

## **I. INTRODUCTION**

1 The Ontario Sustainable Energy Association (“OSEA”) is a province-wide, non-profit organization centred on the vision of sustainable energy development. OSEA promotes the view that every Ontarian can be a conserver and generator of sustainable energy. OSEA is a public interest organization that works towards a sustainable energy future. This includes ensuring funding and rates that encourage both conservation and the incorporation of green energy.

2 OSEA is Ontario’s lead advocate, facilitator and catalyst for energy sector transformation and the transition to a more sustainable economy.

3 OSEA serves as an advocate for individuals, manufacturers, installers, developers, municipalities, First Nations, unions, farmers, co-operatives and other community organizations, NGO's and other associations supportive of, and engaged in, the full portfolio of sustainable energy solutions.

4 Sustainability refers to meeting our own needs and improving the quality of our lives while ensuring the ecological system that sustains us is healthy and capable of delivering positive returns to future generations.

5 Many OSEA members are citizens, community groups and businesses engaged in the safe and increasingly cost effective generation of electricity from a wide array of renewable energy sources as well as in conservation. As such, we have a number of concerns with this unprecedented 13 year Darlington Nuclear License extension that we would like the CNSC to consider.

## **II. TRANSPARENCY AND PUBLIC DISCLOSURE**

6 As an organization whose members must routinely conduct open and transparent public consultations and rigorous environmental assessments even on small scale wind and solar projects,

OSEA is quite concerned that in its ***“Study of Consequences of a Hypothetical Severe Nuclear Accident and Effectiveness of Mitigation Measures”***<sup>1</sup> CNSC management has apparently directed staff to withhold key information from the Public related to the potential impacts of an International Nuclear Events Scale (INES) 7 incident at one or more of the nuclear generation units at Darlington.

7 Given that a number of renewable power projects developed by our members have been subjected to Environmental Assessments where the “Precautionary Principle” has been raised<sup>2</sup>; OSEA believes that withholding key information on all potential outcomes of one or more INES 7 events from public scrutiny, the CNSC creates a double standard that negatively effects the renewable energy sector by placing nuclear industry interests in front of rigorous protection of the public interest by precluding fulsome emergency planning that includes the impact of an INES 7 event at Darlington.

8 On the basis of transparency, OSEA believes this license should not be renewed until a full and transparent stakeholder engagement process is undertaken with citizens and communities directly or indirectly affected by the radiological and financial impacts of an INES 7 event at Darlington.

### III. **OPPERATIONAL VIABILITY**

9 OSEA further opposes the grant of an unprecedented 13 year license due to the the great deal of uncertainty around the actual Cost of Darlington Refurbishment and an indication by the Ontario Minister of Energy through the Long Term Energy Plan that “Off Ramps” exist which may provide for the

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<sup>1</sup> <http://durhamnuclearawareness.com/wp-content/uploads/2015/09/Request-for-Ruling-Aug.2015.pdf>

<sup>2</sup> <http://s.cela.ca/files/777offshorWindpwrMort.pdf>

closure of Darlington by 2020. The Minister has stated; “should operators be unable to deliver the projects on schedule and within the established project budget”<sup>3</sup>.

**IV. FINANCIAL GUARANTEES - DECOMMISSIONING**

10 A review of the OPG 2014 Annual Report balance sheet reveals:

Nuclear fixed asset removal and nuclear waste management: \$14,354 (million)<sup>4</sup>

Liability for nuclear decommissioning and low and intermediate: \$17,028(million)<sup>5</sup>

This suggests that OPG currently faces an **unfunded nuclear decommissioning liability of \$2,674 (million)**.

When nuclear decommissioning liabilities are examined on a per MW of installed capacity basis, the current 12,978 MW of installed Nuclear<sup>6</sup> indicates a decommissioning cost/MW of \$1.3 Million.

11 OSEA has done an informal survey of publicly available nuclear decommissioning budgets in a number of other jurisdictions which in our view calls into question the integrity of the OPG decommissioning estimates and should give the CNSC significant cause for concern over financial capacity of OPG to adequately meet their decommissioning commitments.

12 By comparison, it is estimated the per MW decommissioning costs are as follows:

Jurisdiction	Cost/MW Nuclear Decommissioning	References
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<sup>3</sup> [http://www.energy.gov.on.ca/en/files/2014/10/LTEP\\_2013\\_English\\_WEB.pdf](http://www.energy.gov.on.ca/en/files/2014/10/LTEP_2013_English_WEB.pdf) pg. 29

<sup>4</sup> <http://www.opg.com/news-and-media/Reports/2014AnnualReport.pdf> pg. 112

<sup>5</sup> *ibid.* pg.113

<sup>6</sup> <http://www.ieso.ca/Pages/Power-Data/Supply.aspx>

	Budget	
United Kingdom	\$12.3 Million est.*	<a href="http://www.theguardian.com/environment/2013/jun/23/britain-nuclear-atomic-clean-up-decommissioning">http://www.theguardian.com/environment/2013/jun/23/britain-nuclear-atomic-clean-up-decommissioning</a>
Switzerland	\$7.2 Million est.*	<a href="http://www.world-nuclear-news.org/WR-Swiss_decommissioning_costs_rising-24111107.html">http://www.world-nuclear-news.org/WR-Swiss_decommissioning_costs_rising-24111107.html</a>
Ontario	\$1.3 Million	<a href="http://www.energy.gov.on.ca/en/files/2014/10/LTEP_2013_English_WEB.pdf">http://www.energy.gov.on.ca/en/files/2014/10/LTEP_2013_English_WEB.pdf</a>

\*Preliminary estimates that are subject to fluctuating currencies.

13 Given the vast discrepancy between Ontario, Switzerland and the United Kingdom, along with OPG’s long established track record of understating cost’s and timelines related to nuclear projects, OSEA believes it is in the public interest for CNSC to commission an independent third party review of all OPG assumptions as it relates to Darlington Refurbishment so as to verify the integrity of their work plans from both a cost and safety perspective by applying similar standards used in Switzerland and the UK. Once this decommissioning cost review is complete, OSEA would ask that the CNSC ensure all Financial Guarantees for decommissioning be fully funded by OPG using modern day assumptions rather than those currently used<sup>7</sup>, and put in place Fifteen Years ago.

14 Given the potential prospect that nuclear decommissioning costs may have been under estimated by OPG by as much as 5-10x we question the wisdom of granting an operating license of 13 years as requested when in all likelihood the project would fail to meet the economic viability

<sup>7</sup> [http://www.nuclearsafety.gc.ca/pubs\\_catalogue/uploads/G206\\_e.pdf](http://www.nuclearsafety.gc.ca/pubs_catalogue/uploads/G206_e.pdf)

requirement of the Provincial Long Term Energy Plan.

## V. Considering Alternatives

15 There has been no provincial review of alternatives to the Darlington nuclear station. This means for many of our members that the risk posed by the Darlington nuclear station is being unjustifiably forced on them. Our analysis is that renewables, energy efficiency and conservation could easily replace the Darlington reactors. This would eliminate nuclear risks such as radioactive waste, emissions and accidents. As we mentioned above, OSEA does not feel the public is being provided objective information on these risks by the CNSC, which unfairly skews the energy debate.

## VI. CONCLUSION

16 While OSEA recognizes it is not within the mandate of the CNSC to evaluate the cost competitiveness of Nuclear Power Plants, it is within the publics' right to know all of the potential impacts both environmental and financial however unlikely you feel they may be. By concealing the impact of one or more INES 7 event's at Darlington the CNSC has failed to provide citizens and communities with the necessary disclosure so that they can make appropriate contingencies in case of emergency or to fully evaluate alternatives to Darlington. Until this full disclosure is made, OSEA respectfully opposes the extension of the Darlington Operating License.