



Written Submission from the Bruce Peninsula Environment Group

Mémoire du Bruce Peninsula Environment Group

In the Matter of

À l'égard de

Bruce Power Inc. – Bruce A and B Nuclear Generating Station

Bruce Power Inc. - Centrale nucléaire de Bruce A et Bruce B

Request for a ten-year renewal of its Nuclear Power Reactor Operating Licence for the Bruce A and B Nuclear Generating Station

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 Bruce A et Bruce B

Commission Public Hearing – Part 2

Audience publique de la Commission – Partie 2

May 28-31, 2018

28-31 mai 2018

The Secretariat
Canadian Nuclear Safety Commission
Ottawa
K1P 5S9

April 16 2018

Re: Submission on Day 2 Public Hearing of Bruce Power Inc. Request for 10 Year Operation Licence Extension and Major Component Replacement

Dear Chair and Members of the Commission,

Thank you for the opportunity to address the above licensing extension request by Bruce Power. This submission is made on behalf of the Bruce Peninsula Environment Group (BPEG). BPEG is a not-for-profit organization, founded almost thirty years ago in 1989 and incorporated several years later. BPEG has been holding monthly meetings in the town of Lion's Head, at the Christ Church Anglican Parish Hall. We have been frequent intervenors on these license extension requests. This intervenor had the opportunity to tour the Bruce Nuclear Generating Station several times over the years by invitation. I have viewed the interior of a vault of a reactor (offline), the building with the Irradiated Spent Fuel Pool, the building housing the huge concrete containers for above ground storage of irradiated spent fuel, as well as the huge incinerator which is used to deal with the irradiated plastic suits, mops, and motor oil et cetera. After each tour, I was required to visit the decontamination booth to remove the absorbed radiation to assure no endangerment to the public.

We stand in solidarity with the Saugeen Ojibway Nation (SON) in protesting the continuing varying of Rules of the Nuclear Safety and Control Act, to the detriment of public intervention.

Over the almost thirty years of intervening before, first the Atomic Energy Control Board (AECB) and now its successor the Canadian Nuclear Safety Commission (CNSC), we have, during the most recent almost ten years, seen a continuing move to favour the applicants by limiting the time for preparing interventions to the detriment of the public. Extensions for operating license periods used to be for two years only. Then recently, the requests were for five year licenses and now this irrational ten year license request. This is just one example of the favourable treatment for the industry.

After reviewing the transcripts of the Day 1 hearing, we are left with the impression of CNSC staff glorifying the applicant's performance over the last three years. Maybe the Members should be encouraged to review a couple of the previous year's records available on S-99 daily reports. Just as an example, here is a brief cut-out from the 2017 Report:

<http://www.brucepower.com/wp-content/uploads/2017/10/2017-reportable-events.pdf>

Date:	Station	Report #	Title
Jan 3, 2017	B	B-2017-28596939	Unit 6 - Loose Contamination
Jan 4, 2017	A	B-2017-28597416	Unit 1 Setback
Jan 9, 2017	A	B-2017-28598494	Incomplete REGDOC-3.1.1 Scheduled Report
Jan 10, 2017	A	B-2017-28598037	Fire Preventative Maintenance (PM) Testing Exceeded Due Date
Jan 12, 2017	B	B-2017-28598419	Category C Spill - Oil Leak in Pumphouse
Jan 17, 2017	B	B-2017-28599304	Relief Valve Nuclear Sampling Requirements Not Met
Jan 23, 2017	B	B-2017-28599829	Unposted Radiological Hazard
Jan 27, 2017	A	B-2017-28601815	Fuel Handling Relief Valve Mandatory Testing Missed
Jan 27, 2017	B	B-2017-28601126	Unposted Radiological Hazard
Feb 1, 2017	A	B-2017-28602507	Motor Oil Category C Spill
Feb 1, 2017	A	B-2017-28602112	ECl Valve Opened too Quickly
Feb 3, 2017	B	B-2017-28602658	Unit 7 Shutdown
Feb 6, 2017	A	B-2017-28602635	Domestic Water Spill
Feb 8, 2017	B	B-2017-28603567	Unit 5 Unplanned Actuation of Shutdown System #1 (SDS1)
Feb 8, 2017	A	B-2017-28595527	BA Analysis for Break on Top of Pressurizer Shows Reduced Margin
Feb 16, 2017	A	B-2017-28604612	Incomplete Records
Feb 21, 2017	A	B-2017-28605217	Less Than Minimum Number of Standby Generators Available
Feb 22, 2017	A	B-2017-28606176	Reactor Inner Zone Inlet Header (RIZIH)
Feb 22, 2017	A	B-2017-28604140	Missed Online Safety System Test
Feb 22, 2017	B	B-2017-28605220	Public Address Speaker blocked

Hardly a day seems to go by when there isn't an infraction of safety rules or a spill and it goes on and on. This should open the eyes of the Commission Members to what is fact and what is fiction.

Another problem that we have is an apparent serious communication gap between head office staff and Bruce CNSC Site staff:

Director General Gerry Frappier assured the Commission at the Day One Hearing that all eight Bruce reactors are currently operational (Refer to page 53 of transcript). As we could verify from the Sygration website, <http://www.sygration.com>, both Bruce #2 and Bruce #4 units were offline, and had been offline for several days before. Matter of fact, in the Status Report on Power Reactors, CMD 18-M13 signed by Mr. Frappier on March 7 2018, Bruce Unit #4 was shown as not operational and in an E.I.R. was identified as having incurred a leak of heavy water due to improperly installed seals (and, as of the date of this submission, Unit #4 is still not operational). So this was obviously a highly misleading statement by this highly ranking official. It seems as if there is a top heavy consignment of senior staff and managers at the head office and not enough inspectors and regulatory staff at the field level.

In 2017, the Commissioner for the Environment and Sustainable Development, Julie Glefand, 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)

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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 our 2015 submission, we had questioned why the CNSC has not followed up with International recommendations on tightening the exposure limits to radiation for the public. We had especially singled out the finding that the female gender is much more impacted by radiation exposure than the male gender. We need to come back with our same question- Why is CNSC staff not coming up with revised radiation exposure levels to the public and still quoting a general exposure level of 1msv per year as a safe exposure limit for both genders? We need to bring back what we said :

“Bruce Power and CNSC staff still keeps assuring the Commission and the public that an annual public dose of 1 Millisievert (mSv) of radiation exposure will not cause any effects on their health. *The International Committee on Radiation Protection (ICRP) has several years ago admitted that this rate of exposure is not protective of the female gender and had recommended a drastic lowering.* Many countries have already adopted these much lower values and, over 2 years ago, CNSC issued a Discussion Paper (DIS 12-02) informing industry of these ICRP recommendations. Apparently there was strong opposition from the industry to those more protective dose restraints and so far the Commission seems not willing to follow international regulators to enforce enhanced health protection for the

public.”

So how can we trust the continuous assertions that public safety is guaranteed with this work to be performed over the next ten years?? It is not just a question that affects the public within a 10 or 20 or 50km radius, no, radiation respects no borders.

Bruce Power continuously likes to point to the backing of the local council and all the social agencies for the support of its plan. But wouldn't the Commission members have to consider the health of the larger region and its residents? Bruce Power has shown its generous corporate sponsorship to garner the support of the surrounding social scene as will be evident by the many submissions before the Commission.

The Premier of our province has just recently detected that there are risks endangering nuclear power plants, not just south of the border but also in her province. “Ontario Premier Kathleen Wynne said on March 16 that she considers the possibility of Russians hacking into Ontario's nuclear plants "a very serious question" and "something that we are obviously constantly asking about and making sure that all precautions are being taken” (<https://nowtoronto.com/news/hacking-ontario-nuclear-plants-a-very-serious-question/>) . *This should lead to the distinct impression, which shows that Bruce Power does not consider SECURITY as a separate part of its safety plan.* We have always wondered how well protected this huge nuclear site has been from possible terrorist activity with 4000 employees and now projected 2000 contract personnel working at the plant. How effective is the detection level of suspicious activity? We are not aware of any security oversight along the vast shoreline around this huge nuclear power development including the Western Waste Management Facility managed by OPG. We know that Bruce Power loves those many fishing derbies taken place during the summer and fall near the shoreline. In comparison, other nuclear plants have very tight restriction zones for a large distance from their shorelines.

The recent attempt of the province to update its Provincial Nuclear Emergency Response Plan (PNERP) has fallen far short of the expectation of the general public. Emergency drills at the Bruce plant have been performed mostly in a table top fashion. The recent large emergency preparedness drill was performed in a way that doesn't translate into real time circumstances because no member of the public was invited to take part. But, of course, neither Bruce Power nor CNSC staff expects the potential scenario of a Fukushima type meltdown, at the largest nuclear plant in the world, to be possible.

In its license extension request, Bruce Power added a request to consolidate two other programs which were outside of the operating license. After achieving a consolidation of both Bruce A and Bruce B in 2015 to be combined under one license, the consolidation train is speeding up. *This is another very obvious attempt to keep any independent review out of regulatory oversight and from intervention from the public for possibly another decade. Are we going to have only two parties in this whole licensing process, the licensee and the regulator and not any public entity?*

With the extreme proposal to exceed the 247,000 equivalent full power hours by 53,000 equivalent full power hours seems to be hard for the Commission members to accept (member's questions in the transcript). How can we, the public, have any confidence in this "leak before break" concept that Bruce

Power is putting forward and which the CNSC staff is willing to recommend? After these many years of intervening, we still have very vividly in our memory that Ontario Hydro had glorified this concept for the Pickering A Nuclear Reactors. ***Low and behold, one pipe burst before it leaked*** and that resulted in a major emergency at the plant and a full tube replacement of all of those reactors in the 1990's costing the huge amount of \$1 billion. And those highly irradiated tubes are still in a special part of the Waste Management section at Pickering and won't be disposed of anytime soon.

CNSC staff several times use CSA technical certifications and Reg Doc's as confirmation of their and Bruce Power's confidence in assertions to their predictions. Several years ago, this intervenor was invited to sit on a CSA technical committee to study certifications for solar hot water systems (SHWS) as a Consumer Advocate. After only about two years, I tendered my resignation in frustration about their inferior methods. Some of the recently published Reg Doc's also seem to rely on CSA certification models. *Commission members should be vigilant about trusting staffs assertions and their predictions of minimal risk.*

Last but not least, has there been any consideration of the huge amounts of highly irradiated nuclear spent fuel which would be generated over the long period for which Bruce Power is requesting to extend their operational life? *After more than a decade, there is not even an option for safely containing the low and intermediate level irradiated waste.*

The NWMO has been trying to convince numerous municipalities for many years to express their willingness to accept the highly irradiated spent fuel waste by doling out generous amounts of public funds. On the International level, this is a continuous quest of how and where to safely contain this highly hazardous and long lasting end product of 'clean' nuclear energy generation. No country in the world faced with this quandary has achieved a solution to this problem. It will be many decades in the future, if at all, that they could have success. Is there really an honest reason for giving Bruce Power's MCR project the green light with this in mind?

CNSC staff end their multi-faceted recommendation with this sentence:
..."CNSC staff recommend that the Commission accept CNSC staff's conclusions and recommendations presented in CMD 18-H4 and exercise its authority under the *Nuclear Safety and Control Act* to renew the licence and to authorize Bruce Power to continue to operate the Bruce A and B nuclear generating station."

Yes, this is a great time to celebrate the twenty year anniversary of Canada's Nuclear Safety and Control Act enactment. Other similar legislation has to be revisited every five years, but this antique gem is massively outdated and must not be the End all to legally validate those regulatory decisions.

*Will the Commission in their deliberations now 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.***[emphasis added].

We strongly recommend that the Commission Members, in the face of all these uncertainties and unfounded predictions, refuse to grant the requested operating licence extension.

With the current licence giving Bruce Power still two more years until 2020, we strongly recommend that the Commission dedicate the end of this licence period as an opening for a new operating license public hearing for Bruce Power to come up with a vastly improved operating performance.

Thank you for accepting this submission made on behalf of the Bruce Peninsula Environment Group. We sincerely express our hope that it will be fully reviewed and taken under serious consideration.

Respectfully,

Siegfried (Ziggy) Kleinau
Co-Founder and Outreach Director (BPEG)