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Written submission from Ole Hendrickson

Mémoire d'Ole Hendrickson

In the Matter of the

Ontario Power Generation Inc.

Application for a licence to construct one BWRX-300 reactor at the Darlington New Nuclear Project Site (DNNP)

Commission Public Hearing
Part-2

January 8, 2024

À l'égard d'

Ontario Power Generation Inc.

Demande visant à construire 1 réacteur BWRX-300 sur le site du projet de nouvelle centrale nucléaire de Darlington (PNCND)

Audience publique de la Commission
Partie-2

8 janvier 2024

Canada

Written submission for the public hearing on Ontario Power Generation Inc.'s application for a licence to construct one BWRX-300 reactor for its Darlington New Nuclear Project

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November 4, 2024

Executive Summary

The Commission should reject staff's recommendation to accept OPG's Preliminary Decommissioning Plan. It is unclear what decommissioning strategy has been selected by OPG. Information currently available suggests that the removal of the BWRX-300 reactor building may not be possible and practicable. It appears that OPG may intend to use a strategy of "In situ decommissioning", also known as "entombment", which, according to the International Atomic Energy Agency, "is not considered a decommissioning strategy." OPG has not demonstrated that the BWRX-300 design facilitates effective decommissioning. A licence to construct the BWRX-300 should not be issued at this time.

Regulatory Requirements

REGDOC-1.1.2, Version 2, *Licence Application Guide: Licence to Construct a Reactor Facility* states that

- The application should provide information on the programs that will demonstrate that the design… facilitates effective… decommissioning.

REGDOC-2.11.2, *Decommissioning*, states that

- The licensee shall select a decommissioning strategy that will form the basis for planning for decommissioning and facilitate achieving the desired end state of the decommissioning project.
- In situ decommissioning shall not be considered a reasonable decommissioning option for planned decommissioning of existing or future nuclear facilities and situations where removal is possible and practicable…

The International Atomic Energy Agency's General Safety Requirements GSR-6, *Decommissioning of Facilities,* state in paragraph 1.10 that

- Entombment, in which all or part of the facility is encased in a structurally long lived material, is not considered a decommissioning strategy and is not an option in the case of planned permanent shutdown. It may be considered a solution only under exceptional circumstances (e.g. following a severe accident).

Sufficient information on decommissioning is not available for this hearing

Insufficient information is provided in OPG's CMD 24-H3.1, OPG's CMD 24-H3.B, and CNSC staff CMD 24-H3 to make a determination on the PDP. On page 143 of CMD 24-H3, CNSC staff state:

The 'as-built' PDP is intended to bring the site from a constructed reactor facility, prior to fuel load, to the agreed-upon end-state (i.e., the restoration of the site to a brown field site). Most on-site facilities, such as the reactor building, switchyard, and intake tunnels, will be decommissioned.

All DNNP station systems will be dismantled, and buildings demolished, with subsurface structures de-energised and drained. These subsurface features will be dismantled to a nominal depth of one (1) metre below-grade, backfilled with clean fill, graded, with a restoration of vegetation atop the fill.

OPG stated its decommissioning plan is a 'prompt decommissioning' approach for the as-built facility and will occur when OPG has made the determination to cease operations of the DNNP. Decommissioning activities are estimated to take approximately six years, using a three-phase approach encompassing preparation for decommissioning, dismantling, and site restoration. The projected costs for decommissioning the as-built facility are estimated to be $167.2 million, in 2022 Canadian dollars.

Questions

Why is there no mention of a "decommissioning strategy" in OPG's hearing documents?

What is the meaning of the phrase "DNNP station systems will be dismantled?" What are "station systems"?

After subsurface structures are "de-energised and drained", will they be left in place?

Given that this is a "First-of-a-kind" reactor, how did CNSC staff determine that the provided cost estimate of $167.2 million is accurate?

Is the 6-year time frame for decommissioning realistic?

What features would make the end-state a brown field site?

Noting that only "most" on-site facilities will be decommissioned, which facilities will not?

Conclusion

The Commission should reject the CNSC staff recommendation to "Accept OPG's Preliminary Decommissioning Plan and associated Financial Guarantee," because information is lacking to demonstrate that

- the BWRX-300 design facilitates effective decommissioning;
- a decommissioning strategy has been selected by the licensee; and
- removal of the reactor building is possible and practicable.

A licence to construct the BWRX-300 cannot be issued at this time.