



File / dossier : 6.01.07

Date: 2023-11-20

Edocs: 7170471

Oral presentation

Written submission from the North American Young Generation in Nuclear

In the Matter of the

Ontario Power Generation Inc.

Applicability of the Darlington New Nuclear Project environmental assessment and plant parameter envelope to selected reactor technology

Commission Public Hearing

January 2024

Exposé oral

Mémoire de la North American Young Generation in Nuclear

À l'égard d'

Ontario Power Generation Inc.

Applicabilité de l'évaluation environnementale et de l'enveloppe des paramètres de la centrale à la technologie de réacteur sélectionnée pour le projet de nouvelle centrale nucléaire de Darlington

Audience publique de la Commission

Janvier 2024



NAYGN Oral Intervention

**APPLICABILITY OF THE DARLINGTON NEW NUCLEAR PROJECT
ENVIRONMENTAL ASSESSMENT AND PLANT PARAMETER
ENVELOPE TO SELECTED REACTOR TECHNOLOGY
20 NOVEMBER 2023**

Matthew Mairinger, P. Eng., PMP
PRESIDENT
NORTH AMERICAN YOUNG GENERATION IN NUCLEAR (NAYGN)

THIS PAGE HAS BEEN LEFT BLANK INTENTIONALLY



Matthew Mairinger, for the record.

I would like to start by thanking the Canadian Nuclear Safety Commission (CNSC) for providing an opportunity to intervene on the applicability of the Darlington New Nuclear Project environmental assessment and plant parameter envelope to selected reactor technology. I have over ten years of experience working for Ontario Power Generation at both the Pickering and Darlington nuclear sites. I have worked in Project Controls, Minor Modifications, Reactor Safety, Stakeholder Relations, Performance Engineering, and Nuclear Sustainability Services. Currently I am on a secondment with Laurentis Energy Partners as the manager of Business Development. I earned my Bachelor of Engineering degree in Nuclear Engineering and Graduate Diploma in Nuclear Technology from the University of Ontario Institute of Technology and am both a Professional Engineer in the province of Ontario and a Project Management Professional. I am a Bowmanville resident and live less than 10km away from the Darlington site.

I am here representing North American Young Generation in Nuclear (NAYGN) as the NAYGN continental President. [NAYGN](#) is a non-profit organization of young professionals and students passionate about the nuclear industry and is focused on professional development, public information, knowledge transfer & retention, and networking. There are currently over 100 chapters across North America with 24 chapters in Canada.

Under the *Canadian Environmental Assessment Act, 2012* (CEAA 2012) the environment means the components of the Earth including land, water, air (including all layers of the atmosphere) as well as all organic and inorganic matter and living organisms and the interacting natural systems that include components of the aforementioned. I mention this since the environmental assessment deals with the

environmental effects of the proposal on this full definition of the environment as outlined in the Act and through my intervention I will refer to this classification.

The Darlington New Nuclear Project (DNNP) was subject to an Environmental Assessment (EA) where the scope included the site preparation, construction, operation, and decommissioning of up to four new power reactors to produce up to 4,800 megawatts of electrical generating capacity. A key feature is that there is no expiry on an EA decision as long as the scope of the project remains within the scope of the EA. OPG conducted an Environmental Impact Statement (EIS) Review once the BRWX-300 was identified as the reactor technology and the key finding from the review was that the reactors were smaller when compared to those evaluated for the Plant Parameter Envelope (PPE) in the 2009 EIS as well as with the currently operating reactors at the Darlington site (both in electrical production and in the physical footprint). This review determined that of the 198 PPE parameters considered in the 2009 EIS, 8 parameters are currently not within the (PPE. These parameters were largely due to physical design characteristics and further assessment from the review concluded that these parameters did not alter the conclusion of the EIS. Furthermore, for these eight parameters where the BWRX-300 was determined to be outside the PPE, the PPE was updated to encompass those specified parameters.

The purpose of the Act in section 4 (f) states that it is “to ensure that an environmental assessment is completed in a timely manner”. The reality of today's world has temperatures rising and emissions out of control. Air pollution is estimated to kill seven million people worldwide every year and already the global average atmospheric carbon dioxide is over 424 parts per million. This is the current situation, this is the reality we have. These dangers should be kept front of mind when reviewing the applicability of the environmental assessment and plant parameter envelope.

What this project proposal really offers are economic and environmental benefits not only to the project site, but also opens the door for SMRs be deployed throughout Canada and internationally. These four grid-scale SMRs will help pave the way for future deployment of this technology to help Canada achieve its net-zero by 2050 pledge, and for global communities to replace fossil fuel plants with carbon-free sources, such as nuclear. These four SMRs will prevent 1.2 to 8 MT of CO² per year and are also beneficial from a land-use perspective, since nuclear uses 100-500 times less land when compared with wind or solar for the same energy output.

In closing, I truly believe that nuclear power is the safest, cleanest, and most reliable electricity production method that should be one of the main strategies that humanity utilizes to combat climate change and protect the environment. This project proposal has design features which go above and beyond safety requirements and has a smaller environmental impact compared with the original 4,800 MWe envelope. As a “young gen”er I urge you to take this crucial step in progressing towards the construction license, do it for the planet!

Thank you.

Matthew Mairinger

