

UNDERTAKING J5.6

Undertaking

Assuming the Board were to approve the increase in Nuclear OM&A of \$559M as requested in the application, to calculate the necessary fleet-wide capability factor that OPG would need to achieve in order to bring the PUEC back down to the level OPG achieved in 2006, about \$43 per megawatt-hour, as shown on page 8 of Exhibit 4.2

Response

The PUEC achieved by the nuclear operations of OPG in 2006 was \$42.9/MWh. As the referenced \$559M increase in nuclear OM&A is over the entire test period, OPG has calculated below the necessary increase in fleet-wide capability factors for both 2008 and 2009.

The question assumes that the 2006 PUEC value is held constant in absolute dollars and is not adjusted for inflation over the 3 year period 2006-2009. With a modest 2% inflation factor applied, the 2006 PUEC can be restated in 2009 dollars as \$45.5/MWh, which is effectively identical to the forecast value of \$45.7/MWh that is part of OPG's application.

For the purpose of the analysis below, OPG has not adjusted the 2006 PUEC value for inflation.

2008 Analysis:

Using the 2008 costs from the application and the forecast 2008 nuclear generation of 51.4 Twh, the nuclear 2008 PUEC value, including all corporate cost allocations, is forecast to be \$43.2/MWh.

In order to achieve the 2006 PUEC value of \$42.9/MWh in 2008, total nuclear generation would have to increase by 0.3 TWh to 51.7 TWh, which would require an increase in the nuclear fleet-wide Unit Capability Factor (UCF) from 89.0% to 89.24%.

2009 Analysis:

Using the 2009 costs from the application and the forecast 2009 nuclear generation of 49.8 TWh, the nuclear 2009 PUEC value, including all corporate cost allocations, is forecast to be \$45.7/MWh.

In order to achieve the 2006 PUEC value of \$42.9/MWh, total nuclear generation would have to increase by 3.2 TWh to 53.0 TWh in 2009. Nuclear generation in 2009 will be significantly impacted by the Darlington Vacuum Building Outage (VBO). This is a CNSC mandated outage that occurs every 12 years at Darlington and requires the shut down of all 4 units to conduct tests on the vacuum building (which is a key structure used in the safety design of CANDU plants). The impact of the Darlington VBO on

1 generation in 2009 is 2.1 TWh or 2/3 of the increase stated above needed to achieve the
2 2006 PUEC targeted value.

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4 Therefore, to reflect the significant impact of the mandated VBO outage, we have
5 calculated an adjusted fleet-wide UCF based on two scenarios:

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7 1) Assuming OPG would not have to make up the 2.1 TWh that the Darlington VBO
8 entails (therefore adjusting the target PUEC from the 2006 actual of \$42.9/MWh
9 to \$44.7/MWh.)
10 2) Assuming the full 3.2 TWh would have to be made up by OPG to directly meet
11 the 2006 PUEC actual result.

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13 Under scenario 1), the nuclear fleet wide UCF would have to increase from 86.0% to
14 88.1% (excluding impact of VBO) to achieve the 2006 PUEC value. Under scenario 2),
15 the nuclear fleet wide UCF would have to increase from 86.0% to 91.7% (with VBO
16 impact included) to achieve the 2006 PUEC values.

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18 It should be noted that in the case of the scenario which assumes that OPG can achieve
19 the 2006 PUEC notwithstanding the loss of significant generation due to the VBO, OPG
20 would have to eliminate planned outage days in order to achieve this result.

21
22 **Other Factors:**

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24 For the sake of simplicity, the impact of increased fuel costs to accommodate the
25 increased generation were not factored in the above analysis as they are relatively
26 insignificant and would not change the result to the significant digits as stated.