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June 28, 2017

OPG PROPRIETARY

CD# P-CORR-00531-04930

MR. G. FRAPPIER

Director General
Directorate of Power Reactor Regulation

Canadian Nuclear Safety Commission
280 Slater Street
Ottawa, Ontario
K1P 5S9

Dear Mr. Frappier:

End Date of Commercial Operations for Pickering NGS

In accordance with Licence Condition 16.2 of the Pickering Nuclear Power Reactor Operating Licence, PROL 48.03/2018, OPG is required to confirm to the Canadian Nuclear Safety Commission, in writing and no later than June 30, 2017, the end date of commercial operations of all Pickering units. In addition, the Pickering Licence Conditions Handbook, LCH-PNGS-R005, recommends that should OPG decide that all or a few Pickering units continue commercial operation beyond 2020, the confirmation to the Commission is to contain the following:

1. The new target date for end of commercial operation (same as above),
2. Reassessment of any remaining corrective activities and operation commitments included in the 2016 Sustainable Operations Plan (SOP) that have been flagged by OPG as "life constraints" (extracted from the Continued Operations Plan (COP) and SOP updates),
3. Any other emerging corrective activities or operation provisions.

Furthermore, as documented in the Record of Proceedings for the 2013 Pickering licence renewal hearings (Reference 1), the Commission directed OPG to clarify our long-term plan for waste management at the time of this notification.

As for item 1, the Commission is aware that in January 2016, the Province of Ontario requested OPG to plan for safe and reliable continued operation beyond 2020, subject to the necessary approvals being obtained including renewal of the Pickering Power Reactor Operating Licence. Accordingly, in preparation for the decision on the target end date of commercial operations of the Pickering units, OPG has undertaken thorough reviews of the safety, reliability, and cost effectiveness of continuing to

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operate the Pickering Nuclear Generating Station (PNGS) beyond 2020, including undertaking a Periodic Safety Review. Based on these reviews, OPG intends to cease commercial operation of all Pickering units on December 31, 2024. OPG will continue to demonstrate that all Pickering units will continue to operate in a safe and reliable manner in accordance with our commitment to safety, our established management system and our Fitness for Service process.

OPG will be submitting a formal application to renew the Pickering Power Reactor Operating Licence no later than August 31, 2017. In the application, OPG will be seeking a 10-year operating licence commencing on September 1, 2018, to include end of commercial operation as well as stabilization and safe storage activities. The 10-year licence application will be supported by the above mentioned Periodic Safety Review. The Integrated Implementation Plan resulting from this review, combined with the existing station programs, will enable the continued safe operation of the station beyond 2020.

As for item 2, OPG has implemented and maintained a Continued Operations Plan and a Sustainable Operations Plan in accordance with Licence Condition 16.2 of PROL 48.03/2018. In 2016, OPG submitted to CNSC staff a COP Closure Report confirming that all COP actions are addressed and the objective of the COP has been met (Reference 2). CNSC staff determined that the COP Closure Report is acceptable and the COP is complete and closed (Reference 3). Furthermore, given the new target date for end of commercial operation, OPG has re-assessed all COP actions for consideration in the Periodic Safety Review (Reference 4).

In December 2016, OPG submitted the 2016 updates to the Pickering Sustainable Operations Plan (Reference 5). CNSC staff has provided their feedback on the 2016 SOP (Reference 6) and the comments will be incorporated into future SOP submissions.

In regards to item 3, any other emerging corrective activities or operation provisions are being addressed through the Periodic Safety Review and will be documented in the resulting Integrated Implementation Plan.

Further, as documented in the Record of Proceedings for the 2013 Pickering licence renewal hearings (Reference 1), the Commission directed OPG to clarify our long-term plan for waste management at the time of this notification. On January 30, 2017, OPG submitted to CNSC the updated Preliminary Decommissioning Plan (PDP) for PNGS (Reference 7). The PDP describes the activities that will be required to decommission PNGS and restore the site for other uses. One of such activities is waste management. Based on the information provided in Reference 7, clarification on OPG's long-term plan for waste management is provided in Attachment 1.

If you have any questions, please contact Kamyar Dehdashtian, Manager Pickering Regulatory Affairs, at 905-839-1151, extension 6719.



Randy Lockwood
Senior Vice President,
Pickering Nuclear

cc: CNSC Site Office – Pickering

References:

1. CNSC document, “Record of Proceedings, Including Reasons for Decision in the Matter of Ontario Power Generation Inc. – Application to Renew the Power Reactor Operating Licence for the Pickering Nuclear Generating Station”, Public Hearing Dates February 20, 2013 and May 29 to 31, 2013, e-Doc# 4177096.
2. OPG letter, B. McGee to A. Viktorov, “Pickering 5-8, Continued Operations Plan – COP Closure 2016”, December 15, 2016, CD# P-CORR-00531-04897.
3. CNSC letter, A. Viktorov to B. McGee, “Pickering NGS: CNSC Staff Review of COP Closure Report”, February 13, 2017, e-Doc# 5177775, CD# P-CORR-00531-04958.
4. OPG letter, B. McGee to A. Viktorov, “Pickering NGS Periodic Safety Review 2 – Submission of Continued Operations Plan (COP) Reassessment”, February 13, 2017, CD# P-CORR-00531-04927.
5. OPG letter, B. McGee to A. Viktorov, “Pickering NGS Sustainable Operations Plan (SOP) – 2016 Updates”, December 12, 2016, CD# P-CORR-00531-04895.
6. CNSC letter, A. Viktorov to R. Lockwood, “Pickering NGS: CNSC Staff Review of OPG 2016 SOP and 2016 SAP Updates”, May 26, 2017, e-Doc# 5251173, CD# P-CORR-00531-05060.
7. OPG letter, S. Granville to K. Glenn, A. Viktorov and M. Santini, “Submission of Preliminary Decommissioning Plans”, January 30, 2017, CD# N-CORR-00531-18384.

Attachments:

1. “Clarification of OPG’s Long-term Plan for Waste Management”

Attachment 1 (page 1 of 1) to OPG Letter, R. Lockwood to G. Frappier, "End Date of Commercial Operations for Pickering NGS", CD# P-CORR-00531-04930

ATTACHMENT 1
Clarification of OPG's Long-term Plan for Waste Management

As documented in the Record of Proceedings for the 2013 Pickering licence renewal hearings (Reference 1), the Commission directed OPG to clarify our long-term plan for waste management at the time of this notification. OPG's long-term plan for waste management is provided below.

Low and Intermediate Level Waste Generated during Operations

OPG has developed a plan for the safe, long term management of the low and intermediate level waste (L&ILW) by safely isolating the waste from people and the environment over the time frame that the waste remains radioactive. The plan involves emplacing the waste deep underground in a deep geologic repository (DGR) located at the Bruce nuclear site. OPG will own the L&ILW DGR and operate as the licensee. The proposed L&ILW DGR will accommodate all of the operational waste from the current fleet of nuclear reactors owned by OPG, including the L&ILW generated during the refurbishment of the existing stations. The DGR will protect health, safety and the environment. It will provide a greater margin of public and environmental safety than the existing facilities, as well as avoid the imposition of costs on future generations. The L&ILW DGR is expected to be in service by 2026 with an initial capacity of nominally 200,000 m³ of packaged waste.

Low and Intermediate Level Waste Generated during Decommissioning

At this time, OPG plans to place L&ILW generated during decommissioning (from the Pickering Nuclear Generating Station and other existing facilities owned by OPG) in the L&ILW DGR. In order for decommissioning waste to be accommodated in the L&ILW DGR, an expansion would be required of approximately 200,000 m³. This expansion is expected to occur during years 2039 through 2043 and will require federal regulatory approvals.

Used Fuel Strategy

The Government of Canada passed the Nuclear Fuel Waste Act in 2002. The legislation required nuclear energy corporations to establish the Nuclear Waste Management Organization (NWMO) to study the options available and to recommend a long-term management approach for used fuel. The NWMO has issued a study report "Choosing a Way Forward - The Future of Canada's Used Nuclear Fuel", in November 2005. This report was intended to assist the Federal Government in defining the approach for the long-term management of Canada's nuclear fuel waste. On June 14, 2007, the Government of Canada selected Adaptive Phased Management (APM) as the best plan for Canada for safeguarding the public and the environment over the very long time in which used nuclear fuel must be managed. APM involves the containment and isolation of used nuclear fuel in a Deep Geological Repository in a suitable rock formation.

Following shutdown of PNGS units, the used fuel remaining in the Irradiated Fuel Bays will be transferred to dry storage in the Pickering Waste Management Facility until the used fuel disposal facility is available.