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Exposé oral

Written submission from the Society of United Professionals

Mémoire de la Society of United Professionals

In the Matter of the

À l'égard de

Darlington New Nuclear Project

Projet de nouvelle centrale nucléaire de Darlington

Application to renew the nuclear power
reactor site preparation licence for the
Darlington New Nuclear Project

Demande de renouvellement du permis de
préparation de l'emplacement d'une centrale
nucléaire pour le projet de nouvelle centrale
nucléaire de Darlington

Commission Public Hearing

Audience publique de la Commission

June 10, 2021

10 juin 2021



SOCIETY *of*
UNITED PROFESSIONALS
IFPTE 160

SUBMISSION TO THE CNSC ON THE DARLINGTON NEW NUCLEAR PROJECT

SUBMITTED BY:
THE SOCIETY OF UNITED PROFESSIONALS

APRIL 20, 2021



INTRODUCTION

The Society of United Professionals represents over 8,700 engineers, scientists, supervisors, and other professionals in Canada's energy and legal sectors. As an organization, we have represented professionals for over 70 years.

The Society represents employees working for a dozen different employers in the electricity sector, including Ontario Power Generation, Bruce Power, Nuclear Waste Management Organization, Hydro One, the Independent Electricity System Operator, the Ontario Energy Board, New Horizon System Solutions, Toronto Hydro, Inergi, Kinectrics, and the Electrical Safety Authority.

Our members work in every aspect of the electricity industry. They are involved in generation, transmission and distribution of electricity, management of the electricity system, regulation and enforcement of standards, and management of the electricity market. They are employed as first-line managers and supervisors, professional engineers, scientists, information systems professionals, economists, auditors and accountants, as well as many other professional, administrative, and associated occupations.

The Society's members are knowledge workers who take great pride in exercising their civic, social, and professional responsibilities. As a union, we stand behind our members' professionalism, integrity, and commitment to excellence in all areas, particularly workplace safety, public health, and environmental sustainability.

The expertise of our membership was acknowledged in Ontario's 2017 Long Term Energy Plan wherein it was stated:

For more than four decades, Ontario's electricity sector labour unions have been key partners in Ontario's nuclear industry. Today, Power Workers' Union and Society of Energy Professionals [as we were known then] together represent more than 23,000 employees in Ontario's electricity system, including our nuclear plants and supply chain companies. OPG and Bruce Power will continue to rely on their skills and expertise to refurbish our nuclear fleet and ensure safe operation for decades to come.

As the union representing experts in the nuclear industry, and in accordance with past practice as intervenors in applications to the CNSC by employers at OPG and Bruce Power, the Society welcomes the opportunity to consult on the proposed license renewal.



HISTORY OF DARLINGTON NEW NUCLEAR PROJECT

In August 2012, Ontario Power Generation (OPG) was granted a 10-year Power Reactor Site Preparation License (PRSL) by the Joint Review Panel and the Canadian Nuclear Safety Commission. This was premised on the findings of the Environmental Assessment (EA), which concluded that with adequate mitigation in place the project is not likely to cause any significant adverse effects. Following the issuance of the PRSL litigation ensued, which challenged the EA and the PRSL. The Federal Court of Appeal upheld the EA and the PRSL.

In this vein, the Society wishes to comment on the iterations of the project. During the licensing period the Society noted that OPG has maintained the site but has not started any site preparation activities covered in the PRSL. It is noted that the licensee has addressed commitments made in the Darlington New Nuclear Project DNNP EA and during the Joint Review Panel hearing. The Society is of the view that any new threats could only arise if the scope of the project has changed.

The license to renew the PRSL is fundamentally different from a request to renew an operating license where a nuclear plant is already in operation and the Society is asked to comment on the track record of the licensee. With this limitation in mind the Society would like to comment briefly on the following areas: Changes in Regulatory Requirements; Equity, Diversity and Inclusion; Choice of Technology; Indigenous Consultation; Environmental Risks; Nuclear Safety, Conventional Health and Safety; Public Safety / Nuclear Security; Radiation Protection; and Emergency Preparedness.



SOCIETY COMMENTS ON DNNP LICENSE

CHANGES IN REGULATORY REQUIREMENTS

As events in the nuclear industry have evolved in the last 10 years so too has regulation in the area of site preparation and site evaluation. With the issuance of REGDOC-1.1.1, License to Prepare Site and Site Evaluation for New Reactor Facilities provides requirements and guidance for a license to prepare the site. To this end, the Society notes that the licensee conducted a robust characterization of the site and included modeling that addresses multiple and simultaneous severe external events that could exceed the design basis, multiple and simultaneous reactor accidents, discussions around emergency planning and performing a review of current codes, standards and practices.

EQUITY, DIVERSITY AND INCLUSION

The Equity, Diversity and Inclusion (ED&I) program is an imperative for OPG. ED&I is at the core of creating and maintaining healthy and safe workplaces where ED&I principles are embedded at all levels of the organization. One of OPGs ED&I initiatives is structured around ensuring that members who belong to the designated groups - women, racialized individuals, indigenous and persons with disabilities - are represented in all facets of the company. Programs such as Indigenous Opportunities in Nuclear created employment for Indigenous persons in its operations.

The Society is informed that through its supply chain procurement process vendors are required to place emphasis on ED&I. Given that it is OPGs plan to procure the services of an external vendor to prepare the site, the Society expects that ED&I would be a facet when considering vendors of final selection.

CHOICE OF TECHNOLOGY

The Society noted that OPGs Commission Member Document did not select a nuclear technology for this project. However, it is understood that OPG intends to renew the PRSL without having increased the scope of the project, thus, the licensee is not required to choose a technology. It is expected in its application for a license to construct, there would be a detailed analysis of the project impact on the Safety and Control Areas and data addressing matters of Regulatory Interests. This ensures that the safety case for the chosen nuclear technology for Darlington New Nuclear Project (DNNP) falls within the 'licensing basis'.

INDIGENOUS CONSULTATION

A crucial element of this project is Indigenous consultation and engagement. It has been reported that Indigenous groups with an interest in the DNNP project have been informed of OPG's intent to renew the license in 2022. In its mid-term report, the Society noted that focused relationships have been formed



with the Williams Treaties First Nations, the Mohawks of the Bay of Quinte, and the Métis Nation of Ontario Region 8.

It is understood that during the licensing period Indigenous groups have been kept apprised on the progress of OPGs commitments and the maintenance of the site. The Society is pleased to see that in addition to its consultation and engagement efforts with First Nations groups a heritage assessment was being conducted in an effort identify Indigenous and Euro-Canadian heritage artefacts on DNNP lands, preserving such precious artefacts at the Ontario Sustainable Archaeological Repository.

ENVIRONMENTAL RISKS

The Society acknowledges that the Darlington New Nuclear Environmental Assessment concluded that the project is not likely to cause any significant adverse environmental impact should adequate mitigation measures be put in place for pre-construction preparation activities including: constructing site access control, clearing and grubbing of vegetation, excavation and grading of the site, installing of services and utilities, constructing of support buildings, constructing of environmental monitoring and mitigation systems, constructing of flood protection and erosion control measures. It is within the rubric of mitigation measures detailed in OPGs Aggregate Assessment Report that Society believes that the existing licensing basis remains valid for the next licensing period. Ongoing Commitments are operationalized in the License Condition Handbook which states that the Environmental Monitoring System will report on the impact of hazardous and or nuclear substances in the environment to establish the potential effects on “human health, safety, and the environment; the intensity of physical stressors and/or their potential effect on human health and the environment”.

Species at risk have been identified on the project development site including Bank Swallows and Butternut tree. It is understood that since 2008 the population of Bank Swallow colonies have been monitored on their nesting habitat along the eastern shore of the Darlington Nuclear site with mitigation plans being formulated to prevent disruption of the species. Despite the lack of success with artificial nesting structures (an earthen mound and a fixed face earthen embankment) the licensee has made a commitment (D-P-3.8) for continued exploration of other artificial nesting structure options.

During the licensing period the licensee identified the discovery of a new Butternut tree which is a federal and provincial species at risk. It has been determined that the tree will be retained and site planting plans will address the Butternut tree. This commitment is captured by D-P-3.7 to include the new Butternut tree in the site planting plans.

In addition to the foregoing, the Society is informed that the licensee has updated its baseline data during the current license period for the aquatic environment for “plankton community, benthic invertebrates, fish impingement and entrainment, fish community (adult, juvenile, larvae, and eggs), thermal plume, and fish habitat” in support of the design of cooling water intake and outlet studies. OPG has committed (Commitment D-P-3) to establishing an Environmental Management and Protection Plan which ensures that site preparation activities (including non-nuclear hazardous substances and waste generated by site preparation activities) will have minimum potential environmental effects associated with all anticipated work activities on the site.



OTHER RELEVANT CONSIDERATIONS

NUCLEAR SAFETY:

It should be noted that the first nuclear unit at DNGS has been safely operating since the 1990s and is in the vicinity of the DNNP. This means that this project stands to benefit from valuable lessons, expertise, infrastructure and services provided to OPGs active nuclear stations should it be required. Contained in the application to renew the PRSL the licensee is committed to conducting a detailed safety analysis of the selected reactor technology to ensure that the safety case, including a nuclear safety and probabilistic safety analysis which ensures that the project falls within the 'licensing basis' (Commitment D-C-3.1).

CONVENTIONAL HEALTH AND SAFETY:

In an operating nuclear station there are many tripartite committees that operate to ensure that Health and Safety issues are addressed on an ongoing basis. As OPG is not currently carrying out any site preparation activities, the Society understands that the licensee does not yet have an Occupational Health and Safety Plan specific to site preparation activities. It is understood that OPG is required to develop and submit an Occupational Health and Safety Plan specific to site preparation activities prior to the start of licensed activities (Commitment D-P-2.1).

PUBLIC SAFETY / NUCLEAR SECURITY:

Given the history of safe nuclear operations in the province for the past 50 years, our members have significantly contributed to public trust which OPG enjoys. This takes the form of developing programs and processes which protect employees, protect the environment and keep the public safe. While it is unusual to discuss security arrangements in detail, the Society is informed that during the licensing period measures have been put in place to protect the site from unwanted intrusion. Moreover, OPG's cyber security program meets the security requirements of REGDOC-1.1.1 (License to Prepare Site and Site Evaluation for New Reactor Facilities). A focus area for OPG has been in guarding against Cyber-security incursions which OPG is working programmatically towards addressing. Commitment D-P-7, Site Security Plan outlines the implementation of specific provisions regarding site access and physical security. Within its operating stations the Society is aware of ongoing efforts to protect station assets against cyber-attacks.

RADIATION PROTECTION:

In assessing the risk to employees who may be working on preparing the site the licensee has indicated that they do not intend to use nuclear substances during the proposed license period. In assessing the dose attributed to the operation of Darlington Nuclear Generating Station and the Darlington Waste Management Facility the licensee is to ensure that workers are protected from the very low levels of



radiation from these facilities. To this end, the licensee has committed to delivering an Occupational Health & Safety plan (Commitment D-P-2.1) to verify workers are not receiving doses in excess of limits for non-Nuclear Energy Workers.

EMERGENCY PREPAREDNESS :

Regulatory documents were updated to take into account the lessons learned from the Fukushima Daiichi event including REGDOC-1.1.1, Site Evaluation and Site Preparation for New Reactor Facilities, which focused on the need for robust characterization of the site. REGDOC-2.10.1, Nuclear Emergency Preparedness and Response, provides requirements regarding the planning basis for an emergency preparedness program. A survey of OPG's Emergency Preparedness Program N-PROG-RA-0001 concluded that there were no gaps. The emergency planning governance will be augmented once a reactor design has been selected by incorporating findings from nuclear safety analysis, consequential and event scenarios. This is captured in Commitment D-O-2.1 in the DNNP Commitments Report.

It is understood that that during the last licensing period there has been no new sensitive land use developments such as nursing homes, day care centers, and educational and health facilities within three kilometers of the existing nuclear facility. Hence, DNNP impacts assessed in 2009 are not altered, however, DNGS new nuclear license to prepare the site needs minor modifications as OPG's existing Consolidated Nuclear Emergency Plan (CNEP) is aligned with the Provincial Nuclear Emergency Response Plan (PNERP) Master Plan, and the PNERP Implementing Plan for DNGS. This ensures that the facets of the emergency preparedness embraced by the Province of Ontario, Region of Durham, Municipality of Clarington, and international partners are met.

CONCLUSION

The Society is satisfied that license condition 15.1 and 15.2 ensures that all mitigation measures proposed and commitments made by OPG through the JRP review process are fulfilled, including the EA follow-up program. It is understood that these commitments will be tracked and reported through the annual Regulatory Oversight Report for Canadian Nuclear Power Generating Sites and through the Midterm Report.

Given the foregoing, the Society supports the OPGs application to renew the PRSL under Section 24 of the Nuclear Safety and Control Act as adequate mitigation measures have been put in place. Moreover, the project allows for a reliable, low cost and low-carbon source of energy that fits within the Government of Canada's goal to reach net-zero emissions by 2050.



REQUESTS:

1. Should the CNSC grant the application to renew OPGs PRSL, the Society requests that the licensee meet with the Society on a quarterly basis to discuss developments of the project with regard to: (i) the choice of nuclear technology; and (ii) the progress of the commitments highlighted above.
2. The Society requests that it be slated for an in-person presentation at the public hearing currently scheduled for June 2021.

The Society appreciates the opportunity to comment on the Darlington New Nuclear Project as our members are engaged in the project, embedded in the workplace and reside in the surrounding community.