

Why entomb the two small reactors, NPD and WR-1, when a better alternative is available?

A Question for AECL Board of Directors Meeting, September 30, 2020

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Summary

In October 2015, within two months of commencement of the GoCo contract, CNL announced its plans to entomb the two reactors, NPD and WR-1. As of September 2020 (about five years later), CNL has yet to obtain regulatory approval for these two initiatives. The original scheduled dates for these approvals were 2018 for NPD and 2019 for WR-1. In the 2019-20 Corporate Plan Summary, the new date is 2021. Even this date may be in jeopardy.

Over those five years, circumstances have changed such that entombment can no longer be considered the preferred option. Therefore, these two projects require a significant re-examination by AECL.

What were those changes?

- Canada's response to the IAEA's *Integrated Regulatory Review Service* Report,
- The decommissioning of Douglas Point Reactor, and
- The failure of CNL to deliver on the targets for these two projects.

The first bullet is addressed in Section 1 below. As pointed out in that section, on behalf of Canada, the CNSC accepted "Suggestion 6" from the IAEA's report which states that "... *entombment is not considered an acceptable strategy for planned decommissioning of existing nuclear power plants and future nuclear facilities.*" However, it is not clear from their response whether the CNSC will provide regulatory approval for entombment of these two reactors.

The implications of the second bullet are addressed in Sections 2 and 3 below. The plans for the decommissioning of the Douglas Point Reactor include "*dismantling and demolition of all remaining facilities*" and transporting the wastes generated to the Chalk River site. This requires that a facility be built on the CRL site to manage these wastes. To meet the Douglas Point decommissioning schedule, a radioactive waste management facility needs to be operational within a decade from now.

The last bullet is addressed in Section 4 below. To summarize this section, over the last 5 years starting in October 2015 (when these entombment projects were announced) until today, CNL has yet to obtain licencing approval to proceed. Since the NPD and WR-1 reactors are in safe shutdown, they present little to no risk to the health of persons and the environment. In fact, this safe state can remain until a suitable waste management facility is built at Chalk River.

Ideally, that facility should be sized to manage all the radioactive wastes generated from the decommissioning of the four reactors, NPD, WR-1, Douglas Point and Gentilly-1.

Therefore, the question:

Why continue to advocate entombment for two small reactors at two separate locations in Canada, when a more suitable solution for Canada's nuclear decommissioning waste is to consolidate it all at a single location?