



Oral Presentation

Exposé oral

**Submission from the
Canadian Nuclear Association**

**Mémoire de
L'Association nucléaire canadienne**

In the Matter of

À l'égard de

**Ontario Power Generation Inc.,
Pickering Nuclear Generating Station**

**Ontario Power Generation Inc.,
centrale nucléaire de Pickering**

Request for a ten-year renewal of its Nuclear Power Reactor Operating Licence for the Pickering 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 Pickering

Commission Public Hearing – Part 2

**Audience publique de la Commission –
Partie 2**

June 2018

Juin 2018

May 7, 2018

Canadian Nuclear Safety Commission
c/o Louise Levert, Secretariat
280 Slater St. PO Box 1046
Ottawa, Ontario K1P 5S9

Re: Canadian Nuclear Association Intervention Regarding Ontario Power Generation's application to renew its Nuclear Power Reactor Licence for the Pickering Nuclear Generating Station.

The Canadian Nuclear Association (CNA) has approximately 100 members, representing over 60,000 Canadians employed directly or indirectly in exploring and mining uranium, generating electricity, advancing nuclear medicine and promoting Canada's worldwide leadership in science and technology innovation.

The CNA is pleased to have this opportunity to offer its support for Ontario Power Generation's application to renew its Nuclear Power Reactor Licence for the Pickering Nuclear Generating Station (PNGS) for a period of 10 years. Since being commissioned in 1971, the Pickering Nuclear Generating Station has proven to be a world class generation site with an engaged, well-trained staff who focus on Safety First. Ontario Power Generation (OPG) has led the way with innovative technologies and its investments in people and equipment over several decades have led to increased reliability and output. A 10-year licence term will allow OPG to operate the PNGS to the end of 2024, as well as transition the reactor units to safe storage by 2028.

The Pickering Nuclear Generating Station currently operates 6 units providing 3,100 MW with emissions-free capacity, approximately 14% of Ontario's electricity. The Province of Ontario has expressed its confidence in the continued operation of PNGS through 2024 in its Long-Term Energy Plan, which recognizes the value of continued low-cost, GHG-free generation. Furthermore, the Pickering Nuclear Generating Station contributes significantly to the Durham region economy, providing 4,500 highly-skilled direct and indirect jobs to the region.



The CNA believes that past performance is a good indicator of future performance. The reliability of the Pickering Nuclear Generating Station has been steadily improving. PNGS's performance in many key areas over the last few years is its best ever and OPG's goal is to make PNGS last operating years its best years.

OPG's comprehensive maintenance programs and continuous investments in reactor safety, reliability, training and the environment ensure that PNGS' top-level plant condition will be maintained. The Fitness for Service and Periodic Safety Review initiatives were completed using requirements set out by the CNSC to validate and support Pickering's life extension.

Some of the key highlights of PNGS' performance include: an all-injury rate in line with industry best; over the last three years, the highest Equipment Reliability Index in station history; the Collective Radiation Exposure lower than targets and exceeded generation targets. In addition, the Waste Management Facility on site has gone over 23 years without a Lost Time Accident. PNGS has received a "Fully Satisfactory" rating from the CNSC for the last two consecutive years.

The nuclear industry is one of the safest industries in Canada and OPG is a leader in this area. The Global Assessment Report for the PNGS concluded that the design, operation, processes and management system will ensure continued safe operation of Units 1,4 and 5-8 in the short and extended term. Not content to rest on this exemplary record, OPG is focused on safety to ensure these high standards are maintained. Improvements in equipment reliability and operational awareness have resulted in no major environmental regulatory infractions.

OPG's commitment to environmental safety includes being registered for the newest version of ISO 14001 standard for Environmental Management Systems as well as continued implementation of CSA N288 series of Standards and Guidelines on environmental management of nuclear facilities. Continuous improvement and environmental stewardship are also key principles in OPG's Environmental Policy. Radioactive emissions to air and water are consistently maintained at a small fraction of the station Derived Release Limits.

Not only is PNGS's nuclear safety performance closely monitored by on-site CNSC staff and ongoing CNSC inspections, OPG also maintains an environmental framework to control emissions. Based on the As Low As Reasonably Achievable (ALARA) principle, radioactive emissions are routinely verified against the control framework. PNGS's public dose continues

to be very low, with 0.2% of the annual regulatory limit and 0.1% of the annual natural background radiation.

PNGS has a comprehensive Environmental Protection Program that is designed to minimize the impacts of operation to human health and the environment. The Human Health Risk Assessment conducted at PNGS concludes that no adverse effects on humans are expected due to radiological and non-radiological emissions, and noise levels are not expected to have a direct adverse effect on humans near the generation site. The Ecological Risk Assessment concludes that all radiological doses to biota were below the radiation dose benchmark and that operations are a small contributor to the Contaminants of Potential Concerns. In the previous license period, the operations of the station did not have significant adverse effects on local marine life. Furthermore, Fisheries and Oceans Canada has issued an authorization for the operations at the PNGS.

Given OPG's robust monitoring and mitigation processes, it is expected that the Environmental Protection Program will continue to exceed regulatory requirements over the course of the new 10-year licensing period.

Over the current licence term, the PNGS has achieved a safety performance rating that is in the industry's top quartile. In 2016, OPG received the Canadian Electricity Association President's Gold Award of Excellence for Employee Safety.

OPG recognizes the Aboriginal and treaty rights of Indigenous communities and regularly engages with Indigenous communities near the PNGS. This includes members of the Williams Treaties First Nations, Mississaugas of the New Credit First Nation, Mohawks of the Bay of Quinte, and Métis Nation of Ontario. OPG holds regular communications to discuss current and future operations, in addition to community interests and concerns. OPG continuously looks for ways to enhance its participation and engagement with Indigenous communities and the support needed to enable communities to comprehend operational impacts.

The OPG Indigenous Circle (OPG's Indigenous employees network) hosts and organizes National Aboriginal Day celebrations and serves as a connection to the wider Indigenous community, including career seminars and fairs.

OPG employs approximately 10,000 people in Ontario's communities, with thousands more employed indirectly through OPG's activities. OPG employees live in the communities and the company actively encourages its employees to give back to the community through volunteering and participating in community activities.

In our submission, CNA has summarized the conventional safety, radiological safety, and environmental protection performance of the Pickering NGS over the last few years, as well as the ways in which OPG contributes to overall environmental and economic benefits to Ontario. But no discussion of nuclear power plant licensing is complete without mention of nuclear safety and emergency preparedness. Since 2011, the Canadian nuclear industry has implemented extensive and robust nuclear safety enhancements (including Emergency Mitigating Equipment and Severe Accident Management Guidelines) to significantly decrease the possibility of a severe accident ever occurring, and, should an accident occur, to prevent it progressing to an off-site release. OPG has been a leader in this regard. The CNSC has recognized OPG's completion of the post-Fukushima actions and OPG's licensing material provides evidences of the safety benefits achieved.

In addition, the Province of Ontario has undertaken a complete review, with significant public consultation and expert panel review, of the Provincial Nuclear Emergency Response Plan, including accounting for potential for severe accidents. The conclusion is that Ontario has robust plans in place to ensure the protection of the public.

In this regard, CNA is aware that, in March 2018, the Ontario Clean Air Alliance issued a report by Dr Ian Fairlie titled "*A Fukushima-Level Nuclear Disaster at Pickering: An Assessment of Effects*". To our knowledge, no independent peer reviews were conducted prior to publication. CNA contracted Dr. Douglas Chambers and Dr. Adrienne Ethier of Arcadis Canada to conduct an independent scientific review of that report. The review is not finalized at this time, but the CNA will submit it as a supplementary document prior to the hearing.

In conclusion, the CNA believes that OPG has clearly demonstrated operational excellence, a commitment to health, safety and the environment. We strongly support OPG's request for a 10-year licence renewal for the Pickering Nuclear Generating Station.

The CNA is a strong believer in the CNSC's open, transparent public hearing process. The CNA has had the opportunity to appear before the CNSC with respect to other licensing hearings. We therefore request the opportunity to make an oral presentation before the Commission.

Please feel free to contact me directly should you have questions or require additional information.

Sincerely,



Steve Coupland
Director, Regulatory and Environmental Affairs
Canadian Nuclear Association