



**Environmental Assessment Report:
Ontario Power Generation Inc.
Pickering Nuclear Generating Station - PROL
48.00/2018 Licence Renewal**

March 2018



EXECUTIVE SUMMARY

The Canadian Nuclear Safety Commission (CNSC) conducts environmental assessments (EAs) under the *Nuclear Safety and Control Act* (NSCA) for all projects, in accordance with its mandate, to ensure the protection of the environment and the health of persons. The safety component of the CNSC's mandate is covered in the safety case assessment carried out for all projects.

This EA report, written by CNSC staff for the Commission and the public, describes the findings of the EA under the NSCA completed for the licence application by Ontario Power Generation Inc. (OPG) to renew its Pickering Nuclear Generating Station (NGS) power reactor operating licence (PROL 48.03/2018) for a period of 10 years, from September 1, 2018 to August 31, 2028. OPG is proposing to continue normal operation of all reactor units until the end of 2024, at which point stabilization activities associated with shutdown will begin in preparation for the safe storage of all units.

This EA report includes CNSC staff's assessment of the licence application and the documents submitted in support of the application, annual environmental monitoring reports, the results of previous studies, and compliance verification activities (e.g., inspections, audits, reviews, etc.) conducted at the Pickering site, as well as the findings of the CNSC's Independent Environmental Monitoring Program (IEMP) and the preliminary decommissioning plan.

The EA report focuses on items that are of current public and regulatory interest, such as releases to air, groundwater and surface water, for ongoing operations and activities related to the phases of stabilization and of safe storage with surveillance.

CNSC staff's findings from this EA under the NSCA include, but are not limited to, the following:

- OPG's environmental protection programs meet CNSC regulatory requirements.
- OPG's environmental risk assessment (ERA), which assessed the potential environmental (ecological and human health) risks from radiological, non-radiological and physical stressors associated with current facility operations, is in accordance with CSA Group standard N288.6-12, *Environmental risk assessment at Class I nuclear facilities and uranium mines and mills* (2012).
- OPG's predictive effects assessment – which assessed the potential environmental (ecological and human health) effects from radiological, non-radiological and physical stressors associated with future stabilization and safe-storage-with-surveillance activities – is in accordance with the overall methodology of CSA Group standard N288.6-12, *Environmental risk assessment at Class I nuclear facilities and uranium mines and mills* (2012).

- The results from other regional monitoring programs carried out by other levels of government confirm that the environment and health of persons around the Pickering site are protected.
- Results from the CNSC's IEMP confirm that the public and the environment in the vicinity of the Pickering site are protected from the facility's releases.

Based on the EA under the NSCA conducted for this licence application, CNSC staff conclude that OPG has made and will continue to make adequate provision for the protection of the environment and the health of persons until decommissioning and abandonment of the Pickering nuclear site.