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File 22332

VIA RESS FILING and COURIER

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

Dear Ms. Walli:

Re: OPG EB-2013-0321 re Payment Amounts
Submissions of the Power Workers' Union

Attached please find the Power Workers' Union's Submissions in connection with the above-noted proceedings. An electronic copy has been filed through the Board's RESS filing system, and two paper copies will follow by courier delivery.

Yours very truly,
PALIARE ROLAND ROSENBERG ROTHSTEIN LLP

Richard P. Stephenson
RPS:pb

Attach.

c: Applicant (*via email*)
Intervenors (*via email*)

Doc 1225272 v1

EB-2013-0321

IN THE MATTER OF the Ontario Energy Board Act, 1998, S. O. 1998, c. 15, Schedule B;

AND IN THE MATTER OF an application by Ontario Power Generation Inc. pursuant to section 78.1 of the Ontario Energy Board Act, 1998 for an order or orders determining payment amounts for the output of certain of its generating facilities.

Submissions of the Power Workers' Union

1. The following are the Power Workers' Union's ("PWU") submissions on the issues reviewed in the matter of Ontario Power Generation Inc.'s ("OPG") 2014-2015 payment amounts for its prescribed assets.

2. These submissions do not specifically address all issues on the issues list. Where an issue has not specifically been addressed, the PWU supports the application as filed, and supports and adopts the submissions of OPG in support of the application.

A. GENERAL

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

3. OPG is seeking approval of a test period revenue requirement of $1,757.8 million for the previously regulated hydroelectric facilities, $6,395.4 million for the nuclear facilities and $853.2 million for the newly regulated facilities.[1] [2]

4. The total customer bill impact, including the newly regulated hydroelectric facilities, is approximately $5.31/month on a typical consumer's monthly bill.[3]

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[1] Exhibit N2, Tab 1, Schedule 1, Page 9 of 12

[2] Revenue requirement for newly regulated facilities was calculated as per I1-1-1, Page 1 of 3, Lines 14-18

5. The increases in the base payment amounts for the previously regulated hydroelectric facilities and the nuclear facilities are largely driven by pension and other post-employment benefits ("OPEB") costs; higher costs relating to nuclear liabilities; and the inclusion of the Niagara Tunnel Project ("NTP") in rate base. As the PWU discusses further under Issues 6.3 and 6.8, much of the cost increase in base payment amounts are the result of exogenous factors, such as the impact of discount rates on pension costs, which are beyond OPG's control. The PWU submits that OPG should be assessed relative to the inputs and costs that it can control and not against those over which it has little or no control. Moreover, the Board should give substantial weight to OPG's internal performance trends, the savings it has achieved so far from its Business Transformation ("BT") initiative and OPG's commitment to cost control and efficiency improvements going forward.

6. The PWU respectfully submits that OPG's revenue requirements for the test period are prudent. In the absence of evidence that any of the cost components in OPG's application are imprudent, the Board should approve OPG's proposed revenue requirements for the 2014 and 2015 test years.

B. CAPITAL STRUCTURE AND COST OF CAPITAL

Issue 3.1: What is the appropriate capital structure and rate of return on equity for the currently regulated facilities and newly regulated facilities?

7. OPG has applied for a deemed capital structure of 47 per cent equity and 53 per cent debt for the currently regulated and newly regulated facilities during the test year period.[4]

8. OPG's proposed capital structure was supported by the analysis and expert opinion provided by Ms. McShane who was accepted by the OEB as a cost of capital expert.

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[3] Exhibit N2, Tab 1, Schedule 1, Page 11 of 12
[4] OPG Argument-in-Chief, Page 12

9. Ms. McShane provided an analysis of, and expert opinion on, whether the currently approved deemed capital structure continues to be appropriate after the completion of the NTP and the inclusion of the additional hydroelectric facilities in OPG's regulated rate base. Ms. McShane identified a number of reasons why OPG's deemed common equity should, at a minimum, remain at 47 per cent.[5] [6] Ms. McShane's evidence indicates that a 47 per cent common equity ratio for OPG's combined hydroelectric and nuclear operations remains appropriate even with the higher proportion of hydroelectric assets in the test period given OPG's higher operation risks and increased operating leverage associated with the nuclear operations and the impact that the Darlington Refurbishment Project ("DRP") would have in reversing the relative proportion of the test period regulated hydroelectric and nuclear rate base.

10. Ms. McShane was the only expert witness on Capital Structure and Cost of Capital to appear in this proceeding. She did not resile from her opinion in any respect while giving her testimony. In the absence of conflicting expert evidence regarding the appropriateness of continuing with the current capital structure the Board should approve the OPG-proposed deemed capital structure of 47 per cent equity and 53 per cent debt for the test years for the currently regulated and newly regulated facilities.

C. CAPITAL PROJECTS

I. REGULATED HYDROELECTRIC

Issue 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?

11. The NTP which the OPG brought into service in March 2013 at a cost of $1,476.6 million[7] is undoubtedly a very complex and challenging project. Attesting to the numerous construction and policy related challenges and hurdles that the project faced, is the fact that the origin of the project and the necessary studies and geological

[5] Exhibit L, Tab 3.1, Schedule 17 SEC-024, Attachment 1, Pages 2-3
[6] Transcript, Volume 10, Pages 7-9
[7] Exhibit L, Tab 4.5, Schedule 1 Staff-025

investigations undertaken by OPG go as far back as the 1980s. In fact, OPG completed its last geological investigation on the project in 1993.

12. The Board is required under O. Reg. 53/05, s. 6(2)4 to ensure that OPG recovers the capital and non-capital costs of the NTP approved by OPG Board of Directors prior to the first payment amounts order and to determine the prudence of any expenditures beyond the OPG Board approved amount. As a result, the issue before the Board is the prudence of the $491.4 million in NTP expenditures beyond the original budget of $985.2 million that was approved by the OPG Board in 2005, prior to the Board's first order with respect to payment amounts for OPG's prescribed facilities under s. 78.1 of the *Ontario Energy Board Act*.

13. OPG presented evidence demonstrating that the $491.4 million expenditure beyond the original budget was caused by challenging rock conditions encountered during tunnelling that proved to be extremely difficult and worse than OPG reasonably anticipated thereby necessitating the revision of its cost forecast (to $1.6 billion) and project schedule, as presented in the 2009 Superseding BCS which was also approved by OPG Board.

14. The additional cost is entirely caused by worse than reasonably anticipated rock conditions (Differing Subsurface Conditions – "DSC"). These conditions were unknown and unanticipated by OPG notwithstanding extensive due diligence conducted prior to the original estimate. The undisputed evidence of OPG was that, if the conditions which were ultimately encountered had been known at the time of the original estimate, the original estimate would have been $1.5 billion (i.e. the final cost).[8] The additional costs did not arise out of any mismanagement of the project, but rather the fact that the project's scope was larger, and entailed more work, than was originally anticipated.

15. In view of this uncontested evidence, it is submitted that much of the focus of the oral hearing relating to OPG's actions once the problematic subsurface conditions became known, is simply irrelevant to the prudence question the Board must answer. Any suggestion that either the original contract was deficient, or that OPG's settlement of the issues with Strabag was deficient, such that OPG ultimately paid "too much" to

[8] Transcript, Volume 2, Pages 42-43

Strabag is misplaced. This is really an argument that OPG, through immaculately conceived contracting, should have been able to force Strabag to do $1.5 billion worth of work for $985 million. This suggestion is entirely ill-conceived, for at least two reasons:

a. "prudence" requires that the utility pay a fair amount based on reasonably available information. It does not require the utility to obtain massive financial windfalls at the expense of its suppliers; and

b. the argument is premised upon an assumption which defies logic, all sense of commercial reality, and the evidence actually adduced at the hearing – that OPG would actually be able to get *any* supplier to perform more than $500 million in additional work, without compensation.

16. Nevertheless, to the extent that a more detailed analysis of the prudence warranted, it requires the Board to consider (a) the prudence of OPG's decisions prior to the occurrence of DSC, i.e. decisions with respect to such matters as planning, site investigation, project design, and contracting as well as (b) OPG's decisions after the occurrence of DSC, specifically with respect to OPG's conduct during and after the dispute over DSC and the Dispute Review Board ("DBR")'s decision.

a. Prior to the DSC

17. The PWU submits that no evidence was adduced in this proceeding showing that OPG's decisions with respect to the planning, site investigations, project design and contracting were imprudent. In fact the evidence before the Board is that OPG's decisions were prudent given the circumstances known or ought to have been known by OPG's management at that time and that the NTP's original budget of $985.2 million, approved by the OPG Board of Directors in 2005, was a realistic estimate of the project's cost based on extensive geotechnical investigations, consultation with appropriate experts, and a competitive solicitation of contractors.

18. In assessing the prudence of OPG's decisions with respect to the planning, geological investigations, project design and contracting activities relating to a huge and technically complex project such as the NTP, there is no better evidence adduced in this

proceeding that the Board can rely on than the testimony of Mr. Roger Ilsley, a highly qualified engineer and one of the world's leading experts on tunnel design and construction.

19. Mr. Ilsley reviewed, among other issues, all pertinent geotechnical investigations conducted and reports prepared for the design and construction of the Niagara Diversion Tunnel and the design work undertaken by Strabag during their proposal preparation and subsequently during the work. In his report,[9] Mr. Ilsley concluded:

> **... these site investigations addressed the appropriate design and construction issues and that the studies undertaken were completed to professional standards and exceeded those standards in some cases**
>
> **...the design work performed was conducted to an appropriate professional standard.**

20. The PWU notes that Mr. Ilsley was asked during cross examination whether OPG's original budget of $985 million had sufficient contingency level built into it to address potential unforeseen events such as the DSC.[10] As Mr. Ilsley's response below suggests, the DSC that would occur later has both known unknowns and unknown unknowns which affected the contingency level, and the extent to which OPG could be prepared for such an eventuality and the final cost of the NTP:

> **MR. DeROSE: Thank you for that. Now, again, Mr. Ilsley, again, in your experience, is it fair when a layperson such as myself sees a contingency-fee line in a major contract, so if you see $985 million contract, of which 100 million is contingency, is it fair for me to conclude that the contingency is meant to address, I would describe them as known unknowns, an expectation that certain unforeseen events or unforeseen conditions are going to arise, but that you quantify that in advance, saying, based on all the information that we know, this is what we think our best estimate of the cost overruns are going to be. Is that the purpose of a contingency fee?**
>
> **MR. ILSLEY: Yeah, but they were -- your known/unknowns. If I could frame that in terms of a differing site condition clause, which is in the contract, that has two parts, usually, and the first part is related to the known/unknown, the known meaning we know the condition but we don't know its severity. So I agree, that would be a contingency item.**
>
> **But there is a second part to the clause, which is unknown/unknown, never saw it before, and that is actually in the differing site condition clause. It's called a type 2, usually differing site condition, where the conditions encountered, that is off the charts, literally. There was no consideration of this event --**

[9] Exhibit F5, Tab 6, Schedule 1, Page 3
[10] Transcript, Volume 1, Pages 57-58

21. On this evidence, it is not reasonable to expect both OPG and Strabag to have known or to realistically have anticipated that the DSC would occur.

22. Moreover, the PWU submits that, had OPG and Strabag known that a DSC would occur, the original project estimate would have been the same as the project's final cost, i.e., $1,476.6 million:[11]

> **MR. STEPHENSON: Okay. Is it fair to say that the if OPG and Strabag had known, at the time of the original design-build agreement, the information that they came to learn later in terms of the subsurface conditions, that the pricing under the original design-build agreement would not have been the same?**
>
> **MR. EVERDELL: I believe that's correct. The pricing would have been higher.**
>
> **MR. STEPHENSON: Okay. Are you able to, in any way, assist us and the panel, in terms of what order of magnitude we are talking about, assuming you had perfect knowledge at the time?**
>
> **MR. YOUNG: The tunnel that we built, effectively at a cost of approximately 1.5 billion, was reflective of the cost of that work.**
>
> **It was reflective of the subsurface conditions that existed, and I think, had the subsurface conditions been fully understood up front, that would have been the price that we would have been looking at for this tunnel.**

23. The PWU submits, therefore, it would be wrong to assume that OPG could have got the NTP undertaken for the original contract price, had OPG and Strabag had perfect knowledge at the time the original contract was entered into.

b. After the DSC

24. As noted above, an analysis of OPG's conduct with respect to Strabag *after* the DSC is really of no relevance to the prudence question, in view of the evidence that the true cost of the work (based on perfect information) was $1.5 billion. Nevertheless, a review of the evidence reveals that OPG conducted itself in the prudent fashion.

25. OPG's evidence indicates that Strabag claimed the difficult rock conditions the project faced - large block failures, insufficient stand-up time and excessive overbreak- constituted a DSC and issued in 2008 a Notice of DSC. In this regard, the first issue before the Board is whether OPG's decision to take the dispute to the DRB was appropriate or not. In the PWU's view, given that Strabag's claims amounted to a

[11] Transcript, Volume 2, Pages 42-43

request for a cost and schedule relief, OPG's decision to take the matter to the DRB was appropriate. This was confirmed by Mr. Ilsley during cross examination[12] as well as in his report:[13]

> **I was requested to form an opinion as to whether it was appropriate to refer the dispute between OPG and the contractor Strabag for a hearing conducted by the Dispute Review Board (DRB) and to form an opinion as to the way OPG conducted the hearing. I have done so and found that it was appropriate to take the dispute before the DRB and further that OPG conducted the hearing in a proper manner.**

26. The next issue before the Board is whether or not OPG's conduct during the DRB hearing and subsequent to the DRB's non-binding decision was appropriate. Mr. Ilsley's evidence above concludes that it was appropriate.

27. The Board heard that the DRB adopted OPG's position on most issues (e.g. it ruled that there was no DSC with respect to Large Block Failures, St. Davids Gorge, and Insufficient Stand-Up time) but ruled that the excessive overbreak encountered during the tunnel drive constituted a DSC. Moreover, the DRB concluded that both parties should accept responsibility for some portion of the additional cost; because, some provisions in the Geotechnical Baseline Report ("GBR") were "misleading" and the development of the GBR was the mutual responsibility of both OPG and Strabag. The DRB also found that Strabag should be provided with adequate incentives to complete the work as soon as possible.

28. Not surprisingly, questions have been raised during this proceeding why OPG decided to renegotiate the Design Build Agreement (DBA) in the way it did in the face of the DRB's decision.

29. The PWU submits that there are two considerations that the Board should take into account. First, it is clear that the DRB ruled that DSC existed with respect to excessive overbreak. On the other hand, it would be unrealistic to expect that the GBR would have exhaustively and clearly described what constitutes ground condition (the responsibility of the owner) or the designs, means and methods (the responsibility of the contractor) and whether or not the excessive overbreak was caused by Strabag's own

[12] Transcript, Volume 1, Page 42
[13] Exhibit F5, Tab 6, Schedule 1, Page 3

designs, means and methods of construction as OPG claimed. No matter how detailed the GBR may be the potential for unclear provisions and disputes is always real.

30. It should be recognized, however, that the DBA provided that the DRB's decision was non-binding at least for the first 30 days of the decision. The parties could either accept the recommendations or either party could indicate its rejection by giving the other party notice of its intent to take the matter to arbitration under the Rule of Arbitration of the International Chamber of Commerce.[14] Both OPG and Strabag disagreed with the DRB's decision. OPG provided the required notice of intent to commence arbitration because it disagreed with the DRB recommendations concerning excessive overbreak and the need to revise the Table of Rock Conditions and Rock Characteristics. Strabag similarly notified OPG in writing that it rejected all 5 DRB recommendations and intended to pursue arbitration.[15] Subsequently, both OPG and Strabag filed arbitration notices even though each confirmed that the notices were filed only to preserve their respective rights under the agreement.[16]

31. It cannot be assumed, therefore, that Strabag would have agreed to settle the dispute by splitting the entire cost variance. The Board heard that Strabag was under significant financial difficulties – including a loss of about $90 million only after a third of the project was complete due to the significant challenges posed by the rock conditions.[17] The risk of Strabag walking off the project was real provided that it found doing so would be cheaper than the prospect of incurring significant, additional losses. Also OPG had to consider the risk of Strabag taking the dispute to arbitration. OPG rightly considered arbitration as too risky:[18]

> **OPG also rejected arbitration as an initial approach. OPG concluded that there was no advantage in pursuing arbitration unless attempts at negotiations failed. Arbitration was seen to entail greater risk, require additional time and provide a less certain outcome than negotiation.**

32. Secondly, it was appropriate for OPG to take into account Strabag's good behavior and commitment to complete the project safely despite the fact that the rock

[14] Exhibit D1, Tab 2, Schedule 1, Page 36 of 145
[15] Ibid., Page 104, Footnote 35
[16] Ibid., Pages 103-104
[17] Transcript, Volume 2, Page 126
[18] Exhibit D1, Tab 2, Schedule 1, Page 103 of 145, Lines 4-7

conditions were particularly challenging. It was in OPG's interest, therefore, to settle with Strabag by renegotiating the DBA compared to all the other options including those that would have resulted in arbitration, prolonged litigation, or the abandonment of the project. OPG's decision to renegotiate was the least cost option.

33. The PWU notes that some parties have asked whether it is reasonable that OPG's ratepayers bear 100 per cent of the portion of the costs that are in excess of the original $985 million budget for the NTP.[19,20] The PWU submits that the $491 million additional cost is the result of the DSC. The evidence before the Board is that the geological investigations and studies undertaken were appropriate and OPG's conduct during and after the DSC dispute was appropriate. In this respect, the $491 million additional cost is a cost that is incurred reasonably and prudently. Once the Board establishes that OPG's decisions are prudent, there is no basis for cost sharing between ratepayers and the shareholder.

34. To conclude, the entire $1,476.6 million OPG spent on the NTP represents prudently incurred costs that should be approved for inclusion in OPG's rate base.

Issue 4.5: Are the proposed test period in-service additions for the Niagara Tunnel Project reasonable?

35. OPG's Application indicates that the total in-service additions for the NTP through 2013 were $1,439.2 million. OPG expects an additional $13.4 million during the test period. The PWU submits that in light of all considerations discussed under Issue 4.4 above, the proposed 2013 and test period in-service additions are reasonable and should be approved by the Board.

II. NUCLEAR

Issue 4.8: Are the proposed test period in-service additions for nuclear projects (excluding those for the Darlington Refurbishment Project) appropriate?

[19] Transcript, Volume 2, Page 104, Lines 12-23
[20] Exhibit L, Tab 4.4,Schedule 1 Staff-022- C- ii

36. Board Staff provided the following trend for nuclear in-service additions for the period 2010-2013. Board Staff submits that this data demonstrates a history of over-estimation of in-service additions, supporting a reduction of $18 million and $17 million for 2014 and 2015 respectively.[21]

Board Staff - Table 11

NUCLEAR OPERATIONS (excluding DRP) In-Service Additions

	2010		2011		2012		2013		2014	2015
	Budget	Actual	Brd App'd	Actual	Brd Appr'd	Actual	Budget	Actual	Proposed	Proposed
Darlington NGS	$43.1	$31.2	$32.9	$32.3	$90.1	$52.9	$89.9	$183.7	$43.9	$7.7
Pickering NGS	$103.1	$166.8	$4.5	$27.4	$17.9	$41.0	$53.6	$97.1	$48.8	$12.5
Nuclear Support Divisions	$25.1	$35.6	$67.9	$30.6	$12.5	$22.5	$17.4	$30.7	$6.4	$0.7
Supplemental in-Service Fcst	$0.0	$0.0	$50.5	$0.0	$47.6	$0.0	$0.0		$37.9	$99.1
Minor Fixed Assets	$20.2	$15.4	$19.7	$12.9	$19.5	$15.5	$19.9		$21.3	$21.7
TOTAL	$191.5	$249.0	$175.5	$103.2	$187.6	$131.9	$180.8	$311.5	$158.3	$141.7
Over (Under) forecast		$57.5		($72.3)		($55.7)		130.7		
Source: Exh D2-1--3 Table 4 & Exh L Tab1.0 Schdule 1 Staff 002 attachment 1 table 2										

37. The PWU submits that the data in Table 11 does not support the conclusions drawn by Board Staff, nor its proposed reductions. It is not surprising that actual in-service additions do not precisely match the forecast in any given year. However, the data does not reveal any pattern of either over-estimation or under-estimation. Board Staff ignores the fact that Table 11 demonstrates that actual in-service additions for 2010 and 2013 were greater than planned by $57.5 million and $130.7 million respectively, whereas actual in-service additions were lower than planned by $72.3 million in 2011 and $55.7 million in 2012. The PWU notes that, based on Board Staff's table, aggregate planned and actual in-service additions for the period 2010-2013 total $735.4 million and $795.6 million, respectively. In other words, over the four year period, total in-service additions were *under-estimated* by $60.2 million, or about 8 per cent above the total planned in-service amounts.

[21] Board Staff Submission, August 19, 2014, Page 30

38. Rather than supporting the case for a reduction in the test period in-service additions, the comparison of planned vs. actual in-service additions for the period 2010-2013 actually leads to the conclusion that OPG's forecast in-service additions are more likely to exceed the planned in-service additions.

39. The PWU submits that OPG's proposed in-service additions that are forecast for the test year period are based on OPG's business planning process. The PWU notes that OPG's in-service additions and capital expenditures forecasts for the test year period are properly supported by capital project information presented in a tiered reporting structure, consistent with the OEB's minimum filing guidelines. Accordingly, OPG's proposed test period in-service additions for nuclear projects (excluding those for the DRP) should be approved as filed.

Darlington Refurbishment Project

40. The DRP is a mega project required to replace critical components of OPG's Darlington Nuclear Generation Station ("DNGS") so as to enable OPG to operate the DNGS safely and reliably for an additional 30 years. The DRP is comprised of five major work packages: Re-tube and Feeder Replacement ("RFR"), Turbine Generator, Fuel Handling, Steam Generators, and Balance of Plant.

41. Expected to be completed in 2025 at an estimated cost of $8 billion to $10 billion (in 2013 dollars excluding interest and escalation),[22] the DRP is currently in its Definition Phase. The Definition Phase is comprised of two sub-phases: (i) preliminary planning, and (ii) detailed planning. The detailed planning sub-phase which commenced on January 1, 2012 includes the implementation of all major contracts and the completion of all planning, including engineering and tool development, finalization of all project scope, and preparation of a release quality cost and schedule estimate ("RQE"). OPG plans to conclude detailed planning in October 2015 with the completion of the RQE and an updated Business Case which will then be presented to the OPG Board of Directors for approval to proceed to the execution phase of the DRP.

[22] OPG Argument-in-Chief, Page 41

42. In this respect, it is clear that OPG is not seeking the Board's approval of the decision to refurbish DNGS. Nor is a prudence review of any aspect of the project the subject of this proceeding. In its Decisions with Reasons in EB-2010-0008, the Board noted that once the DRP reaches the stage of having a RQE, which is expected for October 2015, the Board may consider establishing a framework within which prudence could be examined should OPG proceed with the DRP:

> **Once the DRP reaches the stage of having a release quality cost estimate the Board expects to examine the reasonableness of proceeding with the project. At that time, the Board may consider establishing a framework within which prudence could be examined should the project proceed forward. Other approval mechanisms, including some form of pre-approval of future expenses, may also be considered. The Board's findings in this proceeding are not determinative of the outcome of that review.**[23]

43. OPG has identified the following as findings and approvals that it is seeking from the Board in the current proceeding:[24]

- a finding that OPG's commercial and contracting strategies for the DRP are reasonable;
- a finding that the proposed capital expenditures of $839.9 million in 2014 and $842.5 million in 2015 are reasonable;
- approval of OM&A expenditures of $6.6 million for 2014 and $18.2 million for 2015;
- approval of in-service additions to rate base of $5.0 million in 2012, $104.2 million in 2013, $18.7 million in 2014, and $209.4 million in 2015 for new facilities and related 2014 and 2015 depreciation expense; and
- approval to recover the capital portion of the actual audited nuclear balance in the Capacity Refurbishment Variance Account as at December 31, 2013, currently projected at $5.7 million.

44. Below are the PWU's submissions on Issues 4.9 through 4.12 identified in the Board's Final Issues List with respect to the DRP.

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[23] EB-2010-0008, Decision with Reasons, March 10, 2011, Page 71
[24] OPG Argument-in-Chief, Pages 40-41

Issue 4.9: Are the proposed test period in-service additions for the Darlington Refurbishment Project appropriate?

45. The in-service additions proposed for the test years include Facilities and Infrastructure Projects, (also referred to as Campus Plan Projects), which are comprised of new facilities and infrastructure as well as upgrades to existing facilities and infrastructure. OPG has submitted that the facilities are required to provide direct support to the current operation of Darlington, the refurbishment outages, and the operation of the station after refurbishment. Also, OPG's proposed in-service additions include Safety Improvement Projects as committed in the DRP Environmental Assessment.

46. OPG is seeking approval of in-service additions to the rate base of $18.7 million and $209.4 million in 2014 and 2015, respectively - for a total of $228.1 million for the two test years.[25] These proposed in-service addition amounts are the same as OPG requested in its pre-filed evidence[26] and are lower than the in-service additions of $67.2 million in 2014 and $222.7 million in 2015 (a total of $289.9 million) that OPG is now forecasting in its most recent DRP Update.[27] The PWU also notes that the proposed in-service addition amounts are lower than the $26.1 million in 2014 and $309.9 million in 2015 (a total of $336 million) that OPG had proposed in the First Impact Statement.[28] The in-service additions proposed in the First Impact Statement had been supported by an updated DRP business case approved by OPG Board of Directors in November 2013.[29]

47. It is evident that the in-service addition amounts ($228 million) that OPG is requesting to be included in rate base for the test years are significantly lower than the updated in-service addition forecast amounts - $289.9 million. OPG has indicated that it is not changing the requested in-service amounts to reflect the updated forecast because the revenue requirement impact from the higher forecast in-service amounts is less than the $10 million per annum materiality threshold that OPG uses for deciding

[25] Undertaking J7.1, Attachment 1, Page 5
[26] Exhibit D2, Tab 2, Schedule 1, Page 1 of 33
[27] Exhibit D2, Tab 2, Schedule 2, Darlington Refurbishment Project Update, Page 6 of 14
[28] Exhibit N1, Tab 1, Schedule 1, Pages 17-18
[29] Exhibit D2, Tab 2, Schedule 1, Attachment 5. Darlington Business Case Summary, November 14, 2013, Revision 1

whether to adjust its proposed revenue requirement. At the same time, OPG is asking the Board that, in coming to its determination of what amounts should be added to rate base, the Board should consider the updated forecast.

48. The PWU is concerned that OPG's decision to request the Board's approval of in-service addition amounts forecast in the pre-filed evidence for revenue requirement purposes, when OPG itself has changed its forecast in its most recent update, could be problematic for the Board to apply the principle of used and useful to the individual projects and, on that basis, to make a determination about what amounts should go to the rate base. For example, comparing the in-service addition amounts included in the pre-filed evidence with those in the most recent update reveals that some projects have been advanced whereas some are extended to the period beyond the test years. In this regard, the only basis for the Board to approve the proposed in-service amounts would be the fact that the proposed amounts are lower than the updated amounts, i.e., without making a project by project assessment to determine whether the proposed amounts are justifiable or not.

49. While not the preferred methodology, the PWU would understand if the Board made such a determination and approved OPG's request in that the impact on revenue requirement would be lower compared to what it would have been had OPG requested approval for the updated forecast instead of the original.[30]

50. The PWU's preference is for the Board to make its determination based on the updated in-service addition amounts because doing so not only would enable the Board to make its assessment on a project by project basis but also would provide clarity to the specific in-service additions in the test years for which OPG is requesting approval. The PWU submits that the updated in-service additions forecast provides the best in-service addition forecast as it properly incorporates OPG's updated DRP business case that was approved by the OPG Board in November 2013 and changes reflected in the most recent DRP update. These changes included:[31]

[30] Essentially, this would be a form of voluntary rate mitigation.
[31] Exhibit D2, Tab 2, Schedule 2, Pages 6-7

- A revision to the in-service dates for the Heavy Water Storage and Drum Handling Facility ("D2O Storage") due to project engineering;
- A revision to in-service dates for various Campus Plan Projects based on an improved understanding of their schedules;
- An improved understanding of Campus Plan Projects, including the Auxiliary Heating System ("AHS") project, as a result of further project development; and
- The inclusion of two new safety improvement projects.

51. The PWU submits that in-service addition amounts provided in the updated forecast will be used or useful once they are placed in-service.[32] It is also the PWU's view that partially in-service amounts should be considered as used and useful for the portion of the assets put into service in the test years.

52. The PWU notes that a concern was raised during this proceeding regarding cost increases for the D2O Storage and the AHS projects. BMcD/Modus noted that the majority of the cost increases for the D2O Storage and AHS projects were due to the maturation of these projects' scope definition, scope management, and flawed estimates or unforeseen conditions during construction. In other words, the increased budgets simply reflect the fact that the original budgets were not properly estimated and, therefore, were too low.

53. With respect to the AHS project, the PWU notes that OPG's Board of Directors approved in May 2014 a revised business case for the project which stated that scope changes and underestimation of design scope complexity by the contractor resulted in a substantial cost increase.[33] The PWU agrees that the observed cost variance is caused by the fact that the original forecast was not based on proper scope definition and understanding of the volume of work and time that the project involves.

54. As for the D2O Storage, the PWU notes that OPG is currently revisiting some of the technical requirements to see if there are opportunities to make adjustment which

[32] The basis for used and useful of all of the assets to be placed in-service in the rate period per Exhibit D2-2-2 is provided in Undertaking JT3.5, Page 2
[33] Undertaking JT3.2, Attachment Redacted. Business Case Summary, Darlington Auxiliary Heating System Project

involves project engineering.[34] OPG expects a revised forecast to be completed by August for this project.[35]

Issue 4.10: Are the proposed test period capital expenditures associated with the Darlington Refurbishment Project reasonable?

55. OPG has proposed $839.9 million in 2014 and $842.5 million in 2015 in capital expenditures for the DRP.[36]

56. OPG's proposed capital expenditures for the 2014/2015 test year period are required to continue its progress to RQE and for readiness to move to the Execution Phase. OPG's proposed capital expenditures for the test year period included a number of prerequisite projects that must be completed from a nuclear regulatory perspective and also to support or extend Darlington station's life, including the Facilities and Infrastructure or Campus Plan Projects.

57. OPG's updated DRP business case which was approved by its Board of Directors in November 2013 included an updated forecast of capital expenditures for the test year period.[37] The PWU notes that the proposed capital expenditures for the test year period reflect expenditures included in the most recent DRP business case and impacts flowing from OPG's updated forecast of in-service additions as discussed earlier under Issue 4.9.

58. As indicated under Issue 4.9 above, the PWU notes the concern that was raised during this proceeding regarding cost increases for D2O Storage and AHS projects. The PWU reiterates its submission that the increased budgets are a result of the fact that the original budgets were too low and, therefore, do not reflect cost escalation of the projects. As BMcD/Modus indicated, the causes of the cost increases in the early Campus Plan Projects are rooted in the critical project management gaps exposed by

[34] Transcript, Volume 15, Page 63
[35] Technical Conference, Transcript, July 8, 2014, Page 38
[36] Exhibit D2, Tab 2, Schedule 2, Page 7
[37] Exhibit N1, Tab 1, Schedule 1, Page 17

Project & Modifications' early management of the pre-requisite Campus Plan Projects[38]. The BMcD/Modus evidence also indicates that those management gaps are not being repeated on the Refurbishment project and OPG's Darlington Refurbishment Team is dealing with them appropriately.

59. As pointed out in cross-examination the criticism provided by BMcD/Modus in identifying gaps and issues to be corrected were not surprising to OPG or to BMcD/Modus, given the scale and complexity of the project. In fact, the presence of this independent, on-going, critical self-examination is part of a good corrective action program[39]. The role and the criticism that BMcD/Modus provides is reflective of the strength of the DRP's external oversight process.

60. The PWU submits that OPG's proposed test period capital expenditures associated with the DRP are reasonable and should be approved by the Board.

Issue 4.11: Are the commercial and contracting strategies used in the Darlington Refurbishment Project reasonable?

61. As indicated earlier, the DRP is comprised of the following five major work packages: RFR, Turbine Generator, Fuel Handling, Steam Generators, and Balance of Plant.

62. OPG's evidence indicates that it has developed an overall Commercial Strategy and separate Contracting Strategies for all major project work packages. As part of its application, OPG is seeking a finding that its commercial and contracting strategies for the DRP are reasonable.[40] The PWU submits that it is appropriate and reasonable for OPG to seek and obtain an assurance from the Board at this stage that its fundamental business model and structure for this large and long-lived project is consistent with the Board's expectations.

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[38] Exhibit D2, Tab 2, Schedule 2, Attachment 1, Page 2. Burns & McDonnell Modus Strategic Solutions. Supplemental Report to Nuclear Oversight Committee, 2nd Quarter 2014. June 26, 2014 Darlington Nuclear Refurbishment Project

[39] Transcript, Volume 15, Pages 13-14

[40] Exhibit D2, Tab 2, Schedule 1, Page 1

During the oral hearing[41] and in its Argument-in-Chief[42] OPG clarified that it is seeking finding of reasonableness with respect to the following guiding principles forming its commercial strategy:

Multi-prime Contractor Model

63. OPG selected the multi-prime contractor model for the DRP. Under this model, OPG retains the overall project management and design authority responsibility. To execute the work OPG retains more than one prime contractor. As the project owner, OPG has a separate contract with each prime contractor.

64. OPG contrasted the selected model with alternative models (i.e. partnering; fixed price, lump sum, turnkey; and project management organization) and incorporated key lessons of the most recent Canadian CANDU refurbishment or return to service projects in its multi-prime contract model.

65. OPG contrasted the multi-prime model with the fixed price, lump sum, turnkey model. In the case of Point Lepreau, NB Power chose to use the fixed price, lump sum, turnkey arrangement as the best option to prevent cost overruns. However, the evidence indicates that this arrangement lacked sufficient visibility and did not provide protection in that it left the contractor on its own to make decisions, at its own risk and without the involvement of the owner, to proceed even when it was known that a technical problem had been encountered.[43] Such a decision to proceed ultimately led to schedule delays and extensive costs for replacement power that resulted.[44] [45]

66. The Point Lepreau case is clearly illustrative of two major concerns with turnkey arrangements as pointed out by Concentrics during the oral hearing:[46] misperception of risk transfer and loss of control. Furthermore, Concentrics noted that the fixed price, lump sum, turnkey model is not likely to be commercially feasible in the current market for a nuclear project of the size and magnitude of the DRP. According to Concentrics:

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[41] Transcript, Volume 16, Page 4
[42] OPG Argument-in-Chief, Page 44
[43] Transcript, Volume 16, Page 45
[44] OPG Argument-in-Chief, Pages 45-46
[45] Exhibit D2, Tab 2, Schedule 1, Attachment 7-1, Page 7
[46] Transcript, Volume 16, Page 46

> **Lastly, a fixed price, lump sum, turnkey agreement for a nuclear power project of this magnitude is not likely to be commercially feasible in the current market. SNC Lavalin, the acquirer of the commercial reactor division assets of Point Lepreau's contractor (AECL), has indicated that it is unwilling to accept the same level of risk that AECL accepted in past contracts.**[47]

67. In the case of the Project Management Organization ("PMO") approach, the owner retains a qualified firm to manage the entire project. The PMO would be responsible for planning, negotiating with prime contractors and managing various work packages. Bruce Power originally employed the PMO model for the refurbishment of Bruce A Units 1 and 2. However, the evidence shows that conflicts between the PMO and its contractors and the misalignment of the PMO interest with Bruce Power's interest led Bruce Power to abandon the PMO model after two years and move to a multi-prime strategy.[48]

68. The PWU notes that as part of its opinion of the overall DRP, Concentric concluded and agreed with OPG that it was reasonable and prudent to select the multi-prime model and to reject the other alternatives considered by OPG.

69. The PWU notes that OPG used the multi-prime contractor model on the Pickering Unit Rehabilitation and the Pickering Unit 2 and 3 Safe Storage projects.[49] The evidence indicates that as a result of OPG's review of Bruce A and Point Lepreau refurbishments and Pickering A Rehabilitation project, a number of key lessons were identified with respect to accountability, integration, risk management, resource and skill availability, scheduling and cost management.[50]

70. Under the selected multi-prime contractor model OPG is the integrator between the prime contractors and is responsible for the entire DRP. As the integrator between the prime contractors OPG is required to manage and coordinate multiple contractors. In its Initial Assessment Report of August 2013, BMcD/Modus observed that OPG's most vital role during the Execution Phase will be to manage and coordinate the work of

[47] Exhibit D2, Tab 2, Schedule 1, Attachment 7-1, Pages 7-8
[48] Exhibit D2, Tab 2, Schedule 1, Attachment 7-1, page 8
[49] Exhibit L, Tab 4.11, Schedule 1, Staff-057 a)
[50] Exhibit L, Tab 4.11, Schedule 15, PWU-006

the multiple contractors.[51] OPG has been fulfilling this function. In particular, OPG has implemented an integrated tiered scheduling process to manage the DRP.[52] In its Reports and Current Status Update – 3Q 2013 through 2Q 2014 – BMcD/Modus reported the current status with respect to OPG's role as the integrator and general contractor of the DRP:

> **The DR Team has taken this issue head-on and has instituted a number of key issues and initiatives that assert OPG's role as the integrator and as general contractor. Most notably, OPG has taken control of the detailed Level 3 Project schedule integration and coordination.**[53]

71. The PWU submits that given the experience with respect to most recent Canadian CANDU refurbishment or return to service projects, the selection of the multi-prime contractor model for the DRP is reasonable. The PWU also submits that OPG's multi-prime contractor model properly incorporated the lessons learned from most recent Canadian CANDU refurbishment and return to service projects. In addition, OPG has taken steps to address the challenge, in its role of integrator, to manage and coordinate multiple contractors. Finally, there is no evidence adduced in this proceeding showing that other models are preferable to the multi-prime contractor model.

Work Packages and EPC Contract Arrangements

72. Due to the complexity of the DRP, OPG has divided the DRP into five separate major packages. The PWU submits that the segmentation of the DRP in five work packages allows OPG to utilize different types of expertise in a cost-effective manner.

73. The PWU notes that Concentric's conclusion that OPG's contracting and commercial strategies for the five major work packages were reasonable while OPG's conduct was within a range of reasonable behaviour.[54]

74. The PWU submits that the use of the Engineering, Procurement Construction ("EPC") contracting delivery option as the preferred model is reasonable. Under the

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[51] Exhibit D2, Tab 2, Schedule 2, Attachment 1. Burns & McDonnell Modus Strategic Solutions. Supplemental Report to Nuclear Oversight Committee – 2Q 2014, Darlington Nuclear Refurbishment Project, June 26, 2014, Page 12

[52] Exhibit L, Tab 4.11, Schedule 17, SEC-068

[53] Exhibit D2, Tab 2, Schedule 2, Attachment 1. Burns & McDonnell Modus Strategic Solutions. Supplemental Report to Nuclear Oversight Committee – 2Q 2014, Darlington Nuclear Refurbishment Project, June 26, 2014, Page 12

[54] Transcript, Volume 13, Page 149

EPC delivery option, OPG contracts with a vendor to undertake the design, procurement and construction. The PWU agrees with OPG that the EPC delivery option provides single accountability for contract, schedule, design, procurement and construction and that a single point of accountability is preferable to ensure proper oversight coordination, integration and flexibility of implementation.[55] Moreover, as indicated by OPG, this option creates potential for cost savings as better rates could be negotiated with the supplier getting a larger portion of the overall program.[56]

Risk Management and Pricing Mechanisms

75. OPG developed a robust Program Risk Management Plan ("RMP")[57] for the DRP. The RMP defines how OPG manages the risks associated with the DRP and identifies a set of possible actions by risk strategy.[58]

76. OPG utilizes risk allocation models to reduce the negative impacts of the risks that are ultimately accountable to OPG such as scheduling, project management and oversight risks[59] and has set out the following risk allocation guiding principle for the DRP commercial and contracting strategy:

> **As part of its commercial and contracting strategy, OPG has adopted the principle that it would allocate risk to the party best able to manage that risk through a pricing structure tailored to the level of project definition and the level of required owner oversight.**[60]

77. OPG has indicated that contractual attempts to fully shift accountability to the contractors may not be achievable or may command too high risk premium and that in the nuclear services market, it is not viable to enter into a contract that transfers the intrinsic risk of the project to the contractor at a fixed price.[61] OPG also notes that the transfer of significant risk to a vendor is not an achievable outcome due to exemptions for excused events and force majeure, the owner's liability for nuclear safety and a lack of detailed scope of work.[62]

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[55] Exhibit D2, Tab 2, Schedule 1, Attachment 7-3, Page 8
[56] Exhibit D2, Tab 2, Schedule 1, Attachment 6-5, Page 26
[57] Exhibit D2, Tab 2, Schedule 1, Attachment 4-6
[58] Exhibit D2, Tab 2, Schedule 1, Attachment 4-6, Page 8
[59] Exhibit D2, Tab 2, Schedule 1, Attachment 6-1, Page 8
[60] OPG Argument-in-Chief, Page 48
[61] *Ibid.*
[62] Exhibit D2, Tab 2, Schedule 1, Attachment 7-1, Page 7

78. OPG, therefore, adopted the following guiding principle governing the appropriate pricing mechanisms used for work packages contracts:

> **The level of certainty in scope definition determines the appropriate pricing model and the trade-off between OPG's ability to control the work and costs.**[63]

79. Consistent with the two aforementioned guiding principles, OPG uses fixed pricing and less project oversight where there is greater level of certainty in scope of work and risk transfer to a vendor is appropriate, where as it utilizes target pricing requiring greater oversight where the scope of work is less defined and risk is shared.

80. The PWU agrees with OPG that under unknown and unforeseen conditions no contractor would actually bear full risk and that as the operator and the owner OPG is best able to manage the risk under such conditions. Accordingly, OPG has adopted the following risk management approach:

> **OPG will utilize mechanisms to align OPG and vendor behaviour and outcomes and effective oversight to ensure alignment of the vendor's interests with OPG's. For risks retained by OPG, OPG will develop appropriate risk mitigation and management techniques including the use of a risk-based contingency. OPG will seek to transfer those risks that are truly controllable by the vendors. In addition, each project will be supported by a Project Register that outlines risks, impacts, and mitigations and identifies those that will be transferred to the Vendor.**[64]

81. Undertaking JT3.17 provides an illustration of the target pricing mechanism and fixed pricing components based on the RFR contract terms including how the target pricing model and the incentive mechanism under different cost overrun scenarios provides appropriate incentives aligning OPG's and vendors' interests. If the contractor's direct costs exceed the target price, costs are recovered through a repayment of the fixed fee, impacting contractors' overhead and profit. In addition, the contract includes schedule disincentives for delays beyond the target schedule. The RFR contract also specifies that the contractor is accountable for the costs incurred in rectifying items that fall under a warranty provision.[65]

82. In the PWU's view the best way to avoid or mitigate risk is through extensive definition of scope of work. In this respect, OPG's evidence shows that during the Definition Phase OPG is fully developing engineering and planning which are expected

[63] Exhibit D2,Tab 2, Schedule 1, Attachment 6-1, Page 8
[64] Exhibit D2, Tab 2, Schedule 1, Attachment 6-1, Page 9
[65] OPG Argument-in-Chief, Page 49

to be fully completed prior to the start of construction. For example, with respect to OPG's RFR commercial strategy, OPG and the vendor will procure long lead materials, fabricate long lead tools and test the specialized tooling. It is expected that at the conclusion of the Definition Phase, OPG and the selected vendor will complete a cost estimating process to determine the Execution Phase target price.[66]

Issue 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?

83. The PWU submits that the steps taken by OPG, as set out in Exhibit L, Tab 4.12, Staff-058, ensure alignment of OPG's nuclear refurbishment process with the seven principles stated in the Government of Ontario's Long Term Energy Plan ("LTEP") issued on December 2, 2013. The PWU provides comment on two of the seven principles which, in the PWU's view, are the most significant and relevant:

LTEP – Principle 1: Minimize commercial risk on the part of ratepayers and government

84. The PWU submits that by applying a robust risk management process, OPG has taken appropriate steps to avoid, transfer, mitigate or accept risk. The implementation of an extensive Definition Phase allows OPG to avoid risk by eliminating or limiting unforeseen issues and unknowns. The PWU understands that the following steps, which were identified in Exhibit L, Tab 4.12, Staff-058, have been taken by OPG to avoid and reduce risk:

- Locking down project scope well in advance of starting construction;
- Fully developing engineering and planning of the work so that it is 100 per cent complete prior to the start of construction;
- Building a full-scale mock-up of the DNGS reactor and vault that will be used for training and providing the tools needed for the removal and replacement of the reactor components; and

[66] Exhibit D2, Tab 2, Schedule 1, Attachment 7-1, Page 9

- "Unlapping" Unit 2 from the subsequent units so that the focus can be on the planning and construction of a single unit so that OPG can gain from the lessons learned in completing the work.

85. Similarly, the following steps identified in the aforementioned interrogatory are intended to properly transfer risk:

- Utilizing target price contracts for the Execution Phase that is based on developing cooperation, transparency, and risk sharing with key vendors.
- Utilizing fixed price contracts for certain Execution Phase scope that is well defined and where risk transfer to a third party is appropriate.
- Developing a RQE in phases that incorporates a high-confidence budget and schedule for the work.

LTEP – Principle 3: Entrench appropriate and realistic off-ramps and scoping

86. The PWU notes that, in addition to the evidence in Exhibit L, Tab 4.12, Staff-058, OPG provided during the oral hearing further details with respect to the use of appropriate and realistic off-ramps:[67]

- Off-ramps are established at project level;
- There are mechanisms in the contracts allowing off-ramps as well as changes in strategy;
- Approvals being sought for funding releases[68] represents another control that is in place at OPG's Board level to determine whether an off-ramp would need to be executed; and
- There are regulatory off-ramps with Canadian Nuclear Safety Commission ("CNSC") at the end of each project; i.e. OPG is required to validate compliance with regard to implementing and rectifying safety gaps as identified in the Integrated Implementation Plan.

[67] Transcript, Volume 15, Pages 123-124
[68] As depicted in Figure 1: Overview of the Darlington Refurbishment Release Strategy provided in Exhibit D2, Tab 2, Schedule 1, Attachment 5, page 27.

87. In addition to off-ramps, OPG considers "pivot points" whereby it can adopt one strategy and then pivot to an alternative strategy based upon new information. This mechanism was described by Concentric during cross examination:

> **MR. REED: They are set up with a number of off-ramps and a number of what we call "pivot points," whereby you can choose one strategy and then pivot to an alternative strategy based upon new information.**
>
> **The biggest and best example is in the re-tubing and feeder replacement project, where you can -- at the end of establishing a target price, you can actually terminate the services of SNC-Aecon if you want to, take the mock-up, take the tooling and move it to another vendor, if you choose to pivot at that point to a different strategy.**
>
> **But there are many other examples in terms of assignment of work, in terms of contracting approach. A number of the contracts, for example, have the ability to pivot from fixed pricing to firm pricing, or from pass-through pricing to firm pricing over time.**
>
> **So in addition to off-ramps there are pivot points. So that type of flexibility -- and I think the key phrase there was incorporating the lessons learned -- is something that we found to be present in almost all of the contracts, and we view that as a good thing.**[69]

88. To conclude, OPG's commercial and contracting strategies used for the DRP are reasonable; the commercial and contracting strategies for the DRP are supported by a robust risk management strategy, suitable risk allocation principles and models and adequate pricing mechanisms and OPG's evidence shows that the Darlington nuclear refurbishment process aligns appropriately with the principles identified in the LTEP. In the absence of any evidence to the contrary, the Board should approve OPG's proposed expenditures, subject to the PWU's foregoing comments, and OPG's commercial and contracting strategies.

D. PRODUCTION FORECASTS

I. NUCLEAR

Issue 5.5: Is the proposed nuclear production forecast appropriate?

[69] Transcript, Volume 15, Pages 111-112

89. OPG is seeking approval of a nuclear production forecast of 48.5 TWh in 2014 and 46.1 TWh in 2015.[70]

90. OPG's evidence clearly indicates that OPG has experienced significant revenue shortfalls in recent years due to discrepancies between OEB approved nuclear production forecasts and actual generation. The negative revenue impact was calculated to be a combined $1,072 million over the period 2008-2013, i.e. an average annual revenue shortfall of $178.6 million.[71]

91. As part of the 2014-2016 Business Plan review process, OPG reassessed the plan based on the historical persistent gap between forecast and actual production. The reassessment also revisited both the planned outage scope along with allowances, with the objective of producing a more realistic and accurate nuclear production forecast for the test year period 2014-2015.[72] [73] OPG's forecast nuclear production for the test year period reflects the results of the reassessment of the 2014-2016 Business Plan.

92. In its EB-2007-0905 Decision with Reasons, the Board stated:

> **The Board believes OPG should be fully incented to produce as accurate a forecast of nuclear production as possible and should be at risk if actual output falls short of forecast.**[74]

93. In the PWU's view the evidence indicates that OPG's proposed nuclear production forecast for the test year period represents a refinement in achieving forecast accuracy and reducing the gap between production forecast and actual generation. The PWU submits that OPG's proposed nuclear production forecast for the test year period is based on realistic reliability performance targets and a reasonable and achievable outage schedule.

94. Operational reliability targets are represented by Forced Loss Rate ("FLR") targets. The FLR targets are based on the plants' historical performance, plant conditions and initiatives aiming at improving equipment reliability. OPG has set FLR targets for Pickering and Darlington generating stations.

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[70] OPG Argument-in-Chief, Page 61
[71] OPG Argument-in-Chief, Page 62
[72] Exhibit N, Tab 1, Schedule 1, Page 13
[73] Exhibit L, Tab 5.5, Schedule 17 SEC-074
[74] EB-2007-0905, Decision with Reasons, Page 174

95. Pickering's forecast FLR is 8.9 per cent for 2014 and 5.5 per cent for 2015.[75] In the PWU's view, OPG's targets for 2014 and 2015 are consistent with the FLR trend. The evidence indicates that Pickering's FLR is trending lower and reflecting reliability improvements.[76] The evidence also shows that OPG has made improvement in Pickering Units 5 to 8 operations and it is starting to see improvements in the operations of Pickering Units 1 and 4.[77] The PWU notes that there is a key initiative underway to improve the reliability of Pickering units. Through the 2013-2015 Equipment Reliability Plan, OPG aims to ensure Pickering's availability during the Darlington refurbishment.

96. For Darlington, OPG has forecast FLR targets of 1.3 per cent in 2014 and 1 per cent in 2015. In the PWU's view these FLR targets are consistent with Darlington's performance in recent years. Darlington's FLR performance is close to top quartile, on a 3-year rolling average basis.[78]

97. OPG's nuclear production forecast for the test year period incorporates the impact on scope and duration of planned outage schedules for Pickering and Darlington generating stations.

98. As indicated by OPG, each unit is subject to a planned outage once every two years. However, in 2012 OPG began with the implementation of mid-cycle planned outages for Pickering Units 1 and 4 to accelerate reliability work execution.

99. OPG's nuclear production forecast also reflects the completion of the Pickering Continued Operations initiative at the end of 2014.

100. As indicated earlier, the reassessment performed as part of the 2014-2016 Business Plan review process included a revision of allowances for planned outages. The PWU submits that the changes in allowances for planned outages were reasonable as they were based on historical performance related to Forced Extension to Planned Outages ("FEPO") days and the expectation that business planning initiatives (i.e. Fuel

[75] OPG Argument-in-Chief, Page 62
[76] Exhibit E2, Tab 1, Schedule 1, Page 7, Lines 8-11
[77] Transcript, Volume 5, Pages 52-54
[78] Exhibit E2, Tab 1, Schedule 1, Page 7

Handling Reliability Project) ensures that planned outages remain on schedule and the risk for FEPO days is reduced.[79]

101. In its response to a question from the Board during the oral hearing, OPG indicated that allowance associated with the planned outages for Pickering and Darlington stations is in the range of 10 to 15 per cent.[80]

102. OPG's nuclear production forecast for the test year period incorporates a combined Vacuum Building Outage ("VBO")/Station Containment Outage ("SCO") which has been scheduled for 2015. OPG plans to shut down the four units at Darlington for 157 days (3.31 TWh).[81]

103. OPG has provided evidence demonstrating that the combined VBO/SCO in 2015 is appropriate. The evidence indicates that the next VBO was scheduled for 2021 and by advancing the VBO to 2015 OPG would eliminate the need for a scheduled SCO in 2015 and a VBO in 2021. Upon regulatory approval, OPG will eliminate the need for the SCO going forward. According to OPG, this will change the requirement of a four-unit station outage at Darlington from a 6 year cycle to a 12 year cycle.[82]

104. OPG's evidence also indicates that the reassessment of the 2014-2016 Business Plan identified additional outage days due to a greater scope related to work that needs to be done, as identified in its life cycle management plan. This work includes a 100 per cent increase in electrical equipment maintenance, significant emergency service water ("ESW") piping replacement, a 50 per cent increase in emergency coolant injection ("ECI") valve replacement and the first time implementation of pressure relief valve maintenance.[83] The evidence also indicates that advancing the VBO to 2015 will not result in additional length of the planned outage because the critical path is driven by the ESW piping replacement and ECI valve replacement that were scheduled to be

[79] Exhibit L, Tab 5.5, Schedule 1, Staff-065, d)
[80] Transcript, Volume 7, Page 125
[81] OPG Argument-in-Chief, Page 62
[82] Exhibit F2, Tab 4, Schedule 1, Page 6
[83] Exhibit N1, Tab 1, Schedule 1, Page 15

performed in conjunction with the SCO.[84,85] In fact, advancing the VBO to 2015 would result in a Net Present Value of $48 million.[86]

105. There can be no plausible suggestion that OPG is advancing the date of the VBO for anything other than valid and appropriate operational and financial considerations. It is never in OPG's interest to unnecessarily or artificially decrease production from its facilities. Any implication to the contrary should be rejected.

106. For all the above reasons, the PWU submits that OPG's proposed nuclear production forecast for the test year period is appropriate.

E. OPERATING COSTS

I. NUCLEAR

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

Base OM&A

107. OPG forecasts Base OM&A of $1,151.1 million in 2014 and $1,154 million in 2015. OPG's evidence shows that Nuclear Base OM&A costs are forecast to increase year over year by one per cent in 2014 and 0.2 per cent in 2015.[87]

108. By its nature, the cost of the OM&A program is driven by two broad factors: (a) the size and composition of the work program; and (b) the unit cost of the labour, materiel and other components used in the work program.

109. The PWU is not aware of any criticism of the OM&A program on the basis that the size or composition of the work program is inappropriate, or that the delivery of that program is inefficient or wasteful in any way. Moreover, the PWU is not aware of any

[84] OPG Argument-in-Chief, Page 63
[85] Transcript, Volume 6, Pages 32-34
[86] Undertaking J6.2, Attachment 1
[87] Exhibit F2, Tab 2, Schedule 1, Page 1

criticism of the program arising from the unit costs for the inputs to the program – other than labour costs.

110. The primary driver of Base OM&A cost increase is labour escalation and pension/other post-employment benefits ("OPEB"), which increase Base OM&A costs by an average of 2.20 per cent a year.[88]

111. As discussed in detail in the PWU's submission under Issue 6.8 (Human Resource Related Costs) OPG launched in 2011 the multi-year BT initiative to support the alignment of its costs with its declining generation capacity. OPG has been using attrition to reduce staffing levels. To sustain staff reductions through BT, OPG has moved to a centre-led model in order to use resources more efficiently. Under BT, OPG has set a staff reduction target of approximately 1300 employees for the regulated operations by the end of 2015 that would result in cost savings of $620 million.[89]

112. OPG's forecast of Base OM&A for the test year period captures staffing level reduction due to attrition. Nuclear regular staff full time equivalents ("FTEs") (excluding Darlington Refurbishment and New Build) would be reduced by 162.3 FTEs from 6,100.7 FTEs in 2012 to 5,938.4 FTEs in 2014, and by 123.1 FTEs from 5,938.4 FTEs in 2014 to 5,815.3 FTEs in 2015.[90]

113. As discussed further under issue 6.8, Goodnight Consulting Inc.'s ("Goodnight") initial Nuclear Staffing Study conducted in July 2011 indicated that OPG was 17 per cent or 866 FTEs above the benchmark.[91] Goodnight's updated numbers as of March 31, 2014 show that OPG's staffing benchmark gap has narrowed to 4.7 per cent or 244 FTEs.[92] OPG expects to achieve a significant improvement by the end of 2015 and either meet the benchmark or come close to it.[93] In the PWU's view the results of the Goodnight's 2011 Nuclear Staffing Study and its updates are indicative of the overall effort that OPG, with cooperation of the unions, has made in controlling its Base OM&A costs.

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[88] Exhibit F2, Tab 2, Schedule 2, Page 1
[89] Undertaking J3.1
[90] Exhibit F2, Tab 1, Schedule 1, Table 3
[91] Exhibit F5, Tab 1, Schedule 1, Part a, Page 34
[92] Undertaking, J6.1, Attachment 1
[93] Transcript, Volume 6, Pages 19-20 & 48–49

114. There was no evidence that either the level or composition of the Base OM&A work planned to be undertaken during the test period is, in any way, inappropriate. Moreover, there is no evidence that OPG's unit costs for any inputs are unreasonable. Accordingly, the Board should approve OPG's proposed Base OM&A costs for the test year period as filed.

Project OM&A

115. OPG's proposed Project OM&A costs are $113.9 million in 2014 and $106.4 million in 2015. The proposed Project OM&A expenditures are comparable to those of the previous years and reflect forecasted work program demands.[94] As indicated by OPG, the decrease in 2015 is mainly attributed to the completion of the Pickering Continued Operations program and Fuel Channel Life Management Project.[95]

116. Based on the evidence provided by OPG, Project OM&A forecast for the test year period are reasonable and should be approved as filed.

Outage OM&A

117. OPG forecasts Outage OM&A spending of $262.7 million in 2014 and $330.7 million in 2015.[96]

118. The PWU notes that OPG's forecast for Outage OM&A spending for the test year period reflects the outage schedule that underpinned the nuclear production forecast as filed by OPG in the pre-filed evidence. In the PWU's view OPG's proposed Outage OM&A costs for the test year period do not reflect changes in the nuclear production forecast as provided in the First and Second Impact Statements. In particular, the PWU understands that OPG's proposed Outage OM&A spending is not reflective of the nuclear production forecast that OPG is seeking for approval, as per the most recent update filed by OPG in its Second Impact Statement.

119. The PWU notes that the outage schedule underpinning the nuclear production forecast that OPG is now seeking for approval would result in higher costs compared to the Outage OM&A spending that OPG is requesting for recovery. However, OPG has

[94] Exhibit F2, Tab 3, Schedule 1, Page 1
[95] *Ibid.*
[96] Exhibit F2, Tab 4, Schedule 1, Page 1

indicated in its First Impact Statement that it is not seeking to recover in the revised payment amounts additional Outage OM&A costs resulting from changes to the nuclear production forecast provided in the pre-filed evidence. OPG has limited revisions in the payment amounts to just the largest changes in order to "minimize the impact on the proceeding schedule and to keep the Impact Statement to a manageable size".[97] In any case, the result is that the revenue requirement requested for recovery in the test years is lower than what it would have been, and what would have been reasonable for OPG to recover as a part of its revenue requirement.

120. The PWU agrees with OPG that its proposed forecast Outage OM&A spending is necessary to properly inspect and maintain the prescribed nuclear facilities and, therefore, should be approved.

Issue 6.4: Is the benchmarking methodology reasonable? Are the benchmarking results and targets flowing from those results for the nuclear facilities reasonable?

121. OPG filed the 2012 Nuclear Benchmark Report which benchmarks its performance against industry peers based on 2011 data. In addition, over the course of the proceeding OPG provided benchmarking results for 2012 and 2013.

122. The PWU submits that OPG has made progress in its overall nuclear performance. In cross examination, OPG's witness testified that OPG's overall absolute numbers show improvement in relation to the following three "key metrics": World Association of Nuclear Operators Nuclear Performance Index, Unit Capability Factor ("UCF") and Total Generating Cost/MWh ("TGC/MWh"). The PWU prepared the following table to show the performance improvement that OPG has achieved as described by OPG's witness.[98]

[97] Exhibit N1, Tab 1, Schedule 1, Page 2
[98] Transcript, Volume 6, Pages 13-14

PWU Table 1

Overall OPG – Combined Pickering and Darlington	2008	2012
Nuclear Performance Index	74.8	77.3
Unit Capability Factor	77.4	82.9
Total Generating Cost/MWh	60.34	46.92

123. OPG's witness also acknowledged that, although overall improvement for OPG has been shown for all the three "key metrics", performance in comparison to the industry remains stable because the industry is also improving.

> **MS. CARMICHAEL: So basically, in all three of those key metrics, we have improved as a major operator, but in a comparison to the industry we are just stable, because the industry also is changing.**[99]

124. The PWU notes that Darlington compares very favorable against top performers. The Summary of Nuclear Benchmarking Reports indicates that for two out of the three "key metrics" Darlington has ranked in the first quartile over the period 2011-2013.[100]

125. OPG indicated during cross examination that the improvement in reliability of OPG's nuclear facilities initially focused on Darlington and continued with Pickering units:

> **MS. SWAMI: What I would say is OPG implemented a process over a number of years of looking at steadily improving the operations of our facilities.**
>
> **We initially focused on Darlington, and we made significant improvements over time. Then we took that and applied the lessons learned to our Pickering 5 to 8 operations, or Pickering B in this case, and we again made improvements. And you can see that Pickering B's performance has improved and in fact in 2013, unit 6 had our best FLR at point -- force loss rate at .1 percent.**
>
> **We with now taking the lessons learned from Pickering B and applying that from our Pickering 1 to 4 units, and we are starting to see improvements in their operations.**[101]

126. OPG's evidence also shows that Pickering's reliability performance in terms of UCF is improving:

> **MR. MILLAR: Well, it's been -- you have been seeking to make improvements since at least 2005; would that be fair?**

[99] Transcript, Volume 6, Page 14
[100] Undertaking J5.2, Attachment
[101] Transcript, Volume 5, Pages 51-52

MS. SWAMI: That's fair. And I think that if you look at the data over time, we are seeing those improvements. So I did reference to the forced loss rate on unit 6 already. I have referenced to the unit 4 forced loss rates. We are seeing very good unit capability factors on our Pickering 5 to 8 units. And so we are seeing that improvement. As I said, with the rolling average, when you have a particularly challenging year, you can see the effect on the metrics.[102]

127. In terms of Value for Money, the evidence shows that Pickering has been able to maintain a stable TGC/MWh. OPG noted that Pickering is improving its relative performance against the Value for Money benchmark, which reflects the fact that top quartile and median TGC/MWh values are increasing.[103] [104]

128. The PWU submits that the Memorandum of Agreement of OPG with its shareholder, the Province of Ontario, sets out that OPG will benchmark its performance against CANDU nuclear plants worldwide as well as against the top quartile of private and publicly - owned nuclear electricity generators in North America. As per the Memorandum of Agreement, OPG's top operational priority will be to improve the operation of its existing nuclear fleet.

129. In the PWU's view the mandate to benchmark against first quartile does not mean that all nuclear facilities at OPG must or can reasonably be expected to achieve first quartile results. As indicated above, Darlington compares favourably against top performing stations. In contrast, one cannot realistically expect Pickering to achieve first quartile for a number of obvious reasons including its small unit size, its advanced age and the use of first generation CANDU technology.

130. The PWU notes that for Darlington, OPG is projecting a decline in terms of UCF and Value for Money due to the VBO in 2015. For Pickering, OPG's proposed performance targets reflect Pickering's production plan which is based on plant historical performance, any known improvements or plant material condition issues, and ongoing initiatives aiming at improving equipment reliability.

131. The PWU submits that the targets set out in the 2013-2015 Business Plan for the three "key metrics" for the test years are, therefore, reasonable.

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[102] Transcript, Volume 5, Page 97
[103] OPG Argument-in-Chief, page 74
[104] Exhibit F2, Tab 1, Schedule 1, Attachment 1, Pages 62-63

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

132. The Pickering Continued Operations initiative will extend the operating life of the Pickering 5-8 Units beyond their originally assumed operating lives of 2014/2016 until 2019/2020. This initiative is a multi-year program that consists of incremental maintenance, inspections and analysis in conjunction with the Fuel Channel Life Management ("FCLM") project to enable Pickering 5-8 Units to achieve additional operating life to 247,000 Effective Full Power Hours ("EFPH") from the 210,000 EFPH projected under the original design life of the pressure tubes.

133. The cost of the Pickering Continued Operations initiative in the test period is $38.9 million. All the costs for the Pickering Continued Operations initiative will be spent as OM&A in 2014. OPG indicated that the nuclear production forecast also reflects the incremental outage days associated with the Pickering Continued Operations, which reduce the nuclear production forecast by 0.5 TWh.

134. The PWU submits that in assessing the prudence of OPG's expenditures to-date and those proposed for the 2014 test year, the Board should consider the following:

a. The initiative has approached completion and OPG's evidence shows that it is on budget and on schedule to be finished by the end of 2014 as originally planned.[105]

b. In addition to its own updated Pickering Continued Operations business case in 2012 which recommended extending the life of Pickering 5-8 Units, OPG sought independent third party confirmation from the OPA. This was consistent with the Board's Decision with Reasons in EB-2010-0008 in which the Board stated:

> **Parties have raised a number of other issues regarding the specifics of the benefits analysis, including the unit capability factors, the price used for comparative purposes and the absence of a contingency component in the cost estimate. The Board expects OPG to address these issues more fully in its next application when the Board considers the next segment of spending, as well as any variance in the account. In seeking to**

[105] Exhibit F2, Tab 2, Schedule 3, Page 1

> **provide the best evidence, OPG should consider seeking an independent assessment by the OPA to be filed with its next application.**[106]

c. The OPA's overall conclusions of the assessment on the merits of the Pickering Continued Operations were outlined in the OPA's August 15, 2012, letter to OPG[107] in which the OPA indicated its support for OPG's proposed expenditures in 2013 and 2014 to maintain the options of Pickering Continued Operations. The OPA's assessment also suggested an expected cost advantage to the Pickering Continued Operations in the order of approximately $100 million.[108] The PWU notes that the OPA's NPV estimate is different from OPG's $520 million estimate in its 2012 BCS update. OPG identified the main differences between OPG and OPA NPV estimates due to differences in assumptions with respect to the treatment of exports, valuation of carbon emissions and modelling differences.[109] Nevertheless, both estimates showed support for the initiative. The evidence from the OPA also confirms that its continued assessment of the costs and benefits of Pickering Continued Operations in light of evolving circumstances in 2013 and 2014 has produced results that are consistent with its 2012 conclusions:

> **Broadly, the OPA's 2013 and 2014 assessments of the economic costs/benefits of Pickering continued operation tended to yield results that were consistent with its 2012 assessment and supportive of the conclusions and recommendations made.**[110]

d. On August 9, 2013, the CNSC announced its decision to renew Pickering's power reactor operating licence for a 5 year period from September 1, 2013 to August 31, 2018, but required OPG to make submissions on operating beyond 210,000 EFPH, which was referred to as the Regulatory Hold Point. OPG made submissions to the CNSC on

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[106] EB-2010-0008, Decision with Reasons, Page 52
[107] Exhibit F2, Tab 2, Schedule 3, Attachment 2
[108] *Ibid.*
[109] Exhibit L, Tab 6.6, Schedule 2 AMPCO-052, a)
[110] OPA IRR GEC/ED, Page 3, Lines 16-18

this issue and the CNSC released a decision in June 2014 to remove the Regulatory Hold Point.[111]

e. In addition to the financial benefits, the OPA's August 15, 2012 letter identified other non-financial benefits[112] of the initiative including:

   i. The availability of Pickering's 3000 MW would serve as insurance during the period 2015 to 2020, when Ontario's electrical system will be subject to significant uncertainties, including multiple concurrent refurbishment outages and restarts, and potential natural gas-fired generator retirements.

   ii. A potential for the deferral of some investments in transmission enhancements.

   iii. An approximately 11 megatonne reduction in Ontario CO^2 emissions between 2015 and 2020.

135. The initiative is included in the LTEP as a means to facilitate the refurbishment of the first units at Darlington and Bruce by providing replacement capacity and energy without greenhouse gas emissions while managing prices.[113] In this respect, the evaluation of the Pickering Continued Operation initiative as a supply option is not the mandate of the current proceeding. The Board's mandate is to assess the prudence of OPG's expenditures to-date and those planned for 2014. The evidence filed by the OPA and OPG confirms that they are prudent and reasonable.

136. For all the above reasons the PWU submits that the Board should approve:

- OPG's proposed expenditures of $38.9 million for 2014 and the associated impact on the nuclear production forecast ; and,
- OPG's proposed variance between actual and forecast 2013 OM&A through the Capacity Refurbishment Variance Account.

[111] Transcript, Volume 5, Pages 5-6
[112] Exhibit F2, Tab 2, Schedule 3, Attachment 2
[113] Exhibit KT2.2, Page 30

II. CORPORATE COSTS

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

137. OPG has prudently managed its compensation costs. It has appropriately managed those elements of its business that are within its control to minimize costs. Relative to other available alternative outcomes, OPG has pursued and obtained results on a prudent and reasonable basis.

138. The PWU submits that in order for the Board to make a disallowance, a minimum essential precondition is for the Board to make a finding of fact, based on evidence, that there was an alternate course of conduct which was reasonably available to OPG, which, on the balance of probabilities, would have led to a better outcome. In the instant case, there is absolutely no evidence of anything that OPG could have or should have done differently which would have led to a lower cost outcome. Indeed, there is strong evidence to the contrary.

139. In general terms, human resource related costs ("compensation costs") at OPG are determined by the number of employees and the actual payments (compensation levels) made to employees. In turn, these two inputs are a function of a number of other considerations, such as volume or scope of work programs, a predominantly unionized work environment, and a highly educated and skilled workforce that not only requires ongoing training but also merits compensation levels commensurate with the highly technical and sophisticated nature of OPG's business operations.

140. Each of these considerations in turn is determined by a set of other factors. For example, a number of inputs go into collective agreements – an essential and foundational feature of a unionized work environment – including existing business, economic and labour market conditions and historical agreements that act as a basis for each new collective agreement. Most fundamental is the relative bargaining power of the union and management prevailing at the time the agreement is being negotiated.

141. It is apparent that some of the factors which govern these costs are within the control of OPG, whereas others are not. In this regard, there are two issues the Board should consider when determining the reasonableness of compensation costs at OPG:

142. First, OPG's performance in controlling its compensation costs should be assessed relative to the inputs and costs that it can control and not against those over which it has little or no control.

143. Second, in assessing OPG's performance, the Board should give substantial weight to OPG's internal performance trends. It would be unrealistic and inappropriate to expect OPG to achieve significant savings through direct wage cuts or some drastic measures based on point-in-time comparisons of wages levels at OPG against wage levels in other "similar" companies, using a simple application of external cost comparators.

144. Evidence with respect to external comparators has been used in both the present and prior cases. The implicit, but fallacious premise of external comparators is that OPG is participating in the same labour market as external comparators. It is not. Such assumptions ignore the legal environment in which OPG operates. OPG is not legally permitted to replace its existing workforce with employees currently employed by other employers, who are either non-represented, or represented by other trade unions. OPG must negotiate with its existing trade unions as the exclusive legal representatives of its employees.[114]

145. The collective agreements negotiated by other employers and their trade unions will reflect the complex of specific considerations which pertain to that employer and its unions, particularly the considerations which affect the relative bargaining power of each party. There is simply no basis in logic to assume that relationships which are governed by a different combination of inputs should generate comparable outputs.[115]

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[114] OPG's compensation costs would no doubt be different if Ontario labour legislation were different (eg "right to work"). However, the Board, like OPG, must accept the legal landscape (and its consequences) for what it is, not what it wishes it might be.

[115] No one suggests that it would be valid to benchmark OPG's compensation costs against utility workers in India or China. The reason is because the inputs in those jurisdictions are so different than are faced by OPG. However, the same logic applies with respect to domestic comparators. In a collective bargaining environment, the most critical factor affecting outcomes is the relative bargaining power of the

146. In light of the above, and the considerations that are further examined in the following sections, the PWU submits that there is no evidence before the Board that suggests OPG's complement and the compensation levels, and hence OPG's proposed compensation costs, are not reasonable and prudent.

a. Employee Complement & Business Transformation

147. Employee complement is a matter over which OPG has a degree of managerial control. With respect to managerial non-regular and casual employees, OPG has a reasonably high degree of control over complement, subject always to having sufficient numbers to operate its facilities in a safe and reliable fashion, and to perform planned work programs. With respect to PWU and SEP represented staff, OPG faces collective agreement restrictions on involuntary layoffs. This creates a significant limitation on control over unionized complement. However, OPG does have the managerial discretion to not refill vacancies created by retirements and other departures. As a result, attrition creates an opportunity for OPG to manage its unionized complement over time.

148. The PWU submits that, as a result of its BT initiative, OPG has and will reduce its complement through the test period such that it will have no, or at least no material, over-benchmark staff. OPG has effectively managed this issue, and it should no longer be the basis for concern to the Board.

149. As can be seen from Table 2 below, OPG's overall staffing level - both in terms of headcount[116] and FTE - decreases by over 1000 or 10 per cent between 2010 and 2015. For the PWU, the corresponding decrease is over 700 or 13 per cent (headcount) and 10.9 per cent (FTE). The PWU submits that the significant decrease in staffing that has already been achieved and that which is expected to be achieved through the test period has and will significantly contribute to OPG's effort in controlling its OM&A costs.

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employer and the union. There has been no examination of the comparability of this factor as between OPG and the putative comparators, and there is absolutely no basis to simply assume that they are similar.

[116] OPG defines "headcount" as the number of employees at December31 of a year.

PWU Table 2: Staff level – Headcount and FTE – by representation[117]

Headcount (regular and non regular)	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Plan	2015 Plan	2010-2015 (%)
Management	1,067	1,039	1,015	978	1,084	1,063	
Society	3,292	3,198	3,066	2,876	2,995	2,937	
PWU	5,603	5,484	5,372	5,159	4,986	4,853	
PWU change Y over Y		-2.1%	-2.0%	-4.0%	-3.4%	-2.7%	-13.4%
Sub Total – Regular	9,961	9,721	9,453	9,012	9,065	8,853	
Non-Regular	496	463	449	551	464	460	
Total (Regular and Non-Regular Staff)	10,458	10,184	9,902	9,563	9,529	9,314	
Total change Y over Y		-2.6%	-2.8%	-3.4%	-0.4%	-2.3%	-10.9%
FTE (regular and non-regular)							
Management	1,101.7	1,099.2	1,095.6	1,091.0	1,101.0	1,076.3	
Society	3,269.0	3,254.6	3,112.6	2,909.2	3,043.3	2,965.6	
PWU	6,012.9	5,840.7	5,711.0	5,542.0	5,371.7	5,300.3	
PWU change Y over Y		-2.9%	-2.2%	-3.0%	-3.1%	-1.3%	-11.9%
EPSCA	97.2	79.8	86.3	60.2	50.1	53.4	
Total (Regular and Non-Regular Staff)	10,480.8	10,274.4	10,005.5	9,602.5	9,566.1	9,395.6	
Total change Y over Y		-2.0%	-2.6%	-4.0%	-0.4%	-1.8%	-10.4%

150. OPG's evidence also demonstrates that through the multi-year BT initiative launched in 2011, OPG has been able to move to a centre-led model which OPG believes is required to improve efficiencies, avoid duplication of work and reduce work through process streamlining. The PWU, while it remains concerned about the potential adverse impacts of the initiative on the safety and reliability of OPG's operations, recognizes that the BT initiative has helped OPG to respond to opportunities created by attrition, a phenomenon that is outside of OPG's control. For example, instead of automatically backfilling a position, OPG looks at other means of eliminating the work so

[117] Calculated from EB-2013-0321, Undertaking JT2.33

that backfilling is only done when absolutely necessary. OPG now has stricter controls around the rate of new hires:[118]

> **MS. BUTCHER: Yes, I think the BT -- the business transformation program is largely not necessarily about attrition, but our response to attrition, and ensuring that we control our response and look at other means of eliminating the work such that we don't have to backfill.**

151. Under BT, OPG plans on reducing its complement through attrition by 2000 employees by the end of the test period resulting in a reduction to OM&A of $700M between 2011 and 2015.[119] OPG has a staff reduction target of approximately 1300 employees for the regulated operations by the end of 2015 that results in a savings of $620 million. The test period savings by the end of 2015 are approximately $388 million ($171 million in 2014 and $217 million in 2015) with complement reductions of 249 in 2014 and 222 in 2015.[120]

152. OPG's progress also includes:[121]

- **a six per cent reduction in the number of senior positions in 2013;**
- **since 2010, a nine per cent drop in total base salary costs for management; and**
- **continued implementation of a more simplified and streamlined corporate framework.**

153. The other evidence that affirms OPG's year over year performance in so far as staffing level is concerned is the report by Goodnight which OPG retained under the direction from the Board in OPG's last rate case[122] to conduct a staffing analysis that would benchmark OPG nuclear staffing levels against other North American nuclear operators and identify the source of any significant differences in staffing levels. In the prefiled evidence OPG provided Goodnight's initial Nuclear Staffing Study conducted in July 2011 ("the 2011 Nuclear Staffing Study").[123]

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[118] Transcript, Volume 3, Page 5
[119] Exhibit A4, Tab 1, Schedule 1, Page 1
[120] Undertaking, J3.1
[121] Exhibit L, Tab 2.1, Schedule 6, ED-003, Attachment 1, OPG Reports 2013 Financial Results, (PDF Page 25)
[122] EB-2010-0008 Decision with Reasons, March 10, 2011
[123] Exhibit F5, Tab 1, Schedule 1, Part a. Nuclear Staffing Benchmarking Analysis. A Report for Ontario Power Generation. Goodnight Consulting, Inc. February 3, 2012.

154. The 2011 Nuclear Staffing Study identified, as at July 2011, OPG was 17 per cent or 866 FTEs above the benchmark.[124]

155. In 2013 Goodnight updated key portions of their 2011 Nuclear Staffing Study. The 2013 Nuclear Staffing Study concluded that as of February 2013 OPG's staffing benchmark gap was narrowed to 7.6 per cent or 394 FTEs.[125]

156. Goodnight provided updated numbers as of March 31, 2014 and OPG's staffing benchmark gap has narrowed to 4.7 per cent or 244 FTEs.[126] OPG expects to achieve a significant improvement by the end of 2015 and either meet the benchmark or come close to it.[127]

157. Goodnight's March 2014 update is another indication of the overall effort that OPG, with cooperation of the unions, has made in aligning its costs with its declining generation.

158. The PWU submits that there are two lessons that can be learned from the results of the Goodnight reports. First, it is very important to understand that benchmarking studies or comparisons that do not take into account technological differences have little or no value. Valid comparisons require a "like to like" comparison, or at least normalization for known differences. The Goodnight report, by taking into account technological differences between CANDU and PWR/BWR nuclear plants and analyzing the nature of the differences has more realistically presented the staffing level that is appropriate to the type of the technology used. Moreover, the Goodnight series of updates are more useful because they show OPG's performance trend.

159. Second, benchmarking studies or comparisons, even when methodologically sound, must be taken in the context of the unique circumstances of the business organization being compared against its 'peers'. In other words, the benchmarks for specific job functions do not necessarily represent the right staffing numbers for OPG. The evidence indicates that there are specific details of the job functions, processes and regulatory issues that need to be taken into consideration in order to determine the

[124] Exhibit F5, Tab 1, Schedule 1 Part a, Page 34
[125] Undertaking, J6.1
[126] Undertaking, J6.1
[127] Transcript, Volume 6, Pages 19-20 & 48 – 49

"right" staffing numbers for OPG.[128] For example, Goodnight's 2013 report shows that 23 functional areas at OPG are staffed above the benchmark and 16 are staffed below the benchmark.[129] The PWU, during cross examination, asked why some safety-related functional areas remain understaffed or more understaffed in Goodnight's most recent report even though OPG knew that these functional areas were understaffed in Goodnight's 2011 report.

160. The response from OPG's witness was that the benchmarking results must be taken in the context of OPG's specific circumstances and there may be situations where OPG will be justified in being over-staffed or under-staffed in relation to the benchmark and that OPG is looking at the details behind the benchmarking results in order to understand the differences and then determine if something can be done about it.[130] This was also confirmed by OPG's witness during cross examination by the PWU:[131]

> **MS. CARMICHAEL:...**
>
> **So that is what we are doing with the Goodnight results. We are looking at each group, as Ms. Swami said, individually, looking at the processes, looking at where we are different, and now coming up with, are we truly under benchmark? Maybe we are, but that's okay, because we have a different process. Are we over benchmark? There may be areas that, yes, we need to definitely improve upon, but there may be a process issue or some sort of regulatory issue that is driving our levels to be different than the benchmark which are PWRs.**
>
> **MR. STEPHENSON: And that was actually going to be my second question, and I think you have started it already, which is this: Am I right that, while you have indicated before and today that you accept the Goodnight report as being a valid analysis, you don't necessarily accept that the median benchmark number for any particular job function is in fact the right number for OPG. It may well be that in that -- within that particular function you have got certain specific issues that would drive the correct number, the ideal number for you, either somewhat higher or somewhat lower than the benchmark; is that fair?**
>
> **MS. CARMICHAEL: Yes. Because a benchmark is just a benchmark. There is no one company that has exactly those numbers. It is a bunch of companies put together and a median number come up with.**
>
> **And so what we have to do is look at how far we are off the benchmark, figure out -- sort of the devil is in the detail here -- figure out why we are different and look at, is there opportunity for improvement? Absolutely, there is, and we will be doing that, but there is also reasons behind being different from the benchmark, which we would accept as plausible, and we would, you know, continue to be either**

[128] Transcript, Volume 6, Pages 43-44
[129] Exhibit F5, Tab 1, Schedule 1 Part b, Page 25
[130] Transcript, Volume 7, Page 68
[131] Transcript, Volume 6, Page 42-43

under benchmark or over benchmark in these certain areas if there is a valid reason.

...

MS. CARMICHAEL:...

So those are things we are looking at right now as we go through the Goodnight reports and looking at the details and the different processes we have and looking at what the benchmark processes are as well.

So we believe these are benchmarks. It doesn't mean we are over- or understaffed, though that is what the Auditor General wording says. We believe these are benchmarks, and we will look at each one and determine if we are truly overstaffed or understaffed and mitigate those through attrition or hiring or whatever, whatever side of that spectrum it's on.[132]

161. Radiation protection has been identified as a job function that is under benchmark. The review in cross examination of this job function reveals the details explaining why OPG staff numbers are below the benchmark:

MS. CARMICHAEL: ...

If I look to the one at the very end, which is the radiation protection and health physics applied, so in Canada we have a different way of managing our radiation protection in the plant. We train our staff to be able to protect themselves, if you will. So we train them to a high level of rigour in radiation protection skills.

So in comparison to a benchmark in a U.S. utility, they don't do that same kind of training program that we have. So they would have more radiation protection staff in the applied area that actually are there to provide protection.

So that's their sole function, whereas what we do is we train our staff to be able to do the maintenance as well as look after their particular functions -- their radiation protection.

So these benchmarks are a little -- you have to sort of get into the details of them to make sure we have the right numbers.[133]

162. As pointed out by the PWU during cross examination, the same logic applies for job functions that are over the benchmark:

MR. STEPHENSON: I take it that the same logic applies with respect to the over benchmark functions.

MS. CARMICHAEL: That is true.

MR. STEPHENSON: That with respect to some of those over-benchmark functions you accept that you may have too many bodies in that area, but I take it you also

[132] Transcript, Volume 6, Page 45
[133] Transcript, Volume 6, Pages 40-41

will say, Well, actually, for us here at OPG the right number is in fact a number which is higher than the benchmark.

MS. CARMICHAEL: That would be true as well. I can give you a couple of maybe examples, just look at budget and finance, since I am budget and finance for nuclear, you know, I took particular interest in that, and in those numbers you find that they quantify the -- what we consider human resources FTEs that actually process payroll, and in the benchmarks you can find a lot of these payroll-processing individuals to be not in-house but offshore.

So in this case we may look at that and have a reason for why in the budget finance category we may be over benchmark, and as part of our corporate policy or shareholder policy maintain those -- that function in-house.[134]

163. The fact that staffing benchmarking results do not provide the "right number" of staff for OPG is indicative that the benchmark for a specific job function should not be used as a definitive or prescriptive basis to determine if OPG is truly overstaffed or understaffed. While it is meaningful evidence on the issue, minor variances (over or under) cannot be considered to have any meaningful significance.

164. OPG submitted that 5587 nuclear FTEs were benchmarked by Goodnight out of the 8710 FTEs in 2013.[135] Based on OPG's evidence, Goodnight excluded approximately 3100 FTEs in 2013, which included the following: [136]

- 2272 FTEs that were excluded because they are in functions not benchmarkable. These exclusions are attributed to job functions related to activities that are:
    - Unique to CANDU design (e.g. fuel handling, heavy water handling, tritium removal facility)
    - OPG-specific (e.g. Units 2 & 3 Safe Store Support, Darlington Refurbishment, new build, Pickering B Continued Operations) exclusions
    - Generic exclusions for CANDU and PWR activities that are non-baseline/non steady state such outage execution activities.
- 815 FTEs not fully dedicated corporate staffing in the Goodnight analysis.
- 53 FTEs; i.e. the difference between all non-regular FTEs (435) and the contractor FTEs (382).

[134] Transcript, Volume 6, Page 44
[135] Exhibit L, Tab 6.4, Schedule 1, Staff-089, b)
[136] *Ibid.*

165. In the PWU's view, job benchmarking exclusions are appropriate. It is evident that staffing involved in CANDU and OPG-specific activities are not "benchmarkable". The evidence shows that for CANDU-specific functions comparators are minimal. CANDU plants are not comparable to PWR plants as the PWR panel excludes CANDU-specific technology elements. In this respect OPG submitted:

> **MS. CARMICHAEL: Well, we'd have -- so these FTEs are listed, actually, the types of FTEs are on page 14, so they are very specific to CANDU: Fuel-handling, heavy-water-handling, tritium removal facility folks, feeder and fuel channel support, and some other CANDU-specific ones, and those are very specific to CANDU. I mean, we are the only ones that do this kind of work.**
>
> **And so the comparators are very minimal. I mean, we talked, I think, earlier about there only being, I think, ten or 11 plants and eight operators, I think, that do CANDU-specific, and in Canada there is only a very few.**
>
> **And the information -- trying to get that information isn't always accessible, because they are not all publicly -- the information isn't public like ours, so it's very difficult for us to do a proper benchmark on these specific areas because of that.**[137]

166. With respect to the exclusion of outage execution activities, there are two main reasons of why these activities are not benchmarkable. First, as indicated by Goodnight, most work that is performed during outages is not in its benchmark data.[138] Second as described by OPG in cross examination, CANDU outages are very different than the US utilities' outages.[139]

167. The PWU submits that there is no valid basis to extrapolate the results of the Goodnight Nuclear Staffing Study and draw a conclusion as to whether OPG's nuclear organization in its entirety is either overstaffed or understaffed. To the extent that the Goodnight report can be used as a guideline, the results indicate that there is no over complement at OPG through and by the end of the test period. Moreover, for any particular job function the "right" number is not necessarily the benchmark. With respect to BT, it is clear that OPG has no control over attrition (number of departures), but has effectively used BT in responding to attrition –i.e. by hiring new staff only after all other

[137] Transcript, Volume 6, Page 107
[138] Exhibit F5, Tab 1, Schedule 1, Part a, Page 15
[139] Transcript, Volume 6, Pages 114-116

options are considered. In this regard, the evidence before the board shows that hiring declined from a high of 741 in 2008 to 75 in 2013.[140] OPG's rate of rehiring is prudent and reasonable.

168. The Ministry of Energy engaged KPMG in August 2012 to identify large structural and organizational opportunities at OPG and Hydro One in an effort to improve efficiency. According to KPMG:

> **Based on observations from management interviews, business plans and project plans, KPMG believes that OPG has employed a systematic and structured approach to developing a company-wide transformation plan. OPG has incorporated many leading practices for implementing a large business transformation such as assigning dedicated staff to implement the transformation, establishing a program management office, incorporating change management with a focus on cultural change and incorporating business transformation milestones into executive performance plans.**[141]

169. KPMG identified incremental opportunities for OPG and it is submitted that they are *de minimis*.

b. The Collective Agreements

170. OPG inherited collective agreements with the PWU and the Society of Energy Professionals ("SEP") from Ontario Hydro in 1999 when it began operation. According to Dr. Chaykowski, Ontario Hydro labour relations legacy effects were substantial and highly deterministic because OPG was legally bound to accept the existing collective agreements and to recognize and negotiate with the PWU and SEP; and the collective agreements inherited by OPG are highly developed and complex contracts.[142]

171. Unionized employees at OPG make up approximately 90 per cent of OPG's regulated staff. Once a collective agreement is in place it is absolutely binding on the parties[143] and items such as wages, pensions, and benefits can only be changed

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[140] Exhibit A4, Tab 1, Schedule 1, Chart on Page 6 of 9
[141] Exhibit K3.2, OPG Redacted KPMG Ministry of Energy Assessment of Organizational and Structural Opportunities at OPG, Page 7
[142] Exhibit F4, Tab 3, Schedule 1, Attachment 1, An Assessment of the Industrial Relations Context and Outcomes at OPG, Richard P. Chaykowski, September 2013
[143] Exhibit F4, Tab 3, Schedule 1, Attachment 1, An Assessment of the Industrial Relations Context and Outcomes at OPG, Richard P. Chaykowski, September 2013

through the collective bargaining process; they cannot be changed unilaterally by OPG.[144]

172. Subsequent collective agreements build on past agreements and changes can only occur where bargaining produces new arrangements that both sides agree to.[145]

173. The current collective agreements of OPG with the PWU and the SEP are effective until March 31, 2015 and December 31, 2015, respectively and the negotiating parties are legally bound by the agreements.[146]

174. The PWU wage increases provided under agreement are: April 1, 2012 – 2.75 per cent; April 1, 2013 - 2.75 per cent; and April 1, 2014 - 2.75 per cent.

175. The compensation rates for PWU represented staff for the balance of the test period beginning April 1, 2015 will be determined by future collective bargaining. For the purposes of this proceeding however, OPG has forecast that compensation rates for PWU represented staff will not increase for the period beginning April 1, 2015 other than a one per cent increase for step progression.

176. In the PWU's view this is a very aggressive assumption on behalf of OPG and one that will be a significant challenge for it to meet. If OPG fails to achieve it, it will be a significant cost to OPG, a cost which it will not be able to recover in rates. In the PWU's submission, there can be no basis whatsoever to suggest that OPG's compensation rates for the period after April 1, 2015 are anything other than reasonable and prudent.

i. "Net Zero"

177. The current PWU collective agreement was negotiated in early 2012 and at the time OPG was under a "net zero" direction from the Government which allowed for increases in compensation to be offset by cost savings elsewhere in the collective agreement. The current collective agreement resulted in savings of $22 million/year that

[144] Exhibit F4, Tab 3, Schedule 1, Page 7
[145] Exhibit F4, Tab 3, Schedule 1, Page 7
[146] Unlike commercial contracts, collective agreements are not subject to "efficient breach", and are subject to specific enforcement by arbitrators and/or the Ontario Labour Relations Board.

offset the $21 million year over year wage increase.[147] The cost and productivity offsets in the PWU Agreement included:[148] [149]

- **Elimination of the Goalsharing bonus**
- **Elimination of Radiation Protection Clothing**
- **Net savings in health and dental**
- **Efficiency Gains- MAR and Shift Turnover**
- **Adding "Radiation Protection Technicians" to the hiring hall**
- **Hard threshold PSA**
- **Ability to "claw back" family time taken but not repaid**
- **Extension of targeted severance provisions.**

178. OPG was also able to achieve savings beyond the net zero amount due to a large overall net savings associated with staff reductions and a smaller saving resulting from adding a third year to the collective agreement.[150] OPG succeeded in achieving a net zero increase and for the first time a net benefit reduction was realized.

179. To satisfy the Governments expectation regarding "net zero", OPG provided the calculations associated with the net costs and savings and it was accepted by the Government.[151]

180. In the 2013 OPG-SEP Interest Arbitration Award, Arbitrator Albertyn stated that the most important comparator for the OPG-SEP collective agreement was the OPG-PWU collective agreement. Based on the evidence presented, Arbitrator Albertyn concluded that the PWU agreement resulted in a net cost to OPG of 0.75% per year over the three-year agreement, not net zero. Arbitrator Albertyn awarded wage increases to the SEP-represented employees of 0.75 per cent in 2013, 1.75 per cent in 2014 and 1.75 per cent in 2015.[152] Arbitrator Albertyn is a labour relations specialist specifically tasked to determine the appropriate compensation under the collective agreement. His decision is legally binding on both the employer and the union.

181. For strategic labour relations reasons, OPG chose not to disclose information to Arbitrator Albertyn on the additional savings it achieved in regard to the PWU, related to staff reductions and adding a third year to the collective agreement referred to in OPG's

[147] Undertaking JT2.34
[148] Undertaking JT2.34
[149] Exhibit L, Tab 6.8, Schedule 1, Staff 101
[150] Undertaking JT2.34
[151] Undertaking JT2.34
[152] Exhibit L, Tab 6.8, Schedule 17, SEC-106, Attachment 1, Page 28

net zero calculation that was provided to the Government.[153] In any event, the payment amounts as filed are premised on the approved 2013-15 Business Plan, which assumed a zero per cent increase for the SEP in the existing collective agreement. As a result, the increase awarded by Arbitrator Albertyn is not reflected in OPG's payment amounts filing.

182. During interrogatories OPG stated that the test period revenue requirement would be approximately $30 million lower if the wage increases OPG negotiated with the PWU had been equivalent to the wage increases awarded by the Interest Arbitrator to SEP staff.[154] However, there is no evidence whatsoever that this was in any sense an achievable result for OPG in its bargaining with the PWU.[155] The PWU submits that this was not a viable option for OPG because the negotiations with the PWU and the SEP took place in different time periods and under different terms.

183. During negotiations with the PWU bargaining reached an impasse, triggering the appointment of a conciliation officer under the Ministry of Labour.

> **MR. FITZSIMMONS: ... So given that, in light of the fact that it would appear that what had been bargained to at that point was an impasse, that I doubt that there was any further room to go in terms of achieving the same economic result in terms of the increases that was achieved with the Society.[156]**

184. With the SEP, OPG was under an "absolute zero" direction from the Government, which did not allow for wage increases to be offset by cost savings making the prospect of a negotiated agreement almost impossible.[157] OPG was unable to negotiate an agreement with the SEP and the mediation/arbitration process was needed whereby an interest arbitrator believed that a lower wage increase was warranted with no cost offsets awarded[158] [159]

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[153] Undertaking JT2.34
[154] Exhibit L, Tab 6.8, Schedule 1, Staff-101 c)
[155] In the absence of a finding of fact (on the balance of probabilities) that a desired alternate outcome was actually achievable with reasonable diligence, there can be no basis for a finding that the actual outcome was not a prudent one.
[156] Transcript, Volume 7, Pages 162-163
[157] Exhibit L, Tab 6.8, Schedule 1, Staff-101 a)
[158] Exhibit L, Tab 6.8, Schedule 1, Staff-101 a)
[159] The fact that OPG was unable to achieve a negotiated settlement with the SEP is some evidence that such an outcome was likewise unattainable in the earlier negotiations with the PWU. In the PWU's situation, however, the consequences of a failed negotiation is not binding arbitration, it is a work stoppage.

185. In any particular round of collective bargaining the relative bargaining power of the two parties is the critical factor driving outcomes. Some of the factors that determine relative bargaining power are:[160]

- Employer's ability to threaten to take the work elsewhere, to simply shut down and move to another jurisdiction;
- Threat of insolvency; and
- Employer's ability to operate in the face of a work stoppage.

186. Dr. Chaykowski addresses the issue of bargaining power in his report and he states:

> **The set of main factors that determine the relative bargaining power of the major unions and OPG – including sensitivity to the public's reliance on uninterrupted electricity supply and, therefore, reliance upon interest arbitration – all function to increase the bargaining power of the unions relative to the bargaining power of OPG.[161]**

187. This evidence was not contested, contradicted, or disputed.

188. OPG's management has concluded that it is not possible to operate its nuclear business in the event of a PWU work stoppage.[162] The financial impact to OPG of a PWU work stoppage during the 2014-2015 test period would be a loss of approximately $6.7 million/day.[163] This evidence was not challenged.

189. Even if OPG considered the option of a work stoppage, when dealing with a commodity that has a significant public impact, such as electricity, it is very unlikely that the Government would allow a lengthy work stoppage, and some form of arbitration would be mandated to resolve the dispute.[164] The PWU notes that in terms of outcomes between collective agreements determined by the bargaining and the strike threat scenario versus collective agreements determined by interest arbitration, interest arbitration awards tend to be more generous to the workers.[165]

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[160] Transcript, Volume 7, Pages 165-167
[161] Exhibit F4, Tab 3, Schedule 1, Attachment 1
[162] Transcript, Volume 3, Pages 21-22
[163] Undertaking, J3.2
[164] Transcript, Volume 7, Page 168
[165] Transcript, Volume 7, Pages 168-169

DR. CHAYKOWSKI: I would agree with that. In fact, it's sort of well-known that in a lot of cases, unions tend to prefer interest arbitration. That's true very generally in industrial relations, because they realize they tend to get better outcomes.[166]

190. During the oral hearing it was noted that the benchmarking reports available in this proceeding and previous proceedings, however informative, do not influence the outcome in collective bargaining.[167]

191. However, Dr. Chaykowski talked to the importance of relativities in collective bargaining:

It is really looking at a relevant, comparable comparator in the collective bargaining world. And I think I gave the example of the collective bargaining unit across the street kind of thing, with the similar union, similar workers, similar line of business, et cetera.[168]

192. In collective bargaining the important comparators are recently completed collective agreements from similar employer-employee bargaining units:

MR. RUBENSTEIN: ...
I just want to be clear, because there was a lot of discussion last week. When we're talking about -- when we're talking about external relativities, we're not talking about benchmarking of the actual positions. We're talking about, what are other -- in other negotiations or other completed collective agreements and in other awards in sort of similar -- or however the arbitrator determines what a similar employer-employee situation is. That is what we're looking at here?

DR. CHAYKOWSKI: Yes. Yes, that's exactly what it is, and I was making that distinction the other day between the role of benchmarking studies in both collective bargaining and interest arbitration versus this idea of comparable bargaining units. And it is comparable bargaining units that are relevant here.[169]

193. In considering the prudence of OPG's compensation costs arising from a collective agreement, the Board must recognize that, once the collective agreement has been entered into, OPG is legally obliged to pay the costs that arise out of that collective agreement. The sole exception to this is if the Board finds, as a fact, that through the exercise of management discretion, OPG is able to reduce or avoid some aspect of the costs payable under the agreement. In the case of the current agreements, the only such possibility would be for OPG to reduce complement through non-replacement of

[166] Transcript, Volume 7, Page 169
[167] Transcript, Volume 7, Pages 170-171
[168] Transcript, Volume 8, Page 53
[169] Transcript, Volume 9, Page 79

voluntary departures. However, OPG's application already assumes and accounts for OPG's handling of such departures (i.e. Business Transformation). As a result, the Board must assume that OPG's obligation to pay these compensation costs has already been incurred, and that these costs are not practically or legally avoidable, and must be treated as "committed" costs.

194. In accordance with the decision of the Ontario Court of Appeal in *PWU v. Ontario Energy Board*[170] it is unreasonable for the Board to disallow costs that the utility is not legally able to avoid paying.[171] As a result, the Board's task is limited to considering the prudence of OPG's actions in negotiating and agreeing to current collective agreements. That consideration must, by its nature be limited to:

a. Information available, or reasonably available, to OPG at the time of those negotiations. It cannot be based on hindsight, using after-acquired information; and

b. A consideration of OPG's actions relative to the alternative courses of action available to it at the time, including the likely outcomes of those alternative courses of action.

195. In the case of the PWU collective agreement, as described above, the uncontradicted evidence was that the PWU has significant bargaining power arising from the fact that OPG is unable to operate most or all of its system in the face of a work stoppage of any duration. In the absence of a negotiated agreement, OPG's options are to provoke a work stoppage which will, in turn, cause it to incur very substantial financial losses as well as exposing electricity consumers to very substantial loss of electrical service. The most probable outcome is that the government would send the dispute to binding arbitration, likely resulting in a collective agreement as favourable, or more favourable to the PWU as was obtained through collective bargaining.

196. The uncontradicted evidence is that both OPG and the PWU bargained hard and reached an impasse. Settlement was only achieved through the intervention of a

[170] 2013 ONCA 359 (CanLII)
[171] *supra,* at para. 37

employee bargaining agents. The OEB will know this from its own experience in collective bargaining with the SEP.

201. Like OPG, the OEB's compensation costs are ultimately paid by Ontario ratepayers. Like OPG, the OEB has been under a government directive to control compensation costs. Like OPG, the OEB is subject to a legal regime under which it must collectively bargain with its employees' bargaining agent, and is legally bound to pay the compensation rates established in the collective agreement. Finally, the OEB/SEP collective agreement was specifically referenced as a comparator in the OPG/SEP interest arbitration.[173]

202. Exhibit K7.4 Tab D is an excerpt from the Collective Agreement between the OEB and the SEP for the period of June 2011 through March 2015. Article 40 sets out the wage schedules for the period of the agreement. It reveals that the OEB and the SEP agreed to a wage freeze in Years 1 and 2, followed by an 8 per cent increase in Year 3 and a further 2.9 per cent increase in Year 4. Over the term of the agreement, this is an average annual compound increase in excess of 2.5 per cent (excluding progression increases). This is closely comparable to the increases under the PWU collective agreement in the present case, and significantly in excess of the increases in the OPG/SEP collective agreement.

203. This comparison is not made to be critical of the Board in its performance in collective bargaining, or in its stewardship of expenses ultimately borne by ratepayers, but rather to demonstrate the limitations on what employers are actually able to achieve in collective bargaining, regardless of their intentions, determination and resolve. That said, to the extent that the Board may seek to rely upon collective bargaining outcomes as some evidence that OPG has not been prudent, it is reasonable to require the Board to reconcile its own collective bargaining achievements with those of OPG.

204. During the course of the hearing, it was suggested that the Board is disadvantaged in its assessment of the reasonableness of the collective agreements because those negotiations occur on a binary basis, between OPG and the respective union, without a place for other stakeholders at the bargaining table. The PWU submits

[173] Exhibit L, Tab 6.8, Schedule 17, SEC-107, Attachment 1, Page 16

provincially appointed facilitator. OPG ultimately achieved its objective of a "net zero" outcome. One of OPG's key goals was ensuring that nothing in the collective agreement would constrain its ability to implement BT. It achieved that goal.

197. In conclusion, there is absolutely no evidence that OPG conducted itself during the negotiations with the PWU in any way which was imprudent or unreasonable. There is no evidence that any more favourable outcome was available to OPG through any other course of action.

198. In the case of the SEP, the analysis is even more straightforward. In the absence of a negotiated agreement, OPG was legally required to take the dispute to binding arbitration, which it did. The arbitrator's award is legally binding on both OPG and the SEP. There is absolutely no evidence that OPG conducted itself during the negotiations or arbitration with the SEP in any way which was imprudent or unreasonable. There is no evidence that any more favourable outcome was available to OPG through any other course of action.

199. In its written submissions, Board Staff describes the Board's role with respect to compensation as ensuring that OPG "pays no more than it needs to" for labour.[172] The PWU does not disagree with this characterization, however, it begs the question as to how the Board determines what OPG "needs to pay" for labour. The factual and legal reality is that the amounts OPG "needs to pay" for unionized labour are the amounts that OPG is required to pay, pursuant to collective agreements to which OPG is bound. So long as OPG acted reasonably in entering into those collective agreements (bearing in mind the alternatives reasonably available to it), those costs are prudently incurred costs.

200. The Board's task in assessing OPG's compensation costs is not to attempt to recreate the world as the Board would like it to be. Rather, it is to assess the reasonableness of OPG's conduct, given the factual and legal context in which OPG operates. One reality which the Board must understand is the challenge faced by employers who must, by law, negotiate collective agreements with sophisticated

[172] Board Staff Submission, August 19, 2014, Page 78

that this concern is ill-founded, and misplaced. Many, if not most of OPG's costs that are subject to the Board's review arise out of innumerable contracts negotiated between OPG and a commercial counterparty. In every such case, these contracts are negotiated on a binary basis, without the presence of other stakeholders at the bargaining table. The Board has never been prevented from assessing the reasonableness of the costs arising from these contracts. The Board is no different position in assessing the reasonableness of the costs arising from the collective agreements.[174]

205. The reality is that OPG presented extensive evidence to the Board, both in open session, and *in camera*, regarding the negotiation process. There is no suggestion that OPG was anything other than forthcoming in providing all requested information.

c. Wage levels

206. Between 2010 and 2015 OPG's total compensation and benefit cost for its regulated operations is projected to grow by a bit more than one per cent per year.[175] The wages paid by OPG are actually decreasing over this period due to complement reductions as a result of OPG's BT program.

207. If pension and OPEB costs are excluded from total regulated compensation costs, it provides a normalized compensation cost which actually declines by approximately 4.64 per cent between 2010 and 2015.[176] Normalized total compensation for the PWU declines by 0.82 per cent between 2010 and 2015. Pension and OPEB cost increases are beyond OPG's control and are driven primarily by changes in discount rates and assumptions about mortality rates (see section (e) Pension below) and OPG should be assessed on the aspects of compensation costs that it can control.

208. As discussed earlier compensation costs for about 90 per cent of OPG's employee's are a function of collective agreements and the negotiating parties are legally bound by the agreements. Changes to a collective agreement can only occur where bargaining produces new arrangements that both sides agree to.

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[174] It is worth noting that, contrary to typical commercial contract negotiations, parties in collective bargaining are under a statutory obligation to bargain in good faith.
[175] Exhibit F4, Tab 3, Schedule 1, Page 2 of 43
[176] Undertaking J9.7, Attachment 1

209. The vast majority of OPG's employees work in the nuclear area. For these employees, it is clear that OPG's only relevant comparator is Bruce Power:

- It is the only other nuclear generator in Ontario and in terms of the nature of the jobs and the nature of the skills that are required, it is a very close comparator;
- There is a traceable common origin to OPG's and Bruce Power's businesses and the compensation rates;
- OPG and Bruce Power face common challenges with respect to demographics and recruitment;
- Bruce Power is an unregulated, private sector operator and is a "market test" for OPG; and
- With respect to the unionized employees, there is common representation (i.e. the PWU and the SEP) for both OPG and Bruce Power.

210. Bruce Power is a privately owned, non-regulated generation company. Presumably, this is a company where costs, including labour costs face "market discipline" and are managed on a competitive basis. Nevertheless, a wage comparison conducted following the last round of negotiations between the PWU and Bruce Power indicate that OPG has been successful at maintaining the 2013 PWU wage rates much lower than what has been achieved at Bruce Power.[177]

211. In a comparison of OPG's base wage increases for the PWU since 2001 to the increases in the other Ontario Hydro successor companies (dealing with the same bargaining agents), OPG negotiated increases have been at or below most of the successor companies. A comparison of recent (2010-2013) negotiated increases where data is available shows that OPG has continued to achieve equal or lower increases.[178]

212. According to Dr. Chaykowski, an expert in industrial relations, OPG wage settlements are consistently either at or below the wage increases that have been negotiated at the most appropriate comparators in the electricity industry; and the salary levels of individual occupations compare closely as well.[179]

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[177] Exhibit F4, Tab 3, Schedule 1, Page 10 & Transcript, Volume 8, Pages 9-10
[178] Exhibit F4, Tab 3, Schedule 1, Table 3, Page 11 of 43
[179] Exhibit F4, Tab 3, Schedule 1, Attachment 1

213. OPG retained AON Hewitt ("AON") to conduct an independent compensation benchmarking survey that was filed with this application. AON reported on OPG's percentage variance from the 'market's' 50th percentile – a comparison against a broad cross section of firms. The AON survey is simply a point-in-time comparison and far from an apples-to-apples comparison and not informative with respect to performance trends. It would be wrong to rely on the AON survey alone and penalize OPG through blanket cost cuts. The PWU submits that there is no evidence in AON's survey that indicates what compensation costs are actually achievable for OPG with respect to the PWU. The AON survey does not speak to what factors led which employers to agree to pay any particular amount, and whether those factors are present or absent in the OPG/PWU relationship. PWU compensation costs are negotiated through collective bargaining and these costs are committed and incurred for the test period. Any changes to a collective agreement can only occur where bargaining produces new arrangements that both sides agree to.

214. In addition, although there was insufficient data to quantify a premium for work in Canadian nuclear organizations, the AON report notes that nuclear positions are paid a premium of between 0-30 per cent over similar non-nuclear positions.[180] The PWU agrees with OPG and believes it is reasonable to assume that such a premium would also apply in Canada, which would tend to drive compensation above the 50th percentile.

215. OPG operates in a unionized environment and it is a highly technical organization that requires highly skilled and trained workers to operate its mix of generation technologies. Many positions at OPG have significant educational prerequisites and also have rigorous requirements for continuing training and periodic requalification.[181] The work force at OPG must possess a wider array of skills and knowledge than employees in many other utilities and because the vast majority of OPG employees' work is related to nuclear generation, they require extensive knowledge, adherence to very detailed procedures, particular skills and comprehensive training

[180] Exhibit F5, Tab 4, Schedule 1, AON Hewitt, National Utility Survey Ontario Power Generation, Survey Findings, September 6, 2013, Page 41
[181] Exhibit L, Tab 2.1, Schedule 6, ED-003, Attachment 1, Page 27, OPG Management's Discussion and Analysis, December 31, 2013

unique to the nuclear industry.[182] All of these realities must be taken into consideration when assessing OPG's compensation costs. It is submitted that OPG's wage levels are appropriate and should be approved by the Board.

d. Overtime

216. There has been concern expressed by parties in this and past proceedings in relation to overtime costs at OPG. OPG generally uses overtime as a tool to minimize costs and to ensure that production is sustained or available and/or to replace critical resources that are absent from work (i.e. vacation, maternity leave, etc.).

217. The allocation of overtime at OPG is largely within the control of management. Management has several options when it comes to completing its workload in any given year which could include:

- Assigning overtime;
- Hiring more regular employees;
- Hiring external resources; and
- Taking longer to complete an outage.

218. OPG's allocation of overtime is based on rational economic decision-making. OPG considers aggregate costs and production when making a determination with respect to the allocation of overtime and the associated costs.[183] OPG incurs overtime costs when it is cheaper to do so as compared to the alternatives and the majority of overtime is related to outages.[184]

219. A nuclear outage costs approximately $1 million per day.[185] OPG strategically uses overtime during outages because it is more cost effective than maintaining permanent outage staff. OPG maximizes the number of hours and the number of shifts an employee can work to ensure that the outage is completed in a compressed amount of time while at the same time ensuring safety at all times.

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[182] OPG Argument-in-Chief, Pages 86-87
[183] Transcript, Volume 8, Pages 15-16
[184] Transcript, Volume 8, Page 16
[185] Transcript, Volume 11, Page 18

220. PWU and SEP staff overtime premiums are prescribed by the collective agreements and there is also provincial legislation specific to overtime over which OPG has no control.

221. OPG has been successful in reducing overtime in recent years:

> **I know it's been an issue with the Board. And at one point in time in the 1990s, we had about a 10 percent overtime rate. And now it's gone down to 5. And we use overtime more strategically, and make sure there is a business case for it, whereas in the past maybe it may have been more ad hoc.**[186]

222. OPG's Hydroelectric and Corporate Groups actual overtime from 2010 to 2013 was close to budget. Actual overtime for Nuclear was over budget from 2010 to 2013 but the costs were offset by other labour resources (i.e. external purchased services). OPG aims to be on budget for Nuclear in total across the various labour resourcing alternatives (non-regular labour, overtime, augmented staff and purchased services) and the overtime budget is kept low in order to limit its use.[187]

223. OPG is forecasting the percentage of overtime to decrease in the test years, 9.3 per cent in 2014 and 10.3 per cent in 2015, as compared to 12.8 percent in 2010.[188]

224. According to the Goodnight Nuclear Staffing Study, OPG's use of overtime compares favourably with U.S. plants:

> **The Goodnight Nuclear Staffing Study (Ex. F2-1-1) found that OPG's use of overtime for base operations was comparable to the U.S. PWR comparator group. Average overtime use in Nuclear was seven per cent in 2010 and six per cent in 2011, which compared favourably with U.S plants, which were at five per cent - six per cent (Ex. F5-1-1 page 20).**[189]

225. OPG's overtime reporting is done on a monthly basis, by individual with pre-approved overtime limits as well as overtime limits that cannot be exceeded.[190]

226. OPG has taken actions and has implemented tighter controls that include prior approval and regular monitoring and reporting:

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[186] Transcript, Volume 4, Page 154
[187] Undertaking J11.1
[188] Undertaking J11.2
[189] Exhibit F2, Tab 2, Schedule 1, Page 5 of 17
[190] Transcript, Volume 7, Pages 105-106

Tighter controls to improve the management and oversight of overtime have been communicated to all managers:

- **All overtime must have prior approval by the accountable line manager.**
- **Approval is contingent on the existence of the appropriate business driver and a rationale must be provided by the accountable manager.**
- **All overtime must be within approved budgets unless there is a business justification (e.g. replacing or reducing contractor costs, or emergency work).**

Once the duration and timing of the overtime is established by management, the collective agreements establish the amount of overtime premium based on when the work is required. Compliance with the overtime controls is monitored and reported regularly.[191]

227. OPG performed a cost benefit analysis and reviewed and revised the work schedule for a particular class of employees (inspection maintenance workers) to reduce the amount of overtime required due to the fact that this is where much of OPG's overtime occurs with respect to outages.[192] [193] OPG has provided this analysis in confidence in response to SEC Interrogatory #119.[194]

228. OPG's continued commitment to reducing overtime is also evident in its actions that are planned and completed and/or underway:[195]

- **Conduct comprehensive assessment of contractor control framework, including contract structures, time capture and approval processes and tools.**
- **Implement time tracking system for contractors at nuclear sites.**
- **Implemented enhanced management process approvals and controls to limit individual overtime in Nuclear.**
- **NEW: Enhanced management processes, approvals and controls to limit individual overtime in Nuclear. Actions allowed within the current collective agreements have been implemented to bring outliers into normal practice and better manage overtime.**

229. It is submitted that OPG has explained the overtime levels and how its allocation of overtime is based on a rational economic decision that looks at the effects on aggregate costs and production. Overtime occurs as a matter of necessity and OPG

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[191] Undertaking, J11.3
[192] Transcript, Volume 11, Pages 16-17
[193] Transcript Volume 7, Page 108
[194] L-6.8-17 SEC-119, Attachment 1
[195] Undertaking JT2.26, Attachment 1, Page 4

incurs overtime costs when it is cheaper to do so as the other alternatives are simply more expensive.

e. Pension

230. As can be seen from PWU Table 3 below, OPG's total pension and OPEB costs for nuclear, previously regulated hydroelectric and newly regulated hydroelectric underpinning the proposed payment amounts for the test year period are $675.9 million in 2014 and $618.1 million in 2015.

PWU Table 3: Pension and OPEB Costs for Total Prescribed Assets ($M)*

	2010 Actual	2011 Actual	2012 Actual	2013 Projection	2014 Plan	2015 Plan
Total Pension Costs	104.0	221.6	312.6	414.4	471.3	405.3
Total OPEB Costs	168.2	229.5	249.0	280.9	204.6	212.8
Total Pension and OPEB Costs	272.2	451.1	561.6	695.3	675.9	618.1

* Total pension and OPEB costs for 2010, 2011 and 2012 actuals and 2013 projections are based on pension and OPEB costs for nuclear, previously regulated hydroelectric and newly regulated hydroelectric provided in Charts 2, 3 and 4 of Exhibit F4, Tab 3, Schedule 1. Plan 2014 and plan 2015 are based on pension and OPEB for total prescribed assets provided in Chart 1 of Exhibit N2, Tab 1, Schedule 1.

231. Pension and OPEB cost changes are largely governed by factors that are beyond the control of OPG such as discount rates and demographics assumptions (e.g., mortality rates, termination rates and retirement rates). The discount rate has been the most significant factor driving the increase in pension and OPEB costs in recent years. OPG discount rates for pension and other post-retirement benefits decrease from 6.8 per cent and 6.9 per cent in 2010[196] to 4.9 per cent and 5 per cent in the test years,[197] respectively. OPG's evidence indicates that a change in discount rate of 0.25 per cent would result in a change in pension and OPEB costs of $60 million per year.[198] A linear extrapolation of this impact suggests that an increase in discount rate for pension and OPEB of 1 per cent would lead to an increase in pension and OPEB costs of about $240 million.

[196] Exhibit F4, Tab 3, Schedule 1, Page 30, Chart 1
[197] Exhibit N2, Tab 1, Schedule 1, Page 5, Line 15
[198] Exhibit N1, Tab 1, Schedule 1, Attachment 4, Page 17

232. Pension and OPEB are incorporated by reference into the PWU and Society of Energy Professionals' collective agreements. As such, pension and OPEB, like wages, are outcomes of collective bargaining and are subject to all the same constraints with respect to bargaining power and bargaining outcomes as discussed earlier in relation to wages. They are part of the collective agreements reached through negotiations based on mutual interests and areas of trade-offs between the parties.[199] Since subsequent collective agreements build on past agreements, changes can only occur where bargaining produces new arrangements that both sides can agree to.[200]

233. Pension and OPEB payable to employees and retirees covered by a collective agreement are committed costs during the period of the collective agreement and subject to reduction only through collective bargaining.[201] OPG also notes that it is precluded by law from reducing accrued pension benefits payable to its employees (even with the agreement of the union – assuming such agreement were ever forthcoming).[202] OPG's evidence indicates that there has been no increase in the benefits offered by OPG to plan members since EB-2010-0008.

234. OPG's registered pension plan is a traditional, single employer contributory defined benefit plan. Under the plan OPG provides benefits to plan members on retirement. OPG's registered pension plan is funded by members and OPG contributions. Independent actuarial valuations are performed periodically to determine the funded status of the registered pension plan and contributions that are required to fund any deficit. Contributions to the OPG registered pension plan are determined by actuarial valuations. As indicated by OPG, pension contributions are governed by collective agreements and must take into account legal considerations.[203]

i. Employer-Employee Contribution Ratio

235. The PWU notes that the employer/employee contribution ratio has been an issue raised in this proceeding. The employer/employee contribution ratio can be measured based on current service cost or the total employer payments covering current service

[199] EB-2010-2008, Issue 6.8, Exhibit L, Tab 11, Schedule 22, Page 2, Lines 6-9
[200] Exhibit F4, Tab 3, Schedule 1, Page 7
[201] OPG Argument-in-Chief, Page 104
[202] *Ibid.*
[203] Exhibit L, Tab 6.8, Schedule 1 Staff-121, c)

cost and special payments related to plan deficits. OPG noted that the ratio quoted by the Auditor General's report is measured based on both payments for the current service cost and special payments.[204] OPG indicated that the common practice to measure contribution ratios is on the basis of current service costs. On that basis, the employer/employee contribution ratio for OPG is 3:1[205] which is comparable with Ontario Hydro successor companies and other electricity sector companies (Hydro One, Bruce Power, IESO).[206]

236. OPG confirmed in cross examination that the employer/employee ratio is an output which is arithmetically derived after the fact.[207] When the employer/employee ratio is measured on the basis of current service cost, the ratio is determined by the level of employee contribution as well as by the current service cost which in turn is an output determined by other factors such as discount rates and assumptions about demographics. If the employer/employee ratio is based on employer total payment, the ratio would be determined by an additional factor - the deficit/surplus position of the pension plan.

237. The PWU submits that the establishment of a predetermined employer/employee ratio in OPG's pension plan requires a fundamental structural change to the pension plan. Such a change could not occur without the agreement of the respective unions and/or legislative change.

238. Simple comparisons to pension plans with 50/50 contribution schemes fail to recognize the fundamental structural differences between the two types of plan. For example, under 50/50 schemes, the administration of the plan (including its investments) is joint. Under the PWU plan, employees and retirees have no control or even input into plan administration. Under a 50/50 scheme, both parties get the benefit of any surplus in the plan. Under the PWU plan, if there is a surplus, OPG can be excused from making some or all of the contributions it would otherwise be required to

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[204] Exhibit L, Tab 6.8, Schedule 1 Staff-121, a)
[205] The calculation of the employer/employee contribution ratio based on current service cost of 3:1 was documented in Undertaking JT2.37
[206] Exhibit L, Tab 6.8, Schedule 1 Staff-121, a)
[207] Transcript, Volume 8, Page 25

make. On the other hand, employees continue to make contributions, even when the plan is in surplus.

239. There is an ongoing systemic review by the Government of Ontario of the sustainability of pension in the electricity sector.[208] In the PWU's view the Board should not attempt to deal with, on an *ad-hoc* basis, changes in cost sharing, governance, and other provisions of pension and OPEB plans and, therefore, should not disallow any cost thereof underpinning OPG's proposed payment amounts for the test year period.

ii. Cash Basis vs. Accrual Basis of Cost Recovery

240. The PWU submits that the use of accrual accounting for determining pension and OPEB costs underpinning OPG's payment amounts for the test year period is appropriate. As noted by OPG, OEB approved the accrual-based methodology for determining OPG's pension and OPEB costs underpinning OPG's payment amounts in EB-2007-0905 and EB-2010-0008.[209]

241. The PWU agrees with OPG that reflecting pension and OPEB costs in payment amounts, as per accrual accounting, at the time they arise results in the appropriate matching of costs and benefits, thereby avoiding intergenerational equity issues. Under the accrual basis, pension and OPEB-related costs are incurred/recognized and benefits are earned/recognized as the employee renders the service, as opposed to cash basis in which costs and benefits are recognized when the actual contributions or benefit payments are made.

242. The evidence shows that switching OPG's existing accrual method of cost recovery to the cash method will result in a major negative impact to OPG's financial results. As indicated by OPG the change from an accrual accounting to the cash basis method would result in a reduction to OPG's net income of $379.1 million in the test year period.[210] OPG also stated that it may have to reverse its recognition of USGAAP regulatory assets of up to $3 billion, which currently offset unamortized amounts for

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[208] Exhibit No. K7.4: PWU Cross-Examination Compendium for Panel 5, Tab E. Ontario Budget 2014 (excerpt). In January 2014, the government appointed Jim Leech, former CEO of the Ontario Teachers' Pension Plan, as Special Advisor, Electricity Sector Pension Sustainability, with a mandate to provide recommendations on initiatives to improve the sustainability and affordability of the plans.
[209] OPG Argument in Chief, Page 95
[210] Undertaking J13.7

pension and OPEB that are recognized in other comprehensive income ("AOCI").[211] OPG notes that USGAAP, currently in use at OPG, requires the use of accrual accounting for pension and OPEB.

243. The PWU notes that under the current accrual method of cost recovery, OPG amortizes actuarial gains and losses and past service costs for pension and OPEB over future periods. Under current accrual method of cost recovery, unamortized amounts for pension and OPEB are recognized in AOCI and OPG uses a Regulatory Asset to offset those unamortized amounts. This mechanism is described by OPG as follows:

> **Unamortized amounts, in respect of OPG's pension and OPEB plans that are recognized in AOCI, are not generally reflected in the regulated prices until these amounts are reclassified from AOCI, and recognized as amortization components of the benefit costs in respect of these plans. As such, OPG recognizes an offsetting regulatory asset for the unamortized amounts that have not yet been reclassified from AOCI to benefit costs. The regulatory asset is reversed, as underlying unamortized balances are amortized as components of the benefit costs**[212]

244. In the PWU's view, the current accrual method of cost recovery has a rate smoothing effect. As OPG points out, the amortization of the underlying unamortized balance in AOCI as components of the benefit costs are recognized over future periods and, in the PWU's view, its corresponding rate smoothing effects, were recognized on the expectation that the cost recovery would remain unchanged.

245. With regard to OPEB, the PWU agrees with OPG that the cash basis method is not appropriate as it does not recognize future OPEB obligations that are being incurred in the present. In the PWU's view, reflecting OPEB costs in payment amounts when the actual benefit payments are made to retirees in the future, and not at time the costs arise (i.e. in the present when the employee service is considered to be rendered and the benefit is considered to be earned), may result in a significant mismatch between cost and benefits thereby creating intergenerational equity issues.

246. The PWU notes that the Board, in its EB-2010-0008 Decision with Reasons, found no compelling reason to change OPG's existing use of the accrual method. At the time the Board stated:

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[211] *Ibid.*

[212] Exhibit L, Tab 2.1, Schedule 6, ED-003. OPG Consolidated Financial Statements, December 31, 2013, Page 29

> **The Board in this case sees no compelling reason to change OPG's existing approach of using the accrual method. Consistency in accounting treatment, in order to compare results year to year, is advantageous for purposes of assessing the level of costs for reasonableness. A consistent approach over time also ensures a greater level of fairness for ratepayers and the company.[213]**

247. Since the circumstances with respect to OPG's pension and OPEB-related costs and their recovery have not changed since EB-2010-0008, there is no compelling reason why OPG should change its cost recovery method.

248. In the PWU's view a change to the cash basis of cost recovery of pension and OPEB amounts does not provide consistency in accounting treatment in order to compare results year over year for the purpose of assessing the level of cost for reasonableness. The issue of consistency also arises considering accounting treatment of pension and OPEB across the electricity utility sector. With regard to OPEB, for example, OPG indicates that all Ontario utilities use the accrual basis of accounting for recovery of costs in rates.[214] The PWU agrees with OPG that if the Board were to consider a change in the method of recovery of pension and OPEB costs, a generic proceeding that would address potential implications would be the appropriate forum.

249. The PWU submits that it would be inappropriate to change the cost recovery method for pension and OPEB because of a concern over near-term rate impacts. In the case of pension, for example, there is no evidence before the Board that shows the cash basis method would produce more favorable impacts over the long-run. In fact, the evidence before the Board indicates that in only one year (i.e. 2013) of the six years covering the period 2008-2013, did the cash basis method result in lower pension costs compared to the accrual method.[215]

250. Moreover a change to the cash method would be harmful to OPG's financial well-being. On top of the reduction in OPG's net income of $379.1 million and a further weakening of its financial ratios and the corresponding increase in OPG's financial risk, OPG has stated that it might have to reverse its recognition of the $3 billion in regulated assets for unamortized amounts recorded in AOCI in respect of pension and OPEB

[213] EB-2010-0008 Decision with Reasons, Page 91
[214] OPG Argument-in-Chief, Page 106
[215] OPG Argument-in-Chief, Chart 4, Page 105

obligations. Consistent with one of the Board's statutory objectives –i.e., ensuring the financial viability of regulated utilities, it is important that the Board recognize these potential financial adverse impacts on OPG.

251. To conclude, there is no evidence in this proceeding that OPG's proposed pension and OPEB costs underpinning the proposed payment amounts for the 2014 and 2015 test years period are unreasonable or that OPG's method of cost recovery is inappropriate.

252. To the extent that the Board is of the view that there is merit in considering the issue of a change in accounting treatment for pension and OPEBs, it is submitted that a generic proceeding is the most appropriate method for that review. It is apparent that:

a. This is an issue which is applicable to most regulated utilities in Ontario;

b. There is value in consistent treatment (and if not, an examination of whether inconsistent treatment is justified or even preferred is warranted);

c. The financial implications of forcing changes upon utilities is significant, and the full extent, seriousness and manageability of those implications has not been thoroughly canvassed; and

d. This issue is of such potential significance it warrants a proceeding in which it is the focus, rather than one of many complex issues in a lengthy rates case.

253. These circumstances warrant a generic proceeding, if further inquiry into this issue is required.

254. The PWU notes that Board Staff is proposing the forced creation of a segregated account for OPEB costs collected in excess of annual cash costs.[216] In addition to the thorny questions regarding the Board's legal jurisdiction to make such an order, this issue gives rise to similar issues as the "cash vs. accrual" issue. Insofar as the Board is of the view that this proposal merits consideration, it is submitted that the proper forum for that consideration would be a generic proceeding, involving all regulated utilities.

[216] Board Staff Submission, Page 94

F. METHODOLOGIES FOR SETTING PAYMENT AMOUNTS

Issue 11.3: To what extent, if any, should OPG implement mitigation of any rate increases determined by the Board? If mitigation should be implemented, what is the appropriate mechanism that should be used?

255. At page 132 of its written submissions, Board Staff submits that the Board should consider measures to mitigate the rate impact that would otherwise arise from the regulation of the newly regulated hydraulic assets. The mitigation measure proposed is an incremental disallowance of $52.7 million (or using Board Staff's term, OPG would "forgo" the amount). It is clear that the sole purpose of this proposed disallowance is to mitigate rate impact. In other words, absent the rate impact issue, Board Staff would be satisfied that these are prudently incurred costs.

256. Board Staff's proposal is inconsistent with the Board's legal obligations on a cost of service application. The decision of the Federal Court of Appeal in *Transcanada Pipelines Ltd. v. National Energy Board*,[217] deals directly with this issue. For a rate to be "just and reasonable" it must be just and reasonable to both the customers and to the utility. For a rate to be just and reasonable to the utility, it must permit the utility to recover all of its prudently incurred costs.[218] The Board cannot deny the recovery of prudently incurred costs merely because the recovery of those costs has, what is perceived to be, an undesirable impact on customers.[219] The Board may adopt temporary measures, in the form of a deferral, in order to smooth the rate impact that might otherwise occur, so long as there is "no economic loss to the utility in the process".[220] Although the cost at issue in *Transcanada* was the costs of equity capital, the court is very clear that all costs are to be treated the same, and the cost of capital was simply the example that had arisen in that case.[221]

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[217] 2004 FCA 149 (CanLII). This decision and this principle was specifically approved and adopted by the Board in EB-2009-0084
[218] *supra,* at para. 33-34
[219] *supra*, para. 36, 42
[220] *supra*, para. 43
[221] *supra*, para. 34 Of course there is no reason in accounting or in logic to treat the cost of equity capital differently than any other cost. Since the return available to shareholders is the net income of the entity

257. What is being proposed by Board Staff is not mitigation by way of a deferral that holds the utility economically harmless. It is an impermissible disallowance of otherwise prudently incurred costs. For this reason, the proposal should be rejected.

G. CONCLUSION

258. For all the above reasons, and considerations that call for the Board's appropriate judgement with respect to the individual components of the application, the PWU respectfully submits that OPG's proposed 2014 and 2015 payment amounts for its prescribed assets are reasonable and prudent, and therefore merits Board approval as proposed.

All of which is respectfully submitted.

(i.e. total revenue less total expenses), any disallowance to any cost item, whether ROE or any other line item, has precisely the same effect on shareholders. Therefore a disallowance of a non-ROE line item effectively decreases ROE, albeit indirectly.