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Written submission from Susan Cooper

Mémoire de Susan Cooper

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

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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Intervention Submission – Susan Cooper [redacted]

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In 2019, I learned through community communication and local media that BWXT-Peterborough applied to start making uranium fuel pellets to power nuclear reactors at their facility on the old GE grounds. I have several concerns with the proposed application, including:

1. Fine Uranium Powder. I understand that uranium fuel pellets are made from a very fine radioactive powder (finer than flour) that can easily escape into the air and is easily inhaled or ingested. Aside from the uranium that will be permitted to be released as air emissions and liquid effluent, what actions and precautions will be done to contain the air in the facility so that unaccounted emissions don't further contaminate the environment?

2. Radiological Hazard and Chemical Hazard. Through reading a Peterborough Examiner column by John MacQuarrie, President of BWXT Nuclear Energy Canada Inc., it is implied that uranium is safe by calling it weakly radioactive when compared to X-rays but that is outside of the body. If inhaled into the lungs, it can emit alpha and beta particles that irradiate our cells from within for years and years. According to the World Health Organization, once inside the body, alpha particle emitters such as uranium are type 1 carcinogens.

Uranium is also a heavy metal with health implications similar to lead. If pelleting begins, by what factor will the risk of getting cancer increase in Peterborough and by what factor will the community exposure to heavy metals increase?

3. Emission Distribution. According to BWXTs 2018 Annual Compliance Report, their pelleting facility in Toronto released 46.2 grams of uranium into the air in the last five years. That's roughly 1/3 cup and doesn't sound like much but according to physicists and President of the Canadian Coalition for Nuclear Responsibility, Dr. Gordon Edwards, 46.2 grams of uranium powder contains 35 quadrillion particles at 0.3 microns in diameter and all it takes is inhaling one particle to potentially cause serious long-term illness.

I am concerned that the people of Peterborough do not understand that similar to the cancer-causing potential of one single asbestos fibre, breathing in just one particle of uranium is extremely dangerous. What is the emergency plan and risk management plan for the surrounding community and academic institutions? I have not received any information regarding an emergency plan should there be an emission release.

4. No Environmental Assessment. A federal environmental assessment is not required for approval of this new industrial process in Peterborough even though radioactive emissions will increase significantly. I do not understand how an

environmental assessment is not required for a new development activity or change in use, especially with hazardous materials. If a new development activity or chance in use is proposed within the provincial plans (Niagara Escarpment Plan or the Greenbelt Plan), an environmental assessment and proposed development permit is circulated to regulatory agencies and identified stakeholders for review and comment. Which regulatory agencies will review this proposed use? Will this proposed use be posted on the Environmental Registry for public comment?

How is comparing the emissions of BWXTs Toronto facility, where they make pellets, to the emissions from BWXTs Peterborough facility, where they assemble the pellets into fuel bundles, Zach Ruiter wrote in an article in The Arthur last month, "According to their self-reported estimates in the 2018 Annual Compliance Report, the company has dosed the Toronto public, claiming to have released 46.2 grams of uranium into the air, and 3.62 kilograms of uranium in the water over the past five years. This is compared with less than one gram into the air and sewer in Peterborough over the same period." How can the CNSC approve or deny a licence for a new industrial process without an independent scientific review of the risks to the surrounding air, land, water, wildlife and people?

5. Health Concerns. Are the Canadian Nuclear Safety Commission's regulatory limits are set according to the As Low As Reasonably Achievable — not according to what is safe. Will this Commission put Canadians or the nuclear industry first?

6. Treaty Rights. I understand that the BWXT-Peterborough facility sits on the traditional territory of the Anishinaabeg Mississauga. To your knowledge, has BWXT received their permission for this new industrial process?

7. Questionable Supply Chain. According to Civil and Environmental Engineering Professor Mark Z. Jacobson, "Uranium mining causes lung cancer in large numbers of miners because uranium mines contain natural radon gas, some of whose decay products are carcinogenic" and "consumed fuel rods from nuclear plants are radioactive waste … This has given rise to hundreds of radioactive waste sites in many countries that must be maintained and funded for at least 200,000 years.

If pelleting begins will the city of Peterborough, the federal government or BWXT accept some of the responsibility of the consequences of pelleting before and after Peterborough? Will some of the profits or the tax revenue go toward compensating the uranium miners in Northern Saskatchewan/ Dene Territory who get lung cancer? Will the highly radioactive consumed fuel rods, return to Peterborough and be safely stored for the next 200,000 years?

8. Accidents and Emergency Risk Management Plans. In 2017 BWXT-Peterborough found they had been using the wrong masks and had accidentally exposed their employees to highly toxic beryllium. During the 2004 flood in Peterborough, there was two inches of water on the floor of the GE facility that ultimately flowed into Little Lake. In 2018 GE claimed responsibility for an oil spill into

Little Lake that contained hydrocarbons. If pelleting begins, 1500 metric tons of uranium powder and a 9000 gallon tank of liquid hydrogen will be on-site. What is the worst-case possible accident? When will BWXT Peterborough Emergency Risk Management Plan be developed and who will it be circulated to? Surrounding Communities and Educational Institutions?

9. Women & Children. Women and children are known to be much more vulnerable to both radiological damage and chemical damage than an adult male and the effects are cumulative. Prince of Wales Public School is across the street, Queen Mary Public School is up the street and Westmount Elementary School is 2.5 km away from the facility on Monaghan Rd. That's a lot of kids that will be exposed to new health risks day in and day out. Honourable Maryam Monsef, in your opinion, if pelleting begins, is the proximity of the facility to public schools acceptable?

Thank you for the opportunity to consider my concerns through this intervention application.