



CANADIAN ENVIRONMENTAL LAW ASSOCIATION
L'ASSOCIATION CANADIENNE DU DROIT DE L'ENVIRONNEMENT

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Commission Secretary
Canadian Nuclear Safety Commission
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Via email: Interventions@cnsccsn.gc.ca

November 10, 2008

Re: Comments on the Environmental Assessment of the proposed life-extension of the Pickering B

Dear Members of the Commission,

CELA writes to object to the proposed life-extension of the Pickering B nuclear station.

Located near the GTA and major transportation corridors and near major seismic fault lines under Lake Ontario, the site is inappropriate for continued operation of a major nuclear generating station.

The environmental review on the proposed life-extension of Pickering B nuclear station systematically excludes and misrepresents the significant environmental impacts resulting from the continued operation of the Pickering nuclear station. For this reason, CELA submits that the environmental review must be rejected.

The following summarizes some of our primary concerns:

Radioactive Waste:

There are approximately 20,000 tonnes of high-level radioactive waste stored at the Pickering nuclear station. Extending the life of the Pickering B nuclear station will create approximately 10,000 additional tonnes. These radioactive wastes must be isolated from the environment and humans for a million years according to the Nuclear Waste Management Organization (MWMO). There is no guarantee a long-term storage site will ever be found or be suitable or reliable over that timeframe.

Recommendation: The CNSC should not approve the life-extension of Pickering B before a long-term plan for the management of the radioactive wastes produced by Pickering is established.

Terrorism:

The Pickering nuclear station was not designed to withstand terrorist attacks. In the post September 11th world, the Pickering B reactor design would not be approved because of its vulnerabilities to terrorist attacks. Pickering B's multi-unit design and shared systems make it particularly vulnerable to catastrophic accidents in the event of a terrorist attack.

Although the design of new nuclear stations in Canada will be required to be robust enough to resist certain terrorist attacks, the Canadian Nuclear Safety Commission (CNSC) has allowed existing nuclear stations to forego expensive design changes to adapt to the post September-11th reality. Furthermore, while requiring environmental reviews on new reactor designs to assess the environmental impacts of terrorist attacks, the CNSC has specifically excluded such an analysis from the present environmental review. The current environmental assessment, therefore, is inadequate.

Recommendation: All environmental assessments on the proposed life-extension of ageing nuclear stations, including the present review, should include a review of the environmental impacts of terrorist events.

Recommendation: Given the design vulnerabilities of the Pickering B station, the life extension of the station should not be approved.

Recommendation: Existing radioactive waste storage facilities should be made resistant to terrorist attack.

Accidents and Evacuation:

Despite many safeguards, accidents in nuclear power plants can occur. This includes the possibility of an accident scenario in which radionuclides escape containment. Such an accident could require evacuation and engender extensive long-lasting damage or loss of life, property and the environment. The risk of such an accident has increased substantially due to the aging of the nuclear generating station's components in a harsh environment, many of which are not behaving as originally predicted by the materials engineers. Continuing to operate Pickering's nuclear generating station is unacceptably risky and the potential consequences of a serious accident are far too high. The risks are exacerbated in the case of the Pickering nuclear generating station due to the shared containment and emerging systems. This plant lacks some of the safety redundancies and separation of systems that is required in the newer nuclear plants.

Because of the inherent hazard of positive reactivity of CANDU reactors, Ontario's nuclear stations would be deemed too hazardous to licence under modern safety requirements. The CANDU design shares an inherent design flaw with the Chernobyl RBMK reactor design that significantly weakens its ability to control and cool the nuclear reaction in accident situations. Specifically, the reactor core design of both the CANDU and Chernobyl reactors exhibit "positive reactivity"; that is, the reactor power has a tendency to increase, potentially in a "run away" reaction. The weaknesses of Pickering's containment shutdown system drastically increase the potential for a disaster in such a case.

Recommendation: The CNSC should not approve the life-extension of the Pickering B nuclear station. The station should be shut down at the end of its operational life in 2014.

Slightly Enriched Uranium:

Bruce Power, for example, is currently proposing to change from natural uranium fuel to slightly enriched uranium, otherwise known as Low Void Reactivity Fuel (LVRF), to mitigate the hazards of positive reactivity. The use of enriched uranium, however, presents new environmental hazards in the nuclear fuel chain in Canada, such as out of reactor criticality.

The environmental assessment on the life-extension of Pickering B has not addressed the possibility of using enriched uranium to mitigate the hazards of positive reactivity. The current assessment is, therefore, inadequate, pending a review of the environmental impacts of using of slightly enriched uranium.

Recommendation: Given that modern licensing requirements would not permit the licensing of reactors with positive reactivity, the CNSC should not approve the life-extension of Pickering B.

In conclusion, the CNSC would not allow a new plant to be built at Pickering today. What's more, Pickering's design flaws would deem it too dangerous to build today. CELA submits that the CNSC has a duty to order the shut down of Pickering B when it reaches the end of its operational life in 2014.

Thank you for this opportunity to comment on the environmental assessment of the proposed life-extension of the Pickering B nuclear station.

Yours truly,

CANADIAN ENVIRONMENTAL LAW ASSOCIATION

A handwritten signature in black ink, appearing to read 'Theresa McClenaghan', written over a faint, illegible stamp or background.

Theresa McClenaghan
Executive Director and Counsel

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