Filed: 2010-08-12 EB-2010-0008 Issue 6.4 Exhibit L Tab 1 Schedule 053 Page 1 of 2

# **Board Staff Interrogatory #053**

3 **Ref:** Ex. F2-T1-S1, page 13

#### 5 **Issue Number: 6.4**

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

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The application notes that the targeted performance improvement by 2014 with respect to Total Generating Cost for the Pickering stations is below median. It also notes *"this reflects the reality of OPG's initial starting point in terms of the material condition of these plants"*. Please elaborate on the "material condition" of the Pickering stations and to what extent it is a factor (relative to comparator nuclear plants) in terms of not being able to achieve the median by 2014.

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#### 19 <u>Response</u>

The material condition of the Pickering stations is reflected in higher outage days and forced
loss rates ("FLR") compared to the industry median which yields lower generation output and
higher costs. This impacts the ability of these stations to achieve industry median in terms of
total generating costs/MWh.

25

Though Pickering B has shown significant improvement in performance as a result of its efforts to improve its material condition (i.e., an improvement in FLR from 24.2 per cent in 2007 to 5.8 per cent in 2008), Pickering A is still addressing issues associated with the seven-year shutdown of the units prior to their return to service in 2003 and 2005. Total generating cost targets for 2014 for both Pickering A and Pickering B assume improved material condition as reflected in improvement in FLRs and a reduction in the number of outage days.

33

The 2014 total generating cost target for Pickering A incorporates a significant improvement in FLR from 8 per cent in 2010 to 4 per cent in 2014. Pickering B's total generating cost targets, however, are negatively affected by increased outage days required for the Pickering B Continued Operations initiative. OPG continues to invest in both stations and equipment reliability initiatives continue to be implemented with the goal of improving material condition.

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40 Poor material condition is only one factor limiting the ability of Pickering A and B to achieve 41 median total generating cost performance by 2014. Among the structural factors that drive 42 higher costs at the Pickering stations, as discussed at Ex. F2-T1-S1 pages 13-14, are the 43 size of the reactor units compared to industry median and the complexity of CANDU 44 technology compared to the benchmarked reactors which are predominantly PWR and BWR. Filed: 2010-08-12 EB-2010-0008 Issue 6.4 Exhibit L Tab 1 Schedule 053 Page 2 of 2

- 1 These factors are outside of OPG's control and are differences that will continue to exist in
- 2 the future.

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# **Board Staff Interrogatory #054**

3 **Ref:** Ex. F2-T1-S1, page 16

# 5 **Issue Number: 6.4**

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

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# Interrogatory

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11 On page 16 it notes "A preliminary assessment of combining the operations of Pickering A 12 and B was also undertaken as a separate initiative by OPG, and some initial cost savings in 13 Base OM&A were included in the 2010 - 2014 Business Plan, as further described at Ex F2-14 T2-S1 (page 19 of 34). Further action on this initiative has been delayed until after the 15 completion of the 2010 Pickering Vacuum Building Outage." The Pickering VBO was 16 completed on May 28, 2010 according to the OPG website. Given the completion of the 2010 17 Pickering Vacuum Building Outage, is further action on this initiative now underway? Please 18 also elaborate on "further action".

19

#### 20 21

# 21 <u>Response</u>22

Yes, action is now underway with respect to combining the operations of Pickering A and Pickering B Generating Stations to achieve the forecast savings committed in the 2010 – 2014 Business Plan (as detailed in Ex. F2-T2-S1, page 20 of 31). No further savings associated with the Pickering A/B Generating Stations combination are foreseen for the test period.

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29 OPG is implementing changes to its Pickering A/B Generating Stations organization where 30 such changes are not complex, have minimal business impact and where CNSC approval is 31 not required. For example, Pickering A/B Generating Stations Performance Improvement in 32 Nuclear Operations ("PINO") has been consolidated. Regulatory Affairs from all stations has 33 been centralized in Nuclear Programs and Training ("NPT") in Q3 2010, and Pickering A/B 34 Generating Stations Business Support is slated for consolidation in Q4 2010. The two 35 stations' engineering functions are expected to be largely consolidated in 2011 as part of 36 existing improvement initiatives (EN-02). In addition, discussions and interviews are currently 37 being conducted with department managers and senior management at the stations to 38 develop options regarding the overall organization structure.

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#### AMPCO Interrogatory #023

2 3 **Ref:** Ex. F5-T1-S1, page 13

#### 5 **Issue Number: 6.4**

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

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#### Interrogatory

11 Regarding the statement "Additionally, the WANO NPI results of all CANDU operators are 12 concentrated at the bottom of the peer group for the period 2006-2008": 13

- a) Please provide the year by year WANO NPI results for Candu vs. PWR.
- b) Is it the opinion of ScottMadden that the above statement reflects a temporary anomaly?
   Alternatively, is it the opinion of ScottMadden that the above statement is likely to prevail
   in future? In either case, please comment on the reasons for the opinion expressed.

#### <u>Response</u>

- a) Year-by-year World Association of Nuclear Operators ("WANO") Nuclear Performance Index ("NPI") results for CANDU vs. PWR are presented in the table below:
- 24 25 26

# 20

#### Average WANO NPI Rankings

	2006	2007	2008
U.S. PWR 1	10	9	1
U.S. PWR 2	4	5	2
U.S. PWR 3	2	1	3
U.S. PWR 4	8	3	4
U.S. PWR 5	19	17	5
U.S. PWR 6	13	14	6
U.S. PWR 7	5	10	7
U.S. PWR 8	3	4	8
U.S. PWR 9	7	11	9
U.S. PWR 10	12	7	11
U.S. PWR 11	9	12	12
U.S. PWR 12	11	8	13
U.S. PWR 13	1	2	14
U.S. PWR 14	14	13	15

Corrected: 2010-09-16 EB-2010-0008 Issue 6.4 Exhibit L Tab 2 Schedule 023 Page 2 of 2

U.S. PWR 15	15	15	16
International CANDUs	6	6	10
OPG CANDU	16	16	17
Canada CANDU 1	20	19	18
Canada CANDU 2	17	20	19
Canada CANDU 3	18	18	20

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Q4 2008 OPG NPI Scores vs. CANDU NPI Scores:

OPGN Median = 65.8 OPGN Average = 74.8

Candu World Median = 67.2 Candu World Average = 63.1 (excludes OPGN)

4 5 6

7 8 9 Canadian CANDU, whereas the "Candu World Median" and "Candu World Average" results include Canadian CANDU.

Note that in the chart showing ordinal rankings, "International CANDUs" exclude

b) Over the 2006 – 2008 time period, CANDU operators have been concentrated at the bottom of the WANO NPI rankings as compared to PWRs. Since the lower NPI results for CANDU have been consistent over this period, these results are not an anomaly during the period examined. ScottMadden has advised OPG that it cannot predict if the results will continue into the future.

Differences between PWR and CANDU generation technologies impact many of the ten metrics that comprise the Nuclear Performance Index. Unit Capability Factors for CANDUs are typically lower than PWRs due to longer planned outages. Longer outages, in turn, result in higher Collective Radiation Exposure which is another NPI component. In addition, CANDU units are more complex with higher number of components which can be linked to higher FLRs in CANDU technology as well as the potential for greater unplanned work during outages.

#### AMPCO Interrogatory #024

Ref: Ex. F2-T1-S1

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# 5 **Issue Number: 6.4**

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

- a) OPG and its predecessor have over the years changed the titles and theme of nuclear performance improvement initiatives every few years for decades, with titles like QIP, NAOP, IIPA, and Say It/Do It. Please provide the most recently available analysis benchmarking the strengths and weaknesses of historic nuclear performance initiatives within OPG and its predecessor.
- b) When the A stations were forced to close in the late 1990s, some of the blame was
   attributed by Ontario Hydro to the predecessor to the QIP program in the early 1990s,
   under which Ontario Hydro had engaged in a O&M cost control and staff reductions
   within operational programs. What is different this time?
  - c) How is staff productivity measured within OPG and what are the trends over the course of the last decade?
  - d) Please indicate when the problem of calandria vault corrosion was first identified and outline the measures taken to manage the problem since its discovery.

# 29 <u>Response</u>30

- a) No "benchmarking analysis" has been performed on the strengths and weaknesses of past initiatives. The OPGN 2009 benchmarking initiative (Ex. F2-T1-S1) was conducted consistent with the OEB's directive, and provides the latest analysis addressing areas of strength and weaknesses for the organization. This benchmarking initiative and resulting OPGN 2009 Benchmarking Report is the driver for business planning and nuclear improvement efforts.
- 37
- b) OPG cannot comment on the references to past Ontario Hydro practices. As noted above, the OPGN benchmarking study is consistent with OEB direction regarding external benchmarking, and both the benchmarking initiative study and the 2010 2014 gap-based business planning process were carried with the support of ScottMadden, a consulting firm specializing in the provision of benchmarking and business planning services to nuclear utilities.

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- c) OPG does not measure employee productivity specifically because of the many variables 1 2 that would be part of the metric. However OPG has taken actions to increase productivity 3 such as:
  - Removing job family barriers to allow broader work scope for individuals. •
  - Measuring, tracking and minimizing work backlogs.
- 6 • Ensuring that training requirements are recorded and employee training is kept 7 current. 8
  - Re-engineering processes to reduce time and labour on business transactions.

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10 d) See response to Ex. L-1-046.

1		PWU Interrogatory #019					
2 3 4 5 6	Re	f: (a): Ex. F2-T1-S1, Attachment 3, page 2 (b): Ex. F5-T1-S2, schedule 2, page 10 of 64 (c): Ex. F5-T1-S1, schedule 1, page 88 of 158					
7 8 9 10	lss Iss tar	<b>Sue Number: 6.4</b> Sue: Is the benchmarking methodology reasonable? Are the benchmarking results and gets flowing from those results for OPG's nuclear facilities reasonable?					
11 12	<u>Int</u>	errogatory					
12 13 14 15	a)	Please indicate if the Bruce CANDU units included in the benchmark study have new boilers.					
15 16 17	b)	Would new boilers be expected to improve plant performance?					
17 18 19 20 21	c)	Please indicate how the benchmarking was used to set the top-down OMA and capital targets issued by the Chief Nuclear Operator in a manner that ensures consistency with safety and performance metrics.					
21 22 23 24	d)	Ref (a) shows a table outlining the technology differences between OPG's units and other nuclear technologies.					
24 25 26 27		Please provide your estimates of the qualitative and quantitative adjustments to the benchmarking that should be done to reflect the differences in staffing requirements between CANDU units and BWR and PWR units.					
28 29 30	e)	Ref (b) states:					
30 31 32 33 34 35		It should be noted that OPG's financial and operational performance relative to its peers is impacted by differences in design technology, the number of reactors onsite, the geographic size of the site, reactor age, and operational condition in addition to low capability factors at both the Pickering A and Pickering B sites.					
36 37		What is the effect of the following variables on the comparative non-fuel \$/MWh in the gap analysis:					
38 39 40 41 42 43 44 45		<ul> <li>i) Generator output in MW.</li> <li>1. How does unit size impact the maintenance effort per MW?</li> <li>2. Please provide your estimates of the effect of unit size on \$/MWh performance metrics.</li> <li>3. What corrections were applied to the analysis and/or results of the ScottMadden benchmarking study to reflect this scaling?</li> </ul>					

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- ii) The number of units per station.
  - 1. How does the number of units impact the maintenance effort per MW?
  - 2. What corrections were applied to the analysis and or results of the ScottMadden benchmarking to reflect this scaling?
  - Please provide the size of the units and the corresponding number of all the units included in the ScottMadden benchmarking study together with their non-fuel \$/MWh.
  - iii) What is the impact of the number of steam generators (12 per unit at Pickering, 4 per unit at Darlington, vs. 8 per unit at Bruce, 2-4 units at PWR plants, 0 units at BWR plants) and on maintenance efforts per MW.
- 13 iv) Collectively the main coolant pumps (40 per unit at Pickering vs. 4 per unit at 14 Darlington, 2-4 units for PWR and 2 units for BWR Units); the large isolation valves (40/unit at Pickering, 0 at Darlington and 0 for PWR, 2 for BWR units); and the fueling 16 machines. 17
  - v) The carbon steel in the CANDU reactors heat transport system vs. stainless steel in the BWR and PWR reactors. Please indicate the influence of this on the non-fuel \$/MWh benchmarking.
  - vi) The reactor age and resulting mitigation of the accumulated and ongoing deterioration in plant components including boilers, calandria tubes and pressure tubes and feeders.
    - 1. Please provide the maintenance and inspection cost and the number of planned and forced outage days attributable to these components for each of OPG's nuclear plants in the past decade.
      - 2. What is the contribution of inspection and maintenance efforts related to these and other components to the benchmark comparison with CANDU and with BWR and PWR reactors?
    - vii)The number of pressure tubes.
  - viii) Other variables (e.g., special circumstances, such as the requirement to maintain an electrical connection between Pickering B and Pickering A).
- 38 f) Ref (c) states:
  - For the review period, approximately 7% of the Pickering A FLR was attributable to human performance, 42% to equipment reliability, and 51% percent to design basis.
- 43 Please confirm that based on the OPG and Bruce CANDU units, CANDU technology 44 requires significantly higher staffing levels in comparison with BWR and PWR per MW.
- 45 46

$\frac{1}{2}$	<u>Re</u>	<u>Response</u>					
2 3 4 5 6	a)	None of the operating Bruce Nuclear Generating Station units have new boilers. Only Bruce Units 1 and 2 that are currently being refurbished have had new boilers installed. These units are not yet operating and so are not part of the benchmarking study.					
7 8 9	b)	Yes, in that new boilers will not suffer from performance degradation due to fouling (which can reduce operating margins) and will have fewer active degradation mechanism requiring inspection and maintenance activities during planned outages.					
10 11 12 13 14 15 16 17	c)	OPG compared itself against its industry peers on 19 benchmarks to set targets in I financial and operational performance areas. The expectation is that OPG Nuclear continue to perform better than its industry peers in safety metrics, as the safety of OF employees, the public and the environment is the overarching focus. Reliability financial performance targets were set based on the need to narrow the ident performance gaps.					
18 19 20 21	d)	) OPG does not have an estimate of the quantitative and qualitative adjustments t should be made to the benchmarking results to account for differences in staff requirements between CANDU units and BWR and PWR units.					
22 23 24 25 26 27 28 29 30	e)	i)	1. 2. 3.	No analysis was conducted on the impact of unit size on maintenance efforts. No formal benchmarking was done on the impact of size on the \$/MWh targets. However, Darlington Generating Station's large unit sizes and Pickering A and B Generating Stations' much smaller unit sizes impacts the \$/MWh costs scenarios. It is OPG's opinion that these are reflected in the Non-Fuel \$/MWh targets for all three stations where the Pickering Generating Station would be challenged to reach median performance, but Darlington Generating Station's is targeting to reach best quartile performance. Neither the benchmarking analysis nor the results were adjusted for unit size.			
32 33 34 35 36		ii)	1. 2. 3.	No analysis was conducted on how the number of units impacts on maintenance efforts. Neither the benchmarking analysis nor the results were adjusted for number of units. See Attachment 1.			
37 38 39		iii)	No	benchmarking analysis was conducted on the number of steam generators.			
40 41		iv)	No	benchmarking analysis was conducted on the main coolant pumps.			
42 43		v)	No in ł	benchmarking analysis was conducted comparing carbon steel and stainless steel neat transport systems.			
44 45		vi)	No	benchmarking analysis was conducted on this subject matter.			

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vii) No benchmarking analysis was conducted on the number of pressure tubes.

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viii) No benchmarking analysis was conducted on other variables.

6 7 f) ScottMadden performed a preliminary review of the comparison between CANDU technology and North American industry peers as a driver of performance gaps for non-8 fuel operating costs per MWh (Ex. F5-T1-S1, page 124 of 158), but was unable to 9 quantify the impact on the benchmark data. This information was not included in the final 10 2009 Benchmarking Report. As a result, OPG cannot confirm that CANDU technology 11 requires significantly higher staffing levels per MW in comparison with BWR and PWR.



1		PWU Interrogatory #020
23	Re	f: Ex. F5-T1-S2, pages 43-44
4 5 6 7 8 9 10		Tables outline scenarios with significant changes to non-fuel operating costs for Darlington, Pickering A and Pickering B. However, there is no change in production between the five scenarios within the period to 2014. For example, in 2012 cost for Darlington range from \$764 million to \$706 million; for Pickering A from \$344 million to \$470 million; and for Pickering B from \$763 million to \$577 million. There is no change in production for any of the five scenarios.
11 12 13 14 15	lss lss tar	<b>Sue Number: 6.4</b> Sue: Is the benchmarking methodology reasonable? Are the benchmarking results and gets flowing from those results for OPG's nuclear facilities reasonable?
16	<u>Int</u>	errogatory
17 18 19	a)	What were the changes (e.g. performance levels) of other performance metrics for each plant over the plant life cycle as a result of these cost cuts?
20 21 22 23	b)	How was the information provided in response to a) used in setting targets for non-fuel operating costs?
24 25	<u>Re</u>	<u>sponse</u>
26 27 28 29	a)	For expected performance levels in all metrics, please refer to Ex. F2-T1-S1, Attachment 1, page 10.
2) 30 31 32 33 34	b)	Ex. F5-T1-S2 provides different cost scenarios for target setting purposes in an effort to show the effect of cost reductions using the same generation assumptions on Total Generation Costs per MWh. Total Non-Fuel Costs for Darlington ranged from \$796M to \$740M for 2012, not \$764M to \$706M. The final 2012 target for Darlington was \$765M.
35 36 37 38		The 2009 Benchmarking Report analysis shows that nuclear industry peers have been able to accomplish financial and operation performance improvements simultaneously. OPG expects to continue improving operational performance, as well as financial performance.

Filed: 2010-08-12 EB-2010-0008 Issue 6.4 Exhibit L Tab 12 Schedule 026 Page 1 of 1

#### SEC Interrogatory #026

2 3 **Ref:** Ex. F2-T2-S1, page 5, A, Table 1

#### 5 **Issue Number: 6.4**

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

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#### Interrogatory

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Please calculate the OM&A reduction that would be required for the Darlington GS in order tomaintain the 2008 non-fuel benchmark of \$25.10 MWh.

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### 15 <u>Response</u>

The 2008 non-fuel benchmark of \$25.10/MWh for Darlington Generating Station is based on
a three year average while the targets of \$28.22, \$26.52 and \$26.98 for 2010 - 2012 in Ex.
F2-T1-S1, Attachment 8 are based on annual performance.

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The Interrogatory references Ex. F2-T2-S1, Table 1 which is Base OM&A only whereas the non-fuel benchmark includes Total OM&A including all operating costs such as Project OM&A and Corporate Support that are outside the Base OM&A table.

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In order to maintain the non-fuel benchmark of \$25.10/MWh, and given the generation plan

26 for the years in question, the following Total OM&A (including Station, Nuclear Support,

27 Projects and Corporate Support) reduction would be required:

28

	2010	2011	2012
Non-Fuel Operating Costs Target (\$/MWh)	28.22	26.52	26.98
Net Electrical Production Target (TWh)	27.74	28.86	29.00
Required Non-Fuel Operating Costs Reduction (\$M)	86.61	40.89	54.62
Non-Fuel Operating Costs Revised (\$/MWh)	25.10	25.10	25.10

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Filed: 2010-08-17 EB-2010-0008 Issue 6.4 Exhibit L Tab 12 Schedule 027 Page 1 of 1

### SEC Interrogatory #027

Ref: Ex. F2-T2-S1, Table 2

#### 5 **Issue Number: 6.4**

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

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#### Interrogatory

Please explain how the licence fee from the CNSC is calculated. In particular please explain
 why there is an approximately 22% increase in fees in 2009 and an 11% decrease budgeted
 for 2010.

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#### 15

#### 16 <u>Response</u> 17

18 Canadian Nuclear Safety Commission ("CNSC") licence fees are based on the level of effort 19 for station regulatory oversight, using a regulated full cost recovery fee model. Licensing 20 costs include the cost of CNSC staff directly involved with OPG issues, as well as an 21 allocation for the associated regulatory support effort, indirect regulatory activities and 22 overheads.

23

As indicated in Ex. F2-T2-S1, Table 2, there was a significant increase in 2009 for CNSC fees, as the CNSC had increased staff to support: alignment of regulatory practices to International Atomic Energy Agency guidance documents; the demand for CNSC attention to planning for industry-wide refurbishment activities and new nuclear; and the CNSC need to recruit and train staff to meet the anticipated demands.

29

The data presented in Ex. F2-T2-S1, Table 2 for 2010 – 2012 was developed based on information provided by the CNSC early in their business planning process. Subsequently, OPG has been informed of increased cost estimates in the order of \$6.5M per year

throughout 2010 – 2012, reflecting the drivers outlined above.

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#### Society Interrogatory #001

2 3 **Ref:** Ex. F2-T1-S1, page 6

#### 4 5 **Issue Number: 6.4**

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

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# Interrogatory

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The Application indicates that the transmittal letter provided by Scott Madden with the Phase
 Benchmarking Report noted the impact of factors influencing OPG's performance gap
 against best quartile. The letter stated:

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15 In our opinion the comparisons provided in this report present a fair and 16 balanced view of OPG operating and financial performance compared to other 17 operators in the nuclear generation industry. However, it would be 18 inappropriate to generalize regarding OPG's absolute performance based 19 solely upon comparison to industry averages. Differences in design 20 technology, the number of reactors on site, the geographic size of the site, 21 reactor age, operational condition and other factors all influence OPG's 22 operational and financial performance. Benchmark data can be useful for 23 highlighting performance gaps relative to other nuclear generation operators 24 but prescriptive conclusions regarding OPG's ability to narrow such 25 performance gaps will require further analysis. 26

# Questions:

- a) Please provide benchmarking data that is adjusted to take into account the factors identified above which ScottMadden identified as contributing to OPG's performance gap
  (i.e. differences in design technology, the number of reactors on site, the geographic size of the site, reactor age, and operational conditions) as well as the following factors: the greater regulatory/licensing requirements that must be met by OPG and the special technical expertise required to operate CANDU reactors.
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- b) If no such benchmarking data exists, please explain why OPG has not sought
   benchmarking data that would more appropriately adjust for these factors, especially as
   they relate to Pickering A and B.
- 39 40

# 41 <u>Response</u>42

43 a) ScottMadden performed a preliminary review of the factors identified in the quote above,
 44 but was unable to validate their impact on the benchmark data. As such, this information
 45 was not included in the final 2009 Benchmarking Report.

Witness Panel: Nuclear Benchmarking & Business Planning

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b) As ScottMadden notes, there are many potential reasons for the gap between OPG and
 industry performance. ScottMadden cautioned against defensive attempts to modify the
 benchmarks to adjust for differences. Instead they recommended that OPG work to close
 the gaps identified by focusing on those factors that OPG can control. Though OPG
 continues to investigate all potential differences to understand and normalize their impact
 on performance, the objective is to begin narrowing the gap where gains can be made.

Filed: 2010-08-12 EB-2010-0008 Issue 6.4 Exhibit L Tab 14 Schedule 008 Page 1 of 1

#### **VECC Interrogatory #008** 1 2 3 Ref: Ex F2-T1-S1, Attachment 1 page 6, Nuclear Business Plan 2010 - 014 - Board of 4 Directors 5 6 **Issue Number: 6.4** 7 Issue: Is the benchmarking methodology reasonable? Are the benchmarking results and 8 targets flowing from those results for OPG's nuclear facilities reasonable? 9 10 **Interrogatory** 11 12 Please provide the Best Quartile and Median metrics in the first row for All Injury Rate. 13 14 15 **Response** 16 17 The confidential version of Ex F2-T1-S1, Attachment 1, page 6 contains the available 18 information.

Filed: 2010-08-17 EB-2010-0008 Issue 6.4 Exhibit L Tab 14 Schedule 009 Page 1 of 1

#### VECC Interrogatory #009

Ref: Ex. F2-T1-S1, Attachment 1, page 10, Nuclear Business Plan 2010 – 2014 Board of Directors

#### 6 **Issue Number: 6.4**

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

9 0 Interrogatory

10 <u>In</u> 11

The 2014 Safety targets for the first two rows, i.e., All Injury Rate and 2-Year IndustrialSafety Accident Rate, appear to be higher than the 2008 comparables. Please explain.

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#### 16 **Response**

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18 The two-year Industrial Safety Rate is one of many metrics that make up the World 19 Association of Nuclear Operators ("WANO") Nuclear Performance Index. Achievement of full 20 WANO Nuclear Performance Index points is recognized within the industry as a measure of 21 superior performance (Ex. F5-T1-S2, page 50 of 64). The 2014 target was set at 0.15 per 22 200,000 man-hours worked. This is the projected 2009 full WANO Nuclear Performance 23 Index points. This value is higher than what was achieved in 2008, but OPG did not perceive 24 any value added in pursuing initiatives to maintain or exceed 2008 levels for target setting 25 (i.e., OPG was of the view that achieving full WANO Nuclear Performance Index Points for 26 this metric in 2014 was the appropriate target. See also Ex. L-11-019, part c) regarding 27 OPG's expectations in this area).

28

The All Injury Rate is a Canadian Electrical Association ("CEA") metric and is not a component of the WANO Nuclear Performance Index. The 2014 metric was set equal to the rolling two-year average for this metric. While this value is higher than what was achieved by OPG in 2008, OPG did not perceive any value added, in pursuing initiatives to maintain or exceed 2008 levels for target setting (i.e., OPG was of the view that achieving rolling twoyear best quartile value for this metric in 2014 was the appropriate target. See also Ex. L-11-019, part c) regarding OPG's expectations in this area).