AMPCO

February 28, 2014

Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
P.O. Box 2319, 27th Floor
2300 Yonge Street
Toronto, ON M4P 1E4

Re: Ontario Power Generation 2014/2015 Payment Amounts Application
AMPCO's Interrogatories
Board File No. EB-2013-0321

Dear Ms. Walli:

Attached please find AMPCO's interrogatories in the above proceeding.

Please do not hesitate to contact me if you have any questions or require further information.

Sincerely yours,

(ORIGINAL SIGNED)

Adam White
President
Association of Major Power Consumers in Ontario

Encl.

Copies to: OPG
Intervenors

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Ontario Power Generation Inc. (OPG)
2014-2015 Payment Amounts for OPG's Prescribed Facilities

AMPCO Interrogatories

1. GENERAL

1.0-AMPCO-1

Ref: Exhibit A1, Tab 3, Schedule 2 Drivers of Deficiency, Pages 5 & 6
Please update Chart 1 on Page 5 and Chart 2 on Page 6 to reflect the proposed changes identified in the Impact Statement at Exhibit N1, Tab 1, Schedule 1.

1.0-AMPCO-2

Ref: Exhibit A1, Tab 6, Schedule 1, Attachment 3 Proposed Amendment to O. Reg. 53/05

a) Please provide the status of the proposed amendment to O. Reg.53/05.

b) Please discuss OPG's stakeholder consultations regarding the proposed amendments.

1.0-AMPCO-3

Ref: Exhibit A1, Tab 4, Schedule 1, Attachment 2, Memorandum of Agreement

Section E – Communication and Reporting: Please confirm OPG has met Shareholder expectations with respect to communication and reporting.

1.2 Are OPG's economic and business planning assumptions for 2014-2015 appropriate?

1.2-AMPCO-4

Ref: Exhibit A2, Tab 2, Schedule 1, Business Planning and Budgeting

a) Please discuss how the business planning process/instructions that underpin the 2013-2015 business plan (Exhibit A2, Tab 2 Schedule 1, Attachment 1) differ from the business planning process/instructions that underpin the 2014-2016 business plan (Exhibit N1, Tab 1, Schedule 1, Attachment 4).

b) Attachment 1: A Board memorandum "Recommendation for submission to the Board of Directors" dated May 16, 2013 accompanied the 2013-2015 Business Plan dated May 16, 2013. Please provide the Board memorandum to the Board of Directors that accompanied the 2014-2016 Business Plan dated November 14, 2013 filed at Exhibit N1, Tab 1, Schedule 1, Attachment 4.

c) Please discuss any key aspects of the 2014-2016 business planning process that differ from those in EB-2010-0008.

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d) Page 2 – OPG states it recognizes the impact of its operations on ratepayers and takes into consideration such impacts when setting its business planning targets and guidelines.

Please discuss specifically the process OPG follows to take the impact on rate payers into consideration when developing its plan, setting its targets and determining payment amount increases.

e) Page 3 – OPG employs leading practices in its business planning process. Please summarize specifically what OPG considers to be leading practices.

f) Page 3 – OPG indicates it ensures financial targets are held at an appropriate level of detail in the organization. Please explain this statement more fully and provide examples of how this is implemented in the organization.

g) Page 3 – OPG indicates business planning guidelines (in the areas of capital, OM&A and staff levels) were developed that drive staff reductions. Please confirm the guidelines referenced in the above statement refers to the 2013-2015 Business Planning Instructions filed at Exhibit A2 Tab 2 Schedule 1 Attachment 2. If not, please provide a copy of these business planning guidelines.

h) Page 4 – OPG indicates reductions that were previously planned for 2015 were advanced to 2013, thus helping to manage costs for the 2013 and 2014 period. Please explain more fully and provide details.

i) Page 4 – Please provide more details on how OPG achieves work prioritization across and between business unit plans addresses trade-offs.

j) Page 4 – Please discuss how the significant risks in the 2014-2016 business plan differ from the 2013-2015 business plan.

k) Page 4 – Please confirm when the Province provided final concurrence with the OPG Board-approved 2014-2016 Business Plan.

<u>1.2-AMPCO-5</u>

Ref: Exhibit A2, Tab 2, Schedule 1, Page 2

<u>Preamble:</u> OPG indicates its overall generation capacity will decline by 25 per cent between 2015 and 2020 as the remaining coal units retire and the Pickering nuclear plant ceases operations around 2020.

In considering the above, please discuss OPG's longer term 10 year business plan outlook including emerging issues and proposed spending levels beyond 2016 and include any supporting materials such as memorandums, reports and presentations to OPG's Board of Directors that address this issue.

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1.2-AMPCO-6

Ref: Exhibit A4, Tab 1, Schedule 1, Business Transformation

a) Page 1 – OPG will use attrition to reduce its year-end 2015 staff level by 1,300 employees which is expected to reduce OPG's OM&A by $550 M between 2011 and 2015 attributable to regulated operations.

i) Please restate these employee reductions based on FTEs.

iii) The Auditor General's Report released in December 2013 reviewed OPG's Human Resources and found no direct correlation between Business Transformation initiatives and positions eliminated through attrition. Please discuss.

b) Page 5 – Staff reductions of approximately 1,000 were achieved by the end of 2012, with the 2013-2015 Business Plan targeting the remaining reduction of 1,000 employees.

i) Please provide the actual reductions for 2013 and forecast reductions for 2014 and 2015 and the corresponding savings broken down by regulated and non-regulated.

ii) Please provide any changes in 2014 and 2015 reductions based on the 2014 to 2016 Business Plan.

iii) Please provide the staff reductions planned for 2016.

e) Page 6 – Chart – Trending Hires and Staff Levels - Please provide the actual hires for 2013.

f) Please provide a table that shows FTE vacancies for 2010 to 2013 actuals and forecast for 2014 and 2015.

g) Page 6 – Please provide a description of the 5 new behaviours identified as culture shifts that OPG must accomplish in order to sustain change.

h) Page 6 – Please provide the original and updated OPG Values.

i) Page 8 – For 2013 to 2015 please provide details on the scope of work for external consulting assistance for business transformation and explain how the costs are allocated between regulated and non-regulated.

j) Page 8 – Please provide forecast business transformation costs for 2016 to 2020.

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k) Page 8 – Please discuss if the internal staffing costs for business transformation for the years 2011 to 2015 include new hires.

l) Please summarize the savings resulting from Business Transformation activities from 2010-2015.

1.2-AMPCO-7

Ref: Exhibit A1, Tab 5, Schedule 1

Preamble: OPG provides its Corporate Organizational Chart

a) Please provide the date of the Corporate Organizational Chart.

b) Does the Corporate Organizational Chart reflect the full outcome of Business Transformation?

1.4 Is the overall increase in 2014 and 2015 revenue requirement reasonable given the overall bill impact on customers?

1.4-AMPCO-8

Ref: Exhibit A2, Tab 2, Schedule 1, Business Planning and Budgeting, Page 5

Preamble: The evidence states "OPG also considers the economic climate, including trends in electricity costs and consumers' ability to pay, in its business planning activities".

a) Please provide a detailed explanation of the how OPG considers trends in electricity costs and consumers' ability to pay in its business planning activities and include any analysis and public consultation activities OPG relies upon to support this statement.

1.4-AMPCO-9

Ref: General

In OPG's view, do the proposed Payment Amounts represent recovery of an efficient and reasonable level of costs for customers and if so why.

1.4-AMPCO-10

Ref: Exhibit N1, Tab 1, Schedule 1, Page 19 Darlington Approvals

Preamble: OPG indicates it is not seeking approvals of the higher levels of OM&A expense or in-service additions.

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Please confirm the impact of this approach in terms of test period revenue requirement.

2. RATE BASE

2.1 Are the amounts proposed for rate base appropriate?

2.1-AMPCO-11

Ref: Exhibit B3-T1-S1 Table 1

Preamble: Asset retirement costs represent a substantial portion of the net book value of Pickering, Darlington, and Bruce Nuclear Facilities. In Exhibit B3 Tab 1 Schedule 1 Table 1, OPG provides the Gross Asset Retirement Costs as a whole. Given ARC is calculated at a Program Level and a Plant Level, please complete the table below by providing Asset Retirement Costs by Nuclear facility and by nuclear decommissioning and waste management program.

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Table 1
Prescribed Facility Rate Base -Gross Asset Retirement Costs ($M)

Line No.		Pickering A	Pickering B	Darlington	Total
		(a)	(b)	(d)	(e)
	December 31, 2010 Actual				
1	**Decommissioning Program**				
2	**Low and Intermediate Level Waste Storage Program**				
3	**Lower and Intermediate Level Waste Disposal Program**				
4	**Used Fuel Disposal Program**				
5	**Used Fuel Storage Program**				
6	**Total**				2,676.9
	December 31, 2011 Actual				
7	**Decommissioning Program**				
8	**Low and Intermediate Level Waste Storage Program**				
9	**Lower and Intermediate Level Waste Disposal Program**				
10	**Used Fuel Disposal Program**				
11	**Used Fuel Storage Program**				
12	**Total**				2,676.9
	December 31, 2012 Actual				
13	**Decommissioning Program**				
14	**Low and Intermediate Level Waste Storage Program**				
15	**Lower and Intermediate Level Waste Disposal Program**				
16	**Used Fuel Disposal Program**				
17	**Used Fuel Storage Program**				
18	**Total**				3,116.1
	December 31, 2013 Budget				
19	**Decommissioning Program**				
20	**Low and Intermediate Level Waste Storage Program**				
21	**Lower and Intermediate Level Waste Disposal Program**				
22	**Used Fuel Disposal Program**				
23	**Used Fuel Storage Program**				
24	**Total**				2,839.2
	December 31, 2013 Actual				
25	**Decommissioning Program**				
26	**Low and Intermediate Level Waste Storage Program**				
27	**Lower and Intermediate Level Waste Disposal Program**				
28	**Used Fuel Disposal Program**				
29	**Used Fuel Storage Program**				
30	**Total**				
	December 31, 2014 Plan				
31	**Decommissioning Program**				
32	**Low and Intermediate Level Waste Storage Program**				
33	**Lower and Intermediate Level Waste Disposal Program**				
34	**Used Fuel Disposal Program**				
35	**Used Fuel Storage Program**				
36	**Total**				2,839.2
	December 31, 2015 Plan				
37	**Decommissioning Program**				
38	**Low and Intermediate Level Waste Storage Program**				
39	**Lower and Intermediate Level Waste Disposal Program**				
40	**Used Fuel Disposal Program**				
41	**Used Fuel Storage Program**				
42	**Total**				2,839.2

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2.1-AMPCO-12

Ref: Exhibit B3, Tab 1, Schedule 1, Table 1

Preamble: In Exhibit B3 Tab 1 Schedule 1 Table 1, OPG provides the "Less: Accumulated Depreciation and Amortization" of the Asset Retirement Costs as a whole. Given ARC is calculated at a Program Level and a Plant Level, please complete the table below by providing the "Less: Accumulated Depreciation and Amortization" of the Asset Retirement Costs by Nuclear facility and by nuclear decommissioning and waste management program.

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Table 2

Prescribed Facility Rate Base -Less: Accumulated Deprreciation and Amprtization - Asset Retirement Costs ($M)

Line No.		Pickering A	Pickering B	Darlington	Total
		(a)	(b)	(d)	(e)
	December 31, 2010 Actual				
1	**Decommissioning Program**				
2	**Low and Intermediate Level Waste Storage Program**				
3	**Lower and Intermediate Level Waste Disposal Program**				
4	**Used Fuel Disposal Program**				
5	**Used Fuel Storage Program**				
6	**Total**				1,159.2
	December 31, 2011 Actual				
7	**Decommissioning Program**				
8	**Low and Intermediate Level Waste Storage Program**				
9	**Lower and Intermediate Level Waste Disposal Program**				
10	**Used Fuel Disposal Program**				
11	**Used Fuel Storage Program**				
12	**Total**				1,186.9
	December 31, 2012 Actual				
13	**Decommissioning Program**				
14	**Low and Intermediate Level Waste Storage Program**				
15	**Lower and Intermediate Level Waste Disposal Program**				
16	**Used Fuel Disposal Program**				
17	**Used Fuel Storage Program**				
18	**Total**				1,265.0
	December 31, 2013 Budget				
19	**Decommissioning Program**				
20	**Low and Intermediate Level Waste Storage Program**				
21	**Lower and Intermediate Level Waste Disposal Program**				
22	**Used Fuel Disposal Program**				
23	**Used Fuel Storage Program**				
24	**Total**				1,369.0
	December 31, 2013 Actual				
25	**Decommissioning Program**				
26	**Low and Intermediate Level Waste Storage Program**				
27	**Lower and Intermediate Level Waste Disposal Program**				
28	**Used Fuel Disposal Program**				
29	**Used Fuel Storage Program**				
30	**Total**				
	December 31, 2014 Plan				
31	**Decommissioning Program**				
32	**Low and Intermediate Level Waste Storage Program**				
33	**Lower and Intermediate Level Waste Disposal Program**				
34	**Used Fuel Disposal Program**				
35	**Used Fuel Storage Program**				
36	**Total**				1,449.7
	December 31, 2015 Plan				
37	**Decommissioning Program**				
38	**Low and Intermediate Level Waste Storage Program**				
39	**Lower and Intermediate Level Waste Disposal Program**				
40	**Used Fuel Disposal Program**				
41	**Used Fuel Storage Program**				
42	**Total**				1,530.4

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4. CAPITAL PROJECTS

Regulated Hydroelectric

4.2 Are the proposed regulated hydroelectric capital expenditures and/or financial commitments reasonable?

4.2-AMPCO-13

Ref: Exhibit D1, Tab 1, Schedule 1, Regulated Hydroelectric Capital Expenditures

a) Page 3 – OPG indicates that for R.H. Saunders Generating Station, two projects (replacement of powerhouse crane and station service equipment) account for $11.4 M of the $13.6 M in test period capital expenditures for this station.

   Please provide a table reference for these expenditures.

b) Page 7 – Please provide a description of period-over period changes 2013 Actual vs. 2013 Budget.

c) Page 8 – Niagara Plant Group – Please explain the reasons for the higher than planned spending on Sir Adam Beck I G3 Upgrade in 2012 and provide the amount of cost over-run.

d) Page 16 – How does OPG define a "major strategic project" in order to determine when a comprehensive Post Implementation Review is required.

4.2-AMPCO-14

Ref: Exhibit D1, Tab 1, Schedule 2, Capital Projects Regulated Hydroelectric

a) Table 7 – For the projects listed in the Table, please provide the Total Project Cost Budget ($) and Total Project Cost Actual $.

4.2-AMPCO-15

Ref 1: EB-2010-0008 Exhibit D1, Tab 1, Schedule 2, Table 1
Ref 2: EB-2013-0321 Exhibit D1, Tab 1, Schedule 2, Page 4

Preamble: Reference 1 shows the Sir Adam Beck 1 GS Unit 10 Upgrade project (SAB10050) with a start date of 2012, a final in-service date of December 2014 and a total project cost of $29.5 M. Reference 2 indicates the project is estimated at $25.6 M with a commencement date of 2014 and a projected in-service date of June 2015. This project was deferred to allow more time to confirm project scope.

a) Please explain what additional activities needed to be undertaken to confirm project scope.

4.4 Do the costs associated with the Niagara Tunnel Project that are subject to section 6(2)4 of O. Reg. 53/05 and proposed for recovery, meet the requirements of that section?

<u>4.4-AMPCO-16</u>

Ref: Exhibit D1, tab 2, Schedule 1 Niagara Tunnel Project (NTP)

a) Pages 24 – OPG indicates the five proponents were invited to present their views in a 2004 meeting with OPG on the Geotechnical Baseline Report (GBR) provided.

   Please summarize Strabag AG's comments or concerns related to the GBR and how they were considered by OPG.

b) Page 25 – OPG indicates that in Ed. Zublin AG's view, building such a large tunnel would be a significant challenge.

   Please identify any challenges identified by Ed. Zublin AG related to the subsurface conditions and how they were considered by OPG.

c) Page 28 – OPG estimated a $96 M cost contingency and 36 week schedule contingency for the tunnel portion of Strabag AG's proposal to achieve a 90 per cent probability that the project would remain within budget and schedule.

   Please discuss how OPGs contingencies for the tunnel portion of the other four proponents differed from Strabag AG's and why.

d) Page 28 – OPG indicates five amendments to the invitation documents were issued in response to issues raised by the proponents.

   Please indicate if any amendments were related to issues raised regarding the GBR and subsurface conditions.

e) Page 29 - As part of the RFP process proponents were asked to include a response to the GBR. The RFP score for the response to the GBR was 45 points which represented 9% of the RFP evaluation.

   Please summarize Strabag AG's response to the GBR.

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f) Page 45 – OPG indicates the subsurface risks were investigated and analyzed by Acres and Hatch.

Please provide this analysis.

g) Page 113 –Chart 6 Cost Changes between the DBA and the ADBA – The Chart shows a variance of $614.8 M.

i) Please provide the percentage of the variance that is associated with the cost overrun due to the adverse subsurface condition issue.

ii) Please add a column to the Chart that shows a breakdown of the costs associated with the adverse subsurface condition issue.

h) Page 129 – OPG concludes that the entire amount of project costs should be recovered by ratepayers.

Please discuss if OPG considered any cost sharing arrangements regarding the $614.8 M in additional costs compared to the original budget as shown in Chart 6 on Page 113.

4.5 Are the proposed test period in-service additions for the Niagara Tunnel Project appropriate?

4.5-AMPCO-17

Ref: Exhibit D1, Tab 2, Schedule 1

a) Page 3 – OPG indicates capital costs totalling $1,424.9 M were placed in-service in March 2013 and an additional $49.3 M of capital costs are forecast to be incurred and placed in-service by the end of November 2013.

Please provide the actual 2013 in-service additions related to the NTP.

Nuclear

4.7 Are the proposed nuclear capital expenditures and/or financial commitments reasonable?

4.7-AMPCO-18

Ref: Exhibit D2, Tab 1, Schedule 1 Project and Portfolio Management – Nuclear

a) Page 2 Chart 1 – OPG provides total nuclear operations project portfolio expenditures (annual capital and project OM&A).

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Please add a column for 2013 actuals.

b) Page 5 – Please confirm when the Engineering Procure and Construct (EPC) model was implemented.

c) Page 6 – Please explain further OPG's success in negotiating lower labour rates with its vendors and the savings for 2010-2013.

4.7-AMPCO-19

Ref 1: Exhibit D3, Tab 1, Schedule 2, Table 3
Ref 2: Exhibit D3, Tab 1, Schedule 2, Page 4

a) At reference 1, Table 3 provides aggregated information for Tier 3 projects with a cost less than $5 M. At Reference 2, OPG provides a list of initiatives that include IT projects for common assets that are charged to regulated operations through an asset service fee.

Please explain how these projects relate to the costs shown in Table 3.

b) Please provide a complete listing of the projects that make up the in-service additions for 2013, 2014 and 2015 that correspond to lines 1, 2, 3, and 4 in Table 3.

4.7-AMPCO-20

Ref: Exhibit D2, Tab 2, Schedule 1 Darlington Refurbishment Project (DRP)

c) Attachment 5 – Please provide the Board memorandum that accompanied the DRP Business Case Summary November 14, 2013 Revision 1.

d) Page 5 – Please confirm OPG's commitment to adhere to the proposed mitigations with respect to the significant adverse environmental effects identified in the EA Screening Report.

e) Page 15 – Please explain how the revised planning scenario which eliminates the execution overlap between the first and second units contributes to a higher confidence in the refurbishment outcome.

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f) Page 15 – OPG is working on programs to increase its confidence to operate units beyond their normal design life. Please explain the specific programs under development.

g) Page 18 – Re-tube and Feeder Replacements – Please describe the financial incentives for early completion of each unit outage and financial penalties for failure to complete unit outages within the agreed upon schedule.

h) Page 23 – Darlington Energy Complex - Please provide the actual 2013 in-service capital amount.

i) Page 24 – Water and Sewer - Please provide the in-service amounts for 2013.

j) Page 28 – 2012 Capital Costs Variance – Please explain the nature of the delay of several major facilities and infrastructure projects. Please explain what contributed to better defined 2012 cost estimates for the detailed planning activities and discuss any implications moving forward regarding estimating costs.

k) Page 28 – Please provide details on the RFR Island Support Annex Project and Project Refurbishment Office and identify the projects listed in section 7.2 that they are mapped to.

l) Page 29 – Balance in the Capacity Refurbishment Variance Account - Please explain why OPG is not seeking to clear the 2013 variance related to non-capital DRP costs in this proceeding. Please provide the capital cost portion of the actual audited balance as at December 31, 2013 that OPG is seeking to clear.

4.12 Does OPG's nuclear refurbishment process align appropriately with the principles stated in the Government of Ontario's Long Term Energy Plan issued on December 2, 2013?

<u>4.12-AMPCO-21</u>

Ref: Government of Ontario's Long Term Energy Plan (LTEP), Page 30

<u>Preamble:</u> The LTEP indicates that the government will encourage the province's two nuclear operators, Bruce Power and OPG to find ways of finding ratepayer savings through leveraging economies of scale in areas of refurbishment and operations. This could include arrangements with suppliers, procurement of materials, shared training, lessons learned, labour arrangements and asset management strategies.

a) Please demonstrate how OPG's updated 2014-2016 Business Plan (Exhibit N1, Tab 1, Schedule 1) responds to the Government's expectations.

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5. PRODUCTION FORECASTS

Regulated Hydroelectric

5.1 Is the proposed regulated hydroelectric production forecast appropriate?

5.1-AMPCO-22

Ref: Exhibit E1, Tab 1, Schedule 1, Production Forecast Regulated Hydroelectric

a) Page 3 – OPG indicates monthly energy production forecasts for the Sir Adam Beck plants are adjusted for losses based on an assessment of historical model performance. Please explain more fully how losses are accounted for and provide any calculations.

b) Page 3 – With respect to the long-term average incremental energy production from the Niagara Tunnel Project, please provide a breakdown and TWh impact of the specific factors that contribute to the difference between the 2005 figure of 1.555 TWh and the current figure of 1.472 TWH, a difference of 0.083 TWh or 5%.

c) Page 4 – OPG indicates an alternative regulation plan to Regulation Plan 1958-D is currently under review by the International Joint Commission and is expected to be implemented in 2014, if approved. Electricity production is not expected to be significantly affected under the proposed alternative plan.

   Please provide an update on the status of the alternative plan and when it will be approved and implemented in 2014 (if approved). Please discuss the likelihood of the alternative plan being approved.

   Please discuss the differences/deviations between the alternative plan and the existing plan.

   Please explain why production is not expected to be significantly affected under the proposed alternative plan.

5.1-AMPCO-23

Ref: Exhibit N1, Tab 1, Schedule 1, Impact Statement

Preamble: The evidence indicates the updated (increased) previously regulated hydroelectric production forecast for 2014 and 2015 is a result of higher flows forecast for the Niagara and St. Lawrence Rivers.

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a) Page 16 - Please explain the cause of the higher flows in 2014 and 2015 and provide the annual TWh impact associated with each cause.

b) Please provide the monthly production in 2013 related to the NTP.

c) Attachment 4, Page 4 – OPG's 2014-2016 Business Plan – Under Key Planning Assumptions, OPG provides a hydroelectric production forecast broken down by previously and newly regulated hydroelectric for forecast 2013 and business plan 2014 to 2016. AMPCO notes the amounts shown on Page 4 of the 2014-2016 Business Plan for 2014 and 2015 for previously regulated hydroelectric differ from the amounts updated in the Impact Statement (Pages 16-17). Similarly, the amounts for newly regulated hydro shown on Page 4 of the 2014-2016 Business Plan for 2014 and 2015 differ from the amounts shown in Table 1 at Exhibit E1, Tab 1, Schedule 1.

   Please explain these variances.

d) Attachment 4, Page 4 – OPG's 2014-2016 Business Plan – Under Key Planning Assumptions, OPG provides a hydroelectric production forecast that includes 2016.

   Please explain the 2016 forecast compared to 2015 plan.

5.1-AMPCO-24

Ref: Exhibit E1, Tab 1, Schedule 2, Comparison of Production Forecast, Regulated Hydroelectric

a) Page 1 – Please provide the actual total regulated hydroelectric production for 2013 and provide an explanation for 2014 plan (updated) compared to 2013 actual.

b) Page 2 – Please provide a period-over-period changes explanation for 2013 actual compared to 2012 actual.

c) Page 4 – Please explain the reason for lower river flow in 2012 resulting in lower than normal production in 2012.

Nuclear

5.5 Is the proposed nuclear production forecast appropriate?

5.5-AMPCO-25

Ref: Exhibit N1, Tab 1, Schedule 1 Page 13 Impact Statement

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Preamble: OPG indicates that as part of the 2014-2016 Business Plan review its senior management directed generation staff to reassess the plan based on OPG's historical performance (i.e. actual generation has been lower than forecast over the past nine years including 2013).

i) Please provide production data and variance explanations for the years 2005 to 2007.

ii) When did OPG's senior management direct generation staff to reassess the plan? Please provide the typical timing frequency of this review.

5.5-AMPCO-26

Ref: Exhibit N1, Tab 1, Schedule 1 Page 14

Preamble: OPG indicates its generation plan includes allowances and the increase of 28.6 outage days (0.3 TWh) proposed in the Impact Statement is based on an assessment of historical performance which showed that over the 2005 to 2013 period the average annual forced extension to planned outages at Pickering was 82.5 days.

a) Please provide the 2005 to 2013 data.
b) Please provide the average forced extension to planned outages in TWh.
c) Please confirm the allowance in outage days and TWh included in the original nuclear production forecast for Pickering.

5.5-AMPCO-27

Ref: Exhibit N1, Tab 1, Schedule 1 Page 16

Preamble: OPG indicates the reassessment increased the allowance for Darlington planned outages by a total of 22.0 outage days (0.49 TWh) based on an assessment of historical performance over the period was 0.24 TWh. The average annual forced extension to planned outages at Pickering was 82.5 days.

a) Please provide the 2005 to 2013 data.
b) Please provide the average forced extension to planned outages in days.
c) Please confirm the allowance in outage days and TWh included in the original nuclear production forecast for Darlington.

5.5-AMPCO-28

Ref: Exhibit E2, Tab 1, Schedule 1, Table 2

Preamble: Table 2 provides monthly nuclear production forecasts for 2014 and 2015 for Darlington NGS and Pickering NGS.

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a) Please recast the table to show monthly nuclear production budgeted vs. actuals for the years 2010 to 2013 separately for Darlington , Pickering A and Pickering B.

5.5-AMPCO-29

Ref: Exhibit E2, Tab 1, Schedule 1, Table 2

Please compare OPG's nuclear production actuals for 2010 to 2013 compared to the IESO reported actuals for the same years and explain any variances.

5.5-AMPCO-30

Ref: Exhibit E2, Tab 1, Schedule 1 Page 3

Please provide the equivalent TWh for the following outages that OPG has accounted for in its test period production forecast:

- Darlington Vacuum Building Outage in 2015
- Pickering Unit #1 mid-cycle planned outage of 20 days
- Pickering's forecast Forced Loss rate of 7.8% in 2014 and 5.5% in 2015
- Darlington's Forced Loss Rate of 1.3% in 2014 and 1.0% in 2015

5.5-AMPCO-31

Ref: Exhibit N1, Tab 1, Schedule 1, Page 14

Preamble: OPG indicates that the updated production forecast for Pickering for 2014 and 2015 in the 2014-2016 Business Plan shows a 1.0 TWh reduction in generation compared to the 2013-2015 Business Plan, due to an increase of 86.6 planned outage days over the two-year period:

Please provide the equivalent TWh for the following:

- Pickering Unit #5 additional 23 day mid-cycle outage in 2014
- Deferral of 2013 Pickering Unit #4 outage to January 2014
- Deferral of 2015 Unit #4 outage to 2016
- Additional 28 day 2015 mid-cycle outage to support 2016 targeted reduction in FLR to 5%

5.5-AMPCO-32

Ref: Exhibit N1, Tab 1, Schedule 1, Page 15

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Preamble: OPG indicates that the updated production forecast for Darlington for 2014 and 2015 in the 2014-2016 Business Plan shows a 1.6 TWh reduction in generation compared to the 2013-2015 Business Plan, due to an increase of 61.9 planned outage days over the two-year period:

Please provide the equivalent TWh for the following:

a) 39 additional planned outage days for VBO in 2015

5.5-AMPCO-33

Ref: Exhibit N1, Tab 1, Schedule 1, Page 16

a) Please confirm the total allowances in the production forecast for 2014 and 2015 separately for Darlington and Pickering.

6. OPERATING COSTS

Regulated Hydroelectric

6.1 Is the test period Operations, Maintenance and Administration budget for the regulated hydroelectric facilities appropriate?

6.1-AMPCO-34

Ref: Exhibit F1, Tab 4, Schedule 1 Gross Revenue Charge and Other Water Agreement Costs

Preamble**:** Ontario Regulation 124/02 allows deductions to GRC for eligible capacity of new, redeveloped or upgraded stations. OPG is preparing an application to the Ministry of Natural Resources (MNR) for a GRC deduction pertaining to production increases at the Sir Adam Beck plants as a result of the new Niagara Tunnel. Until approval is received, GRC is at the full rate and no deduction has been included in the calculation of GRC costs.

a) Please provide an update on the status of the application and provide the GRC deduction amount that OPG has applied for.

b) Please explain why timing of the approval is so uncertain.

c) Please explain why the application was not submitted earlier to MNR to allow for the GRC deduction to be applied during the test period.

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6.1-AMPCO-35

Ref: Exhibit F1, Tab 5, Schedule 1, Chart 1

a) Please provide the Total 2013 spend.

b) Please confirm the purchased services that only have spending in the test years.

6.2 Is the benchmarking methodology reasonable? Are the benchmarking results and targets flowing from those results for the regulated hydroelectric facilities reasonable?

6.2 -AMPCO-36

Ref: Exhibit F1, tab 1, Schedule 1, Page 5

a) Please include 2013 Target and/or 2013 Actual in the charts 1a, 1b, Chart 2c and Chart 2d.

b) Page 18 – Chart 4 - Please provide the unit energy cost for 2012.

c) Page 18 –Chart 4 – Please explain why SAB II has moved from Q1 in 2009 to Q2 in 2011.

d) Page 18 – Chart 4 – Please explain why SAB I moved from the lower range of Q4 in 2009 to the upper range of Q4 in 2011.

e) Page 9 – please explain why the combined (total Hydroelectric) plant met the AIR targets in 2010 and 2012 but not in 2011.

Nuclear

6.3 Is the test period Operations, Maintenance and Administration budget for the nuclear facilities appropriate?

6.3-AMPCO-37

Ref: Exhibit F2, Tab 2, Schedule 1 Base OM&A Nuclear Operations

a) Page 13, Table 1 – Please add a column to Table 1 to account for 2012 Actuals.

b) Page 16, Table 2 – Please add a column to Table 2 to account for 2013 Actuals.

6.3-AMPCO-38

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Ref: Exhibit F2, Tab 2, Schedule 1, Table 5 and Table 6

Preamble: At Table 6 line 5 the total for Darlington NGS Site and Support Services is $13.5M in 2012. At Table 5 line 5, the total for Darlington NGS Site and Support Services is $18 M.

a) Please explain the nature of the Business Transformation Transfers in 2013 that explain this increase.

6.3-AMPCO-39

Ref: Exhibit F2, Tab 2, Schedule 1, Table 1

Preamble: Table 1 shows a $37 M increase in Base OM&A Nuclear between 2012 Actual and 2913 Budget.

a) Please explain the specific Business Transformation activities specifically related to Nuclear Engineering, Nuclear Services, Fleet Operation and Maintenance and Security and Energy Services that contribute to this increase.

6.3-AMPCO-40

Ref: Exhibit F, Tab 2, Schedule 2, Page 12, Line 12

Preamble: For 2013 Plan versus 2013 Budget, Pickering Operations (+$14.4M) primarily reflects higher labour costs due to additional Authorized Nuclear Operators in Training (ANOIT) and Nuclear Operators in Training NOIT staff as no NOITs are forecast to be hired in 2013.

a) Please provide how much of the $14.4M is allocated to ANOIT staff and how much to NOIT staff.

b) Please explain why additional ANOIT and NOIT staffs are required in 2014 given nuclear production is forecasted to decrease in 2014 (20.9 TWh Exhibit N1-T1-S1 Page 13 Table 6) relative to 2013 (21.1 TWh Exhibit E2-T1-S1 Table 1 line 2).

c) Please provide Pickering NGS Production for 2013 Actual.

6.3-AMPCO-41

Ref: Exhibit F2-T4-S1 Page 6

Preamble: Darlington units are on a 3 year outage cycle. As a result, there are two unit outages in 2010, and again in 2013. Pickering units are on a 2 year planned outage cycle, such that there are generally

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three units in outage each year. In addition, to increase reliability for units 1 and 4, mid-cycle outages were added from 2012 to 2014.

a) What is the total OM&A costs (allocated by Base OM&A, Outage OM&A, and Project OM&A) associated with Pickering unit 1 and 4 mid-cycle from 2012 to 2014?

b) Assuming Pickering Unit 1 and Unit 4 were still scheduled to retire in 2016, is the mid-cycle outage from 2012 to 2014 still required?

6.3-AMPCO-42

Ref: Exhibit F2, Tab 4, Schedule 1, Page 6

Preamble: A Darlington VBO was last conducted in 2009. The next planned Darlington VBO scheduled for 2021 has been moved forward to 2015, eliminating the need for a scheduled station containment outage in 2015. OPG is seeking CNSC regulatory approval to eliminate the need for SCO's going forward. This will change the requirement of a 4 unit station outage at Darlington from a 6 year cycle to a 12 year cycle. This change will result in planned outage days in 2012 and beyond and will reduce complexity and resource demand during the Darlington Refurbishment Project.

a) What is the status of the CSNC regulatory approval to eliminate the need for SCO's going forward?

b) Assuming the CNSC does NOT approve the elimination of a SCO going forward, when will the next SCO be scheduled for?

c) Does the Darlington NGS refurbishment have an impact on future VBO schedules?

6.3-AMPCO-43

Ref: Exhibit F2, Tab 4, Schedule 2, Page 2

Preamble: OPG's 2013 Budget Versus 2012 Actual Explanation: "Outage OM&A expenditures in 2013 are forecast to increase (+96.7M) from the 2012 actual. The main drivers of this increase are the impact of Darlington's 3 year outage cycle requiring two outages in 2013 versus one unit in 2012, and additional inspection and maintenance work, and preparatory work for the 2015 Darlington VBO. Pickering's Outages costs decrease slightly due to reduced work related to Continued Operations (-$7.9M)

a) Please provide explanation on why Nuclear Support Division increased (+$49.6M a variance of 75%) from 2012 actual to 2013 budget?
b) Please provide explanation on why nuclear support division is $90M in 2014 Plan? Please explain increase since 2012?
c) According to AMPCOs understand Darlington NGS is planning a VBO in 2015. In 2009 during Darlington NGS VBO, Nuclear Support Division was only $8M. Please provide explanation on my Nuclear Support Division is $110.3 in 2015 Plan?

6.3-AMPCO-44

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Ref: Exhibit F2, Tab 4, Schedule 1, Table 3

a) Please explain Pickering NGS Outage OM&A increase of +$9.3M, variance of 150 percent increase, in non-Regular Labour from Budgeted Board Approved 2011 to Actual 2011.

b) Given Pickering VBO was scheduled in 2010, please explain justification why non-Regular Labour was more expensive in 2011 (non VBO year) by +$2.8M compared to 2010 (VBO year)?

c) Please explain Pickering NGS Outage OM&A increase of a +$19.3M, variance of 151 percent, in overtime from Budgeted Board Approved 2011 to Actual 2011.

d) Please explain Pickering NGS Outage OM&A increase of $7.5M, variance of 268 percent increase, in non-Regular Labour from Budgeted Board Approved 2012 to Actual 2011.

e) Please explain Pickering NGS Outage OM&A increase of +$14.7M, variance of 123 percent increase, in Overtime from Budgeted board Approved 2012 to Actual 2012.

6.5 Is the forecast of nuclear fuel costs appropriate? Has OPG responded appropriately to the suggestions and recommendations in the Uranium Procurement Program Assessment report?

<u>6.5-AMPCO-45</u>

Ref: F2-05-01 Table 1

Preamble: Fuel oil is used to run nuclear stand-by generators.

Please explain why the Fuel Oil expense will increase by over 80% starting from 2013 relative to 2010 actual?

6.6 Are the test period expenditures related to continued operations for Pickering Units 5 to 8 appropriate?

<u>6.6-AMPCO-46</u>

Ref: Exhibit F2, Tab 2, Schedule 3 Continued Operations at Pickering

a) Pages 4 – The evidence indicates that CNSC will require OPG to make submissions on operating beyond 210,000 EFPH to demonstrate that OPG is in compliance with the agreed upon criteria. OPG is currently in the process of preparing submissions to comply with the CNSC decision.

   Please provide additional details on the agreed upon criteria and an update on the status of OPG's submission.

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b) Page 7 – OPG is seeking recovery of the variance between actual and forecast 2013 OM&A costs for Pickering Continued Operations and Fuel Life Management project through the Capacity Refurbishment Variance Account. Please confirm the amount OPG is seeking for recovery related to Pickering Continued Operations and Fuel Life Management project and show the calculation.

c) Attachment 1– Discuss change in Continued Operations at Pickering Business Case Summary and any changes in NPV calculation as a result of OPG's change in planned outage days and the generation impact reflected in the 2014 to 2016 Business Plan.

6.6-AMPCO-47

Ref 1: EB-2010-0008 F2-T2-S3 Page 6, Line 4

Preamble: OPG, as part of the Pickering B Continued Operations initiative, proposes to extend the service life of Pickering B Unit 7 to 2020 through a combination of incremental maintenance and inspection work programs and potentially shutdowns (it should be noted that there are no shutdowns of Unit 7 planned for the test period).

Ref 2: F2-T2-S3 Attachment 1, Page 7
Preamble: In order to have two Pickering Units 5-8 in operation to support Pickering Unit 1 and 4, both of these alternatives include an assumption of "life management" outages on Pickering Unit 7 in order to achieve the objective of aligning its life with that of Pickering Unit 8.

a) Are life management costs associated with Pickering Unit 7 included in the Pickering Continued Operations costs? If yes, please confirm that OPG will not be seeking approval of any costs related to enabling the continued operation of Pickering after 2014? If no, please explain why costs associated with "life management" outages on Pickering Unit 7 are not included in Pickering Continued Operations initiative.

b) F2-T2-S3 Attachment 1 Appendix B Impacts on Generation of Pickering Continued Operations, the table shows incremental planned Outages Days due to PNGS Continued Operations. Are the "Life management" outages on Pickering Unit 7 included in the Incremental Planned Outage Days – Cont. Ops Work Program? If not, please explain. Are there additional "life management" outages after 2014?

6.6-AMPCO-48

Ref: F2-T2-S3 ATTACHMENT 1 PAGE 19

Preamble: The Assessment done for the "incremental" view of Nuclear Support costs for the 2010 BCS Showed that approximately 70% of the "fully allocated" nuclear support costs to the Pickering units where incremental, i.e. losses of economies of scale would result in the remaining 30% effectively

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translating to increased support costs for Darlington. OPG has updated and refined that assessment for the 2012 BCS, and has used a revised estimate (averaging 68% over the period 2013-2020) as to portion of Nuclear Support costs allocated to Pickering which would be incremental, i.e. would go away of Pickering units were to be shutdown.

a) Please provide the Assessment report completed in 2010 and the updated assessment report of 2012.

b) Please provide reasons the 70% fully allocated nuclear support costs to the Pickering units changed to 68% over the 2013-2020 period.

c) Please confirm if AMPCO's understanding is correct, that given OPG's 68% Nuclear Support Cost allocation to PNGS, a Pickering Shutdown would cause a 68% decrease in the Nuclear Support Costs.

6.6-AMPCO-49

Ref: Exhibit F2-T2-S3 ATTACHMENT 1 PAGE 19

Preamble: Similarly, the "incremental" view of Corporate Support & Overhead costs for the 2010 BCS showed that approximately 30% of the "fully allocated" Corporate Support costs allocated to the Pickering units were truly incremental, i.e. losses of economies of scale would result in the remaining 70% effectively translating in increased Corporate Support & Overhead costs for the rest of OPG's fleet of nuclear, thermal and hydroelectric stations. OPG has updated and reined that assessment for the 2012 BCS, and has used a revised estimate (averaging 28% over the period 2013-2020) as to portion of the Corporate Support costs to Pickering which would be incremental, i.e. would go away of the Pickering units were to be shut down.

a) Please provide the Assessment report completed in 2010 and the updated assessment report of 2012.
b) Please provide reasons/drivers/assumption changes the 30% fully allocated Corporate Support costs allocated to the Pickering units changed to only 28% over the period of 2013-2020.
c) "Losses of economics of scale would result in the remaining 70% effectively translating in increase Corporate Support & Overhead costs for the rest of OPG's fleet of nuclear, thermal and hydroelectric stations". Please provide how much (percentage) of the 70% would be allocated to:
    a. Nuclear
    b. Newly regulated hydroelectric
    c. Regulated Hydroelectric
    d. Thermal

6.6-AMPCO-50

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Ref: Exhibit F2-T2-S3 ATTACHMENT 1 PAGE 19

Preamble: Base OM&A, Capital and OM&A project, and Outage OM&A costs for Pickering Units 5-8 are consistent with the 2012-2014 Business Plans for those stations. These costs were extrapolated to the period 2015-2020. Cost escalation rates used are consistent with those used in economic assessments and in Business Planning in OPG for labour, material and purchased services.

a) Please provide cost escalation rates for labour, material and purchased services used.

6.6-AMPCO-51

Ref: Exhibit F2-T2-S3 ATTACHMENT 1 PAGE 1

Preamble: OPG's updated assessment shows that there is substantial value, estimated at $520 M NPV (2012$) to the Ontario electricity system of being able to operate the Pickering 5-8 Units beyond their originally assumed operating lives of 2014/2016 until 2019 to 2020.

Ref: EXHIBIT 2013-0321 C2-T1-S1 Table 4

Preamble: Line 7 and Line 14 show the Asset Retirement Cost Adjustment due to Impacts of Current Approved ONFA Reference Plan.

a) Does the estimated $520 M NPV taken into account nuclear decommissioning costs and most importantly Nuclear Waste management costs including used fuel storage and disposal and L&ILW disposal and storage? If not, please explain why costs associated with nuclear decommissioning and waste management were not taken into account given nuclear waste management costs represent significant cost amounts. If yes, please provide the amount OPG used for the cost of nuclear waste management impact due to PNGS Continued Operations.
b) According to Table 4 an impact of an additional $499.1M for Pickering A and Pickering B Asset Retirement due to the update of the Current Approved ONFA Reference Plan resulting from changes in estimated service lives. Is the impact of the additional $499.1M taken into OPGs $520 M NPV for PNGS Continued Operation initiative study? If yes, please provide evidence
c) Please provide the NPV (2012$) of the impact of Pickering Continued Operation Initiative on the five decommissioning and nuclear waste management programs. Please provide the impacts for each program.

6.6-AMPCO-52

Ref: EXHIBIT 2013-0321 F2-T2-S3 ATTACHMENT 2 Page 2

Preamble: On balance, the OPA's assessment of system cost impacts suggest an expected cost advantage to Pickering continued operation (in the order of approximately $100 Million). This advantage

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predominantly reflects expected costs saving from reduced natural gas-fired energy production and lower replacement capacity requirements. Based on evaluation to date of the broader uncertainties, the OPA estimates a range of up to approximately $1,300 Million in potential net-benefit from Pickering continued operation to $760 Million in potential net-cost (dis-benefit).

a) Please explain why OPG estimates of NPV of $520 million while the OPA estimates a benefit of only $100 Million do not match? Please reconcile and include underlying calculations and assumption.
b) Has OPG been in contact with OPA to discuss such variation in estimates ($420M variation)? If so please provide correspondence. If not, please explain why OPG has not been in contact with OPA to discuss variations in estimates?
c) Did OPG provide costs to OPA associated with Nuclear Waste Management, including storage and disposal programs for used fuel and Low and intermediate level waste?
    a. If yes, did OPA estimates include costs associated with Nuclear Waste Management, included storage and disposal programs for used fuel and Low and intermediate level waste? Please provide evidence of the OPA taking into account waste management costs. Attachment 2 Ex 2013-0321 F2-T2-S3 states no information regarding nuclear waste management cost received from OPG regarding Pickering NGS Continued Operation. If no, please explain why OPG did not provide the OPA with costs associated with Nuclear Waste Management impacts associated with Pickering Continued Operation Initiative?

6.6-AMPCO-53

Ref 1: Exhibit F2-T2-S3 Attachment 1 Page 9

Preamble: the value of the Continued Operations Alternative was calculated relative to the originally assumed Life Alternative (Alternative 1) by subtracting the NPV of Alternative 1 from the NPV of Alternative 2.

Alternative 1 (Baseline):	Alternative 2 (PNGS Continued Operations):
- P6 S/D in 2014	- P6 S/D in 2019
- P5 s/d at end 2014	- P5 S/D in 2020
- P1,4,7,8 in 2016	- P1,4,7,8 at end 2020

Ref 2: Exhibit F2-T2-S2 Attachment 2

Preamble: According to OPA, the information received from OPG regarding Pickering NGS continued Operation is in Appendix 1. In this evidence OPG states the follow

Incremental Generation and Planned Outages Due to Pickering Continued Operation								
	2013	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**

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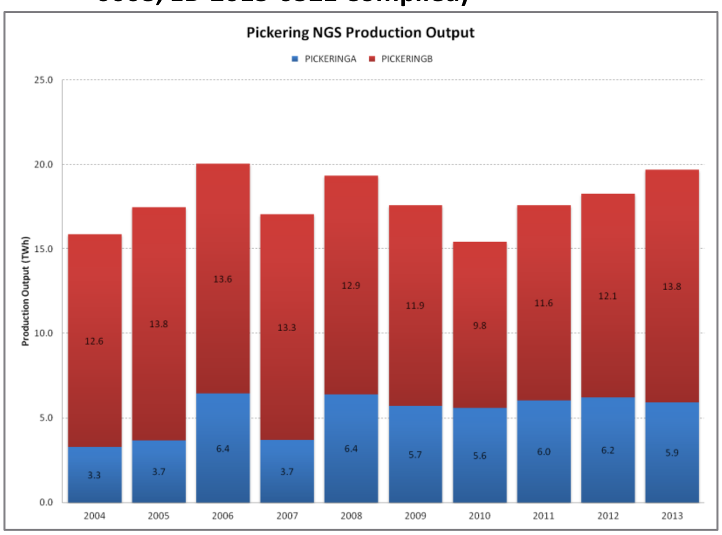
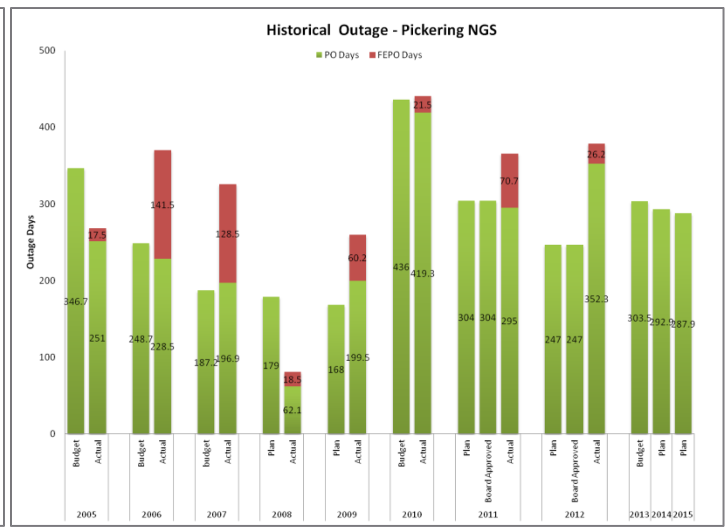
Total Incremental Generation(TWh)	1.3	4.7	4.6	16.6	22.6	21.9	20.3	17.2
Incremental Planned Outage Days	-114	-157	337	375	233	281	149	0

Ref 3: EDOCS- 4177096 - Application to Renew the Power Reactor Operating Licence for the Pickering Nuclear Generating Station - Record of Proceedings, Including Reasons for Decision - Page 34
OPG stated that, according to its plans, all Pickering B units would enter the continued operations phase between 2014 and 2016, and be operated until the end of 2020 or until the limit of 247,000 EFPH is reached for the fuel channels (http://www.nuclearsafety.gc.ca/eng/the-commission/pdf/2013-05-29-Decision-OPG-Pickering-e-Edocs4177096.pdf)

Ref 4: IESO Hourly Production Generation and OPG Production Outages (EB-2007-0905, EB-2010-0008, EB-2013-0321 Compiled)





a) Given "all Pickering B units would enter the continued operations phase between 2014 and 2016". Please explain why in 2013, according to information OPA received from OPG, a 1.3 TWh of incremental generation due to Pickering Continued Operations Incentive is recorded? Pickering Alternative 1 includes all Pickering units running until in 2013, how does Pickering Continued Operation Initiative that is completed in 2014 provide a benefit of 1.3TWh incremental generation in 2014?

b) Given that Pickering Nuclear Generation station is Ontario's first and oldest Nuclear Plant and it is reaching its designed end of life starting in 2014 (210,000 EFPH), please discuss how OPG is planning in 2017 to generate 22.6TWh from Pickering NGS with 233 planned outage days? Based on IESO data and OPG Historical fillings, Pickering has not performed over 20.0TWh in the past 10 year and has an 8 year Actual average (2005-2012 inclusive) of 311.2 Outage days.

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c) Please discuss how OPG is planning to generate 21.9 TWh in 2018 from Pickering NGS with 281 planned outage days?

d) Please discuss how OPG will generate 19.2 TWh in 2020 with zero planned outage days.

e) Given an 8 year Actual Average of 19.3 TWh and 311.2 Outage days (2005-2012 inclusive), AMPCO believes OPG has provided the OPA with over estimates of Production forecasts and lower estimates of planned outages. If not, please provide reason of why OPG does not agree with AMPCO. Please explain how Pickering NGS will perform better than its past 10 years and with lower planned outages.

f) Given Pickering NGS is reaching its end of life, has OPG taken into considerations more planned outages for to ensure that the units are safe to operate and meet regulatory codes and standards? If yes, please explain the low planned outage days during 2017-2020.

6.6-AMPCO-54

Ref: Exhibit F2-T2-S3 ATTACHMENT 2 PAGE 10

The OPA's assessment of system cost impacts suggest an expected cost advantage to Pickering Continued Operation (in the order of approximately $100 Million). This advantage predominantly reflects expected costs savings from reduced natural gas-fired energy production and lower replacement capacity requirements. Based on evaluation to date of the broader uncertainties, the OPA estimates a range of up to approximately $1.3 billion in potential net benefit from Pickering Continued Operation to $760M in potential net-cost (dis-benefit).

a) Given OPG's benefit assessment, dated April 26 2012 ,to the Continued Operation of Pickering past its designed life would provide a benefit range of +$2,200M to -$410M PV and the OPA assessment, dated August 15 2012, range estimate is +$1,300M to -760M. Please discuss why OPG estimates a benefit almost double the of OPA's and a negative impact of almost half what the OPA estimates?
b) Based on OPG's own assessment and compared to that of the OPA's assessment, dated four months after, does OPG agree that it has overestimated the benefits and under estimated the costs (dis-benefits). If not please explain why.
c) Has OPG been in contact with OPA to assess the large differences in range?

6.6-AMPCO-55

Ref: Exhibit F2-T2-S3

Reasons for Change	**Approx. Impact on Results ($2012m$ PV)**

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1. Impact of change from 2009 PV$ to 2012 PV$ ($ removal of Continued Ops costs and production impacts in 2009-2012)	+ $250M
2. Lower demand forecast/ lower replacement generation costs (lower gas prices) compared to the previous assumptions; this affects the value of Pickering generation the system	- $1,190M
3. Change from 240,000 EFPH to 247,000 EFPH	+ $330M
4. Updated Pickering Costs	+ $240M
5. Changed methodology for Valuing Exports	- $355M
6. Other Assessment Methodology & Assumptions Changes	+ $140M

a) OPG states that costs and production impacts associated with Pickering Continued Operations Incentive was removed. Please discuss why costs associated with Pickering Continued Operations initiative occurred in 2009 until 2012 are removed?

b) Please provide the 2012 PV$ of the removed continued operation costs and production impacts in 2009-2012.

c) Updated Pickering Costs relative to 2010 assessment as a $240M present value, please provide the changed updated assumptions of Pickering costs and reasons for change.

d) Please provide the methodology used in 2010 in Valuing Exports. Please also provide the methodology used in 2012 in Valuing Exports. Please state the change in methodology for valuing Exports from 2010 to 2012.

e) Please provide the "Other assessment methodology and Assumptions changes" that led to a PV increase of $140M.

6.6-AMPCO- 56

Ref: Government of Ontario's Long Term Energy Plan, Page 30

Preamble: The Long Term Energy Plan states "The continued operation of Pickering facilitates the refurbishment of the first units at Darlington and Bruce by providing replacement capacity and energy without greenhouse gas emissions while managing prices. However, an earlier shutdown of the Pickering units may be possible depending on projected demand, the progress of the fleet refurbishment program, and the timely completion of the Clarington Transformer Station."

a) Please provide OPG's assessment of this statement and whether in OPG's view an earlier shutdown the Pickering units would be appropriate.

   i) If so, when is the earliest timeframe for this scenario?
   ii) What are the financial implications under an earlier shutdown scenario?

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6.6-AMPCO-57

Ref: Board Staff Interrogatory #6.6-Staff-97

Preamble: Board Staff references the 2013 Third Quarter Report and notes that inability to meet those conditions in a timely manner could have an impact on the operating strategy for continued operations of Pickering and states that the "regulatory hold point, if not addressed by the spring of 2014, may require one unit to be shutdown".

a) Please explain what is meant by "regulatory hold point".

Corporate Costs

6.8 Are the 2014 and 2015 human resource related costs (wages, salaries, benefits, incentive payments, FTEs and pension costs) appropriate?

6.8-AMPCO-58

Reference: Exhibit F4, Tab 3, Schedule 1 Compensation

a) Page 1 Table 1 - Please update Table 1 and Appendix 2-K to include 2013 Actuals. Please comment on 2014 and 2015 Plan levels compared to 2013 actuals.

b) Page 3 - OPG expects to reduce its 2001 headcount by 2000 employees through attrition by year end 2015.

   i) Please restate this information based on FTEs.

c) Page 4 – OPG indicates it had 10,844 employees at the end of 2012. Of this approximately 9,582 employees work directly in or allocated to OPG's regulated activities. Appendix 2K (Exhibit 4, Tab 3, Schedule 1 Attachment #6) shows 10,005.5 total staff for OPG. Please reconcile.

d) Page 5 – Approximately 1,300 out of the 2,000 staff reduction are attributable to regulated operations.

   i) Please provide a breakdown of the 1,300 between nuclear, previously regulated hydroelectric and newly regulated hydroelectric.

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ii) Please provide a breakdown of the 1,300 between management, Society, and PWU.

e) Page 5 – Please provide a breakdown of total OPG regulated staff on the basis of regular staff, non-regular staff and temporary tradespersons.

f) Page 6 - Overtime – Please explain how OPG's overtime policies differ between the PWU, Society and management staff as well as regular, non-regular and temporary tradespersons.

g) Page 6 – Please provide overtime costs for the years 2010 to 2013 and forecast for 2014 and 2015 and discuss trends.

h) Please discuss the trend in purchased services for the 2010 to 2015 period.

i) Page 7 – Research & Consultation – Please provide examples of the broader public sector employers that OPG reviews to understand the external labour relations landscape.

j) Page 8 – Negotiations - Please explain why a typical round of negotiations takes longer with PWU (two to four months) than the Society of Energy Professionals (one month).

k) Page 10 – Please provide a summary of the cost and productivity offsets to the wage increases OPG negotiated in the PWU agreement.

l) Page 12 - Please discuss if OPG negotiated any cost and productivity offsets to the wage increases in the Society of Energy Professional agreement and provide details.

m) Page 15 – Contracting Out PWU - One unique aspect of the contracting out provision with the PWU is the use of thresholds to establish amounts or types of work that can be contracted. A new threshold was negotiated in 2012 with the PWU to provide that distinct work programs or packages of 250 hours or less are within the threshold.

i) Please provide the threshold prior to 2012.

ii) Please discuss how the change in the threshold impacts contracting out over the period 2012 to 2015.

n) Page 15 – With respect to the PWU agreement, please provide the cost of the actual work contracted for the years 2010 to 2013 and the amount forecasted for 2014 and 2015.

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o) Page 16 – Society Contracting Out - For any contracting in excess of $165M per year, OPG makes a payment equal to 1% of the amount in excess of $165 M to the Society.

Please provide the amount of actual payments made for the years 2010 to 2013 and the amount forecasted for 2014 and 2015.

p) Page 16 – Please provide the amount of severance paid in 2010 to 2013 and forecast for 2014 and 2015 and the number of FTEs affected in each year.

q) Page 16 – PWU No Layoff Clause – Please discuss if a no-lay off clause was included in past PWU Collective Agreements.

r) Page 20 – Management Compensation - OPG comments on its salary increases compared to major salary surveys. Please confirm the source of the major salary surveys.

s) Page 20 – OPG voluntarily rolled back all incentive payments by 5% in 2009 and 10% in 2010.

Please discuss if OPG has considered rolling back incentive payments beyond 2010.

6.8-AMPCO-59

Ref: Exhibit F4, Tab 3, Schedule 1 Benefits

a) In the decade prior to 2011, please provide the date of actuarial valuations where the pension fund was in a deficit position and explain why.

b) Please provide the percentage contribution split for benefits between employee and employer for the last ten years.

c) Page 25 - OPG has a 24 month Health and Dental benefit claim window.

i) Please confirm when the 24 month window was put in place.

ii) Please discuss if OPG considered a window of 12 months for Health and Dental benefit claims . If not, why not.

ii) Please discuss if OPG is aware of other public sector organizations with a 24 month claim window.

d) Page 25 - For a new employee, please discuss when employee benefits become effective.

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e) Page 29 - Up to end of August 2013, the return on pension fund assets was 1.7 per cent.

Please provide the return on pension fund assets at year end 2013 and explain any variances from 2012.

f) Page 31 – The evidence indicates Ex. A2-1-1, Attachment 2, which will be filed when available. Please provide an update on when this document will be available and filed.

6.8-AMPCO-60

Ref: Exhibit F4, Tab 3, Schedule 1 Compensation and Benefits

Preamble: OPG indicates that the collective agreements with the PWU and Society contain pension and benefit clauses and pension and benefit levels for Management Group employees are determined by OPG's Board of Directors. In a recent announcement from the Ontario Government on February 18, 2014 (see Attachment 1), the Ontario government is transitioning to a cost-sharing model whereby employees retiring on or after January 1, 2017 will pay 50% of their benefits premiums. In addition, the eligibility for retiree benefits is changing from 10 to 20 years for employees hired on or after January 1, 2017.

Please discuss OPG's response to this announcement and how it will be considered in future collective agreement negotiations or sooner as part of management level benefits.

6.8-AMPCO-61

Ref: Exhibit F2, Tab 1, Schedule 1

Preamble: OPG's three year staffing plan includes a 298.3 FTE reduction in regular staff during 2014 and 2015.

a) Please provide the split in FTEs between 2014 and 2015.

6.8-AMPCO-62

Ref: Exhibit N, Tab 1, Schedule 1, Pension and OPEB Costs

Preamble: Page 5 - OPG indicates that in accordance with generally accepted actuarial practice, periodic comprehensive accounting valuations are performed typically at least every three years. OPG's last comprehensive accounting valuation was performed using data as at December 31, 2009 and AON and OPG determined that a new comprehensive valuation should be conducted to determine year-end 2013 obligations.

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a) Please discuss if OPG believes it had discretion as to when this new valuation was undertaken and if it could have been reasonably delayed.

b) Please explain the change in the updated membership data.

6.8-AMPCO-63

Ref: Auditor General's (AG) Report – Review of OPG's Human Resources December 2013

a) Page 154 – The AG Report indicates that OPG's staffing levels have gone down by 8.5% (from about 12,100 in 2005 and to 11,100 in 2012), but the size of its executive and senior management group (directors, vice-presidents and above) has increased by 58% (from 152 in 2005 to 238 in 2012).

Please discuss how OPG is addressing the size of its executive and senior management group in this application.

b) Page 155 – Please discuss why the number of OPG employees earning more than $50,000 in overtime pay has doubled since 2003, from 260 to 520 in 2012.

6.9 Are the corporate costs allocated to the regulated hydroelectric and nuclear businesses appropriate?

6.9-AMPCO-64

Ref: Exhibit F3, Tab 1, Schedule 1

a) Page 2 – OPG indicates that 61 staff and $14.6 M in OM&A was transferred from Hydro-Thermal business to Support Services in 2012 due to Business Transformation. Table 2 on Page 3 shows $2.7 M in transfers from Regulated Hydroelectric to Support Services. Please explain.

b) Pages 2-3 – OPG provides two tables that show the business transformation transfers in from Nuclear and the business transfers in from Regulated Hydroelectric. Please recast the tables to include a column that show a breakdown of where the 1,064 staff transferred from Nuclear Operations and Nuclear Projects and 61 staff from the Hydro-Thermal Business are allocated to the five business units in Support Services.

c) Page 6 – 2011 Electricity Utility Cost Group (EUCG) data was used by IT to compare OPG against ten North American electric utilities' IT spending per employee and per GWh. The Table on Page 6 shows 2011 EUCG Comparator Group Data Results.

   i) Please provide the calculation for OPG for each metric.

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ii) Please provide the frequency that OPG IT uses the benchmarking services of EUCG.

iii) Please provide the most recent results for the two metrics using benchmarking data prior to 2011.

d) Page 6 – OPG indicates it has committed to further IT cost reductions over the 2013-2015 business planning period through a series of cost saving initiatives.

Does OPG have specific have specific IT cost reduction targets associated with these cost saving initiatives? If yes, please provide.

Please discuss if OPG has set specific operational goals that link to IT metrics i.e. to improve its IT costs to be within the first quartile for IT spending per employee and per GWh and if so over what period.

e) Page 7 – The chart shows the IT metric results of 8 North American utilities compared to OPG. OPG indicates it used 2011 EUCG data to compare itself against ten North American electric utilities IT spending.

Please explain why the data for 2 companies are not included on the chart.

f) Page 8 – The chart shows the IT metric results of 9 North American utilities compared to OPG. OPG indicates it used 2011 EUCG data to compare itself against ten North American electric utilities IT spending.

Please explain why one company is not included on the chart.

g) Page 8 – Real Estate – OPG indicates OM&A costs are tightly controlled through service area expertise, demand management, effective space and service utilization, economies of scale (as a centralized service provider), outsourcing (to the extent permitted under the collective agreements), competitive procurement and staff reductions.

Real Estate costs (nuclear) increase significantly from 2011 actual to 2012 actual and 2012 actual to 2014 Plan (Table 7 – Exhibit F3, Tab 1, Schedule 1). Please explain in the context of the above statement.

h) Page 9 – Supply Chain costs are included in Business and Administrative Services costs. As shown in Tables 6 and 7 (Exhibit F3, Tab 1, Schedule 1) Supply Chain costs for regulated hydroelectric, newly regulated hydroelectric and nuclear increase significantly based on 2011 actual compared to 2012 actual. Please explain.

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i) Page 9 – Supply Chain costs in Table 6 (Exhibit F3, Tab 1, Schedule 1) for newly regulated hydroelectric almost double 2012 actual compared to 2014 plan. Please explain.

j) Page 12- Finance Benchmarking – OPG indicates a number of changes including modified budgeting practices were implemented to ensure financial targets are held at an appropriate level of details in the organization. Please provide OPG's financial targets.

k) Page 12 – People & Culture – OPG indicates there are two Employee Service Centres (ECS) – one dedicated to Nuclear and one to Non-Nuclear groups to administer the processing of new employee hires, terminations, job changes, organization changes etc.

Please explain the need for two ESCs.

l) Pages 12 to 14 – People & Culture – OPG's description of People of Culture activities do not directly match the sub-function cost categories provided in Table 8 which differs from how OPG has provided cost data in the other four Support Services Groups. Please link the sub-function cost categories in Table 8 to the work descriptions on Pages 12 to 14.

m) Page 13 – Business Partners, Nuclear, Hydro/Thermal, Corporate – The work functions under this description appear to duplicate the work described under Total Compensation and Solutions Centre related to staffing and hiring and Health, Safety, Employee & Labour Relations related to employee and labour relations. Please explain.

n) Page 15 – Please provide OPG`s total HR expenses and number of regular HR employees for 2012 actual and plan 2014 and 2015.

o) Page 15 – Please provide OPG`s HR FTE Employee ratio calculation for 2012.

p) Page 15 – OPG indicates when it completes the Business Transformation process, improvements in the HR FTE per Employee ratio are anticipated. Please provide additional details on how improvements will be achieved and provide any targets set by OPG.

<u>6.9-AMPCO-65</u>

Ref 1: Exhibit F3, Tab 1, Schedule 1, Pages 1 to 2
Ref 2: Exhibit F3, Tab 1, Schedule 1, Table 8 & Table 9

<u>Preamble:</u> At reference 1, OPG shows $58.8 M in business transformation transfers in 2012 from Nuclear to Support Services People and Culture and $0 M in business transformation transfers from Regulated Hydroelectric to Support Services People and Culture. At reference 2, OPG shows increases in people and culture costs (hydroelectric) from 2011 actual to 2014 plan and (Nuclear) from 2011 actual to 2014 plan.

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Please further explain these increases in the context of business transformation.

6.9-AMPCO-66

Ref: Exhibit F3, Tab 1, Schedule 1, Page 12

Preamble: The evidence indicates that there are generalist People & Culture departments dedicated to the nuclear, hydro-thermal, and corporate business units as well as specialist People & Culture departments that serve all of OPG.

a) Please summarize the generalist People & Culture departments and the specialist People & Culture departments and provide the percentage of costs allocated to each.

b) Please discuss specifically how Business Transformation has impacted this Support Services Group.

6.9-AMPCO-67

Ref: Board Staff Interrogatory #6.9-Staff-127

Preamble: Board Staff asks that OPG complete a table for corporate support services and provide explanations for the variances, and the trend, if any.

Please add a column to the table to include 2013 actual and include this year in the variance analysis.

6.9-AMPCO-68

Ref 1: Exhibit F3, Tab 1, Schedule2, Support Services Period-Over-Period Changes

Preamble: The period-over-period changes explanation for 2015 plan versus 2014 plan and 2014 plan versus 2013 budget includes staff reductions across the Support Services groups.

a) Please provide a summary of the staff reductions in previously regulated hydroelectric, new regulated hydroelectric and nuclear for 2013 actual, 2014 plan and 2015 plan.

6.9-AMPCO-69

Ref 1: Exhibit F3, Tab 1, Schedule 3, Regulatory Affairs Costs

Preamble: OPG indicates that regulatory costs were higher for 2011 actual vs. 2011 Board Approved because of greater than expected work on consultant studies.

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AMPCO Interrogatories

a) Please provide details on the scope of work for the additional consultant study work in 2011.

6.9-AMPCO-70

Ref: Exhibit F4, Tab 4, Schedule 1, Page 4

Preamble: Nuclear Insurance - OPG indicates the nuclear insurance costs were higher in 2012 primarily as a result of expenditures related to a one-time transaction of OPG becoming a purchasing member of a mutual insurance company, which has been authorized to provide limited nuclear liability insurance capacity in Canada.

a) Please provide the background, significance and value of this transaction.

6.10 Are the centrally held costs allocated to the regulated hydroelectric business and nuclear business appropriate?

6.10-AMPCO-71

Ref: F4-T4-S1 Table 4

Please provide a breakdown of the "Other" Centrally help costs that contribute to $27.8M in 2014 and $32.3M in 2015.

6.10-AMPCO-72

Ref: Exhibit F4-T4-S1 Page 28

Preamble: The annual ONFA guarantee fee is the amount payable by OPG to the Province of Ontario pursuant to the ONFA. In Exchange for the fee, the Province of Ontario supports financial guarantees to the Canadian Nuclear Safety Commission by providing a guarantee relating to OPG's nuclear decommissioning and waste management liabilities and nuclear segregated funds pursuant to the ONFA. The fee is calculated as 0.5 percent of the amount guaranteed, which is currently $1,551M, and is directly assigned to the nuclear facilities.

Ref Page 12 Clause 62

(http://www.nuclearsafety.gc.ca/eng/the-commission/pdf/2012-10-24-Decision-OPG-FG-e-Edocs4056177-Final.pdf)
"The Commission is satisfied that the financial guarantee submitted by OPG is acceptable. The Commission therefore accepts the financial guarantee, provided by Ontario Power Generation Inc., for the future decommissioning of its Class I facilities located in Ontario, consisting of the proposed ONFA Funds and NFWA Trust in the amount of $12,686 M and, the Guarantee by the Province of Ontario in the amount of $1,535 M"

a) According to the CNSC, the Guarantee by the Province is $1,535M. Please explain why OPG isstating a Financial Guarantee of $1,551M? Please explain variation.

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6.10-AMPCO-73

Ref F4-T4-S1 Table 4
The application discusses a significant increase in IESO non- energy Charges, primarily due to the substantial increase in the Global Adjustment.

a. For the periods 2010-2015, please provide a table summarizing IESO non-energy costs and kWh consumed for the regulated Nuclear Facility and previously regulated Hydroelectric (not including the Newly regulated facilities)

7. OTHER REVENUES

Regulated Hydroelectric

7.1 Are the proposed test period revenues from ancillary services, segregated mode of operation and water transactions appropriate?

7.1-AMPCO-74

Ref: Exhibit G1, Tab 1, Schedule 1, Other Revenues Regulated Hydroelectric

Preamble: With respect to Ancillary Services, OPG negotiated a Black Start Capability agreement (May 1, 3013 to April 30, 2016), a Reactive Support Voltage Control Service Agreement (January 1, 2013 to December 31, 2015 and a contract for Regulation Service (May 1, 2013 to April 30, 2014).

a) Please discuss significant changes in the current negotiated contracts compared to prior contracts.

b) Please discuss the impact of market conditions on other revenues for the test period.

c) The contract for Regulation Service is in effect until April 30, 2014. What assumptions has OPG made with respect to pricing for the balance of the test period.

7.1-AMPCO-75

Ref: Exhibit G1, Tab 1, Schedule 1, Other Revenues Regulated Hydroelectric

a) Page 4 – Operating Reserve - Please provide a table that shows operating revenues over the period 2010 to 2013 and 2014 and 2015 plan. Please explain any significant variances.

7.1-AMPCO-76

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Ref: Exhibit G1, Tab 1, Schedule 2, Comparison Other Revenues Regulated Hydroelectric

a) Page 3 – Please explain the reason for the lower operating reserve prices and lower than expected regulation services revenues for 2012 actual compared to 2012 Board approved.

8. NUCLEAR WASTE MANAGEMENT AND DECOMMISSIONING LIABILITIES

8.1 Is the revenue requirement methodology for recovering nuclear liabilities in relation to nuclear waste management and decommissioning costs appropriate? If not, what alternative methodology should be considered?

8.1-AMPCO-77

Ref: Ontario Power Generation Consolidated Financial Guarantee CMD 12-H11 PAGE 15 (See Attachment 1)

According to the Ontario Power Generation inc's Consolidated Financial Guarantee submissted by CNSC Staff on October 24, 2012, OPG plans to contribute:

- $193 million in 2013
- $139 million in 2014
- $143 million in 2015
-

However according to EB-2013-0321 Exhibit C2 Tab 1 Schedule 1 Table 2 and table 3 line 16, a contribution of $184 million in 2013. Please provide an explanation regarding the difference of $9M.

8.1-AMPCO-78

Ref: C2-T1-S1 Table 2

Disbursements of funds are allowed to address cost for long term programs such as used fuel disposal, L&ILW disposal and decommissioning. In Exhibit C2-T1-S1 Table 2 and table 3, a disbursement of $ 62.6M in 2014 and $116.5 M in 2015 for the prescribed facilities and $50.1M in 2014 and $89.3M in 2015 for the Bruce facilities. Please break down actual, budget, and plan disbursements by Decommissioning and Waste Management program and Facility.

a) Please fill table provided below.
b) Please explain the increase in disbursements from Nuclear Segregated Funds in 2015?

Ontario Power Generation Inc. (OPG)
2014-2015 Payment Amounts for OPG's Prescribed Facilities

AMPCO Interrogatories

Table 3

Prescribed Facility - Disbursements - Nuclear Segregated Funds ($M)

Line No.		Pickering A	Pickering B	Darlington	Total
		(a)	(b)	(d)	(e)
	December 31, 2010 Actual				
1	**Decommissioning Program**				
2	**Low and Intermediate Level Waste Storage Program**				
3	**Lower and Intermediate Level Waste Disposal Program**				
4	**Used Fuel Disposal Program**				
5	**Used Fuel Storage Program**				
6	**Total**				(61.8)
	December 31, 2011 Actual				
7	**Decommissioning Program**				
8	**Low and Intermediate Level Waste Storage Program**				
9	**Lower and Intermediate Level Waste Disposal Program**				
10	**Used Fuel Disposal Program**				
11	**Used Fuel Storage Program**				
12	**Total**				(35.3)
	December 31, 2012 Actual				
13	**Decommissioning Program**				
14	**Low and Intermediate Level Waste Storage Program**				
15	**Lower and Intermediate Level Waste Disposal Program**				
16	**Used Fuel Disposal Program**				
17	**Used Fuel Storage Program**				
18	**Total**				(41.6)
	December 31, 2013 Actual				
19	**Decommissioning Program**				
20	**Low and Intermediate Level Waste Storage Program**				
21	**Lower and Intermediate Level Waste Disposal Program**				
22	**Used Fuel Disposal Program**				
23	**Used Fuel Storage Program**				
24	**Total**				
	December 31, 2014 Plan				
25	**Decommissioning Program**				
26	**Low and Intermediate Level Waste Storage Program**				
27	**Lower and Intermediate Level Waste Disposal Program**				
28	**Used Fuel Disposal Program**				
29	**Used Fuel Storage Program**				
30	**Total**				(62.6)
	December 31, 2015 Plan				
31	**Decommissioning Program**				
32	**Low and Intermediate Level Waste Storage Program**				
33	**Lower and Intermediate Level Waste Disposal Program**				
34	**Used Fuel Disposal Program**				
35	**Used Fuel Storage Program**				
36	**Total**				(116.5)

Ontario Power Generation Inc. (OPG)
2014-2015 Payment Amounts for OPG's Prescribed Facilities

AMPCO Interrogatories

Table 4

Bruce Facility - Disbursements - Nuclear Segregated Funds ($M)

Line No.		Bruce A	Bruce B	Total
		(a)	(b)	(e)
	December 31, 2010 Actual			
1	**Decommissioning Program**			
2	**Low and Intermediate Level Waste Storage Program**			
3	**Lower and Intermediate Level Waste Disposal Program**			
4	**Used Fuel Disposal Program**			
5	**Used Fuel Storage Program**			
6	**Total**			(38.2)
	December 31, 2011 Actual			
7	**Decommissioning Program**			
8	**Low and Intermediate Level Waste Storage Program**			
9	**Lower and Intermediate Level Waste Disposal Program**			
10	**Used Fuel Disposal Program**			
11	**Used Fuel Storage Program**			
12	**Total**			(24.0)
	December 31, 2012 Actual			
13	**Decommissioning Program**			
14	**Low and Intermediate Level Waste Storage Program**			
15	**Lower and Intermediate Level Waste Disposal Program**			
16	**Used Fuel Disposal Program**			
17	**Used Fuel Storage Program**			
18	**Total**			(28.1)
	December 31, 2013 Actual			
19	**Decommissioning Program**			
20	**Low and Intermediate Level Waste Storage Program**			
21	**Lower and Intermediate Level Waste Disposal Program**			
22	**Used Fuel Disposal Program**			
23	**Used Fuel Storage Program**			
24	**Total**			
	December 31, 2014 Plan			
25	**Decommissioning Program**			
26	**Low and Intermediate Level Waste Storage Program**			
27	**Lower and Intermediate Level Waste Disposal Program**			
28	**Used Fuel Disposal Program**			
29	**Used Fuel Storage Program**			
30	**Total**			(50.1)
	December 31, 2015 Plan			
31	**Decommissioning Program**			
32	**Low and Intermediate Level Waste Storage Program**			
33	**Lower and Intermediate Level Waste Disposal Program**			
34	**Used Fuel Disposal Program**			
35	**Used Fuel Storage Program**			
36	**Total**			(89.3)

Ontario Power Generation Inc. (OPG)
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AMPCO Interrogatories

8.1-AMPCO-79

Ref: C2-T1-S1 Table 2 and Table 3

Given ARO, Nuclear Segregated Funds Balance and Asset Retirement Costs are calculated at the Nuclear Station Level. Continuity schedules showing the opening, closing and average balance for the ARO, segregated funds, UNL and ARC are provided in Ex C2-T1-S1 Table 2 (for the prescribed facilities) and Table 3 (for the Bruce facilities). Please provide exact table format (rows 1 to 32 for table 2 and rows 1 to 29 for table 3) at a station level. Please provide Pickering A NGS, Pickering B NGS, and Darlington NGS as well as Bruce A NGS and Bruce B NGS separately.

8.1-AMPCO-80

Ref: Exhibit 2010-0008 C2-T1-S2

A portion of nuclear fuel expense is attributable to the Present value of the variable costs related to incremental quantities of used fuel generated each period. The difference between the lifecycle estimate and the amount of committed costs relating to used fuel included in the nuclear liabilities balance represent the variable costs of future fuel waste. Using present value basis, these variable costs are divided by the forecast number of future fuel bundles to calculate the $/bundle rate. Used fuel expenses are then calculated by applying the $/bundle rate to forecast used fuel generation.

a) Please provide the forecast number of future fuel bundles used to calculate the $/Bundle rate
b) Please provide the historical forecasted future fuel bundles and explain variances.

8.1-AMPCO-81

Ref: EB-2010-0008 C2-T2-S2

Used Fuel disposal, L&iLW storage and L&ILW disposal programs: as these three programs involve central facilities the cost estimates are prepared at the program level. The costs are allocated to stations based on the most up-to-date lifecycle waste volume estimates

a) For the prescribed nuclear facilities, please provide years ending December 31, 2010, to 2015 lifecycle waste volume at a station level.
b) For the Bruce facilities please provide years ending December 31, 2010, to 2015 lifecycle waste volume at a station level.

8.1-AMPCO-82

Ref: C2-T1-S1

Please review the following and verify if AMPCOs understanding is correct.

The Nuclear Segregated Funds are two Funds which are the Decommissioning Segregated Fund and the Used Fuel Segregated Fund. There exists five Nuclear Decommissioning and Waste Management programs. The Decommissioning program is funded by the Nuclear Decommissioning Fund. The remaining 4 programs are funded by the Used Fuel Segregated Fund. Is this understanding correct? If not please clarify.

Ontario Power Generation Inc. (OPG)
2014-2015 Payment Amounts for OPG's Prescribed Facilities

AMPCO Interrogatories

8.1-AMPCO-83

Ref: C2-T1-S1

For the prescribed nuclear facilities, please provide years ending December 31, 2010 to 2015 nuclear segregated funds balance at a station level and the five nuclear decommissioning and waste management programs. Please fill table below.

Prescribed Facilities - Nuclear Segregated Funds - Nuclear Station and Program Allocation Level

Line No.		Decommissioning Program	L&ILW Storage Program	L&ILW Disposal Program	Used Fuel Disposal Program	Used Fuel Storage Program	Total ARO
		(a)	(b)				(e)
	December 31, 2010 Actual						
1	**Pickering A NGS**						
2	**Pickering B NGS**						
4	**Darlington NGS**						
5	**Total**						
	December 31, 2011 Actual						
6	**Pickering A NGS**						
7	**Pickering B NGS**						
9	**Darlington NGS**						
10	**Total**						
	December 31, 2012 Actual						
11	**Pickering A NGS**						
12	**Pickering B NGS**						
14	**Darlington NGS**						
15	**Total**						
	December 31, 2013 Actual						
16	**Pickering A NGS**						
17	**Pickering B NGS**						
19	**Darlington NGS**						
20	**Total**						
	December 31, 2014 Plan						
21	**Pickering A NGS**						
22	**Pickering B NGS**						
24	**Darlington NGS**						
25	**Total**						
	December 31, 2015 Plan						
26	**Pickering A NGS**						
27	**Pickering B NGS**						
29	**Darlington NGS**						
30	**Total**						

8.1-AMPCO-84

Ref: C2-T1-S1

Ontario Power Generation Inc. (OPG)
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AMPCO Interrogatories

For the prescribed nuclear facilities, please explain how total contributions to the Nuclear Segregated Funds are calculated at a station level?

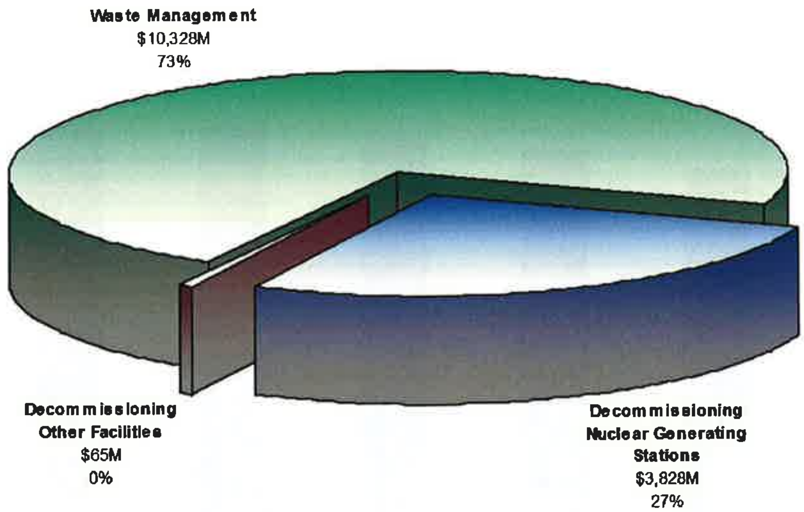
ATTACHMENT 1

Ontario Power Generation Consolidated Financial Guarantee Projections

October 24, 2012

CNSC Staff

BREAKDOWN BY ACTIVITY



2013 - 2017 Cost Estimate Summary

For the period following 2013 through to 2017, the following table presents the projected financial guarantee requirement along with OPG's annual contributions to the ONFA/NFWA trust funds, the accumulated projected value in the ONFA/NFWA trust funds and the Provincial Guarantee requirement.

2013 - 2017 FINANCIAL GUARANTEE PROJECTIONS

Year (January 1st)	Financial Guarantee Requirement $ M	OPG Contribution to ONFA/NFWA $ M	ONFA/NFWA Trust Value* $ M	Provincial Guarantee Requirement $ M
2013	14,221	193	12,686	1,535
2014	14,903	139	13,439	1,463
2015	15,434	143	14,018	1,415
2016	15,879	150	14,563	1,316
2017	16,313	163	15,050	1,263

* includes fund growth assumptions

As illustrated below, the total financial guarantee requirement will increase from $14,221 M in 2013 to $16,313 M in 2017. However, over the same period the Provincial Guarantee requirement will reduce from $1,535 M to $1,263 M.