Board Staff Interrogatory #184

Interrogatory

Reference:
Exhibit E2 / Tab 1 / Schedule 1 / p. 6

Preamble:

OPG's proposed planned derates at Pickering NGS, which will allow additional online maintenance time to address a major contributor to station forced loss rate (FLR).

Question(s):

a) Please clarify how the planned derates allow for additional online maintenance.

b) Please clarify the connection between fuel handling equipment performance and Pickering NGS reliability.

c) How have the planned derates been reflected in OPG's FLR forecast for Pickering NGS (i.e. has the FLR forecast been reduced as a result and by how much)?

Response

a) By design, CANDU nuclear units generally require daily online refueling to maintain full power output. Fueling machines need to be well-maintained to perform online refueling in order to avoid forced derates and outages as a result of fuel handling machine unavailability.

   Having planned derates of nuclear units allows the units to remain online but run at a lower power output. This allows for longer periods of fueling machine unavailability for planned maintenance, providing a longer duration for preventative maintenance work on the fueling machine. This planned preventative maintenance improves fueling machine reliability, which minimizes the occurrence of more significant forced derates and nuclear unit shutdowns.

   For additional context, any fueling machine maintenance performed during a unit outage would extend the outage by the maintenance duration. Each unit outage requires extensive support from a fueling machine in order to perform inspection and maintenance activities of fuel channels, while the remaining machines are used to fuel the online units. Therefore, it is more efficient to complete fueling machine

maintenance while the unit is online and derated, as opposed to when the unit is shut down.

b) Yearly production losses attributed to derates and nuclear unit shutdowns as a result of fuel handling systems issues have been a major contributor to Pickering's actual FLR.

c) Ensuring fuel handling system reliability through this additional planned maintenance is an important part of OPG's overall strategy in achieving Pickering's 3.5% FLR target for the 2022-2026 IR term. For further discussion on how the FLR targets are set, refer to Ex. L-E2-01-Energy Probe-051.