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Written submission from the Bruce Peninsula Environment Group

Mémoire du Bruce Peninsula Environment Group

In the Matter of

Ontario Power Generation Inc., Pickering Nuclear Generating Station

Request for a ten-year renewal of its Nuclear Power Reactor Operating Licence for the Pickering Nuclear Generating Station

Commission Public Hearing – Part 2

June 2018

À l'égard de

Ontario Power Generation Inc., centrale nucléaire de Pickering

Demande de renouvellement, pour une période de dix ans, de son permis d'exploitation d'un réacteur nucléaire de puissance à la centrale nucléaire de Pickering

Audience publique de la Commission – Partie 2

Juin 2018

Canada

Secretariat
Canadian Nuclear Safety Commission
Ottawa, ON
K1P 5S9

May 07, 2018

Re: Ontario Power Generation Request (OPG) for 10 Year Operating Licence Extension for the Pickering NGS – Day 2 - Submission by the Bruce Peninsula Environment Group (BPEG)

Dear Canadian Nuclear Safety Commission,

Thank you for the opportunity to present comments and concerns on the above licence renewal request. This submission is made on behalf of the Bruce Peninsula Environment Group (BPEG), a not-for-profit organization founded in 1989. For all the almost 30 years, we have been holding monthly meetings at the Christ Church Anglican Parish Hall in Lion's Head, ON. Some of our members have cottages along the shoreline of the Peninsula, while their primary residence is in the GTA. OPG also has been sending their intermediate level waste from Pickering and Darlington continuously to their Western Waste Management Facility near Kincardine on lake Huron, thereby making their Bruce County facility a sacrifice zone for the dangerous waste from their Lake Ontario locations.

We were not invited to comment on the Day 1 hearing unfortunately, but we asked for the transcript.

We need clarification why the Director General of the Directorate of Power Reactor Regulation told the Commission that all 6 reactors of the PNGS were operational. As quoted, he said, "Units 1 and 4 and Units 5 to 8 are operational "(pg 50-51 of Transcript, http://www.nuclearsafety.gc.ca/eng/the-commission/pdf/TranscriptofPickeringHearing-April4,2018.pdf). According to our information, on that date, 2 of those reactors, Unit 4 and Unit 6, were offline and not producing a kilowatt of electricity (http://www.sygration.com/gendata/Generator%20Report%202018-04-04.html). (*At the time of this writing, we can report that those same units still are not producing a single kilowatt and have not been for more than the past month).* There must be a distinctive lack of communication between head office and site staff. *It is obvious that the Commission is being fed misinformation which would make them come to a false safety conclusion.*

In 2017, the Commissioner for the Environment and Sustainable Development, Julie Gelfand, released an audit of the CNSC oversight. In a scathing report she did come out with a finding that public safety is not guaranteed under these sloppy inspections.

> "**The Canadian Nuclear Safety Commission could not show that it had an adequate, systematic, risk-informed process for planning site inspections at nuclear power plants**……. **The Canadian Nuclear Safety Commission did not always follow its own inspection procedures**."
> (http://www.oag-bvg.gc.ca/internet/English/parl_cesd_201610_01_e_41671.html#hd2b)

Now this should be especially noteworthy to the newly appointed members of the Commission because it reflects the hesitation of intervenors to trust CNSC staffs reporting and recommendations. Corrective action has been taken reportedly, but with the poor transparency of public notices, there is no way to regain trust.

In the background information on PNGS, Gerry Frappier mentioned that the fuel channels of the Pickering A reactors were refurbished in the late 1980's/early 90's (pg 49 of Transcript). We happen to remember that this project was undertaken by Ontario Hydro as operator at that time. They had relied on the 'leak before break' theory, which was to their amazement, proven completely erroneous. There was a huge panic when that serious accident happened. It was listed on the INES scale as #2. The following refurbishment cost the utility a mind boggling $1 billion. (https://www.wiseinternational.org/nuclear-monitor/588/canada-restarting-its-troubled-reactors)

Last but not least, a few years later those reactors received an operational rating of "minimally acceptable" by a U.S. nuclear expert team led by Carl Andognini, called upon by Ontario Hydro to evaluate the state of its nuclear reactors. Consequently, the Pickering A and the Bruce A reactors were shut down and the utilities head Al Cupsis resigned. This intervenor took part in the 3 day Atomic Energy Board hearing under Dr. Agnes Bishop. In its final deliberation, the AECB gave reluctant permission to restart those reactors. Would this recollection help the Commission members to look very carefully at OPG's request to raise the equivalent full power hours from 447, 000 EFPH to 495, 000 EFPH? How hard can we push these outworn generators? Do we need to remind the Commission that this station is barely 30 km east of a 2.5 million population metropolis? *We are definitely playing the dangerous game of Russian Roulette here!!*

Another reason that should raise serious concern by the Commission members is the fact that Pickering A's reactors have an anomaly: It was built with only one Emergency Shutdown System. All subsequently built nuclear stations were required to have two fully functional Emergency Shutdown Systems. After years of strong pressure from independent organizations and even from the AECB, Ontario Hydro finally relented to add a second shutdown system. Lo' and behold, it was too costly to install a full-fledged shutdown system so Pickering A ended up with a makeshift moderator dump. "The Pickering A units employ a moderator dump as a shutdown mechanism, a feature not found in Pickering B." (www.wikipedia.org). *As well, both Pickering A & B have only a combined vacuum building to capture radiation releases from both stations reactors in case of a multi-reactor accident*.

Just to top all of those serious issues, we need to point to the problem of enhanced security for this multi-unit generating station. American nuclear reactors located on the Great Lakes have security zones enforced along the lake front. We are not aware of anything similar along the sprawling shorefront of the Pickering station. As far as protection from the sky, we are not aware of a no-fly zone being enforced, which with all of the heavy air traffic around the GTA, is a huge concern for us. When considering all the recent extreme weather events connected to climate change which could affect these deteriorating buildings, we are sure that the Commission members will pay special focus on security protection.

The Provincial Nuclear Emergency Response Plan (PNERP) has finally undergone an update, the first since 2009, but it did not in any way ensure safety measures for a Fukushima-type accident scenario as expected by the public. A Fukushima type meltdown in these multi-reactor nuclear stations cannot be ruled out anymore. So is there not a strong duty to protect those millions of residents from this game of Russian Roulette?

Those 3,000 MW produced if all of the reactors happen to be online is not needed in the context of falling demand. It seems that OPG even has to unload some of the power by sending it across the border at a loss, impacting our Hydro bills. Even at the time of this writing, two of the units are still off-grid, reducing this eight unit station to four units. The operational record for this station should again be declared MINIMALLY ACCEPTABLE!! None of the workers would lose their jobs if this station would be closed down since the decommissioning process would take years to complete and the savings to the provincial tax payers and rate payers on their hydro bill would be immense.

In some of our previous interventions, we have taken issue with the continuous use of the 1msv public radiation exposure limit. In the discussion paper DIS 12-02, CNSC staff brought forward an update to the radiation exposure limit with recommendations to follow the ICRP reductions proposed for international regulatory agencies. The industry did not mince any words in refusing to accept those recommendations. In our recollection, we remember that staff backed down in the face of strong pressure from the industry. Operating these CANDU reactors beyond their design life would make this assurance of a safe public dose completely irrational. In several of our other interventions, we have pointed out that even this so called "safe" radiation exposure limit has been challenged and reduced internationally. Reports by the International Commission on Radiological Protection (ICRP 99, 2006) and the U.S. National Research Council of the National Academies (BEIR VII, 2006) state that while evidence supports other models, the LNT model provides the best overall fit for radiation protection purposes. There must not be a risk related radiation exposure limit that claims protect the general public. The Reference Man model, with that young Caucasian male in the prime of his life and his resistance to nuclear radiation, can never be compared to the radiation exposure of the different constitution of a female body. The reproductive system has a much higher sensitivity to radiation exposure and that is why the ICRP had recommended the significant lowering of the general public exposure limit. Don't we always hear the proud claims of the CNSC that "The Canadian Nuclear Safety Commission (CNSC) is an independent federal government agency that regulates the use of nuclear energy and material to protect health, safety, security and the environment and to respect Canada's international commitments on the peaceful use of nuclear energy." It almost seems that our Federal Regulator is willing to protect the **industry** instead of the citizens of our country.

BPEG still grapples with the fact that by extending PNGS's operating licence, there will be many more tonnes of, not only the low and intermediate level waste, but also the eternally dangerous and poisonous spent nuclear fuel waste generated. Now the question arises, how are we safely maintaining this terrible legacy for the long term? For over 40 years, there has been no resolution for the waste and the way it looks, there never will be one. No nuclearized country in the world has been successful in solving this problem. So is it not completely irresponsible, unethical, and immoral to give permission to produce more of this poison, a horrible legacy for all future generations?

In Gerry Frappier's recommendations glorifying OPG's past performance, we hear, "Based on the assessment of OPG's application and past safety performance, CNSC staff conclude that, as per section 24(4) of the *Nuclear Safety and Control Act,* OPG is qualified to carry out the activities authorized by the licence, and in carrying out the licensed activities OPG has made and will continue to make adequate provision for the protection of the environment, the health and safety of persons, the maintenance of national security, and measures required to implement international obligations to which Canada has agreed." (pg 92 of transcript) **REALLY??**

The relied upon Nuclear Safety And Control Act (NSCA) is getting to be outdated because of its age. It celebrated its 20th anniversary last year and has never been updated as the legislation of this kind is required to every 5 years. Furthermore, the CNSC staff in their recommendations, rely in many instances, on the CSA models and the Reg. Doc.'s based on them. Several years ago, this intervenor was invited to sit on a CSA technical committee as a Consumer Advocate to study certifications for solar hot water systems (SHWS). After about two years, I submitted my resignation in frustration about their inferior methods. There is no insurance that we can rely on these standards, giving us assurance of continuing safe operation.

Will the Commission now by deliberating to come to their decision be reminded to consider the Precautionary Principle? The "precautionary principle denotes a duty to prevent harm, when it is within our power to do so, even when all the evidence is not in" (CELA). ***The Precautionary Principle informs the decision-maker to take a cautionary approach, or to err on the side of caution, especially if there is a large degree of uncertainty or high risk.***

It is now up to the Honourable Members of the Canadian Nuclear Safety Commission to decide on all of this evidence brought forward. It must now consider in honest deliberations whether to accept OPG's request and staff's recommendations.

We expect the Members of the Commission to accept the expression of our serious concern. We strongly recommend that OPG be required to start decommissioning Pickering A by the end of the present operating licence period. We also recommend that Pickering B have a moratorium placed on their continued operation until a fully independent review committee can establish without a doubt, that with considering falling demand and conservation, there is need for continued operation to meet Ontario's demand.

Thank you very sincerely for accepting this submission made on behalf of the Bruce Peninsula Environment Group (BPEG).

Respectfully submitted by Siegfried (Ziggy) Kleinau
Co-Founder and Outreach Director