

Board Staff Interrogatory #055

Ref: Ex. F5-T1-S1, page 138

Issue Number: 6.5

Issue: Has OPG responded appropriately to the observations and recommendations in the benchmarking report?

Interrogatory

In regard to 3-Year Capital Costs per MW DER (Design Electrical Rating), ScottMadden's Observation in the Phase 1 Benchmarking Report was that Darlington had the third lowest capital costs of any plant in the peer group and Pickering A and B were both in the best quartile. The report notes *"One contributing factor for OPG appears to be the capitalization threshold. The minimum expenditure threshold for capitalization at OPG for generating assets is \$200k per unit whereas the majority of the companies in the industry have adopted minimum capitalization thresholds that are significantly lower"*. Please explain why OPG has a significantly higher capitalization threshold than the majority of the companies in the industry.

Response

OPG's \$200k threshold for capitalization is the same as that used in EB-2007-0905. In EB-2007-0905, Ex. L-14-46, OPG provided the process by which the capitalization materiality thresholds are determined. This process continues to be followed. The major elements are:

- Materiality thresholds are identified as part of OPG's capitalization eligibility procedure which is regularly reviewed and updated.
- As part of the review, OPG considers thresholds employed by companies of a similar size in capital intensive industries.
- OPG considers the materiality of the income statement impact of any changes in the thresholds.
- OPG also considers whether capitalization of numerous small items would result in an excessive administrative burden.
- The materiality thresholds are reviewed by OPG's external auditor through the audit of OPG's consolidated financial statements.

While OPG's process considers the materiality thresholds of other companies, OPG does not necessarily adjust its own thresholds in response. OPG's threshold of \$200k is appropriate and is in accordance with generally accepted accounting principles ("GAAP").

Board Staff Interrogatory #056

Ref: Ex. F5-T1-S2, page 22

Issue Number: 6.5

Issue: Has OPG responded appropriately to the observations and recommendations in the benchmarking report?

Interrogatory

The Phase 2 Benchmarking Report notes that *"the initial 150 fleet improvement initiatives had been consolidated down to 46 key initiatives. Consolidation primarily resulted from the grouping of related initiatives, the elimination of lower priority initiatives, and the balancing of workloads....Factors considered during prioritization included: (a) the business benefit or impact, (b) the required investment of financial and human resources, (c) the logical sequencing of work, (d) the balance of workload over the planning horizon, and (e) the degree of culture change required. In the end, a total of 33 fleet-wide improvement initiatives were approved for incorporation into the site and support unit business plans."*

- a) Please identify the 13 initiatives that were not approved and please explain whether OPG has any future plans in terms of these 13 initiatives.
- b) Please identify those initiatives (of the 13) that would have had a material business benefit or impact (but were eliminated for other reasons noted above) and, for such initiatives, please explain: (i) the estimated benefit; and (ii) the specific reason OPG decided not to pursue it.

Response

a) and b)

After a series of integration meeting described in the ScottMadden Phase 2 report (Ex. F5-T1-S2, page 22), the initial list of 150 initiatives was first reduced to 46 key initiatives. After further prioritization, the 46 initiatives were reduced to 33 on the following basis.

Of the 13 initiatives, five could be consolidated under the Outage Improvement Initiative (OU-02) and two could be eliminated because they were already part of ongoing work programs within Engineering. OPG ultimately decided not to pursue the remaining six initiatives:

- FS-02: Fire Protection MIN Complement
- TR-03: Engineering Staff Training
- OU-08: Forced Outage Improvement Program
- OP-04: Work Protection Improvement Plan
- FS-01: Amalgamate Fire Protection
- OP-1: Focused Crew Observation Program

1 These six initiatives were seen by OPG as having lower priority and less promise relative
2 to the 33 fleet-wide improvement initiatives being pursued. While the factors noted in
3 items a) through e) in the quote above were used to review and prioritize all 46 initiatives,
4 there was no defining factor or specific reason that resulted in the decision not to proceed
5 with any particular initiative and OPG did not quantify the potential business benefits from
6 these initiatives.

7
8 OPG has deferred pursuing these six lower priority initiatives for the present. OPG
9 expects that these six initiatives will be subject to consideration and further analysis at a
10 later date, consistent with OPG's expectation that through the process of continuous
11 improvement, it will continue to close the performance gap with its industry peers.

Board Staff Interrogatory #057

Ref: Ex. F5-T1-S2, page 25

Issue Number: 6.5

Issue: Has OPG responded appropriately to the observations and recommendations in the benchmarking report?

Interrogatory

In regard to “offsite staffing” levels, the Phase 2 Benchmarking Report notes *“This comparison highlighted considerable differences between companies with respect to the number of offsite employees supporting nuclear stations”* and that a nuclear comparator *“reported 697 offsite employees supporting 10 stations and 17 units whereas OPGN reported 3,414 offsite employees supporting three stations and 10 units. The study team did not have adequate time to delve into the business drivers behind these variances”*. Please explain why OPG requires almost 5 times the number of offsite employees to support almost half as many units.

Response

Appendix H – “Offsite Operator Level Staffing Summary” of the ScottMadden Phase 2 report (Ex. F5-T1-S2, page 63) was produced to examine differences in the physical location of support personnel. The results show that OPG has a higher number of “off site” staff than other fleet operators. As the quote above indicates *“The study team did not have adequate time to delve into the business drivers behind these variances”*.

In OPG's view, a number of different factors could contribute to the higher number of “off site” staff at OPG compared to other fleet operators. It is likely there is no single business driver but rather a combination of contributing drivers. Typical drivers include:

- Differences in geographic dispersion of the generation fleet. Generation fleets with widely dispersed plants tend to locate more support services on site, whereas those with closely grouped plants (such as OPG) will house support services in shared off-site support facilities.
- Differences in organization design philosophies. Some generation fleets have adopted a centralized approach to providing support services whereas others have adopted a decentralized approach dispersing functions out to all stations they support.

OPG has adopted a centralized approach. For example, OPG has located design engineering, records/administrative, training, and fleet maintenance support services off-site whereas other North American fleet operators locate the majority of these staff inside their plants.

- 1
2 • Differences in utilization of contractor personnel (outsourcing). Many North American fleet
3 operators use third-party contractors for a wide variety of support services. These
4 personnel are not shown in Appendix H. OPG performs nearly all of its support services
5 in-house and these staff are included in Appendix H.

6
7 Examples of work performed in-house that some North American fleet operators would
8 outsource include facility maintenance and radiation protection testing.

Board Staff Interrogatory #058

Ref: Ex. F5-T1-S2, page 26

Issue Number: 6.5

Issue: Has OPG responded appropriately to the observations and recommendations in the benchmarking report?

Interrogatory

Section 3.3.2 of the Phase 2 Benchmarking Report notes that ScottMadden piloted a top-down staffing analysis using the OPGN Radiation Protection (RP) function as an example and the recommended changes for future consideration by OPG include *“a potential reduction of 53 FTEs...(28%)”*. The report then notes *“Of the potential 48 FTEs reduced, 35 would potentially be reassigned to other functional organization through improved resource alignment while 13 would be eliminated altogether. These changes were still being considered by OPGN at the time this report was prepared.”* Please clarify whether the potential reduction was actually 53 or 48 FTEs. Please also identify if this recommendation was implemented by OPG and how OPG plans to build on this pilot in terms of other segments of the organization.

Response

OPG has clarified with ScottMadden that the reference in the Phase 2 Final Report (page 25) to *“...a potential reduction of 53 FTEs in the RP...”* should have stated 48 full-time equivalents (“FTEs”), not 53 FTEs.

The 48 FTEs comprised a reduction of 13 FTEs in the Radiation Protection (“RP”) function and a relocation of 35 FTEs to other parts of the business.

Some initiatives associated with the recommendation have been implemented. Specifically, 35 staff have been reassigned to other functional organizations, including training and outage management, and one position has been eliminated.

Implementation of the additional proposed reductions in RP was not part of the 2010 – 2014 business plan. OPG Nuclear considered a large number of initiatives that could be implemented to reduce the overall OM&A and improve operating performance, and other initiatives were pursued at this time. OPG Nuclear continues to consider options for reduction of the 13 FTEs, under its commitment to ongoing performance improvement.

Board Staff Interrogatory #059

Ref: Ex. F5-T1-S2, page 29

Issue Number: 6.5

Issue: Has OPG responded appropriately to the observations and recommendations in the benchmarking report?

Interrogatory

The report notes ScottMadden developed the observations and recommendations presented in Figure 15 for the future consideration of OPG. The observations included *“OPGN does not have a designated Plant Manager responsible for core perform functions at each station. Instead, the Plant Manager function is performed by two separate Directors: the Director of Operations and Maintenance (DOM), and the Director of Work Management (DWM)”*. The associated recommendation was to *“Consider adopting a single Plant Manager model in lieu of the current dual DOM/DWM roles”* and *“In light of the change required by the 33 fleet improvement initiatives, it might be best to postpone implementation of this recommendation until 2012 or beyond”*. Does OPG plan to implement this recommendation now or in 2012? If not, please explain why.

Response

The “Plant Manager” role was split into a Director of Operations and Maintenance (“DOM”) and a Director of Work Management (“DWM”) by OPG five years ago. The focus of the DOM is operations, maintenance, radiation protection and fuel handling as described at Ex. F2-T2-S1, pages 5 and 6. The focus of the DWM is work control and outage as described at Ex. F2-T2-S1, page 6.

OPG’s decision to spit the roles was based on the belief that the pace of improvement can be enhanced by splitting the role, to provide particular focus on outage improvements. OPG recognizes the roles will need to be re-combined when outage performance improves. However, given the scale of our outage improvement efforts, OPG believes the timing is not right to combine the two roles. OPG will continue to review this recommendation and will make the change when appropriate.

Board Staff Interrogatory #060

Ref: Ex. F5-T1-S2, page 32

Issue Number: 6.5

Issue: Has OPG responded appropriately to the observations and recommendations in the benchmarking report?

Interrogatory

In section 4.2, the report notes *"Without downplaying the success achieved during the current planning cycle, we believe that opportunities remain for continuous improvement beyond the current business planning horizon"*. Did ScottMadden identify any such "opportunities" that remain? If so, please identify those opportunities and provide an explanation for each. Please explain why the remaining opportunities are not being pursued.

Response

No, ScottMadden did not identify any opportunities beyond the current business planning horizon. The quotation found in the interrogatory refers to a general opportunity for OPG to pursue continuous improvement, over and above the specific targets which have been set in the business planning process.

OPG is committed to a process of continuous improvement. Indeed, the 2005 Memorandum of Agreement between OPG and its shareholder (provided at Ex. A1-T4-S1, Attachment 2) directs OPG to "seek continuous improvement in its nuclear generation business and internal services". OPG's Nuclear Business Plan (Ex. F2-T1-S1, Attachment 1) sets out Nuclear's five-year performance plan, which embodies OPG's commitment to continuous improvement.

Board Staff Interrogatory #061

Ref: Ex. F5-T1-S2, page 34

Issue Number: 6.5

Issue: Has OPG responded appropriately to the observations and recommendations in the benchmarking report?

Interrogatory

In section 4.4, it notes *“At the time of ScottMadden’s departure from the project, some issues remained open with respect to the financial targets in selected business unit plans”*. Please identify the issues that remained open, the associated financial targets and the related business units.

Response

This observation by ScottMadden was not specifically related to “financial targets” in the 2010 – 2014 Nuclear Business Plan, as these had been set at an earlier stage in the business planning process. Rather, the reference was to the impacts of the fleet-wide initiatives on closing the financial performance gaps. As noted in Ex. F2-T1-S1, page 16, the reductions ultimately built into the 2010 – 2014 Business Plan totalled \$293M, which exceeded those established in the ScottMadden Phase 2 target setting.

Board Staff Interrogatory #062

Ref: Ex. F5-T1-S2, page 37

Issue Number: 6.5

Issue: Has OPG responded appropriately to the observations and recommendations in the benchmarking report?

Interrogatory

In section 4.6, a ScottMadden Observation was *"OPGN managers noted that complex, cross-functional initiatives generally "die on the vine" when assigned to the line organization for implementation"*. The reasons cited include:

"- The Tyranny of Daily Events: Team members who have full-time responsibility for daily work are unable to dedicate adequate time and focus on the change initiative

- Diffuse Accountability: Too many "participants" but no clear leadership and single point of accountability."

ScottMadden's associated Conclusions were:

"- Without adopting a revised approach to implementing and monitoring change initiatives, OPGN is at risk of not successfully implementing the improvement initiatives that have been agreed upon and incorporated into its business unit plans;

- Due to time limitations, ScottMadden was unable to perform an analysis as to whether OPGN has the structure, process, and methodologies in place to manage transformational change initiatives of the scope envisioned".

Has OPG adopted a revised approach to implementing/monitoring change initiatives? If so, please elaborate. What further actions does OPG plan to ensure that OPG Nuclear has the structure, process, and methodologies in place to manage transformational change initiatives?

Response

Yes, OPG has adopted the recommendation of ScottMadden regarding management of the 33 improvement initiatives. In 2009, a dedicated oversight organization, the Nuclear Fleet Improvement Program ("NFI") was formed under the Senior Vice President of Nuclear Programs and Training to implement/monitor the fleet-wide initiatives. This organization has direct ownership of several initiatives and oversees progress of all fleet improvement initiatives. A full-time senior executive (Director Level) has been assigned to manage this organization.

1
2 Nuclear Fleet Improvement Program has established a formal Program Management Office
3 ("PMO") to monitor and support the current portfolio of fleet improvements. OPG has retained
4 the services of ScottMadden to develop monitoring and control processes to be used by the
5 PMO. The PMO is staffed and managed as recommended by ScottMadden, including
6 implementation of the following PMO processes:

- 7
8 • Performance tracking and monitoring
9 • Initiative scope management
10 • Integrated schedule management
11 • Issue management and resolution
12 • Behavior change management
13 • Communication management
14

15 Each initiative owner tracks the progress of his or her initiative for the NFI organization. The
16 NFI organization has direct access to the Chief Nuclear Officer to ensure that adjustments
17 are made to business unit priorities to ensure the initiatives remain on track for the desired
18 results. Of the original 33 initiatives, five are now complete, six were folded into other
19 initiatives; and three were either cancelled due to a low return on investment or in one case,
20 directly incorporated into base work.

21
22 The top seven initiatives have adopted the "hybrid" project management organization
23 structure recommended by ScottMadden. Each initiative is led by a full-time Initiative Owner
24 (centrally driven) and is staffed with representatives from the three stations (line driven).
25

26 The progress of the top seven initiatives is monitored using 23 milestones approved by the
27 CNO. To date, six of these milestones have been completed on or ahead of schedule and all
28 others are on track or ahead of schedule.

Board Staff Interrogatory #063

Ref: Ex. F5-T1-S2, page 36

Issue Number: 6.5

Issue: Has OPG responded appropriately to the observations and recommendations in the benchmarking report?

Interrogatory

In section 4.6, another Observation of ScottMadden is *“At the time this report was prepared OPGN had incorporated the 33 initiatives into the business plans but had not yet established a formal implementation strategy.”* The initiatives and gap-based planning are discussed in the application but there seems to be no discussion of a formal implementation strategy to achieve the plan discussed in the application. Has OPG established a formal implementation strategy? If so, please explain that strategy. If not, please explain why.

Response

Please see response to Ex. L-01-062.

Board Staff Interrogatory #064

Ref: Ex. F5-T1-S2, page 37

Issue Number: 6.5

Issue: Has OPG responded appropriately to the observations and recommendations in the benchmarking report?

Interrogatory

In section 4.6 of the Phase 2 Benchmarking Report it discusses how there can be too little accountability or consequences if initiatives are not implemented successfully and on time. OPG notes on page 13 of F2-T1-S1 *"Another step undertaken was to build management accountability for the timely implementation of the improvement initiatives into Nuclear's 2010 scorecard, which is the basis for the annual incentive plan payout."* Given the importance of these initiatives, please elaborate on the consequences in terms of incentive plan payout if a certain initiative that OPG has included in its business plan is not implemented successfully and/or business plan targets are not met; i.e., for those directly accountable, how much of the incentive payout will either successful or unsuccessful implementation constitute (e.g., 25%, 50%)? Please also explain if such consequences would be limited to reducing the incentive payout.

Response

To the extent that Business Plan targets are part of the scorecard system, they will impact the awards under the incentive plan. The Annual Incentive Plan ("AIP") for 2010 is based on Corporate, Fleet and Individual performance against a set of objectives outlined in scorecards. The Corporate scorecard result sets the total budget available for specific awards. The Fleet results impact their proportion of the Corporate total and then individual scores determine the award given to any employee.

The scorecards prescribe the weighting of various initiatives and activities, which vary across the Corporate, Fleet and individual documents. For the Nuclear organization specifically, 20 per cent of the 2010 Nuclear Scorecard is related to meeting milestones within the seven key Initiatives. Another 50 per cent of the Nuclear Scorecard includes business plan targets for several benchmark indicators, such as Generation, OM&A and Capital Costs, All Injury Rate, Accident Severity Rate and Collective Radiation Exposure. The extent to which individual scorecard weighting is based on business plan targets varies depending on an individual's level and the influence that he or she has on achieving these targets. However, the AIP model ensures that individual remuneration is subject to meeting both Corporate and Nuclear Scorecard targets.

Filed: 2010-08-12
EB-2010-0008
Issue 6.5
Exhibit L
Tab 1
Schedule 064
Page 2 of 2

- 1 The consequences of good or poor performance are not limited to the impact on the
- 2 incentive plan, but affect other management decisions such as promotions and work
- 3 assignments.

SEC Interrogatory #028

Ref: Ex. F2-T1-S1, page 14

Issue Number: 6.5

Issue: Has OPG responded appropriately to the observations and recommendations in the benchmarking report?

Interrogatory

Has OPG or the CANDU Owners Group undertaken any studies which compare the costs CANDU technology as compared to other nuclear generating technologies? If so please provide these studies.

Response

No, OPG has not undertaken any studies to compare the costs of CANDU technology to other nuclear generating technologies and is unaware of any such studies undertaken by the CANDU Owners Group.

SEC Interrogatory #029

Ref: Ex. F2-T1-S1, Attachment 8, Darlington Benchmark Targets

Issue Number: 6.5

Issue: Has OPG responded appropriately to the observations and recommendations in the benchmarking report?

Interrogatory

The targeted benchmark for Total Generating Costs per Net MWh, is \$35.70 and \$36.69 for 2011 and 2012 for the Darlington GS. Please provide the rationale for selecting benchmarks approximately 19% above 22% above the achieved benchmark for Darlington in 2008? Please also provide the inflation assumptions that were used to set the 2011 and 2012 benchmarks.

Response

The actual Total Generating Costs/MWh in 2008 for Darlington was \$31.56, and excludes Other Post Employment Benefit ("OPEB") costs. The Electric Utility Cost Group ("EUCG") database from which this value is taken excludes OPEB costs when calculating Total Generating Cost. OPG's targeted Total Generating Costs/MWh benchmark for Darlington for 2011 and 2012 of \$35.70 and \$36.69 includes OPEB costs for business planning. To provide a more appropriate and accurate comparison, the target Total Generating Costs/MWh for 2011 and 2012 excluding OPEB costs is \$34.21 and \$35.14. The annual targets set for 2011 and 2012 are therefore 8.4 per cent and 11.3 per cent higher than the 2008 performance, not 19 per cent and 22 per cent.

The annual targets for 2011 and 2012 were set above the performance achieved in 2008 to recognize industry inflation. As explained below, the overall industry inflation assumption is for Total Generating Costs to increase by approximately 4 per cent per annum. Darlington's projected increase of 8.4 per cent over three years and 11.33 per cent over four years is therefore reasonable when benchmarked against these industry projections.

During the target setting process (Ex. F2-T1-S1, page 13) industry "inflation" assumptions were derived by ScottMadden and applied to the 2014 industry targets based on historical escalation rates derived from the Electric Utility Cost Group ("EUCG") database. Industry Non-fuel costs were escalated approximately 4.5 per cent per annum, fuel costs by 7.2 per cent per annum, and capital costs by 1.33 per cent per annum based on the EUCG historical data. This equates to an annual increase in Total Generating Costs of approximately 4 per cent.

The four components that make up Total Generating Costs (Total Non-fuel Operating Costs; Fuel Costs; Capital Costs and Net Electrical Production) and their respective 2008, 2011 and

2012 amounts for Darlington Generating Station can be found in the table below. As shown in the table, Total Non-fuel Operating Costs, Fuel Costs and Capital Costs are increasing, while Net Electrical Production is flat.

Total Non-fuel Operating Costs consist of station costs (inclusive of Nuclear support costs), corporate cost allocations and pension burden costs. For these items, Darlington Generating Station's costs are targeted to reduce from the 2008 levels by 9 per cent and 7 per cent in 2011 and 2012, respectively, offset by increases in corporate cost allocations and pension burden costs. Fuel costs from inventory are projected to increase as discussed in Ex. F2-T5-S1. The increase in Darlington Generating Station capital costs is based on an increase projected allocation from the fixed capital portfolio and align with the assumption that more capital will be invested in Darlington Generating Station as it ages and less in Pickering Generating Station as it nears its end of life (see Ex. L-11- 015).

Darlington	2008	2011	2012
Total Non-Fuel Operating Costs (k\$) [Note 1]	718,895	722,186	737,420
Fuel Costs (k\$)	91,080	134,426	145,646
Capital Costs (k\$)	101,887	130,757	136,014
Total Generating Costs (k\$) ¹	911,862	987,370	1,019,081
Net Electrical Production Target (TWh)	28.89	28.86	29.00
Total Non-Fuel Operating Costs per Net MWh (\$/MWh) ¹	\$ 24.88	\$ 25.02	\$ 25.43
Fuel Costs per Net MWh (\$/MWh)	\$ 3.15	\$ 4.66	\$ 5.02
Capital Costs per MW DER (k\$/MW DER)	\$ 29.01	\$ 37.23	\$ 38.73
Total Generating Costs per Net MWh (\$/MWh) ¹	\$ 31.56	\$ 34.21	\$ 35.14

Note 1: Excludes OPEB costs

SEC Interrogatory #030

Ref: Ex. F2-T1-S1, Attachment 1

Issue Number: 6.5

Issue: Has OPG responded appropriately to the observations and recommendations in the benchmarking report?

Interrogatory

- a) Please provide an explanation as to why the Darlington GS FLR targets for 2011 and 2012 were chosen at 63 per cent above the achieved 2008 rate.
- b) What would be the incremental revenue (at the proposed rates) if it were assumed Darlington GS had an FLR rate remain unchanged from that achieved in 2008 (i.e. .93).

Response

- a) The Interrogatory refers to Ex. F2-T1-S1, Attachment 1 that shows a 2-year rolling average Force Loss Rate ("FLR") of 0.93 per cent for Darlington Generating Station in 2008. As shown in Ex. E2-T1-S2, Table 1c, Darlington's FLR targets for 2011 and 2012 are 1.50 per cent in each year. These are one year targets and not rolling averages.

The chart below shows actual yearly FLRs from 2005 – 2009 for Darlington Generating Station.

Year	FLR (%)
2005	1.3
2006	3.2
2007	1.1
2008	0.7
2009	1.6
5 Yr Average	1.6

Darlington Generating Station was able to achieve very impressive FLR performance in 2008. However, as the chart indicates, that performance has not been consistently achieved over the past five years.

Darlington 2011 and 2012 FLR targets were based on projected improvements in plant health and human performance factors which is expected to result in Darlington's FLR continuing to be better than CANDU median performance. The 2011 and 2012 FLR targets reflect these multi-year improvement plans and expected performance in these areas.

- 1 b) Incremental revenue for 2011 and 2012 would be approximately \$10.3M per year based
- 2 on a 0.17 TWh per year increase in generation resulting from an FLR of 0.93 per cent
- 3 versus the 1.5 per cent FLR target.

SEC Interrogatory #031

Ref: Ex. F2-T1-S1, page 8
Ex. F2-T1-S1, Attachment 8

Issue Number: 6.5

Issue: Has OPG responded appropriately to the observations and recommendations in the benchmarking report?

Interrogatory

For the following benchmarks: Forced Loss Factor; Unit Capability Factor; Total Generating Costs per Net MWh; Non-Fuel Operating Costs; Capital Costs per MW DER; please create a table which compares the 2008 median and OPG's achieved benchmarks (shown at F2-T1-S1: pg 8) to the corporate benchmarks established on February 18, 2010. Please have the table show the percentage change from the median and achieved benchmarks to the target benchmarks for 2011 and 2012. Please explain the rationale for any of the target benchmarks that are 5% above either 2008 level.

Response

See Attachment 1.

Attachment A

2008 Benchmarking Results vs. 2011 Targets							2008 Benchmarking Results vs. 2012 Targets						
Metric	2008 Actuals (Rolling Average)		2011 Targets (Annual)				Metric	2008 Actuals (Rolling Average)		2012 Targets (Annual)			
	Median	Pickering A	Pickering A	Pickering A % Variance from Median Benchmark	Pickering A % Variance from Actual 2008 Results to Target			Median	Pickering A	Pickering A	Pickering A % Variance from Median Benchmark	Pickering A % Variance from Actual 2008 Results to Target	
Forced Loss Factor	3.79	37.90	7.00	85%	-82%	Targeting an 82% improvement in FLR is considered a significant improvement	Forced Loss Factor	3.79	37.90	5.00	32%	-87%	Targeting an 87% improvement in FLR is considered a significant improvement
Unit Capability Factor	84.31	56.60	82.55	-2%	46%	Targeting a 46% increase in capability factor is considered a significant improvement	Unit Capability Factor	84.31	56.60	85.27	1%	51%	Targeting a 51% increase in capability factor is considered a significant improvement
Total Generating Costs per Net MWh	32.31	92.27	72.99	126%	-21%	Targeting a 21% decrease in Total Generating Cost is considered a significant improvement with escalation rates approximately 4% per annum	Total Generating Costs per Net MWh	32.31	92.27	71.30	121%	-23%	Targeting a 23% decrease in Total Generating Cost is considered a significant improvement with escalation rates approximately 4% per annum
Non-Fuel Operating Costs per Net MWh	21.28	82.62	63.37	198%	-23%	Targeting a 23% decrease in Total Generating Cost is considered a significant improvement with escalation rates approximately 4% per annum	Non-Fuel Operating Costs per Net MWh	21.28	82.62	62.38	193%	-25%	Targeting a 25% decrease in Total Generating Cost is considered a significant improvement with escalation rates approximately 4% per annum
Capital Costs per MW DER	46.22	32.07	34.63	-25%	8%	Target is significantly better than median results	Capital Costs per MW DER	46.22	32.07	27.74	-40%	-13%	Target is significantly better than median results
	Median	Pickering B	Pickering B	Pickering B % Variance from Median Benchmark	Pickering B % Variance from Actual 2008 Results to Target			Median	Pickering B	Pickering B	Pickering B % Variance from Median Benchmark	Pickering B % Variance from Actual 2008 Results to Target	
Forced Loss Factor	3.79	18.19	4.50	19%	-75%	Targeting a 75% improvement in FLR is considered a significant improvement	Forced Loss Factor	3.79	18.19	4.00	6%	-78%	Targeting a 78% improvement in FLR is considered a significant improvement
Unit Capability Factor	84.31	73.17	80.98	-4%	11%	Targeting an 11% increase in capability factor is considered a significant improvement	Unit Capability Factor	84.31	73.17	84.72	0%	16%	Targeting an 16% increase in capability factor is considered a significant improvement
Total Generating Costs per Net MWh	32.31	58.68	55.64	72%	-5%	Targeting a 5% decrease in Total Generating Costs is considered a significant improvement with escalation rates approximately 4% per annum	Total Generating Costs per Net MWh	32.31	58.68	54.67	69%	-7%	Targeting a 7% decrease in Total Generating Costs is considered a significant improvement with escalation rates approximately 4% per annum
Non-Fuel Operating Costs per Net MWh	21.28	50.95	48.95	130%	-4%	Targeting a 4% decrease in Total Generating Costs is considered a significant improvement with escalation rates approximately 4% per annum	Non-Fuel Operating Costs per Net MWh	21.28	50.95	47.54	123%	-7%	Targeting a 7% decrease in Total Generating Costs is considered a significant improvement with escalation rates approximately 4% per annum
Capital Costs per MW DER	46.22	32.44	12.25	-73%	-62%	Target is significantly better than median results	Capital Costs per MW DER	46.22	32.44	13.03	-72%	-60%	Target is significantly better than median results
	Median	Darlington	Darlington	Darlington % Variance from Median Benchmark	Darlington % Variance from Actual 2008 Results to Target			Median	Darlington	Darlington	Darlington % Variance from Median Benchmark	Darlington % Variance from Actual 2008 Results to Target	
Forced Loss Factor	3.79	0.93	1.50	-60%	61%	Target is significantly better than median results; See Response to IR #30 (a)	Forced Loss Factor	3.79	0.93	1.50	-60%	61%	Target is significantly better than median results; See Response to IR #30 (a)
Unit Capability Factor	84.31	91.99	93.89	11%	2%		Unit Capability Factor	84.31	91.99	94.09	12%	2%	
Total Generating Costs per Net MWh	32.31	30.08	35.70	11%	19%	See Ex. L-12-029	Total Generating Costs per Net MWh	32.31	30.08	36.69	14%	22%	See Ex. L-12-029
Non-Fuel Operating Costs per Net MWh	21.28	25.10	26.52	25%	6%	See Ex. L-12-029	Non-Fuel Operating Costs per Net MWh	21.28	25.10	26.98	27%	8%	See Ex. L-12-029
Capital Costs per MW DER	46.22	18.79	37.23	-19%	98%	See Ex. L-12-029	Capital Costs per MW DER	46.22	18.79	38.73	-16%	106%	See Ex. L-12-029

SEC Interrogatory #032

Ref: Ex. F2-T1-S1, Attachment 8

Issue Number: 6.5

Issue: Has OPG responded appropriately to the observations and recommendations in the benchmarking report?

Interrogatory

OPG has established benchmark targets for the nuclear stations on both total generating costs; and non-fuel operating costs. For Darlington GS a benchmark for 2011 has been established for Total Generating Costs which is 18.7% higher than the actual benchmark achieved by that generating station in 2008 (i.e. \$35.50 MWh vs. \$30.08 MWh). For Non-Fuel Operating Costs the benchmark is only 5.7% higher than the benchmark achieved in 2008 benchmark (i.e. \$26.52 MWh vs. \$25.10 MWh).

- a) Why is there a difference in percentage increase targeted for the fuel vs. non-fuel benchmark?
- b) The percentage difference change between Total Generating Costs and the Non-Fuel Generating Cost target benchmarks and the 2008 achieved benchmarks vary for Darlington, Pickering A, Pickering B (13%, 2.4% and -1.3% for 2011 and 14.5%, 1.8% and -.01% for 2012 respectively). Please explain this apparent inconsistency in fuel vs. non-fuel benchmark targets...

Response

Please see response to Interrogatory L-12-029.

VECC Interrogatory #013

Ref: Ex. F5-T1-S2, pages 29-30, Figure 15

Issue Number: 6.5

Issue: Has OPG responded appropriately to the observations and recommendations in the benchmarking report?

Interrogatory

For each one of the Recommendations provided by ScottMadden shown in this figure, please indicate whether OPG intends to adopt it or not. For those that OPG does not intend to adopt, please provide reasons.

Response

Figure 15 at Ex. F5-T1-S2, pages 29-30 sets out various recommendations on organization structure. OPG's response to these recommendations is set out below:

RECOMMENDATION	OPG RESPONSE
Clear Accountability for Results <ul style="list-style-type: none">• OPG demonstrates alignment with principle of the clear responsibility.• Accountability for certain nuclear oversight functions should be clarified and documented using the GOSP framework.	<ul style="list-style-type: none">• The first "recommendation" is an observation, which confirms that "OPG demonstrates alignment with the principle of clear responsibility."• OPG adopts the second recommendation. OPG is reviewing the GOSP framework for the reasons set out below under "Adoption of the GOSP Model".
Station-Based Accountability <ul style="list-style-type: none">• OPG demonstrates alignment with principle of the "station-based accountability."	<ul style="list-style-type: none">• This "recommendation" is also an observation, which confirms that "OPG demonstrates alignment with the principle of station-based accountability".
A Strong Plant Manager Focus <ul style="list-style-type: none">• Consider adopting a single Plant Manager model in lieu of the current dual DOM/DWM roles.	<ul style="list-style-type: none">• OPG's position on both these recommendations is set out in Ex. L-1-059.

<ul style="list-style-type: none"> • In light of the change required by the 33 fleet improvement initiatives, it might be best to postpone implementation of this recommendation until 2012 or beyond. 	
<p>Adoption of the GOSP Model</p> <ul style="list-style-type: none"> • Adopt the GOSP model and clearly identify all plant functions in their appropriate designation (<i>govern, oversee, support, perform</i>). • Ensure that managers, supervisors and employees are training in the GOSP concept and appreciate the respective roles and responsibilities. 	<ul style="list-style-type: none"> • OPG is reviewing the GOSP model. As ScottMadden notes in its report, there are several governance frameworks used by leading nuclear fleet operators to help clarify accountabilities. OPG has a well defined governance program in place as confirmed by ScottMadden. OPG intends to continuously improve its governance framework (e.g., by improving accountability for nuclear oversight) and it will consider the GOSP model in that context.
<p>Organization Structured Around Business Needs not Employee Capabilities</p>	<ul style="list-style-type: none"> • ScottMadden did not provide any recommendations on this topic.
<p>Fleet Standardization</p> <ul style="list-style-type: none"> • Develop a “best practice” station organization and staffing model and then apply this model consistently across the fleet. • Examine and address the overly high spans of control in Engineering. • Standardize the organizational nomenclature used at the different sites. • Establish a process for identifying “best practices” across OPGN fleet and then rolling these out to all the stations. 	<ul style="list-style-type: none"> • OPG adopts all four of these recommendations. Initiatives to implement them include addressing spans of control in Engineering as part of the En-02 Engineering Value for Money initiative, and improvements to the effectiveness of peer teams who are tasked with identifying opportunities for fleet wide initiatives (see Ex. L-14-016).

VECC Interrogatory #014

Ref: Ex. F5-T1-S2, pages 31-32

Issue Number: 6.5

Issue: Has OPG responded appropriately to the observations and recommendations in the benchmarking report?

Interrogatory

Please indicate OPG's views with respect to adopting the three benchmarking "Related Recommendations."

Response

OPG has adopted the three benchmarking "Related Recommendations" from Ex F5-T1-S2 pages 31-32 that are reproduced below.

1. Update the OPG Nuclear Benchmarking Report in 2010 using the procedure prepared by the joint ScottMadden/OPG team.
2. Begin this process as early as possible so that the results of the benchmarking analysis are available to the planning team for target setting early in the 2010 business planning cycle
3. Assign a single point of accountability for reporting OPG data to EUCG, WANO and other outside organizations. This will help improve data quality and consistency of presentation.

VECC Interrogatory #015

Ref: Ex. F5-T1-S2, page 32

Issue Number: 6.5

Issue: Has OPG responded appropriately to the observations and recommendations in the benchmarking report?

Interrogatory

Please provide OPG's views with respect to adopting the two target setting "Related Recommendations."

Response

OPG has adopted the two target setting "Related Recommendations" found on Ex. F5-T1-S2 page 32 and set out below:

1. When the OPG Nuclear Benchmarking Report is updated in 2010, analyze the new benchmarks and use them to establish operational and financial performance targets for 2015.
2. Through a process of continuous improvement, continue closing the gap to "best quartile" industry performance for all metrics and at all sites as additional years are added to the rolling five-year plan.

VECC Interrogatory #016

Ref: Ex. F5-T1-S2, page 34

Issue Number: 6.5

Issue: Has OPG responded appropriately to the observations and recommendations in the benchmarking report?

Interrogatory

Please provide OPG's views with respect to adopting the three fleet-wide improvement initiatives "Related Recommendations."

Response

OPG has adopted the three fleet-wide improvement initiatives "Related Recommendations" found on Ex F5-T1-S2, page 34, except for the expansion of the number of peer teams. OPG does not believe more peer teams will improve performance until changes are made in the way existing teams are managed. In that regard, OPG has revised peer team governance to ensure all levels of leadership are engaged in the improvement process. A director is now accountable to Nuclear Executive Committee ("NEC") and the Chief Nuclear Officer ("CNO") for peer team performance. Performance reporting has been revised to ensure consistency with US peers.

In addition, the role of certain peer teams has been augmented by the Nuclear Improvement Organization. For example, the days-based maintenance initiative now has a dedicated team lead managing the initiative on behalf of the maintenance peer team. This hybrid project structure ensures the initiative remains on track even when faced with obstacles, and helps maintenance managers remain focused on core business.

VECC Interrogatory #017

Ref: Ex. F5-T1-S2, page 35

Issue Number: 6.5

Issue: Has OPG responded appropriately to the observations and recommendations in the benchmarking report?

Interrogatory

Please provide OPG's views with respect to adopting the two site and support business unit plans "Related Recommendations."

Response

OPG has adopted the two site and support business unit benchmarking "Related Recommendations" found on Ex. F5-T1-S2, page 35 and set out below:

1. Incorporate gap-based business planning into the business planning processes for all subsequent years.
2. Begin the process early enough so that fleet-wide and site/support unit improvement initiatives are identified prior to the beginning of the summer vacation period.

VECC Interrogatory #018

Ref: Ex. F5-T1-S2, page 35

Issue Number: 6.5

Issue: Has OPG responded appropriately to the observations and recommendations in the benchmarking report?

Interrogatory

Please provide OPG's views with respect to adopting the two adoption of gap-based business planning "Related Recommendations."

Response

OPG has adopted the two gap-based business planning "Related Recommendations" found on Ex. F5-T1-S2, page 35 and set out below:

1. As noted earlier, incorporate gap-based business planning into the business planning process for all subsequent years.
2. Ensure ongoing reinforcement of senior management commitment through active communication and participation.

VECC Interrogatory #019

Ref: Ex. F5-T1-S2, pages 38-40

Issue Number: 6.5

Issue: Has OPG responded appropriately to the observations and recommendations in the benchmarking report?

Interrogatory

Please provide OPG's views with respect to adopting the five plan execution and monitoring "Related Recommendations."

Response

OPG has adopted all of the five plan execution and monitoring "Related Recommendations" on Ex. F5-T1-S2, page 38-40.

Four of the recommendations are discussed in response to Interrogatory L-01-062. These are:

- At the program level, establish a formal organization structure to oversee and coordinate the high impact, most difficult improvement initiatives identified during the planning process.
- Assign a full-time senior executive to lead this organization.
- Establish a Program Management Office ("PMO") to support this executive.
- At the initiative level, adopt a "hybrid" project structure capable of leveraging the best elements of central guidance and support combined with significant line participation and decision making.

With respect to the fifth recommendation:

- Identify and utilize resources (internal and/or external) experienced in managing large organization transformation initiatives to help launch and provide initial support to the fleet improvement executive, the PMO organization, and the initiative teams.

OPG has hired an external consultant (ScottMadden) who is experienced in managing large organization transformation initiatives and who is providing initial support to the Senior Vice President Nuclear Programs and Training and the Director Nuclear Improvement.