, the NWMO was encouraged to include mention of nuclear fuel in the strategic objectives.

NWMO Response

As part of the update for the period 2010 to 2014, the Strategic Objectives and work programs addressing Building Knowledge and Review, Adjust and Validate Plans have been reorganized. Two new objectives titled *Refine Conceptual Designs for a Deep Geological Repository* and *Adapt Plans* have been introduced. This change was made in an attempt to better explain and separate the research underway directly related to the development of the deep geological repository from the efforts to track new knowledge in fields relevant to the long-term management of used nuclear fuel. In addition, the objective related to Collaborative Design and Initiation of a Siting Process has been updated to *Collaboratively Implement Site Selection Process*.

The wording of the Strategic Objectives has been updated to include the term used nuclear fuel.

The important issues of education and learning about the long-term management of used nuclear fuel are addressed under a number of work programs, including implementation of the siting process and Building Sustainable Relationships.

» Build Sustainable Relationships

The NWMO continues to receive comments about the attention Aboriginal peoples, as a specific group, receive in the Plan. The repeated references to Aboriginal peoples cause confusion, as expressed by the following comment: one gets the impression that the waste disposal site will likely be on land under the control of Aboriginal peoples because they are the only subgroup of Canadians singled out in the plan.

Interest was expressed in how input gathered from Aboriginal groups would be presented. Will there be a specific section of the report that outlines what the NWMO heard from these groups?

The NWMO was encouraged to be very clear about its legal duty to consult.

In terms of the NWMO's broader engagement initiatives, there was a suggestion that funding be provided to allow organizations to have a better opportunity to make recommendations about [the NWMO's] future activities.

NWMO Response

The NWMO acknowledges, respects and honours that Aboriginal peoples, Indian, Métis and Inuit peoples of Canada, have unique status and rights as recognized and affirmed in S.35 of the *Constitution Act* (1982). Understanding the nature of any impacts from the implementation of APM on Aboriginal rights, treaties and land claims and how Aboriginal peoples should be accommodated as a result of any impacts is an important component of the NWMO's work.

As part of the NWMO's proposed site selection process, the NWMO will provide resources to individuals and organizations that seek to learn more and participate in the process.

» Adapt Plans

The NWMO was reminded that Canada's plan for used nuclear fuel should also be responsive to advances in environmental knowledge. In terms of adapting the Plan over time, evolving environmental expectations, concerns, knowledge, values and policies need to be considered and incorporated. Collaboration with interested academics in Canada and internationally should also include best practices in environmental processes.

With respect to the NWMO's commitment to regularly assess, strengthen and redirect the implementation of APM in the face of new information, there was interest in knowing what new information has become available since 2007 that will help guide APM.

NWMO Response

Assessment of the potential impacts of the long-term management of used nuclear fuel on the environment is a key element of the site selection process. Environmental factors have been highlighted in the description of the siting process, specifically the site evaluation factors.

The environment is also an important component of Aboriginal Traditional Knowledge.

With respect to new information, as outlined in the 2010 to 2014 Plan under Adapt Plans, the NWMO will continue its many activities to keep abreast and report publicly on new technology, changing public attitudes, changes in energy policy, and the potential implications on the long-term management of used nuclear fuel. Specific activities set out in the Plan are listed below:

- » Post research papers and the results of engagement activities on the NWMO website, including comments received during the public review of the proposed site selection process;
- » Publish an annual review of developments in used fuel reprocessing and alternative used nuclear fuel management technologies;
- » Publish an annual update on current and future potential inventories of used fuel volumes and types;
- » Continue to research citizen priorities and concerns relating to APM, including an annual survey of public attitudes about APM; and
- » Continue to monitor, assess and discuss the impact of potential new nuclear reactor units on the long-term management of used nuclear fuel.

These reports are available on the NWMO website, www.nwmo.ca.

» Demonstrate Accountability

Some expressed disappointment in the Plan in its lack of reporting the NWMO's achievements and progress. There was a suggestion that in future versions of the document, it would be most interesting to include a paragraph summarizing the progress achieved compared with the strategic objective descriptions in the previous edition. In addition, a short progress report on non-recurrent strategic objectives could be used to adequately follow the evolution of Adaptive Phased Management. Interest was expressed in how the NWMO's progress against its commitments will be measured and independently verified.

Comment was expressed that all decisions of the NWMO should be a matter of Cabinet.

The NWMO was encouraged to close the dialogue circle. When the NWMO publishes the final version [of any document] it should also publish a disposition report summarizing the comments received and stating how the NWMO dealt with them.

NWMO Response

The NWMO reports on its progress in implementing Adaptive Phased Management in its Annual Report published in March of every year.

In addition, the *Nuclear Fuel Waste Act (2002)* requires that the NWMO's annual report take the form of a detailed Triennial report every third year after the Government decision on the management approach. In this document, the NWMO must include:

- a. a summary of its activities respecting the management of nuclear fuel waste during the last three fiscal years, including an analysis of any significant socio-economic effects of those activities on a community's way of life or on its social, cultural or economic aspirations;
- b. its strategic plan for the next five fiscal years to implement the approach that the Governor in Council selects under section 15 or approves under subsection 20(5);
- c. its budget forecast for the next five fiscal years to implement the strategic plan;
- d. the results of its public consultations held during the last three fiscal years with respect to the matters set out in paragraphs (a) and (b); and
- e. the comments of the Advisory Council on the matters referred to in paragraphs (a) to (d).

The NWMO's first triennial report will be published in March 2011.

» Build Awareness

Some concern was expressed that the NWMO needs to be more aggressive in building awareness and knowledge among Canadians and even internationally. The NWMO was encouraged to develop a public communication program to provide more information about issues such as those listed below:

- » natural radiation, potential impacts of exposure to low levels;
- » dangers of nuclear waste;
- » closing plans [of nuclear generating plants] and long-term storage/disposal issues;
- » international initiatives in nuclear waste management; and
- » NWMO's implementation and evaluation activities [of APM engagement initiatives].

Some emphasised the importance of planning on significant education initiatives in any selected community.

NWMO Response

As described in the 2010 to 2014 Plan under Building Sustainable Relationships, the NWMO has initiated the development of exhibits and education tools, and communication materials such as backgrounders, DVDs, etc., to support building awareness and the site selection process. The exhibits will address fundamental issues such as radiation, used nuclear fuel, the multi-barrier system, etc.



Site Selection

The Strategic Objectives and work programs related to siting were of particular interest to readers of the Implementation Plans. The NWMO's draft proposal for the siting process is described in detail in *Moving Forward Together: Designing the Process for Selecting a Site Invitation to Review a Proposed Process for Selecting a Site*, May 2009, available on the NWMO website www.nwmo.ca. This document describes the project and the proposed principles to guide the site selection process. It outlines proposed decision-making steps and criteria to be applied in assessing sites to ensure safety for people and the environment for the very long term. It also outlines important assessment factors to ensure sustainability and well-being of the host community.

Some of the comments received about the Implementation Plans suggested that the NWMO select sites and channel resources to sites that geologically, economically and from a transportation perspective, lend themselves to the safe, long-term storage of used nuclear fuel.

Key issues and questions that were raised, many of which are addressed in the NWMO's proposed siting process, are listed below:

- » the definition of "community" and whether the NWMO will act as champion or referee and, if referee, who will be the champion;
- » details regarding public consultation to select a site, such as if there is a vote, the percentage that would be accepted;
- » who will be consulted about a potential site, the people living near the site, or the people within a larger perimeter around the site;
- » what information will be provided to interested potential host communities;
- » what will trigger "invitations from the communities";
- » in previous reports, the selection of a site required that there be no nearby mining presence and this notion has disappeared;
- » the impact of variability in the quantity of nuclear waste year by year on a community's potential interest in hosting the repository;
- » engagement, feasibility studies, and regional studies should explicitly include environmental effects, investigations, factors and impact assessments;
- » role of members of potential host communities in the the characterization, oversight and monitoring of potential repository sites;
- » consultation with municipalities and other stakeholders regarding the transportation of materials (e.g. mode and route); the cost of new road access should be an important consideration;
- » achieving an informed willing host by hiring nuclear experts outside of the nuclear energy industry to ensure that the information is complete and not biased; and
- » the NWMO must engage Provincial government departments as part of the preparation process for site selection.

NWMO Response

Throughout 2009, the draft proposal for the process was the subject of public dialogue. In early 2010, the NWMO will refine the siting process with the comments received during the 2009 public dialogues and through reviews of NWMO publications such as the Implementation Plans. The final process will be the product of a two-year collaboration with Canadians.



Transportation

Many comments and questions were received about the transportation of used nuclear fuel:

- » nuclear waste in Canada should be stored permanently at the generating stations to avoid transportation of the fuel bundles and the rock excavated during construction;
- » interest in the provinces share of responsibilities for parts of application of the Nuclear Safety Control Act and transportation;
- » more information was requested about the need for security for nuclear waste while in transit;
- » the role of and impact on transportation throughout the siting process should be given significant prominence within the [implementation] plan; and
- » the integrity of the transportation infrastructure that will be used to move the nuclear waste should not be negatively impacted by budgetary constraints, and that any budgetary issues related to these impacts must be identified and considered.

Related to transportation was concern about emergency response. Emergency response personnel should be taught the reality of radiation effects and they should factor this information into their plans and procedures.

There was a need expressed for an accident plan and information about how emergency situations at the proposed site and during transportation of the used nuclear fuel will be handled and addressed. Any emergency plan should consider all possible scenarios, such as terrorists, earthquakes, include follow up studies to track health impacts on the local population, and clarify jurisdictional roles and responsibilities.

NWMO Response

The Implementation Plan references the work program related to the development of generic transportation options. In addition, information about the plans for engagement of transportation communities and the regulatory issues related to the transportation of used nuclear fuel are described in the proposed siting process outlined in *Moving Forward Together: Designing the Process for Selecting a Site Invitation to Review a Proposed Process for Selecting a Site*, May 2009 and available on the NWMO website www.nwmo.ca.

The interest in transportation issues underlines its importance and the work to be done in planning and considering options. As communities potentially interested in hosting the deep geological repository express interest in learning more, the NWMO will develop transportation plans outlining possible modes and routes, and engage governments and the regulators about this issue.



Interest in More Detailed Plans

There was interest expressed in learning more details about many elements of the work programs, particularly technical research. Issues of specific interest and comments are listed below:

- » progress on finding durable containers for the waste;
- » recycling of used nuclear fuel in breeder reactors;
- » the fate of nuclear waste other than used nuclear fuel, specifically, the potential for storage of contaminated equipment from decommissioned nuclear plants in the deep geological repository;
- » estimation of low-dose health risks from geological nuclear waste repository; and
- » research on the potential environmental impacts of any proposed project and environmental assessment methodology.

There was interest in whether social research refers to public acceptability of the concept of nuclear power and the resulting nuclear waste.

NWMO Response

Details about the NWMO's technical and social research programs and the results are published on the NWMO's web site www.nwmo.ca.



General Questions of Clarification

Interest was expressed in greater clarity about many issues:

- » Does NWMO follow research on used fuel or all types of nuclear waste?
- » Explain that the fuel bundle is visually identical before and after having been in the reactor.
- » Make clearer the concepts of crystalline and sedimentary rocks and why the NWMO is now studying these two possibilities.
- » Throughout the document, use of the term nuclear waste creates confusion about the nuclear waste that falls within the NWMO's mandate.
- » When, in 2011, will the triennial report be published?
- » "Trust fund deposit schedules" is confusing jargon for the general reader.
- » Under "fundamental values" if openness is included in "Integrity" it is redundant and discriminatory to repeat it in "Transparency".
- » It is difficult to judge the probable success of the Plan without knowing anything about the NWMO's staff. As a minimum, the total complement should be given. Ideally this should be broken down by qualification, e.g., graduate, clerical, and by discipline, e.g., physical science.
- » The definition of safety provided by the NWMO in the discussion document is inclusive of individuals, society and the environment and the plan should reflect all three elements accordingly.

NWMO Response

In revising and finalizing *Implementing Adaptive Phased Management 2010 to 2014 – DRAFT*, the NWMO has attempted to address these many comments and suggestions with the addition of definitions, use of more precise and less technical language and with the addition of context.



NWMO Mandate and Sense of Urgency

It was suggested that the NWMO's position about the potential import of nuclear waste be included in the document.

Comment was received about whether it is absolutely necessary that a unique site should be chosen.

The suggestion was received that an on-going study team be established with the goal of constantly keeping nuclear waste production to a minimum, thereby shrinking the problem of what to do with increasing amounts of future high level nuclear waste.

Some concern was expressed that the timeframe for the work of the NWMO is longer than it needs to be. The identification of ten or more years [to implement the siting process] opens the door to a never-ending process. The NWMO was urged to be efficient and get the job underway. The [APM] process is good but action and results are necessary in any project.

In terms of terminology, the use of "long-term" was found to be subjective and confusing.

NWMO Response

The Government of Canada, through the *Nuclear Fuel Waste Act (2002)*, assigned responsibility for the long-term management of Canada's used nuclear fuel to the NWMO. The NWMO's mission is to develop and implement, collaboratively with Canadians, a management approach for the long-term care of Canada's used nuclear fuel that is socially acceptable, technically sound, environmentally responsible and economically feasible. Adaptive Phased Management is premised on the technical endpoint of centralized containment and isolation of used nuclear fuel in a deep geological repository.

Project implementation will require a long-term partnership involving the community and the NWMO. The nature, pace and manner of progressing through the phases of the project will be determined in partnership with the community.

APM will proceed as expeditiously as Canadians, successful technology demonstration, and the regulatory authorities allow.

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