EB-2025-0297

Ontario Power Generation Inc (OPG) and DNNP LP

2027-2031 Payment Amounts Application

Power Workers' Union Interrogatories

EXHIBIT D - CAPITAL PROJECTS

D1-PWU-1

Ref 1: Exhibit D1 / Tab 1 / Schedule 1 / Chart 1

Preamble:

Ref 1 provides regulated hydroelectric and hydro common capital expenditures. Line items #5 – 9 provide categories of expenditure as Refurbishments, Redevelopments, Sir Adam Beck 1 GS Canal Rehabilitation, Expansion Projects, and Abitibi Canyon Concrete and Sluiceway Rehabilitation.

Question (s):

A) Please provide a clear definition for each of these five expenditures that OPG used to differentiate between the categories. Please explain how the categories are distinct and non-overlapping. For context, a redeveloped station can extend the operation of a station that is at or near end-of-life; however, so can refurbishment and rehabilitation.

D2-PWU-2

Ref: Exhibit D2/Tab 1/Schedule 2/Page 5 of 24

The reference states:

Steam Generator Primary Moisture Separators Replacement projects, the **Darlington Unit 1 and 2 Generator Stator Rewind** and the **Darlington Turbine Rotors Replacements:** The need for these projects arose from the detailed inspections

conducted during the DRP of components not typically accessible during regular planned outages and that could not be completed within the planned DRP refurbishment window.

Question (s):

a) Please confirm whether or not these projects were part of the DRP scope established as part of the DRP's release quality estimate.

D2-PWU-3

Ref: Exhibit D2/Tab 1/Schedule 2/Pages 5,6 of 24

The reference states:

Tritium Removal Facility Major Component Replacement Program: This is a unique standalone program to refurbish the Tritium Removal Facility ("TRF") at Darlington. The TRF has been in operation for over 30 years and has a critical role in heavy water management for the Darlington, P 1 ickering, and Bruce stations. It is reaching its design end of life and is experiencing a continued decline in performance.

Question (a):

a) What is the design life of the Tritium Removal Facility at Darlington?

D2-PWU-4

Ref: Exhibit D2/Tab 1/Schedule 2/Page 9 of 24

The reference states:

Capital projects reflect higher escalation and interest compared to EB-2020-0290. The normative cost escalation assumptions used for business planning in EB-2020-0290 were significantly lower than the inflationary increases experienced following the COVID-19 pandemic and currently forecasted for the 2027-2031 IR term. This trend is compounded as project costs continue to rise due to increased demands on the power generation supply chain globally, as reflected in the Darlington Turbine Rotors Replacements and Darlington Unit 1 and 2 Generator Stator Rewind projects, for example.

Question (s):

a) Please outline and discuss OPG's plan and strategies to mitigate cost escalations arising from inflationary increases.

D2-PWU-5

Ref: Exhibit D2/Tab 1/Schedule 3/Page 7 of 50

The reference states:

Project #84139, Darlington Powerhouse Cranes Refurbishment Project. Darlington has nearly 60 cranes crucial for operations by facilitating the movement of equipment within the station. ***This project is focused on refurbishing or upgrading 20 of these cranes*** (emphasis added) that are critical for safe and reliable execution of routine station maintenance and compliance programs.

In the same paragraph OPG states:

"Project #84139 will focus on the six Powerhouse Cranes (i.e., four Reactivity Deck and two Pumphouse Gantry Cranes)".

Question (s):

a) Please reconcile the two statements. Is OPG's focus on all twenty cranes or just the six referenced in the second quotation?

D2-PWU-6

Ref: Exhibit D2/Tab 1/Schedule 3/Page 16 of 50

Project #87807 & #87811, Darlington Turbine Rotors Replacement Project. The turbine set in each Darlington unit comprises three low-pressure and one high-pressure turbines. These turbine sets convert thermal energy into mechanical energy, which drives the generator to ultimately produce electrical energy. The turbine is a critical component in power delivery to the grid. ***Initially commissioned in the early 1990s, Darlington's turbine sets remain operational to this day*** [emphasis added]. Both the low- and high-pressure turbines utilize the same fundamental design principles: a bladed shaft (the rotor) spins within a closely fitted turbine casing containing stationary blades.

Question(s):

a) What was the original design life of Darlington's low and high-pressure turbines?
b) What is the design life of the turbines that OPG is planning to acquire to replace the current turbines?

D2-PWU-6

Ref: Exhibit D2/Tab 3/Schedule 1/Page 4 of 12

The federal government has proposed a 15% refundable Clean Electricity investment tax credit ("CEITC") for certain clean electricity investments, including eligible refurbishment works, that could be available to OPG. At the time of filing, no legislation implementing this credit is in place and the CEITCs are not reflected in OPG's 2025-2031 Business Plan. OPG will account for such credits as a reduction in the capital costs of the underlying projects. As discussed elsewhere in the evidence, the Application proposes to return to customers the revenue requirement of the CEITCs through a series of variance accounts, including the Capacity Refurbishment Variance Account ("CRVA"). The CEITCs are discussed further in Ex. F4-2-1, 26 Section 3.6.1.

Question (s):

a) Has OPG received assurance from the Government that Pickering refurbishment would be eligible for the proposed 15% CEITC?
b) Please provide any update with respect to the status of the proposed 15% CEITC.

D2-PWU-7

Ref: Exhibit D2-3-2/ Attachment 1/Page 11 of 23

(6.0 RIGHTS HOLDERS AND STAKEHOLDER SUMMARY)

Question (s):

a) The reference lists Ontario Power Authority as one of the Stakeholders of the Pickering Refurbishment Program. Are there any legacy reasons that necessitated the inclusion of OPA in the list in light of the OPA's merger with IESO in 2012.

D2-PWU-8

Ref: Exhibit D2/Tab 3/Schedule 3/Page 6 of 24

The reference lists the pricing models that OPG plans to utilize for major contracts for the PRP, *Target Price, Fixed Price/Firm Price, Reimbursable Costs or Cost-Plus Mark-up,* and *Time and Materials*. The reference also indicates that the OPG is incorporating lessons learned from the DRP and as such adjusted the *Target Price* model to include more cost categories.

Question (s)

a) Please confirm if the adjustment to the Target Pricing model is the only change made to the pricing models that were used in the DRP. Specifically, please provide, if any, pricing models or approaches to pricing that have been added, dropped or adjusted for the PRP compared to those utilized for the DRP.

D2-PWU-9

Ref: Exhibit D2/Tab 3/Schedule 7/Page 7 of 8

Chart 2 – Unit by Unit Contingency ($M)

#	Unit	Project Contingency ($M)	Program Contingency ($M)	Total ($M)
1.	Unit 5	1,347	209	1,555
2.	Unit 6	461	325	786
3.	Unit 7	429	353	782
4.	Unit 8	485	156	641
5.	**Total[1]**	**$2,722**	**$1,043**	**$3,764**

[1] Totals may not match due to rounding

Question (s):

a) Please explain why project contingency amount for Unit 8 shows an increase of $56 million compared to the contingency amount for Unit 7 considering that Unit 8 is the last of the four units that will return to service.

D2-PWU-10

Ref: Exhibit F4/Tab 3/Schedule 1/Page 48 of 50

The reference states:

Bruce Power remains OPG's closest competitor for attracting and retaining talent. Both Bruce Power and OPG generate electricity in the same energy market, operate similar nuclear technology, have a workforce comprised of similar roles, and have employees represented by the same unions.

WTW undertook a comparison of OPG's wages to those provided by Bruce Power. The results of this comparison are captured in Attachment 4, and a summary is provided below in Figure 13. The analysis shows that Bruce Power's unionized wages are 24% higher for PWU represented positions and 9% higher for Society-represented positions. For licensed nuclear roles, such as the Control Room Shift Supervisor (Society), Bruce Power's unionized wages are up to 20% higher.

Question (s)

a) Please quantify the impact on the test period revenue requirement had OPG wages been equivalent to Bruce Power wages.
b) Please quantify the impact on the test period revenue requirement had OPG's total compensation been equivalent to that of Bruce Power.

D2-PWU-10

Ref: Exhibit F4/Tab 3/Schedule 1/Page 11 of 50

The reference states:

OPG has a mature and experienced workforce. By year-end 2025, approximately 11% of active regular employees (~1,065) will be eligible to retire with an undiscounted pension, with an additional 15% becoming eligible to retire between 2026-2031. Compared to EB-2020-0290, the lower number of employees eligible for fully undiscounted retirement in 2025 reflects changes in the retirement eligibility formula negotiated in 2015 that have now taken effect (see Section 7.0.2 below), and the shift in OPG's overall demographics.

Question

a) Please provide the number of actual retirements from 2020 to 2025 and number of employees eligible to retire in each year from 2026 to 2031.

D2-PWU-11

Ref: Exhibit F4/Tab 3/Schedule 1/Pp 12 -13 of 50

Preamble:

The reference discusses the strategies that OPG used in planning for workforce in the face of the end of commercial operation at Pickering on the hand and OPG's plan to refurbish Pickering's four units.

Question (s)

a) What is the forecasted net impact on OPG's FTE of Pickering's transition from normal operations to refurbishment?

D2-PWU-12

Ref: Exhibit F4/Tab 3/Schedule 1/Page 35 of 50

Figure 9 – Employee Contributions and Employee/Employer Contribution Ratio

Figure 9 – Overview of Employee Contributions

Employee Pension Contributions [1]	above Earnings Limit)			Contribution Ratio (Employee/Employer)
	MG	PWU	Society	
2014	7 / 7	5 / 7	7	24% / 76%
2015	7 / 7	6 / 8	7	24% / 76%
2016	7.3 / 8.25 / 2	7 / 9	8	29% / 71%
2017	7.6 / 9.5 / 4.5	7.5 / 10	9	32% / 68%
2018	7.6 / 9.5 / 4.5	7.5 / 10	9	33% / 67%
2019	7.6 / 9.5 / 4.5	7.5 / 10	9	34% / 66%
2020	7.6 / 9.5 / 4.5	7.5 / 10	9	32% / 68%
2021	7.6 / 9.5 / 4.5	7.5 / 10	9	33% / 67%
2022	7.6 / 9.5 / 4.5	7.5 / 10	9	31% / 69%
2023	7.6 / 9.5 / 4.5	7.5 / 10	9	38% / 62%
2024	7.6 / 9.5 / 4.5	7.5 / 10	9	36% / 64%
2025 [2]	7.6 / 9.5 / 4.5	7.5 / 10	9	47% / 53%
2026 [3]	7.6 / 9.5 / 4.5	7.5 / 10	9	50% / 50%

Question (s)

a) Please quantify the impact on the 2027 revenue requirement specifically, as well as on the revenue requirement for the test period, had the contribution ratio remained at 36%/64% as in 2024 instead of the latest ratio of 50%/50%.