Canadian Nuclear Safety Commission | Commission canadienne de sûreté nucléaire

CMD 24-H3.75

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Written submission from Victor Lau

Mémoire de Victor Lau

In the Matter of the

À l'égard d'

Ontario Power Generation Inc.

Ontario Power Generation Inc.

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

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

Commission Public Hearing
Part-2

Audience publique de la Commission
Partie-2

January 8, 2024

8 janvier 2024

Canada

From: Victor Lau
Sent: November 4, 2024 9:24 PM
To: Interventions / Interventions (CNSC/CCSN)
Cc: contact@nuclearwastewatch.ca
Subject: Not in favour of more nuclear reactors being built

Have you considered the
impacts on human health and the environment, the risk of accidents, impacts on the lake and on fish health, the generation and management of radioactive waste, emergencies and emergency planning, the design of the reactor, the experimental nature of the reactor design, the cost, etc.

According to the CNSC's own rules (REGDOC-1.1.2, Licence Application Guide: Licence to Construct A Reactor Facility, Version 2) OPG's application should contain all of the following information:

- A technical description of the reactor, including layout and design and design features
- Site characterics, including about exclusion zones, emergency planning, other radiological sources (such as the four CANDU reactors and large nuclear waste facilities on the same site)
- Safety issues and aspects related to the reactor design and operation, including criticality issues, security concerns, reactors safety systems,
- Radioactive waste and hazardous waste treatment systems
  The potential for severe accidents, probabilistic safety assessments
- Radiation sources, monitoring, and protection and radiological impacts
- Environmental monitoring
- Handling of radioactive and hazardous waste, including storage and disposal
- Decommissioning and End of Life Aspects, including financial guarantees

The application submitted by OPG either DOES NOT include or inadequately addresses topics listed above. OPG is also (erroneously) claiming that they don't have to address radioactive waste at the License to Construct stage because they won't be generating any nuclear waste during construction! THIS IS UNACCEPTABLE.

if you were to read the article below, you would perhaps find the courage to Deny issuing any reactor licences to OPG until All of These areas of concern are fully addressed.

Please do your due diligence.

Sincerely,

Victor Lau
Regina, SK

PS- Here is the article:

Globe & Mail
Matthew McClearn, Published Oct. 3, 2024

Canada's nuclear safety regulator has recommended that the country's first new power reactor in decades should receive the go-ahead to begin construction, even though its design is not yet complete.

At a hearing Wednesday, staff from Ontario Power Generation argued that the Canadian Nuclear Safety Commission should grant a licence to construct a 327-megawatt nuclear reactor known as the BWRX-300 at OPG's Darlington Nuclear Generating Station in Clarington, Ont., about 70 kilometres east of Toronto.

The application received unequivocal support from the CNSC's staff, despite the fact that several safety questions remain unresolved.

"The level of design information needed for CNSC staff to recommend a licence to construct is not the final design, but the information must be sufficient to ensure that the regulations have been met," Sarah Eaton, the CNSC's director-general of its Directorate of Advanced Reactor Technologies, said before the commission.

It would be the first small modular reactor built in a G7 country and among the first globally – although its output would exceed the informal 300-megawatt cutoff for SMRs.

The BWRX-300 is currently being developed by U.S. vendor GE Hitachi Nuclear Energy. Some aspects of its design are based on the Economic Simplified Boiling Water Reactor (ESBWR), which was licensed by the U.S. Nuclear Regulatory Commission in 2014 but never built. The CNSC said the 1,600-megawatt ESBWR underwent significant testing that is "mostly applicable" to its smaller cousin.

OPG, which submitted its application two years ago, is seeking a 10-year licence and plans to build three additional BWRX-300s at Darlington.

A second part of the CNSC hearing, scheduled for January, will hear interventions from the public, including Indigenous communities. OPG has already partly prepared the site – building roads and moving earth – under an earlier licence granted by the CNSC.

David Tyndall, OPG's vice-president of new nuclear engineering, said the reactor's design had advanced sufficiently to meet Canada's regulatory requirements.

One significant unresolved issue, though, is its emergency shutdown systems.

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Typically, reactors are required to have two independent shutdown systems. The BWRX-300 would have 57 control rods that could be inserted rapidly into its core by high-pressure water in an emergency to halt reactivity. Should that hydraulic method fail, electric motors would drive them in instead.

Mr. Tyndall assured the commission that the BWRX-300 was designed in such a way that all safety systems "are guaranteed to be fully independent and redundant, which ensures high reliability and fail-safe operation."

CNSC staff, however, questioned whether the shutoff systems were truly independent because both systems rely on the same control rods. That remained unresolved at Wednesday's hearing.

To address unresolved issues, CNSC staff proposed that the commission impose three “regulatory hold points” during the reactor’s construction at which work would halt until OPG provided sufficient information to satisfy CNSC staff. Ramzi Jammal, the commission’s executive vice-president and chief regulatory operations officer, would administer the hold points.

Throughout an assessment running more than 1,000 pages, published by the CNSC this summer, staff repeatedly noted missing information in OPG’s submission that they vowed to review once it becomes available.

“In many cases, there is a discussion about a topic, and it’s noted that the design is not complete,” Commissioner Jerry Hopwood observed at the hearing.

“It’s not entirely clear to what extent the design has been completed in such a way that the conclusions that support a licence to construct are then justified.”

M.V. Ramana, a professor at the University of British Columbia’s School of Public Policy and Global Affairs who specializes in nuclear power, said the CNSC doesn’t have enough information to answer key safety questions necessary to grant a construction licence. He added that, as the first of its kind, the Darlington SMR’s design is likely to require further significant changes during construction.

“What it does tell me is that OPG really has rushed through this,” he said. “It may be that they don’t feel they know enough about the design and are waiting for information from GE Hitachi, or that OPG is under its own self-imposed deadline to submit this application by a certain date.”

Prof. Ramana said the CNSC’s role as a safety regulator is in conflict with statements its leadership has made in recent years promoting SMRs.

“The CNSC has acted as a cheerleader for small modular reactors,” he said. “This is completely at odds with what a good regulator ought to be doing