

nwmo

NUCLEAR WASTE
MANAGEMENT
ORGANIZATION

SOCIÉTÉ DE GESTION
DES DÉCHETS
NUCLÉAIRES



Consent-based Siting for the Long-Term Storage of Used Nuclear Fuel in Canada

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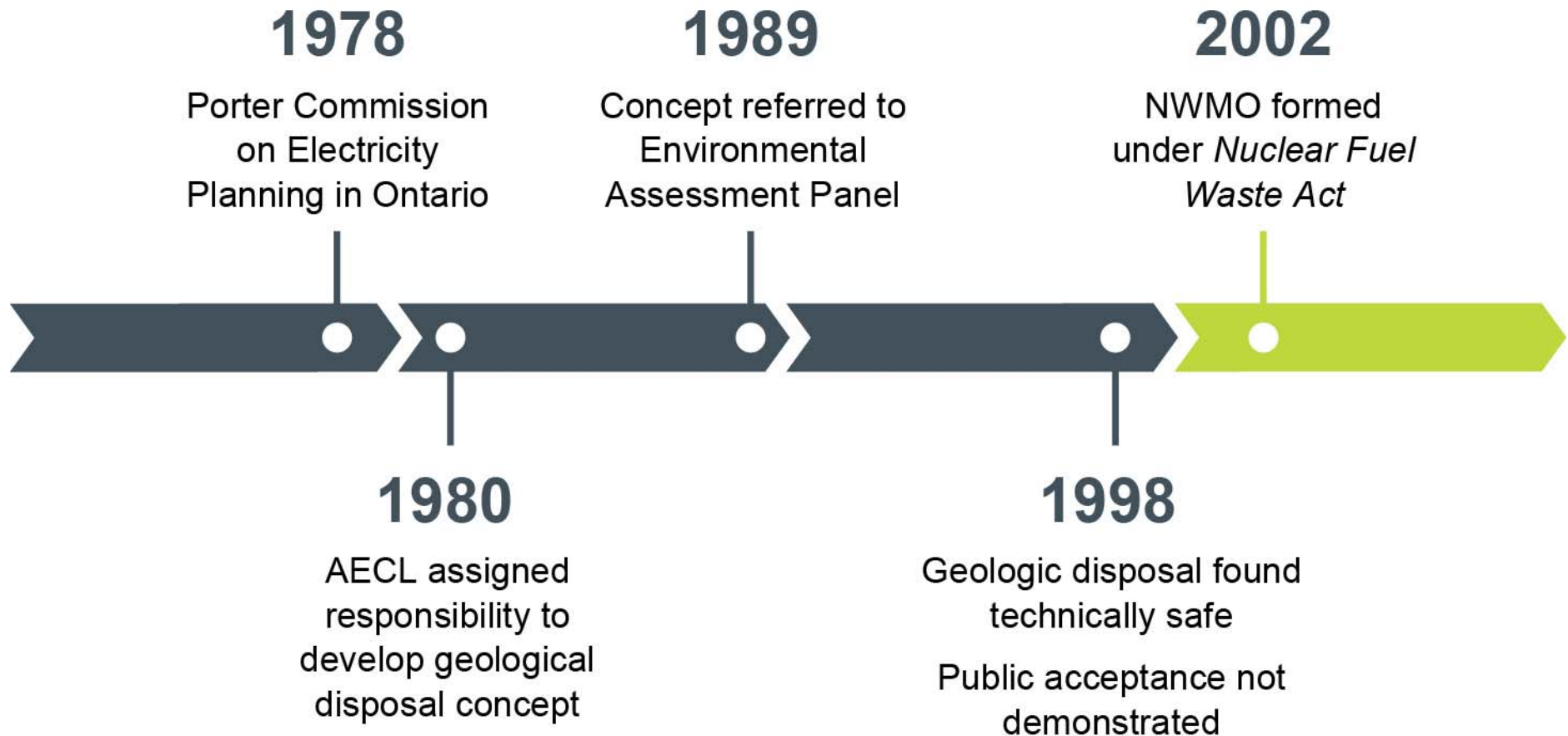
Waste Management 2017
March 5-9, Phoenix Arizona

Nuclear Waste Management Organization

- NWMO formed in 2002 as required by the Federal *Nuclear Fuel Waste Act (NFWA)*
- Funded by Canada's nuclear energy corporations as required by the *NFWA*
- Operates on a not-for-profit basis

Our 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.

How We Got Here



Important milestone

Seaborn Panel (1998)

- From a technical perspective safety has been demonstrated however broad public support has not
- Broad public support is necessary to ensure the acceptability of a concept for managing nuclear fuel waste
- Safety must be viewed from two complementary perspectives: technical and social

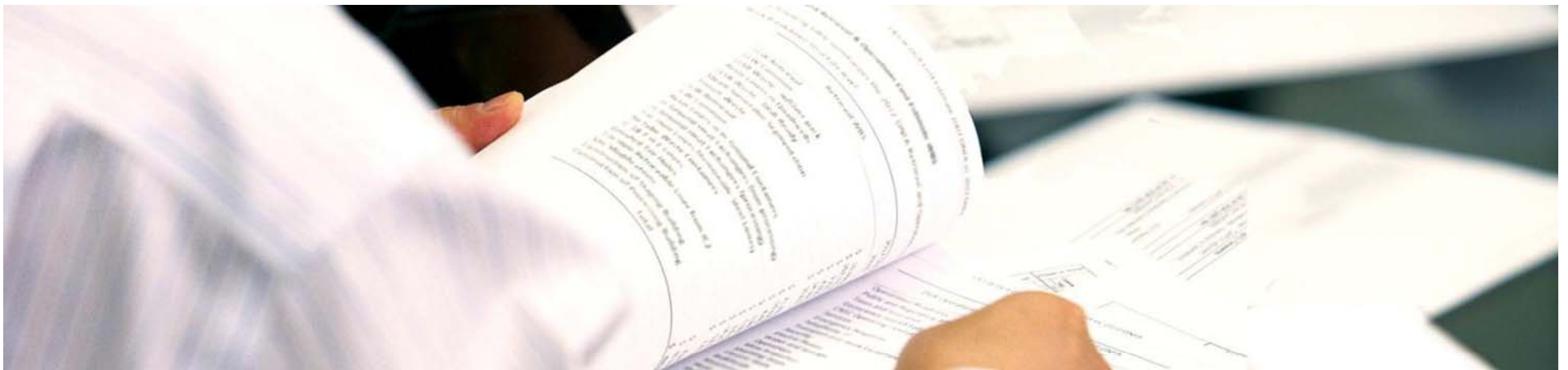
A Three-Year Dialogue with Canadians

- NWMO met with more than 18,000 Canadians (2002 – 2005)
- 2,500 Aboriginal people
- 500 specialists
- 120 information & discussion sessions – every province and territory



What Canadians Told Us

- **Safety and security** is top priority
- This generation must **take action**: we owe it to future generations
- Be consistent with best **international standards and practices**
- Approach must be **adaptable**: allow improvements based on new knowledge or societal priorities



Adaptive Phased Management (APM)

APM emerged from dialogue with citizens and experts – best met key priorities

A Technical Method

- » Centralized containment and isolation of used nuclear fuel in a deep geological repository
- » Continuous monitoring
- » Potential for retrievability
- » Optional step of shallow underground storage*

* Temporary shallow storage at the deep geological repository is optional and not currently included in the NWMO's implementation plan.

A Management System

- » Flexibility in pace and manner of implementation
- » Phased and adaptive decision-making
- » Responsive to advances in technology, research, Indigenous Knowledge and societal values
- » Open, inclusive, fair siting process – seek informed, willing host community
- » Sustained engagement of people and communities throughout implementation

APM selected by Federal government June 2007

Agreeing on how to make the siting decision

- 2008: Identifying what is important in a site selection process
- 2009: Reviewing proposed site selection process
- 2010: Finalizing the site selection process
- 2010: Initiating the site selection process



Working with communities to assess safety and well-being

- Potential to find a safe site?
- Potential to foster well-being of community?
- Potential for citizens' continued interest?
- Potential to foster well-being of surrounding area?



Fostering Community Well-Being



Communities will want to consider the APM project from all dimensions of long-term sustainability

Interweaving Indigenous Traditional Knowledge

- Knowledge about the land and ecology stemming from long contact with the land
- Knowledge about developing and maintaining effective and meaningful relationships between generations and within and between communities
- Special understanding of the broad range of factors that should be considered, and the processes that should be used, in assessing the appropriateness of any site





● **Communities That Requested Preliminary Assessments**

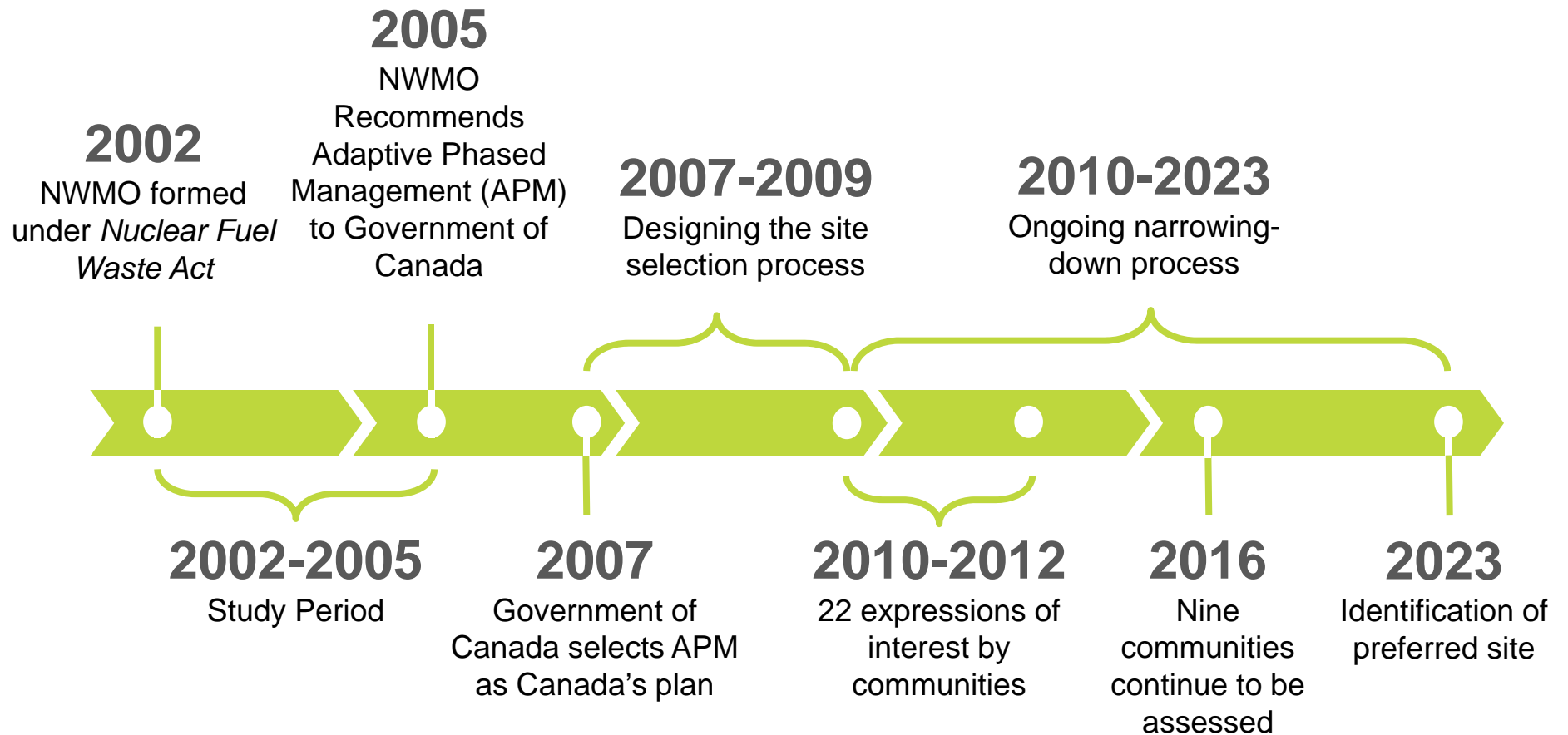
- | | |
|-----------------|------------------|
| 1. Ignace | 6. Elliot Lake |
| 2. Manitouwadge | 7. Huron-Kinloss |
| 3. Hornepayne | 8. South Bruce |
| 4. White River | 9. Central Huron |
| 5. Blind River | |

● **Interim Storage Facilities**

1. Whiteshell Laboratories, Manitoba
2. Bruce Nuclear Generating Station, Ontario
3. Pickering Nuclear Generating Station, Ontario
4. Darlington Nuclear Generating Station, Ontario
5. Chalk River Laboratories, Ontario
6. Gentilly Nuclear Generating Station, Quebec
7. Point Lepreau Nuclear Generating Station, New Brunswick



NWMO: 2002 - 2023



Partnership

The project will only proceed with the involvement of the interested community, First Nation and Métis communities in the area, and surrounding communities, working in partnership to implement it

