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# Written submission from Andrew Griffin

# Mémoire de Andrew Griffin

In the Matter of the

À l'égard de

**BWXT Nuclear Energy Canada Inc., Toronto and Peterborough Facilities**

**BWXT Nuclear Energy Canada Inc., installations de Toronto et Peterborough**

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Application for the renewal of the licence for Toronto and Peterborough facilities

Demande de renouvellement du permis pour les installations de Toronto et Peterborough

**Commission Public Hearing**

**Audience publique de la Commission**

**March 2 to 6, 2020**

**Du 2 au 6 mars 2020**

Canada

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Senior Tribunal Officer
Secretariat Canadian Nuclear Safety Commission
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Sent by email cnsc.interventions.ccsn@canada.ca

January 26, 2020

RE: Intervention by Andrew Griffin for the BWXT Licence Renewal (Hearing Ref. 2020 - H - 01) BWXT Nuclear Energy Canada's application to license FFOL-3620.1/2020

I am writing this intervention regarding the license application of BWXT in Peterborough seeking "the flexibility to conduct pellet production." I am submitting this in writing and do not wish to make an oral presentation at the Peterborough hearing.

I am requesting that the CNSC **should not approve** the application for production of fuel pellets at the Peterborough location.

I live 500 metres away from the BWXT plant. My child attends Prince of Wales Public School across the road from the plant and plays in a school playground I measured to be less than 100 metres away. I am familiar with the proposed license and the industrial process that would be used.

My concerns are many but for the purposes of this intervention can be reduced to several specific issues that disqualify approval of the part of the licence application that would permit BWXT to produce fuel pellets from uranium powder at the Peterborough location:

1) It is an incompatible use for the site that poses unacceptable health and safety risks to the almost 12,000 people within 2km of the plant and particularly to the elementary school children 100-200m away from the site.
2) BWXT has not consulted the community adequately. It has indicated to community members it does not plan to move its pelleting operation to Peterborough. If this is so it therefore ultimately does not require approval for this purpose. The application for this purpose is for business "ability to adapt as needed". Does the CNSC allow for consideration of corporate business plans in its decision making process?

**Discussion: Incompatible with site**

1) If BWXT applied today for zoning for the proposed activity it would not be approved at this location. Factories that use nuclear materials are not zoned in the middle of cities in the 21st century!

Despite the fact that the CNSC is not responsible for local land use zoning processes you do in fact control how land will be used through the permitting process. Consider the site; BWXT Peterborough inherited an industrial location, the former GE plant,

dating from 1892. The only reason an application can even be made today is because it is historically zoned industrial and BWXT inherited this zoning when it leased the plant from General Electric.

**Radiation exposure in a residential area**
I understand that if this activity is permitted that boundary air monitoring stations must be installed within 2km and that soil samples must be taken as well.

Despite ALARA "guidance" and despite the fact that while levels are expected to be low they would be measurably increasing in air, water and soil, who will want to have a vegetable garden here in the future knowing this fact? Will people downstream from Peterborough be made aware that there will be considerable increases in their exposure to radiation by many vectors, even if they are within guidelines (which are debatable anyway)?

BWXT admits that current operations in Peterborough have low emissions
"In 2018, the estimated annual public dose from our Peterborough facility was 0.000 mSv (zero milliSieverts)"
(https://www.bwxt.com/bwxt-nec/about/frequently-asked-questions-faqs)

While this is commendable the 2018 report shows an estimated public dose ranging from 0.4 micro Sieverts to 17.5 micro Sieverts at the Toronto location (BWXT 2018 Compliance Report page 45). This means if the Toronto operation was moved to Peterborough local citizens will go from a dose of effectively nothing to something, albeit low. Is the population even aware of this?

Where would the emissions go?

I understand the CNSC already permits the Toronto plant to release up to 9,000 kilograms of uranium waste into the sewer system and 760 grams into the air annually. Presumably if production were moved to Peterborough, the city and its waterways and people downstream would be exposed to higher levels of radiation than currently.

**Community features located within 2,000 m of BWXT using Google Maps:**

- 4 schools - 1 high school, 3 elementary (2 public, 1 private)
- 31 public green spaces - parks, playgrounds
- Public waterpark 620m away
- Peterborough Regional Health Centre
- Kawartha Golf and Country Club
- A large regional mall - Landsdowne Place
- Peterborough's Central Business District 1.4km away
- A lake (64 hectares)
- The Otonabee River
- Estimated Population 11,495 (freemaptools.com>population inside and area search map)

If the CNSC allows pelleting operations in Peterborough it would be approving an activity that is authorized by land use regulation from the distant past. It would be permitting the release of radioactive materials in the heart of a densely populated 2km radius area that has almost 12,000 people and a school within 30 metres.

Because the proposed activity involves the transportation, on site storage and processing of large numbers of drums highly toxic uranium yellowcake powder with storage of additional dangerous substances such as hydrogen for a sintering furnace, it is is a completely inappropriate location for this activity. A fire at this location would be devastating and could make parts of the city unliveable for years.

Because there is over a century of documented toxic waste material in the soil in and around the former General Electric plant that eventually must be dealt with, a decade of industrial activity involving Uranium yellowcake powder just adds difficulty and cost to ameliorating an already difficult brownfield site.

**Flooding**

Peterborough experienced significant flooding event in 2004 with much of the damage in the area next to the plant. (https://www.cbc.ca/archives/entry/the-2004-peterborough-flood). Flood rainwater would leave the BWXT site and carry radioactive and other toxic materials from the site to Little Lake and the Otonabee River. We swim at the beach on this lake. Further extreme weather events are predicted with climate change. Does BWXT have sufficient resources to deal with a 100 year flood?

**Accidents**

While BWXT has demonstrated an ability to maintain operations with emissions within prescribed limits accidents happen. Because there is NO BUFFER zone between the plant and a residential area any accident could have significant effects on the health of inhabitants. Consider the greater damage of an accidental emission or intentional malevolent act because of its proximity to so many people and a school. At a site farther from dwellings accidents could be contained more easily. How can BWXT ensure the safety of local residents if an accident occurred?

**Property Values**

The recent false alarm at Pickering Nuclear Station shows us the effect that even perceived risks have on the sense of safety and security of people living in the vicinity of nuclear facilities. There was a huge surge in iodine pill orders following the alarm. (https://www.timescolonist.com/false-alarm-at-ontario-nuclear-plant-prompts-surge-in-iodide-pill-orders-1.24052165).

Property values were immediately effected and these reductions may be long term. The experience of other nations who use nuclear fuel for power generation bolsters the fact that risks need only be perceived to have negative consequences. (https://business.financialpost.com/real-estate/selling-a-home-near-the-nuclear-plant-that-false-alarm-just-reminded-everyone-of-the-risks)

How can Peterborough attract new residents when it is known as a place where you will get exposed to radiation, even if levels are within limits?

2) BWXT says it does not plan to move its pelleting operation to Peterborough. As such it is unnecessary to approve the present application for this activity. If it does not intend to move operations then why is it applying to do this?

BWXT has contacted community members and political representatives at all levels with a public relations effort to obfuscate their plans. The company has sent out newsletters that do not identify the potential for pelleting in Peterborough and it has hosted a barbecue for the local community amongst other public relations measures. Not attending such an event is no indication of tacit approval of the licence proposal to begin pelleting operations. These public relations activities seem to indicate BWXT is aware of potential opposition and wish to present a positive image in advance of it. However whenever I tell someone who I know lives within the 2km radius of the plant what is proposed there is a strong negative and surprised reaction. Most are familiar with the GE plant, some, but not all, understand there has historically been nuclear manufacturing at the facility but no one understands the nature of the proposed pelleting process.

It is highly illogical in the decision making process for you to not consider these additional facts of the matter:

a) BWXT is currently producing uranium pellets in an area of the West end of Toronto that is becoming gentrified (Dupont/Landsdowne see: https://www.sg.jeffreyteam.com/toronto-real-estate-neighbourhoods/west-toronto-real-estate/carleton-village/).
b) Growing community mobilization and opposition in Toronto leads BWXT to apply to the CNSC for a license to move the production of these pellets to a city that conveniently has a location that is historically zoned for that purpose.
c) Because the proposed site is zoned “Industrial” it does not directly infer the proposed industrial activity is appropriate for that location
d) The Peterborough location is in an economically depressed area where local opposition has a lower probability of being mobilized and the population has lower resources to employ in its opposition.
e) Peterborough is therefore a backup plan in case the opposition in Toronto becomes too great. This is what BWXT means when they directly admit about the licensing application:

“While there is currently no plan to change the existing state of operations, including the flexibility to allow BWXT NEC’s Peterborough facility to conduct pelleting will help to ensure that BWXT NEC has the ability to adapt as needed to changing business needs over the decade-long licence period.”
(https://www.bwxt.com/bwxt-nec/safety/licensing)

BWXT is already permitted to produce and test fuel bundles and is additionally authorized to receive, repair, modify and return contaminated equipment from off-site nuclear facilities. Both of these activities already involve managing the considerable risks involved with the transportation and storage of large amounts of nuclear material immediately adjacent to high density residential populations in Peterborough. Why should the CNSC permit BWXT to **add** to these considerable risks by giving the company the flexibility to produce fuel pellets using a process that is documented to produce even more nuclear effluent?

Additionally. BWXT wants the flexibility to increase production using the pelleting process which would add considerably more in emissions to the environment. Despite regulations and guidelines about acceptable limits it is a fact that if approved individuals, particularly children living near the pelleting operation would be exposed to fine uranium powder that can be inhaled, injected or absorbed from fugitive airborne dust emissions as well as liquid effluent.

If my child or any child inhaled just a single particle of uranium it will potentially irradiate his or her body for the rest of their lives. There are other vectors for the uranium dust into the body such as absorption through cuts or abrasions. There is a kindergarten sand playground close to the road. It is just 52 metres from BWXT. I measured it.

This question gets to the heart of the matter as far as I am concerned:
What are the optics of the CNSC approving the processing of radioactive uranium powder 50 metres from a schoolyard sandbox?

In this intervention I therefore request that the CNSC:

- **DO NOT permit** BWXT to produce pellets using uranium powder in its new license at the Peterborough location.

BWXT says it does not plan to produce pellets in this location. Because the location is incompatible with this activity permission for pelleting should not be granted. If BWXT says they need permission “to adapt as needed to changing business needs over the decade-long licence period” then the question is why? I believe it is because they think that many in the community of Peterborough do not understand the true nature of pelleting and so BWXT know they face less mobilized opposition to the activity.

Because there is no requirement for a comprehensive Federal or Provincial Environmental Assessment the accountability for this decision is entirely upon the CNSC. CNSC will effectively be making a land use planning decision because pelleting is a fundamentally different industrial activity than what takes place on site currently. If CNSC grants permission to pellet in Peterborough then they must be accountable to the citizens of the city in allowing a land use that is incompatible with a residential neighbourhood that is also immediately adjacent to an elementary school. They will also be granting a licence for an activity that the company says it has no intention of implementing in a location the CNSC knows has residents not fully informed of the

nature of the industrial process or the radioactive emissions they will subsequently be exposed to.

Sincerely,
Andrew Griffin

*Contact information on the attached page, as per guidelines. I do not want them published on the CNSC website. Thank you.*

*Addendum*

**Impacts to property values are long term:**

https://business.financialpost.com/real-estate/selling-a-home-near-the-nuclear-plant-that-false-alarm-just-reminded-everyone-of-the-risks

"Properties located adjacent to certain kinds of facilities or infrastructure deemed undesirable — such as waste treatment plants, power lines, or nuclear power plants — are often impacted by negative effects because of real or perceived health or amenity risks,"

"While Canada has never experienced a major nuclear disaster, awareness about the possible safety risks from nuclear power plants came to the fore after a March 2011 earthquake in Japan, resulting in a meltdown at the Fukushima Daiichi nuclear power plant. The ripple effects of the Fukushima accident were felt far and wide.

In Germany, for instance, the anti-nuclear protests after the Japan earthquake forced the German government to close eight of its 17 nuclear power plants. The government also committed to phasing out the remaining plants by 2022.

A paper published in 2017 in the Journal of Urban Economics also found that housing prices near still-operating plants in Germany were negatively affected by Fukushima, declining by 4.9 per cent.

Housing prices near German plants that were shut down after the accident in Japan fell even further — by 9.8 per cent."