

President Michael Binder
Canadian Nuclear Safety Commission
280 Slater Street
P.O. Box 1046
Station B
Ottawa, ON
K1P 5S9

Re: The Darlington Life-Extension Review in Light of Fukushima

July 12, 2011

Dear President Binder,

We the undersigned request that the scope, transparency and public participation of the proposed environmental and safety reviews for Ontario Power Generation's (OPG) proposal to refurbish and extend the life of the Darlington nuclear station be significantly expanded and modified.

In light of the Fukushima disaster in Japan, it is unacceptable that the \$8 – 14 billion life-extension of the Darlington nuclear station undergo the lowest level environmental review with no opportunity for the public to scrutinize the safety reviews and upgrades required for the station's continued operation.

The CNSC's current proposal not only limits but reduces public participation in the Darlington life-extension review is unacceptable. We submit that it also indicates the CNSC is not taking the nuclear risks highlighted by the Fukushima disaster seriously.

We ask then for a public hearing on the scope and level of environmental review as well as for a new socially acceptable approach to reactor life-extension safety reviews that will include public participation and proactive information disclosure.

We are deeply concerned that the CNSC is already planning to reduce the public participation and scrutiny of the \$8 – 14 billion Darlington life-extension by eliminating a public hearing on the acceptability of the scope and level of environmental review to be undertaken. This flouts past convention¹ and undermines transparency.

While the CNSC and OPG provided public assurances regarding the safety of the Darlington nuclear station, we believe the Fukushima disaster has exposed failings in both Darlington's design and the CNSC's approach to safety. These should be transparently and rigorously reviewed before any approval is given to extend the operational life of the station.

The Fukushima disaster highlights at least four issues that have been inadequately addressed or ignored by the CNSC and OPG. Specifically:

- 1) **Darlington's Multi-Reactor Design.** The Fukushima disaster demonstrates the threats posed by a multi-reactor nuclear station if multiple reactor accidents take place concurrently. Unlike the Fukushima nuclear station, the multi-reactor Darlington station shares safety and support systems among four reactors, increasing the risk of radiation releases in the event of a multi-reactor accident. Due to this risk, multi-unit stations like Darlington that share safety systems are not permitted under International Atomic Energy Agency (IAEA) guidelines.² This serious design flaw must be publicly addressed before any approval is given to the life-extension of Darlington.

- 2) **Earthquake Vulnerabilities:** The Fukushima nuclear station was not designed to withstand a magnitude 9 earthquake because such an event was deemed “improbable” by the Japanese regulator and the operator. This points to a problem with using probabilities to dismiss certain types of accident scenarios. It also highlights the double standard in earthquake design-resistance being applied at the Darlington nuclear station. The new reactors OPG hopes to build at Darlington are to be designed to withstand movement of 0.3 G (peak ground acceleration), which approximates a magnitude 6 earthquake. The existing Darlington reactors, however, were only designed to withstand 0.08% G, almost four times less than OPG deems necessary for its new plant on the same site. We submit this is a significant design flaw calling for a full and transparent review of the existing Darlington reactors’ safety before any approval of the life-extension is permitted.
- 3) **The CNSC’s Approach to Nuclear Safety:** As noted, the Fukushima disaster puts in question the CNSC’s use of probabilities to dismiss or ignore certain classes of accident threats or vulnerabilities in determining the safety of nuclear stations. Former CNSC president Linda Keen has publicly stated that Fukushima teaches us that nuclear regulators must now be prepared against “black swan” events³; that is, low-probability events that are typically dismissed or ignored by the CNSC’s approach to nuclear safety. It is noteworthy that the CNSC has historically prevented the publication of the risk studies used to dismiss and ignore certain types of accident events. In light of Fukushima, this significant weakness in the CNSC’s approach to nuclear safety and information disclosure must be addressed and corrected before any approval is made for the life-extension of the Darlington nuclear station.
- 4) **Used-Fuel Storage.** The Fukushima disaster has also exposed the vulnerability of used-fuel storage facilities in accident situations. These previously unexamined vulnerabilities and the CNSC’s failure to require increased terrorist resistance of radioactive waste facilities at Darlington a decade after September 11th is a significant concern. Given that the life-extension of Darlington will continue the production and stockpiling of radioactive fuel waste at Darlington for decades, we request that the risks of used fuel storage facilities be properly and transparently addressed and mitigation measures proposed and evaluated in the upcoming safety and environmental review.

The aforementioned issues pose significant threats to the Canadian population and to the Great lakes that must be publicly addressed before any approval is given to proceed with a life-extension of the Darlington nuclear station.

We submit that these issues cannot be adequately addressed by the low-level and non-transparent safety and environmental reviews currently proposed. Any acceptable safety and environmental reviews must be prepared to openly discuss these risks and propose significant modifications to the station designed to eliminate or minimize these risks.

For example, the Darlington station currently causes significant thermal pollution, fish impingement and entrainment, and pollution emissions in Lake Ontario that could be addressed by back-fitting cooling systems onto the station. This is being considered by for new reactors at the same site and is required by law for all new stations in the United States. We are concerned that such significant environmental issues have already been excluded from the scope environmental review by CNSC staff without any public accountability. This underlines the importance of transparency and participative decision-making for such a significant project.

In closing, we would like to remind the CNSC that Canadians assume the risks for nuclear accidents. Canadian nuclear operators, suppliers and vendors have asked for special protection from the federal government in case of a Fukushima-scale accident. They have requested such protection – in the form of the Nuclear Liability Act - because they know Fukushima-scale accidents in Canada are a realistic possibility.

We submit that as long as Canadians assume the risk of nuclear accidents at the Darlington nuclear station, Canadians should have the right to scrutinize and demand changes to OPG's proposal to extend the life of the Darlington nuclear station. We therefore ask the CNSC ensure the right of Canadians to have meaningful opportunities to understand, scrutinize and critique the risks imposed on them by the continued operation of the Darlington nuclear station, and to recommend appropriate corrective measures.

In light of Fukushima, we strongly oppose the CNSC's intent to reduce and limit public scrutiny of OPG's proposal to extend the life of the Darlington nuclear station. To address the significant environmental and safety issues raised by the Fukushima disaster, the CNSC should abandon its currently proposed low-level review of the Darlington life-extension.

We ask then for a public hearing on the scope and level of environmental review, including whether the project should be referred to a federal panel review. In addition to the environmental assessment, such a hearing should consider proposals for a new more socially acceptable approach to reactor life-extension safety reviews that will include public participation and proactive information disclosure.

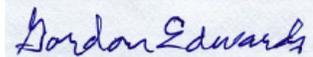
Truly,



Kevin Kamps
Nuclear Waste Expert, Beyond
Nuclear



Farah Khan
Campaigner,
Canadian Association of Physicians
for the Environment



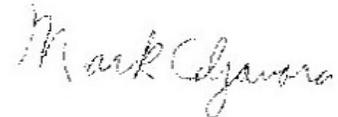
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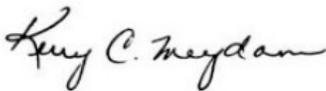
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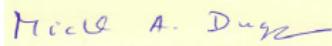
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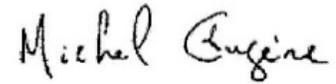
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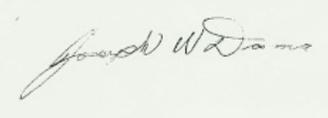
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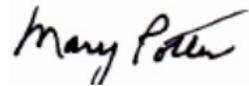
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Ontario Clean Air Alliance



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Provincial Council of Women of
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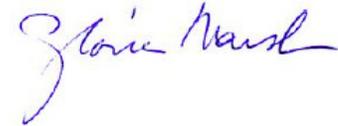
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Elizabeth May, Leader of the Green Party of Canada
Elaine Feldman, President of CEEA
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1. The CNSC held public hearings on the environmental assessment guidelines for past refurbishment reviews on Pickering B and Bruce A.
 2. The IAEA's design guide states that: «Structures, systems and components important to safety shall generally not be shared between two or more reactors in nuclear power plants». International Atomic Energy Agency, Safety of Nuclear Power Plants: Design, IAEA Safety Standards Series No. NS-R-1 (Vienna: IAEA, September 2000).
 3. Anna Mehler Paperny, «Nuclear plants aim for enhanced safety», The Globe and Mail, Thu May 5 2011, A5.