

Decommissioning Licence Amendment CNL's Douglas Point Waste Facility CNSC Licence Renewal (Ref. 2020-H-04)

Oral Submission of the
Canadian Environmental Law Association
Concerned Citizens of Refrew County & Area
Nuclear Waste Watch
Northwatch

November 25 - 26, 2020

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An Introduction to CELA, CCRCA, NWW & Northwatch

Interest and Expertise

Canadian Environmental Law Association (CELA) is a non-profit, public interest law organization. CELA is funded by Legal Aid Ontario as a specialty legal clinic to provide equitable access to justice to those otherwise unable to afford representation for environmental injustices.

Concerned Citizens of Renfrew County and Area (CCRCA) is a non-governmental, volunteer organization working to prevent radioactive pollution and encourage clean-up and responsible long-term management of nuclear industry wastes with a focus on nuclear facilities in the Ottawa Valley.

Nuclear Waste Watch is a network of organizations concerned about radioactive waste in Canada, and was founded in 2003 to provide a public-interest response to nuclear waste proposals and policies.

Northwatch founded in 1988 and based in Northeastern Ontario, Northwatch provides a regionally representative voice in reviews of environmental, natural resource and energy concerns.

I. Findings

Summary of Findings

Legal and Expert Review

1. CNSC's 'adverse environmental effects' assessment is unreasonable and does not meet purposes of *Canadian Environmental Assessment Act, 2012* (CEAA 2012);
2. CNL's Licence Application and Commission Member Document (CMD) fail to properly describe scope of licence, consider decommissioning within the Safety and Control Areas (SCAs) & demonstrate compliance with *Nuclear Safety and Control Act* (NSCA) and its regulations;
3. International Atomic Energy Agency (IAEA) guidance regarding decommissioning waste not duly considered;
4. New strategy for decommissioning set out in Detailed Decommissioning Plan (DDP) is a marked departure from Preliminary Decommissioning Plan (PDP), which is neither justified nor explained;
5. Data and assumptions informing DDP not transparent & significant discrepancies in projected decommissioning waste inventories and cost estimates.

1. Inadequate 'adverse environmental effects' analysis

Applying CEAA 2012 s. 67

- Section 67 of *CEAA 2012* applies to projects planned for federal lands and prohibits an authority from carrying out the project, without first determining that significant adverse environmental effects will not be caused.
- CNSC's adverse environmental effects assessment is grossly inadequate as it:
 - x Fails to have regard to certain required principles when making an environmental effects determination;
 - x Proposes mitigation measures which are too deficient in detail to be acceptable offsets for potential adverse environmental effects;
 - x Ignores the differing complexities and hazard potentials specific to decommissioning undertakings;
 - x Reaches a finding of 'no adverse environmental effects' without any prior public comment; and
 - x Disregards the purpose of the CEAA 2012 requiring the application of the precautionary principle for matters of uncertainty and potential risk.

2. Omissions in Licence Application

Applying the NSCA and Regulations

- CNL does not distinguish between the decommissioning activities intended to be completed under amended licence (Planning Envelopes A-C) and activities they seek to be authorized (final decommissioning of all remaining facilities of DPWF or Planning Envelopes A-C plus D and E).
- CNL has not adequately set out how it meets requirements of *Nuclear Safety and Control Act*, *General Nuclear Safety and Control Regulations*, *Class I Nuclear Facilities Regulations*, *Nuclear Security Regulations*:
 - x Specific references within supporting documents not set out
 - x Generic, vague statements do not demonstrate how required programs (ie. security, radiation protection, transport of dangerous goods) meet regulatory requirements
 - x Licence application relies upon yet- to-be completed of assessments, to be carried out after granting of amended licence
 - x Public review and participation undermined due to CNL's lack of adequate referencing and insufficient details regarding planned decommissioning activities in text of licence application

3. Limited regard for 'proper management' of waste

Applying IAEA Guidance

- IAEA's guidance on the policy and principles which should inform decommissioning strategies recognizes that decommissioning process should "include a long term commitment to ensuring that sites and waste from them are properly managed"
- CNLs approach for low-level waste is to move material off-site for storage, until permanent waste disposal facilities become available. For intermediate and high-level waste, the approach is to store the waste on-site, until long term disposal facilities become available
- CNL presumes availability of suitable long-term waste disposal facilities. Per IAEA guidance, it must be demonstrated that waste from the decommissioning activities is "properly managed." Threshold cannot be met by relying upon ongoing, federal environmental assessments by the CNSC.

II. Expert Report

Findings by Dr. Hartmut Krugmann

Decommissioning Douglas Point, Canada's First Full-Scale Nuclear Power Plant

*The Need for
Revamping the Proposed New Decommissioning Strategy to
Fill Gaps, Address Inconsistencies, and Consider Alternatives*

Presentation by Hartmut Krugmann, PhD

on behalf of CELA, CCRC, Northwatch, and NWW

Canadian Nuclear Safety Commission, Public Hearing Nov. 25-26, 2020
to consider an application from Canadian Nuclear Laboratories (CNL) Ltd.
to amend its decommissioning licence for the Douglas Point Waste Facility

*The Need for
Revamping the Proposed New Decommissioning Strategy for DPWF*

Key findings from review of CNL's application

- 1) CNL's proposed new strategy for the final decommissioning of DPWF, as set out in DDP, Vol.1, 2019 (DDP1), marks a major departure from CNL's original strategy, as per the PDP, 2016;
- 2) Judging from CNSC's regulatory guide (G-219) for decommissioning planning, the substantial deviations of the PPD1 from the PDP, and CNL's request that the PDP be "superseded", are unusual and should therefore be justified fully and in detail -- yet DDP1 leaves these changes and CNL's request unexplained;
- 3) DDP1 lacks transparency and displays major discrepancies and inconsistencies as far as quantitative estimates of projected decommissioning waste inventories and costs are concerned. Assumptions underlying these estimates are often not revealed – they remain hidden.

The Need for Revamping the Proposed New Decommissioning Strategy for DPWF

1) CNL's proposed new strategy for the final decommissioning of DPWF marks a major departure from CNL's original strategy

- The final decommissioning of the DPWF's nuclear area is to be initiated in 2023, nearly 40 years earlier than originally planned (2059);
- PDP's Nuclear Area decommissioning planning envelope is to be split into four (4) planning envelopes;
- The first two planning envelopes are to be fast-tracked for completion by 2030, under the applied-for amended licence;
- The other two most risky-to decommission parts of DPWF (Reactor Building and Spent Fuel Canister Area) are to be left for decommissioning at an unspecified time during 2030-2070;
- Radioactive decommissioning wastes (LLW, ILW, and possibly even Spent Fuel waste) are to be sent to Chalk River Laboratories (CRL) for interim storage – rather than awaiting the availability of waste disposal facilities;
- The final decommissioning of DPWF is to go ahead now – rather than waiting for the Bruce Power plants to be up for decommissioning so as to benefit from efficiency gains associated with coordinated, synchronized decommissioning.

The Need for Revamping the Proposed New Decommissioning Strategy for DPWF

- 2) Judging from CNSC's regulatory guide (G-219) for decommissioning planning, the substantial deviations of the PPD1 from the PDP, and CNL's request that the PDP be "superseded", are unusual and should therefore be justified fully and in detail -- yet DDP1 leaves these changes and CNL's request unexplained;**
- DDP1 fails to provide a comprehensive and coherent rationale for the proposed new decommissioning strategy
 - For instance, no attempt is made to analyse and compare the balance (advantages vs. disadvantages) of earlier vis-à-vis later decommissioning, in terms of radiation related risks and overall decommissioning costs
 - Out of line with G-219, DDP1 fails to consider alternative options and scenarios against which the advantages & disadvantages of their proposed strategy c/should be compared, in terms of risks & costs, such as:
 - Transferring LLW to OPG's Western Waste Management Facility (WWMF) located next-door at the Bruce site, instead of transporting it to CRL , for interim storage
 - Holding off on decommissioning DPWF until Bruce starts decommissioning.

*The Need for
Revamping the Proposed New Decommissioning Strategy for DPWF*

- 3) DDP1 lacks transparency and displays major discrepancies and inconsistencies as far as quantitative estimates of projected decommissioning waste inventories and costs are concerned. Assumptions underlying these estimates are often not revealed – they remain hidden**
- **Projected LLW and ILW inventories from decommissioning** -- Huge discrepancies between PDP, DDP1, and CNL's CMD:
 - DDP1 (2019) / CNL's CMD (2020) estimate are 8 times / 33 times less LLW than PDP (2016)
 - Overall waste volumes comparable, so discrepancies due to unexplained differences in hidden assumptions about what fraction of overall waste will constitute LLW
 - DDP1 / CNL's CMD estimate 2-3 times more ILW than NRCan's 2016 inventory
 - **DDP1's 2019 direct decommissioning cost estimate update** (\$317 million) is substantially lower than an earlier 2013 cost update – and the explanation for the difference (reduction in decommissioning liabilities achieved since 2013) is not credible, suggesting other (hidden) factors
 - **Cost escalation** -- DDP1 assumes the cost of decommissioning projects/planning envelopes to escalate at a rate of 4% per annum over the period their implementation is delayed beyond the cost base year 2019, but fails to explain the reasons behind cost escalation and why it would be reasonable to expect cost escalation to be exponential at an annual rate of 4%.

The Need for Revamping the Proposed New Decommissioning Strategy for DPWF

Recommendations

- Recommendations 1-8 suggest ways in which particular gaps, discrepancies and inconsistencies in the DDP1 that were identified, could and should be addressed in the DDP1
- Recommendation 9
 - CNL should not be granted the requested licence amendment at this stage. CNL should be requested to revise the DDP1 on the basis of the recommendations 1 through 8 and re-submit their application for a licence amendment or for a new licence, accompanied by the revised DDP1, at least six months prior to the date new hearings would be held on this application. In the meantime, CNL may continue to decommission the remaining buildings and structures of DPWF's Non-Nuclear Area, upon submission and approval of building-specific detailed decommissioning plans (DDPs), on the basis of the current decommissioning licence for DPWF.

III. Recommendations & Order Requested

Recommendations

1. The Commission should not proceed with licensing until the deficiencies in the CEAA 2012 'adverse environmental affects' analysis required by section 67 have been remedied.
2. The Commission should require licence applications to provide synopses of information and full, detailed citations so that all reviewers can more easily access requisite information necessary to demonstrate statutory and regulatory requirements. This furthers the aims of the Commission per the NSCA, s 9(b) to publicly disseminate information.
3. The Commission should reject CNL's Licence Application and return it to the licensee, with the requirement that the Licence Application, supporting CNL CMD, and detailed decommissioning plans (DDPs), Volume 2, 3, and 4 for planning envelopes A, B, and C, respectively be revised. Until sufficient supporting information (including citations) is submitted for consideration, the licensing matter should not proceed.

Order Requested

- 1. Deny CNL's request to amend the decommissioning licence for the Douglas Point Waste Facility, and**
- 2. Remit the licence application to CNL with direction that all deficiencies (noted in [Appendix A](#)) be remedied and the information demonstrating fulfillment of all statutory and regulatory requirements be clearly set out prior to proceeding with a licence amendment application.**

Thank you.