Canadian Nuclear Safety Commission | Commission canadienne de sûreté nucléaire

CMD 26-H7.42B

Date: 2026-11-19

Supplementary Information

Written Submission from the Canadian Coalition for Nuclear Responsibility

In the matter of

Ontario Power Generation

Application to refurbish Pickering Nuclear Generating Station and to renew licences for the Pickering Nuclear Generating Station and Waste Management Facility

Commission Public Hearing
Part 2

October 6-9, 2026

Renseignements supplémentaires

Mémoire du Regroupement pour la surveillance du nucléaire

À l'égard de

Ontario Power Generation

Demande concernant la réfection de la centrale nucléaire de Pickering et le renouvellement de ses permis pour la centrale et l'installation de gestion des déchets

Audience publique de la Commission
Partie 2

6-9 octobre 2026

Document ID: QQQVZZNDK725-166150894-16492

Canada

Supplementary Intervention from the
Canadian Coalition for Nuclear Responsibility
on OPG's request to renew the Pickering PROL licence
(based on the CNSC Procedural Direction of October 20, 2026)

Date: November 19, 2026

Meeting Modern Safety Codes

• On page 9 of CMD 26-H7.1E, OPG's "Pickering NGS Periodic Safety Review 3 (PSR3) Basis Document", we read:

"*The objectives of a PSR are to determine:*
1. The extent to which the facility conforms to modern codes, standards and practices…"

• In Annex C of CMD 26-H7.42, a Working Group consisting of CNSC staff reported as follows:

"After significant debate and analysis, the Working Group concludes that the relief capacity of the degasser condenser is inadequate for beyond design basis accidents such as a prolonged loss of all ac powers leading to a sustained loss of all heat sinks. It does not meet the current ASME and CSA's stated design requirements." [CMD 26-H7.42, Annex C, page 4]

• This conclusion by CNSC staff is also quoted verbatim on page 3 of CMD 26-H7.42A.

• The fact that the degasser condenser "does not meet the current ASME and CSA's stated design requirements" has not been addressed or even acknowledged in the Pickering PSR3 Basis document. As far as we can determine, the CNSC staff conclusion quoted above has not been challenged, let alone rejected or repudiated, in any official CNSC document.

Recommendation: Since the consequences of a major rupture in the primary heat transport system resulting from inadequate overpressure relief during a prolonged station blackout could have unprecedented offsite consequences caused by major radiological releases, CCNR recommends that Commissioners not grant OPG's requested licence until the inadequate degasser condenser that does not meet "modern codes, standards and practices" is replaced with equipment having the required relief capacity and positioned properly according to those same "codes, standards and practices".

Providing Iodine-131 Source Terms

• In CMD H7-E, which is the CNSC Staff Undertaking to provide an Update on Potassium Iodide (KI) Distribution, we read:

"The ICRP Publication 146 *Radiological Protection of People and the Environment in the Event of a Large Nuclear Accident* (2) states emergency preparedness plans should address the details of planning, appropriate for the range of scenarios foreseen, keeping in mind the necessary flexibility for responding according to the actual situation. The plans should also consider both radiological and non-radiological factors. For the early phase, they should include predetermined radiological criteria for protective actions."

ICRP 146: https://pubmed.ncbi.nlm.nih.gov/33291942 /

Recommendation: Inspired by ICRP guidance and given the importance of public understanding and preparedness in the event of a major nuclear accident, CCNR urges that "the range of scenarios" foreseen by CNSC staff with "predetermined radiological criteria" be made public; in particular, that each scenario be accompanied with the corresponding source term expressed specifically for the radionuclide iodine-131.

• CMD H7-E also refers to the advice of the World Health Organization (WHO) on this subject, based on a 2017 WHO document entitled *Iodine Thyroid Blocking*.

https://www.who.int/publications/i/item/9789241550185

• On page 21 of that WHO document we read "It should be explained that stable iodine should not be considered by the general public as a universal radiation antidote." (WHO, p.21). In fact, we have observed that these KI pills have sometimes been referred to in the media as "anti-radiation" pills.

• Given that CNSC has a legal mandate to "disseminate objective scientific information", CCNR makes the following recommendation:

Recommendation: That the CNSC web site explicitly state that KI pills are not "anti-radiation" pills, but that they may provide some protection against possible thyroid damage caused by one specific radionuclide, namely iodine-131, provided that the pills are taken before or during exposure to iodine-131. KI pills do not protect exposed individuals against any other radionuclides or any other form of ionizing radiation, nor are they retroactively effective.

OVERALL RECOMMENDATIONS

• We also take this opportunity to remind the Commissioners of the recommendations from the Canadian Coalition for Nuclear Responsibility as stated in CMD H-7.42:

Recommendation 1: The Canadian Coalition for Nuclear Responsibility regards it as an unreasonable risk to expose the City of Toronto and environs to the unnecessary threat of a devastating nuclear disaster, however low the estimated probability might be. CCNR therefore recommends that CNSC refuse to grant the licence requested by OPG to refurbish and continue to operate four nuclear power reactors (units 5 to 8) at the Pickering Nuclear Generating Station. This recommendation is reinforced by the following facts:

(1) There are more than 1.1 million people living within 20 kilometres of Pickering NGS, and twice as many living within a 30-kilometre radius.
(2) Every homeowner's insurance policy has a "nuclear exclusion clause" which voids coverage in case of radioactive contamination from a nuclear accident.
(3) As recently as 2016, OPG confirmed its earlier decision that refurbishment of the Pickering B reactors even at a lower cost ($10.7 billion) is unjustified.
(4) As of 2010, OPG was fully prepared to see its Pickering Nuclear Generating Station completely shut down by 2030.
(5) The current estimated cost of refurbishing Pickering B is prohibitively expensive compared to other energy options, both nuclear and non-nuclear.

Recommendation 2: If CNSC decides to approve the planned refurbishment of the Pickering B reactors, that it be made mandatory for safety-related items that do not meet current safety standards – such as the existing Degasser Condenser Relief Valves – be replaced with new items that are fully compliant with all modern safety requirements.

Recommendation 3: If CNSC licences OPG to refurbish units 5 to 8, a thorough reanalysis be done of the potential for hydrogen generation under the most adverse accident circumstances, and the number and positioning of recombiners be planned so as to minimize the likelihood of a massively destructive hydrogen gas explosion. In carrying out such analyses, CCNR urges that special attention be given to the behavioural characteristics of deuterium as opposed to protium.

Recommendation 4: For the benefit of emergency planners, that CNSC provide a series of possible source terms for cesium-137 releases, following a severe nuclear accident, with 100 terabecquerels being the smallest entry. This will encourage first responders to envision and plan for a spectrum of different responses depending upon the severity of the release. Moreover, that CNSC staff publish proportionality documents indicating in each case the anticipated magnitudes of release of other radionuclides of public health or environmental importance.

Supplementary CCNR Intervention
Submitted by Gordon Edwards, Ph.D.,
CCNR President, November 19, 2026.