



Actuarial Report

Ontario Power Generation Inc.

Report on the Estimated Accounting Cost for Post Employment Benefit Plans for Fiscal Years 2013 to 2015

January 1, 2013 to December 31, 2015

Contents

Introduction	1
Actuarial Report	3
Schedule 1—Summary of Estimated 2013 US GAAP Results	6
Schedule 2—Summary of Estimated 2014 US GAAP Results	7
Schedule 3—Summary of Estimated 2015 US GAAP Results	8
Schedule 4—Summary of Estimated 2013 Canadian GAAP Results	9

Introduction

This report summarizes the estimated accounting costs for fiscal years 2013 through 2015 for the post employment benefit plans sponsored by Ontario Power Generation Inc. ("OPG").

This report covers the following plans sponsored by OPG:

- Ontario Power Generation Inc. Pension Plan ("RPP");
- Ontario Power Generation Inc. Supplementary Pension Plan ("SPP");
- Non-pension Post Retirement Plan which provides other post retirement benefits ("OPRB") including retiree medical, dental, life insurance, and retirement bonus benefits; and
- Post Employment Plan which provides long-term disability benefits ("LTD") including sick leave benefits before LTD begins and the continuation of medical, dental and life insurance while on LTD.

Collectively SPP, OPRB and LTD are known as Other Post Employment Benefits ("OPEB").

The results cover the fiscal years from January 1, 2013 to December 31, 2015. The results have been developed in accordance with US generally accepted accounting principles ("US GAAP") under ASC 715, 712 and 710 and, for the fiscal year from January 1, 2013 to December 31, 2013, Canadian generally accepted accounting principles ("Canadian GAAP") under CICA Handbook–Accounting (Part V), Section 3461 ("CICA 3461").

The results in this report do not include amounts related to the benefit plans of the Nuclear Waste Management Organization, which are included in OPG's consolidated financial statements.

Unless otherwise stated all assumptions, data elements, methodologies, plan provisions, and information about assets reflected in this report are the same as those underlying and/or contained in the December 31, 2012 disclosure reports ("the Reports") prepared by Aon Hewitt in accordance with US GAAP for the post employment benefit plans sponsored by OPG. These disclosure reports were dated March, 2013 and are titled as follows:

- US GAAP Accounting Information Non-pension Post-retirement and Post-employment Benefits Plans; and
- US GAAP Accounting Information – Pension Plans.

Introduction (continued)

All figures are shown in Canadian \$000s.

Sincerely,

Aon Hewitt Inc.

A handwritten signature in black ink, appearing to read "Linda M. Byron".

Linda M. Byron
Fellow of the Society of Actuaries
Fellow of the Canadian Institute of Actuaries

September 2013

Aon Hewitt Inc.

A handwritten signature in black ink, appearing to read "Gregory W. Durant".

Gregory W. Durant
Fellow of the Society of Actuaries
Fellow of the Canadian Institute of Actuaries

Actuarial Report

Results for Fiscal Years 2013 to 2015

OPG's total estimated pension and OPEB costs for fiscal years 2013 through 2015 as determined in accordance with US GAAP and, for fiscal year 2013, Canadian GAAP are as follows:

(in Canadian \$ 000's)	US GAAP			Canadian GAAP
	2013	2014	2015	2013
RPP	\$ 473,282	\$ 444,498	\$ 426,544	\$ 473,282
SPP	28,553	28,796	29,105	28,553
OPRB	257,010	258,469	260,490	257,010
LTD	<u>35,338</u>	<u>36,219</u>	<u>37,142</u>	<u>38,333</u>
Total	\$ 794,183	\$ 767,982	\$ 753,281	\$ 797,178

The estimated 2013 costs for the RPP, SPP and OPRB plans under both US GAAP and Canadian GAAP are not expected to change, unless a significant event, such as a curtailment or settlement or any other unexpected changes to OPG's operations were to take place prior to December 31, 2013. The final 2013 cost under US GAAP and Canadian GAAP for the LTD plan will be determined at December 31, 2013 based on applicable information and assumptions at that date.

The final 2014 and 2015 costs for all plans under US GAAP will be determined based on applicable information, experience and assumptions in the future.

Further details of the above OPG-wide estimated costs, by plan, as well as OPG's estimated contributions to the RPP fund and benefit payments for OPEB, are provided in Schedules 1 through 4 to this report.

Actuarial Report (continued)

Actuarial Methods and Assumptions

The actuarial methodology and accounting policies used in the development of the estimated costs for fiscal years 2013 through 2015 under US GAAP and, for fiscal year 2013, Canadian GAAP are summarized below.

- Benefit obligations for RPP, SPP and OPRB are determined using the projected benefit method prorated on service;
- Benefit obligations for LTD are determined using the projected benefit method on a terminal basis such that the total estimated future benefit is attributed to the year of service in which a disability occurs;
- The discount rates have been determined in accordance with US GAAP and Canadian GAAP. The discount rates have been set with reference to those representative of AA corporate bond yields in Canada having a duration similar to the liabilities of the plans. The December 31, 2012 discount rates were 4.30% per annum for determining the estimated 2013 through 2015 RPP and SPP costs, 4.40% per annum for determining the estimated 2013 through 2015 OPRB costs, and 3.50% per annum for determining the estimated 2013 through 2015 LTD costs. The actual discount rate as at December 31, 2013 will be used to determine the final 2013 LTD cost under US GAAP;
- A building block approach was used in determining the expected long-term rate of return on plan assets. Historical markets are studied and long-term historical relationships between equities and fixed-income are preserved consistent with the widely accepted capital market principle that assets with higher volatility generate a greater return over the long run. Current market factors such as inflation and interest rates are evaluated before long-term capital market assumptions are determined. The long-term portfolio return is established using target asset allocations, via a building block approach with proper consideration of diversification and rebalancing. An expected rate of return on assets of 6.25% per annum determined using the above approach was used for determining the estimated 2013 through 2015 RPP costs;
- Other actuarial assumptions are management's best estimate of future events, as determined in consultation with independent actuaries and as set out in the Reports. These assumptions include the inflation rate and the salary scale increase rate, which were established at 2.00% per annum and 2.50% per annum (plus Promotion, Progression, Merit), respectively;
- The active membership headcount is first calculated for each business unit based on the assumed decrements and then compared to the estimated active December 31, 2013 and December 31, 2014 headcounts for each business unit. As the calculated headcounts exceed the estimated headcounts, additional employees are assumed to retire to reduce the headcounts. The estimated December 31, 2013 active headcount used is 10,654 (i.e., 6,285 for Nuclear, 2,021 for Hydro / Thermal and 2,348 for Corporate). The estimated December 31, 2014 active headcount used is 10,360 (i.e., 6,158 for Nuclear, 1,982 for Hydro / Thermal and 2,220 for Corporate);
- Actuarial gains or losses for RPP, SPP and OPRB have been amortized using the 10% corridor method, except where immediate recognition is required under US GAAP and Canadian GAAP for non-routine events during the year (none expected during 2013 through 2015);

Actuarial Report (continued)

- Past service costs for RPP, SPP and OPRB have been amortized on a straight-line basis over the expected average remaining service lifetime at the amendment date, except where immediate recognition is required under US GAAP and Canadian GAAP for non-routine events during the year (none expected during 2013 through 2015);
- For LTD, under US GAAP, all actuarial gains and losses and past service costs are required to be recognized immediately in the cost. Therefore, under US GAAP, the cost is equal to the change in the benefit obligation plus benefit payments. Under Canadian GAAP, the change in the obligation due to changes in economic assumptions is deferred and amortized, and the sum of the following is recognized immediately: (i) the change in the obligation at the end of the year compared to the obligation at the beginning of the year on the same economic basis and (ii) actual benefit payments. In addition, past service costs are also deferred and amortized; and,
- Expected return on assets and amortization of actuarial gains/losses are based on a market-related value of assets where investment gains and losses on equity assets in excess of an expected return of 6.0% per annum plus the increase in Consumer Price Index are smoothed over five years.

The latest actuarial valuation as of January 1, 2011 for funding purposes of the RPP is the basis of contributions for 2013. The next actuarial valuation for funding purposes must have an effective date no later than January 1, 2014. In order to project contributions to the RPP for 2014 and 2015, an estimate of the going concern and solvency positions of the RPP is required.

The contributions for 2014 and 2015 are estimated based on the projected going concern and solvency funded status as of January 1, 2014. All funding assumptions used are the same as those used for the funding valuation as of January 1, 2011, updated to reflect the following for the determination of the estimated solvency funded status:

- The non-indexed discount rates were 2.50% per annum for the first 10 years and 3.70% per annum thereafter for commuted values, and 2.96% per annum for annuity purchase. The indexed discount rates were 1.10% per annum for the first 10 years and 1.30% per annum thereafter for commuted values;
- The mortality assumption was the 1994 Uninsured Pensioners Mortality Tables with fully generational mortality projection using Scale AA; and,
- The estimated wind-up expenses were \$73,400,000.

Schedule 1—Summary of Estimated 2013 US GAAP Results

The following table provides a summary of the estimated US GAAP results for 2013 for the post employment benefit plans sponsored by OPG. The estimated net periodic pension/benefit cost for the period January 1, 2013 to December 31, 2013 is determined based on the balance sheet items at January 1, 2013.

(in Canadian \$ 000's)	RPP	SPP	OPRB	LTD
Net Asset (Liability) Recognized as at January 1, 2013				
Projected Benefit Obligation	\$ (13,614,479)	\$ (293,242)	\$ (2,871,995)	\$ (290,026)
Fair Value of Plan Assets	<u>10,286,143</u>	<u>0</u>	<u>0</u>	<u>0</u>
Net Asset (Liability) Recognized	\$ (3,328,336)	\$ (293,242)	\$ (2,871,995)	\$ (290,026)
Amounts Recognized in Accumulated Other Comprehensive Income as at January 1, 2013				
Unrecognized Past Service Costs (Credits)	\$ 0	\$ 0	\$ 3,973	\$ 0
Unrecognized Net Actuarial Loss (Gain)	4,518,837	101,341	944,582	0
Unrecognized Transition Obligation (Asset)	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total Accumulated Other Comprehensive Loss (Income)	\$ 4,518,837	\$ 101,341	\$ 948,555	\$ 0
Components of Estimated Net Periodic Pension/Benefit Cost, January 1, 2013 to December 31, 2013				
Employer Current Service Cost	\$ 287,535	\$ 9,646	\$ 79,804	\$ 24,808
Interest Cost	586,807	12,855	128,334	10,530
Expected Return on Plan Assets	(644,460)	0	0	0
Amortization of Past Service Cost	0	0	535	0
Amortization of Net (Gain) Loss	<u>243,400</u>	<u>6,052</u>	<u>48,337</u>	<u>0</u>
Total Cost	\$ 473,282	\$ 28,553	\$ 257,010	\$ 35,338
2013 Estimated Employer Pension Contributions / Benefit Payments	\$ 380,000	\$ 7,863	\$ 70,237	\$ 27,933

Schedule 2—Summary of Estimated 2014 US GAAP Results

The following table provides a summary of the estimated US GAAP results for 2014 for the post employment benefit plans sponsored by OPG. The estimated net periodic pension/benefit cost for the period January 1, 2014 to December 31, 2014 is determined based on the projected balance sheet items at January 1, 2014.

(in Canadian \$ 000's)	RPP	SPP	OPRB	LTD
Projected Net Asset (Liability) Recognized as at January 1, 2014				
Projected Benefit Obligation	\$ (13,971,270)	\$ (307,880)	\$ (3,007,952)	\$ (297,431)
Fair Value of Plan Assets	<u>10,794,263</u>	<u>0</u>	<u>0</u>	<u>0</u>
Net Asset (Liability) Recognized	\$ (3,177,007)	\$ (307,880)	\$ (3,007,952)	\$ (297,431)
Estimated Amounts Recognized in Accumulated Other Comprehensive Income as at January 1, 2014				
Unrecognized Past Service Costs (Credits)	\$ 0	\$ 0	\$ 3,438	\$ 0
Unrecognized Net Actuarial Loss (Gain)	4,274,226	95,289	894,301	0
Unrecognized Transition Obligation (Asset)	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total Accumulated Other Comprehensive Loss (Income)	\$ 4,274,226	\$ 95,289	\$ 897,739	\$ 0
Components of Estimated Net Periodic Pension/Benefit Cost, January 1, 2014 to December 31, 2014				
Employer Current Service Cost	\$ 295,529	\$ 9,887	\$ 78,815	\$ 25,420
Interest Cost	602,290	13,489	134,156	10,799
Expected Return on Plan Assets	(674,099)	0	0	0
Amortization of Past Service Cost	0	0	535	0
Amortization of Net (Gain) Loss	<u>220,778</u>	<u>5,420</u>	<u>44,963</u>	<u>0</u>
Total Cost	\$ 444,498	\$ 28,796	\$ 258,469	\$ 36,219
2014 Estimated Employer Pension Contributions / Benefit Payments	\$ 268,000	\$ 8,159	\$ 75,511	\$ 28,644

Schedule 3—Summary of Estimated 2015 US GAAP Results

The following table provides a summary of the estimated US GAAP results for 2015 for the post employment benefit plans sponsored by OPG. The estimated net periodic pension/benefit cost for the period January 1, 2015 to December 31, 2015 is determined based on the projected balance sheet items at January 1, 2015.

(in Canadian \$ 000's)	RPP	SPP	OPRB	LTD
Projected Net Asset (Liability) Recognized as at January 1, 2015				
Projected Benefit Obligation	\$ (14,341,560)	\$ (323,097)	\$ (3,143,307)	\$ (305,006)
Fair Value of Plan Assets	<u>11,208,910</u>	<u>0</u>	<u>0</u>	<u>0</u>
Net Asset (Liability) Recognized	\$ (3,132,650)	\$ (323,097)	\$ (3,143,307)	\$ (305,006)
Estimated Amounts Recognized in Accumulated Other Comprehensive Income as at January 1, 2015				
Unrecognized Past Service Costs (Credits)	\$ 0	\$ 0	\$ 2,903	\$ 0
Unrecognized Net Actuarial Loss (Gain)	4,053,371	89,869	847,233	0
Unrecognized Transition Obligation (Asset)	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total Accumulated Other Comprehensive Loss (Income)	\$ 4,053,371	\$ 89,869	\$ 850,136	\$ 0
Components of Estimated Net Periodic Pension/Benefit Cost, January 1, 2015 to December 31, 2015				
Employer Current Service Cost	\$ 297,539	\$ 10,134	\$ 78,658	\$ 26,068
Interest Cost	618,101	14,134	139,987	11,074
Expected Return on Plan Assets	(698,581)	0	0	0
Amortization of Past Service Cost	0	0	535	0
Amortization of Net (Gain) Loss	<u>209,485</u>	<u>4,837</u>	<u>41,310</u>	<u>0</u>
Total Cost	\$ 426,544	\$ 29,105	\$ 260,490	\$ 37,142
2015 Estimated Employer Pension Contributions / Benefit Payments	\$ 381,000	\$ 9,057	\$ 80,875	\$ 29,374

Schedule 4—Summary of Estimated 2013 Canadian GAAP Results

The following table provides a summary of the estimated Canadian GAAP results for 2013 for the post employment benefit plans sponsored by OPG. The estimated net periodic pension/benefit cost for the period January 1, 2013 to December 31, 2013 is determined based on the balance sheet items at January 1, 2013.

(in Canadian \$ 000's)	RPP	SPP	OPRB	LTD
Accrued Benefit Asset (Liability) as at January 1, 2013				
Accrued Benefit Obligation	\$ (13,614,479)	\$ (293,242)	\$ (2,871,995)	\$ (290,026)
Fair Value of Plan Assets	<u>10,286,143</u>	<u>0</u>	<u>0</u>	<u>0</u>
Excess (Deficit)	\$ (3,328,336)	\$ (293,242)	\$ (2,871,995)	\$ (290,026)
Unrecognized Past Service Costs (Credits)	0	0	3,973	1,199
Unrecognized Net Actuarial Loss (Gain)	<u>4,518,837</u>	<u>101,341</u>	<u>944,582</u>	<u>57,628</u>
Accrued Benefit Asset (Liability)	\$ 1,190,501	\$ (191,901)	\$ (1,923,440)	\$ (231,199)
Components of Estimated Net Periodic Pension/Benefit Cost, January 1, 2013 to December 31, 2013				
Employer Current Service Cost	\$ 287,535	\$ 9,646	\$ 79,804	\$ 24,808
Interest Cost	586,807	12,855	128,334	10,530
Expected Return on Plan Assets	(644,460)	0	0	0
Amortization of Past Service Cost	0	0	535	393
Amortization of Net (Gain) Loss	<u>243,400</u>	<u>6,052</u>	<u>48,337</u>	<u>2,602</u>
Total Cost	\$ 473,282	\$ 28,553	\$ 257,010	\$ 38,333
2013 Estimated Employer Pension Contributions / Benefit Payments	\$ 380,000	\$ 7,863	\$ 70,237	\$ 27,933