Canadian Nuclear Safety Commission | Commission canadienne de sûreté nucléaire

CMD 26-H7.42A

Date: 2026-09-21

Supplementary Information

Presentation 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

Présentation 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: QQQVZZNDK725-166150894-15539

Canada

Canadian Coalition for Nuclear Responsibility

Regroupement pour la surveillance du nucléaire

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.

Overpressure relief valves must be adequate
to prevent a rupture in the primary cooling circuit.

BRIEFING NOTE TO Mike Rinker DAA DG

Briefing Note on Degasser Condenser Relief Capacity for CANDU Reactors

June 17, 2022

CONCLUSION

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. A comparison with a similar Light Water Reactor system also points to the inadequacy for beyond design basis accidents.

Hydrogen gas recombiners must be adequate to prevent a deuterium gas explosion that can breach containment.

Reconsideration of Hydrogen Source Term in CANDUs to include Oxidation of Steel
Y.M. Song, B.W Rhee, J.H. Bae, Sunil Nijhawan –, *Korea, May 17-18, 2018*

While a [Loss of Coolant and Emergency Coolant] implies loss of water inventory without makeup … a large inventory of water can be held up in end fittings and large U-shaped piping between the boilers and pumps…. Therefore, all high temperature steam interaction phenomena, including exothermic oxidation of carbon steel feeders etc., needs to be studied.

In less than 12 hours deuterium from oxidation of 380 feeders could exceed deuterium production from fuel and pressure tube oxidation of zircaloy.

EMERGENCY PLANNING: 100 versus 8,000 terabecquerels of cesium-137 ?

Without FCVS, Cs-137 emissions (dark green) are 8000-9000 TBq.

That's 80-90 times greater than the source term published by CNSC.

Severe accident consequence mitigation ... (part 3)

April 2017, Annals of Nuclear Energy

Luke S. Lebel [a], Andrew C. Morreale [a], Volodymyr Korolevych[a], Morgan J. Brown[a], Sam Gyepi-Garbrah[b].

a Canadian Nuclear Laboratories, Chalk River.
b Canadian Nuclear Safety Commission.

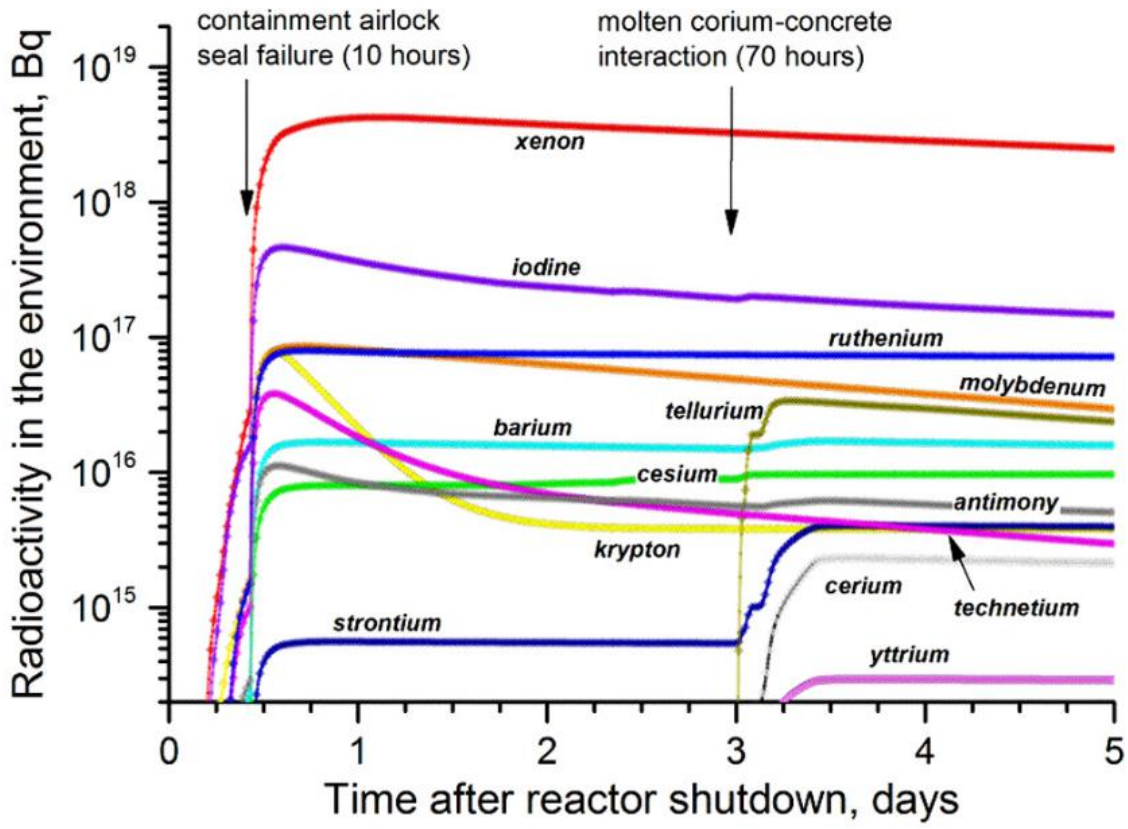

Fig. 4. Radioactivity in the environment from different elements, for an unmitigated SBO severe accident.

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.

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