

1 **UNDERTAKING JT 1.7 Part 3 of 3**

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3 **AMPCO Question #10**

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5 **Issue 6.4: Is the benchmarking methodology reasonable? Are the benchmarking**  
6 **results and targets flowing from those results for OPG's nuclear facilities**  
7 **reasonable?**

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9 **Ref: Exhibit F5/Tab 1/Schedule 1, Page 12 Table 2**

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11 With respect to Table 2, OPG indicates on page 11 that "...green shaded boxes indicate  
12 that performance is above best quartile or maximum NPI points are achieved..." Please  
13 update the table to indicate for each green box which of these criteria was used.

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16 **Response**

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18 Please refer to the table below.  
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Metric	Best Quartile*	Median*	Pickering A	Pickering B	Darlington	NPI Sub-Indicator	Criteria Used for Green Boxes
<b>Safety</b>							
All Injury Rate	1.12	N/A	0.73 ↑	0.96 ↑	1.04 ↑		Pickering A: Performance above best quartile Pickering B: Performance above best quartile Darlington: Performance above best quartile
2-Year Industrial Safety Accident Rate	0.05	0.09	0.14 ↓	0.07 ↑	0.04 ↑	X	Pickering A: Max NPI points achieved Pickering B: Max NPI points achieved Darlington: Performance above best quartile
2-Year Collective Radiation Exposure (man-rem per unit)	62.15	81.84	44.2 ↑	95.81 ↑	72.83 ↑	X	Pickering A: Performance above best quartile
Airborne Tritium (TBq) Emissions per Unit	48.0	101.0	101.0 ↑	50.7 ↑	40.0 ↓		Darlington: Performance above best quartile
Fuel Reliability (microcuries per gram)	0.000001	0.000165	0.00059 ↑	0.00159 ↓	0.00025 ↑	X	Darlington: Max NPI points achieved
2-Year Reactor Trip Rate (# per 7,000 hrs)	0.00	0.33	1.22 ↓	0.26 ↔	0.00 ↔	X	Pickering B: Max NPI points achieved, Darlington: Performance above best quartile
3-Year Auxiliary Feedwater System Unavailability	0.0014	0.0020	0.0119 ↑	0.0040 ↑	0.0017 ↑	X	Pickering A: Max NPI points achieved Pickering B: Max NPI points achieved Darlington: Max NPI points achieved
3-Year Emergency AC Power Unavailability	0.0024	0.0076	0.0081 ↓	0.0091 ↑	0.0020 ↔	X	Pickering A: Max NPI points achieved Pickering B: Max NPI points achieved Darlington: Performance above best quartile
3-Year High Pressure Safety Injection Unavailability	0.0001	0.0037	0.0012 ↑	0.0001 ↑	0.0001 ↑	X	Pickering A: Max NPI points achieved Pickering B: Performance above best quartile Darlington: Performance above best quartile
<b>Reliability</b>							
WANO NPI (Index)	96.19	62.46	60.84 ↑	60.93 ↔	95.67 ↔		Not applicable
2-Year Forced Loss Rate (%)	0.68	3.79	37.90 ↓	18.19 ↓	0.93 ↑	X	Darlington: Max NPI points achieved
2-Year Unit Capability Factor (%)	90.97	84.31	56.6 ↓	73.17 ↔	91.99 ↔	X	Darlington: Performance above best quartile
2-Year Chemistry Performance Indicator (Index)	1.00	1.01	1.13 ↑	1.25 ↓	1.00 ↔	X	Darlington: Performance above best quartile
1-Year Online Elective Maintenance (work orders/unit)	218	278	425 ↑	695 ↑	311 ↑		Not applicable
1-Year Online Corrective Maintenance (work orders/unit)	4	7	14 ↑	28 ↑	11 ↑		Not applicable
<b>Value for Money</b>							
3-Year Total Generating Costs per MWh (\$/Net MWh)	28.66	32.31	92.27 ↑	58.68 ↔	30.08 ↔		Not applicable
3-Year Non-Fuel Operating Costs per MWh (\$/Net MWh)	18.06	21.28	82.62 ↑	50.95 ↔	25.10 ↔		Not applicable
3-Year Fuel Costs per MWh (\$/Net MWh)	5.02	5.37	2.64 ↔	2.68 ↔	2.62 ↔		Pickering A: Performance above best quartile Pickering B: Performance above best quartile Darlington: Performance above best quartile
3-Year Capital Costs per MW DER	32.79	46.22	32.07 ↓	32.44 ↑	18.79 ↔		Pickering A: Performance above best quartile Pickering B: Performance above best quartile Darlington: Performance above best quartile

\*Panel used for WANO quartile and median data was All COG CANDU  
 ↑ = overall upward trend during reporting period  
 ↓ = overall declining trend during reporting period  
 ↔ = consistent performance during the reporting period  
 Green = best quartile performance/max NPI points achieved if applicable  
 White = 2nd quartile performance  
 Yellow = 3rd quartile performance  
 Red = lowest quartile performance

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Note:

Column titled "NPI Sub-Indicator" indicates (by X) if the metric is subject to NPI points.

Column titled "Criteria Used for Green Boxes" indicates whether Max NPI points or best quartile was used to establish the target.