ONTARIO POWER GENERATION INC.

CONSOLIDATED FINANCIAL STATEMENTS

DECEMBER 31, 2016

STATEMENT OF MANAGEMENT'S RESPONSIBILITY FOR FINANCIAL INFORMATION

Ontario Power Generation Inc.'s (OPG) management is responsible for the presentation and preparation of the annual consolidated financial statements and Management's Discussion and Analysis (MD&A).

The consolidated financial statements have been prepared in accordance with United States generally accepted accounting principles (US GAAP) and the rules and regulations of the United States Securities and Exchange Commission for annual financial statements. The MD&A has been prepared in accordance with the requirements of securities regulators, including National Instrument 51-102 of the Canadian Securities Administrators and its related published requirements.

The consolidated financial statements and information in the MD&A necessarily include amounts based on informed judgments and estimates of the expected effects of current events and transactions with appropriate consideration to materiality. Something is considered material if it is reasonably expected to have a significant impact on the Company's earnings, cash flow, value of an asset or liability, or reputation. In addition, in preparing the financial information, we must interpret the requirements described above, make determinations as to the relevancy of information to be included, and make estimates and assumptions that affect the reported information. The MD&A also includes information regarding the impact of current transactions and events, sources of liquidity and capital resources, operating trends, and risks and uncertainties. Actual results in the future may differ materially from our present assessment of this information because future events and circumstances may not occur as expected.

In meeting our responsibility for the reliability of the financial information, we maintain and rely on a comprehensive system of internal controls and internal audits, including organizational and procedural controls and internal controls over financial reporting. Our system of internal controls includes: written communication of our policies and procedures governing corporate conduct and risk management; comprehensive business planning; effective segregation of duties; delegation of authority and personal accountability; careful selection and training of personnel; and accounting policies, which we regularly update. This structure ensures appropriate internal controls over transactions, assets and records. We also regularly test internal controls. These controls and testing are designed to provide us with reasonable assurance that the financial records are reliable for preparing financial statements and other financial information, assets are safeguarded against unauthorized use or disposition, liabilities are recognized, and we are in compliance with all regulatory requirements.

Management, including the President and Chief Executive Officer (CEO) and the Chief Financial Officer (CFO), is responsible for maintaining disclosure controls and procedures (DC&P) and internal controls over financial reporting (ICOFR). DC&P is designed to provide reasonable assurance that all relevant information is gathered and reported to senior management, including the President and CEO and the CFO, on a timely basis so that appropriate decisions can be made regarding public disclosure. ICOFR is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of the consolidated financial statements in accordance with US GAAP.

An evaluation of the effectiveness of the design and operation of OPG's DC&P and ICOFR was conducted as of December 31, 2016. Accordingly, we, as OPG's President and CEO and CFO, will certify OPG's annual disclosure documents filed with the Ontario Securities Commission, which includes attesting to the design and effectiveness of OPG's DC&P and ICOFR.

The Board of Directors, based on recommendations from its Audit and Risk Committee, reviews and approves the consolidated financial statements and the MD&A, and oversees management's responsibilities for the presentation and preparation of financial information, maintenance of appropriate internal controls, management and control of major areas of financial risk, and assessment of significant and related party transactions.

The consolidated financial statements have been audited by Ernst & Young LLP, independent external auditors appointed by the Board of Directors. The Independent Auditors' Report outlines the auditors' responsibilities and the scope of their examination and their opinion on OPG's consolidated financial statements. The independent external auditors, as confirmed by the Audit and Risk Committee, had direct and full access to the Audit and Risk Committee, with and without the presence of management, to discuss their audit and their findings therefrom, as to the integrity of OPG's financial reporting and the effectiveness of the system of internal controls.

Jeff Lyash (signed)
President and Chief Executive Officer

Ken Hartwick (signed)
Chief Financial Officer and Senior Vice President – Finance

March 10, 2017

INDEPENDENT AUDITORS' REPORT

To the Shareholder of Ontario Power Generation Inc.

We have audited the accompanying consolidated financial statements of Ontario Power Generation Inc., which comprise the consolidated balance sheets as at December 31, 2016 and 2015, and the consolidated statements of income, comprehensive income, cash flows, and changes in shareholder's equity for the years then ended, and a summary of significant accounting policies and other explanatory information.

Management's Responsibility for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with United States generally accepted accounting principles, and for such internal controls as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We conducted our audits in accordance with Canadian generally accepted auditing standards. Those standards require that we comply with ethical requirements and plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, the auditors consider internal controls relevant to the entity's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal controls. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.

We believe that the audit evidence we have obtained in our audits is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of Ontario Power Generation Inc. as at December 31, 2016 and 2015 and the results of its operations and its cash flows for the years then ended in accordance with United States generally accepted accounting principles.

Toronto, Canada

March 10, 2017

Ernst & Young LLP (signed)

Chartered Professional Accountants,
Licensed Public Accountants

CONSOLIDATED STATEMENTS OF INCOME

Years Ended December 31 *(millions of dollars except where noted)*	**2016**	**2015**
Revenue *(Note 16)*	**5,653**	5,476
Fuel expense *(Note 16)*	**727**	687
Gross margin	**4,926**	4,789
Expenses *(Note 16)*		
Operations, maintenance and administration	**2,747**	2,783
Depreciation and amortization *(Note 4)*	**1,257**	1,100
Accretion on fixed asset removal and nuclear waste management liabilities *(Note 8)*	**929**	895
Earnings on nuclear fixed asset removal and nuclear waste management funds *(Note 8)*	**(746)**	(704)
Income from investments subject to significant influence	**(37)**	(39)
Property taxes	**46**	45
Restructuring	**6**	6
	4,202	4,086
Income before other (gains) losses, interest and income taxes	**724**	703
Other (gains) losses *(Note 16)*	**(17)**	14
Income before interest and income taxes	**741**	689
Net interest expense *(Note 7)*	**120**	180
Income before income taxes	**621**	509
Income tax expense *(Note 9)*	**168**	92
Net income	**453**	417
Net income attributable to the Shareholder	**436**	402
Net income attributable to non-controlling interest	**17**	15
Basic and diluted net income per common share *(dollars)*	**1.70**	1.57
Common shares outstanding *(millions)*	**256.3**	256.3

See accompanying notes to the consolidated financial statements

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

Years Ended December 31 *(millions of dollars)*	**2016**	**2015**
Net income	**453**	417
Other comprehensive income, net of income taxes *(Note 10)*		
Actuarial (loss) gain and past service costs on re-measurement of liabilities for pension and other post-employment benefits [1]	**(6)**	148
Reclassification to income of amounts related to pension and other post-employment benefits [2]	**12**	18
Net loss on derivatives designated as cash flow hedges [3]	**-**	(5)
Reclassification to income of losses on derivatives designated as cash flow hedges [4]	**19**	16
Unrealized loss on available-for-sale securities [5]	**(1)**	-
Other comprehensive income	**24**	177
Comprehensive income	**477**	594
Comprehensive income attributable to the Shareholder	**460**	579
Comprehensive income attributable to non-controlling interest	**17**	15

[1] Net of income tax recovery of $2 million and income tax expense of $49 million for 2016 and 2015, respectively.
[2] Net of income tax expenses of $4 million and $7 million for 2016 and 2015, respectively.
[3] Net of income tax recoveries of nil and $2 million for 2016 and 2015, respectively.
[4] Net of income tax expenses of $2 million for each of 2016 and 2015.
[5] Net of income tax expenses of nil for each of 2016 and 2015.

See accompanying notes to the consolidated financial statements

CONSOLIDATED STATEMENTS OF CASH FLOWS

Years Ended December 31 *(millions of dollars)*	**2016**	**2015**
Operating activities		
Net income	**453**	417
Adjust for non-cash items:		
Depreciation and amortization *(Note 4)*	**1,257**	1,100
Accretion on fixed asset removal and nuclear waste management liabilities *(Note 8)*	**929**	895
Earnings on nuclear fixed asset removal and nuclear waste management funds *(Note 8)*	**(746)**	(704)
Pension and other post-employment benefit costs *(Note 11)*	**464**	483
Deferred income taxes *(Note 9)*	**(36)**	33
Mark-to-market on derivative instruments	**3**	(218)
Provision for used nuclear fuel and low and intermediate level nuclear waste	**118**	117
Regulatory assets and liabilities	**(170)**	170
Provision for materials and supplies	**42**	28
Other	**(25)**	9
	2,289	2,330
Contributions to nuclear fixed asset removal and nuclear waste management funds *(Note 8)*	**(150)**	(143)
Expenditures on fixed asset removal and nuclear waste management *(Note 8)*	**(275)**	(218)
Reimbursement of eligible expenditures on nuclear fixed asset removal and nuclear waste management *(Note 8)*	**70**	76
Contributions to pension funds and expenditures on other post-employment benefits and supplementary pension plans *(Note 11)*	**(363)**	(480)
Expenditures on restructuring	**(6)**	(16)
Distributions received from investments subject to significant influence	**52**	51
Net changes to other long-term assets and liabilities	**20**	(6)
Net changes to non-cash working capital balances *(Note 17)*	**68**	(129)
Cash flow provided by operating activities	**1,705**	1,465
Investing activities		
Purchase of available-for-sale securities	**(213)**	-
Investment in deposit note *(Note 6)*	**-**	(180)
Proceeds from deposit note *(Note 6)*	**110**	-
Net proceeds from sale of property, plant and equipment	**-**	3
Investment in property, plant and equipment and intangible assets *(Note 16)*	**(1,704)**	(1,376)
Cash flow used in investing activities	**(1,807)**	(1,553)
Financing activities		
Issuance of long-term debt *(Note 6)*	**334**	245
Repayment of long-term debt *(Note 6)*	**(273)**	(503)
Settlement of cash flow hedges	**-**	(9)
Distribution to non-controlling interest	**(14)**	(16)
Issuance of short-term notes *(Note 7)*	**3,108**	2,628
Repayment of short-term notes *(Note 7)*	**(3,331)**	(2,403)
Cash flow used in financing activities	**(176)**	(58)
Net decrease in cash and cash equivalents	**(278)**	(146)
Cash and cash equivalents, beginning of year	**464**	610
Cash and cash equivalents, end of year	**186**	464

See accompanying notes to the consolidated financial statements

CONSOLIDATED BALANCE SHEETS

As at December 31 *(millions of dollars)*	**2016**	**2015**
Assets		
Current assets		
Cash and cash equivalents	**186**	464
Available-for-sale securities *(Note 18)*	**212**	-
Receivables from related parties *(Note 18)*	**429**	545
Nuclear fixed asset removal and nuclear waste management funds *(Notes 8 and 16)*	**24**	15
Fuel inventory *(Note 16)*	**310**	344
Materials and supplies *(Note 16)*	**100**	96
Regulatory assets *(Note 5)*	**-**	628
Prepaid expenses	**200**	92
Other current assets *(Notes 4 and 6)*	**286**	206
	1,747	2,390
Property, plant and equipment *(Notes 4, 15, and 16)*	**29,315**	29,469
Less: accumulated depreciation	**9,317**	8,874
	19,998	20,595
Intangible assets *(Notes 4 and 16)*	**503**	476
Less: accumulated amortization	**404**	378
	99	98
Other assets		
Nuclear fixed asset removal and nuclear waste management funds *(Notes 8 and 16)*	**15,960**	15,121
Long-term materials and supplies *(Note 16)*	**345**	337
Regulatory assets *(Note 5)*	**5,855**	5,240
Investments subject to significant influence *(Note 19)*	**321**	336
Other long-term assets *(Note 6)*	**47**	133
	22,528	21,167
	44,372	44,250

See accompanying notes to the consolidated financial statements

CONSOLIDATED BALANCE SHEETS

As at December 31 *(millions of dollars)*	**2016**	**2015**
Liabilities		
Current liabilities		
Accounts payable and accrued charges *(Note 18)*	**1,164**	1,199
Short-term debt *(Note 7)*	**2**	225
Deferred revenue due within one year	**12**	12
Long-term debt due within one year *(Note 6)*	**1,103**	273
Income taxes payable	**123**	66
Regulatory liabilities *(Note 5)*	**-**	26
	2,404	1,801
Long-term debt *(Notes 6 and 18)*	**4,417**	5,186
Other liabilities		
Fixed asset removal and nuclear waste management liabilities *(Notes 8 and 16)*	**19,484**	20,169
Pension liabilities *(Note 11)*	**3,012**	2,597
Other post-employment benefit liabilities *(Note 11)*	**2,897**	3,085
Long-term accounts payable and accrued charges	**213**	207
Deferred revenue	**298**	246
Deferred income taxes *(Note 9)*	**829**	880
Regulatory liabilities *(Note 5)*	**310**	34
	27,043	27,218
Equity		
Common shares *(Note 14)* [1]	**5,126**	5,126
Retained earnings	**5,534**	5,098
Accumulated other comprehensive loss *(Note 10)*	**(295)**	(319)
Equity attributable to the Shareholder	**10,365**	9,905
Equity attributable to non-controlling interest *(Note 21)*	**143**	140
Total equity	**10,508**	10,045
	44,372	44,250

[1] 256,300,010 common shares outstanding at a stated value of $5,126 million as at December 31, 2016 and 2015.

Commitments and Contingencies *(Notes 6, 9, 11, and 15)*

See accompanying notes to the consolidated financial statements

On behalf of the Board of Directors:

Bernard Lord (signed)
Board Chair

M. George Lewis (signed)
Director

CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDER'S EQUITY

Years Ended December 31 *(millions of dollars)*	**2016**	**2015**
Common shares *(Note 14)*	**5,126**	5,126
Retained earnings		
Balance at beginning of year	**5,098**	4,696
Net income attributable to the Shareholder	**436**	402
Balance, end of year	**5,534**	5,098
Accumulated other comprehensive loss, net of income taxes *(Note 10)*		
Balance at beginning of year	**(319)**	(496)
Other comprehensive income	**24**	177
Balance, end of year	**(295)**	(319)
Equity attributable to the Shareholder	**10,365**	9,905
Equity attributable to non-controlling interest *(Note 21)*		
Balance at beginning of year	**140**	141
Distribution to non-controlling interest	**(14)**	(16)
Net income attributable to non-controlling interest	**17**	15
Balance, end of year	**143**	140
Total equity	**10,508**	10,045

See accompanying notes to the consolidated financial statements

NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

For the years ended December 31, 2016 and 2015

1. DESCRIPTION OF BUSINESS

Ontario Power Generation Inc. (OPG or the Company) was incorporated on December 1, 1998 pursuant to the *Business Corporations Act* (Ontario) and is wholly owned by the Province of Ontario (the Province or the Shareholder). OPG is an Ontario-based electricity generation company whose principal business is the generation and sale of electricity in Ontario.

2. BASIS OF PRESENTATION

These consolidated financial statements have been prepared and presented in accordance with United States generally accepted accounting principles (US GAAP) and the rules and regulations of the United States (US) Securities and Exchange Commission for annual financial statements.

As required by *Ontario Regulation 395/11,* as amended, under the *Financial Administration Act* (Ontario), OPG adopted US GAAP for the presentation of its consolidated financial statements, effective January 1, 2012. Since January 1, 2012, OPG also has received exemptive relief from the Ontario Securities Commission (OSC) from the requirements of section 3.2 of National Instrument 52-107 *Acceptable Accounting Policies and Auditing Standards*. The exemption allows OPG to file consolidated financial statements based on US GAAP, rather than International Financial Reporting Standards (IFRS), without becoming a US Securities and Exchange Commission registrant, or issuing public debt.

The current OSC exemption, received in 2014, will terminate on the earliest of the following:

- January 1, 2019
- The financial year that commences after OPG ceases to have activities subject to rate regulation
- The effective date prescribed by the International Accounting Standards Board for the mandatory application of a standard within IFRS specific to entities with rate-regulated activities.

All dollar amounts are presented in Canadian dollars, except in tabular format where noted. Certain of the 2015 comparative amounts have been reclassified from financial statements previously presented to conform to the 2016 consolidated financial statement presentation.

3. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Consolidation

The consolidated financial statements of the Company include the accounts of OPG and its majority-owned subsidiaries, and variable interest entities (VIEs) where OPG is the primary beneficiary. All significant intercompany balances and intercompany transactions have been eliminated on consolidation.

Where OPG does not control an investment, but has significant influence over operating and financing policies of the investee, the investment is accounted for under the equity method. OPG co-owns the Portlands Energy Centre (PEC) gas-fired combined cycle generating station (GS) with TransCanada Energy Ltd. and co-owns the Brighton Beach gas-fired combined cycle GS (Brighton Beach) with ATCO Power Canada Ltd. OPG accounts for its 50 percent ownership interest in each of these jointly controlled entities using the equity method.

Variable Interest Entities

OPG performs ongoing analysis to assess whether it holds any VIEs. VIEs of which OPG is deemed to be the primary beneficiary are consolidated. The primary beneficiary of a VIE has both the power to direct the activities of the entity that most significantly impact its economic performance and the obligation to absorb losses of the entity that could potentially be significant to the Company. In circumstances where OPG is not deemed to be the primary beneficiary, the VIE is not recorded in OPG's consolidated financial statements.

In 2002, OPG and other Canadian nuclear waste producers established a separately incorporated Nuclear Waste Management Organization (NWMO) in accordance with the *Nuclear Fuel Waste Act* (Canada) (NFWA). The primary long-term mandate of the NWMO is to implement an approach to address the long-term management of used nuclear fuel in Canada. In addition to the above mandate, the NWMO currently provides project management services for OPG's proposed Deep Geologic Repository (DGR) for the long-term management of low and intermediate level waste (L&ILW) and certain other nuclear life cycle liability management services. OPG has the majority of voting rights at the NWMO Board of Directors' and members' level. The NFWA requires the nuclear fuel waste owners to establish and make payments into trust funds for the purpose of funding the implementation of the long-term nuclear used fuel management plan in accordance with the NFWA. OPG provides over 90 percent of NWMO's funding, primarily towards the design and implementation of Canada's Adaptive Phased Management plan for the long-term management of nuclear used fuel. As a result, OPG is expected to absorb a majority of the NWMO's expected losses through future funding in the event of any shortfall. Therefore, OPG holds a variable interest in the NWMO, of which it is the primary beneficiary. Accordingly, the applicable amounts in the accounts of the NWMO, after elimination of all significant intercompany transactions, are consolidated.

As at December 31, 2016, PSS Generating Station Limited Partnership (PSS or the Partnership) also was classified as a VIE, as it did not meet the criteria of having sufficient equity at risk to finance its activities. Since OPG is the primary beneficiary of PSS, it continues to consolidate the Partnership.

Use of Management Estimates

The preparation of consolidated financial statements in conformity with US GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the consolidated financial statements, and the reported amounts of revenues and expenses for the reporting periods. Management evaluates these estimates on an ongoing basis based upon historical experience, current conditions, and assumptions believed to be reasonable at the time the assumption is made, with any adjustments recognized in the period incurred. Significant estimates are included in the determination of pension and other post-employment benefit (OPEB) balances, asset retirement obligations (AROs) and associated asset retirement costs capitalized as part of property, plant and equipment (PP&E), income taxes (including deferred income taxes), contingencies, regulatory assets and liabilities, valuation of derivative instruments and investments in segregated funds, depreciation and amortization expenses, and inventories. Actual results may differ significantly from these estimates.

Cash and Cash Equivalents and Short-Term Investments

Cash and cash equivalents include cash on deposit and money market securities with a maturity of less than 90 days on the date of purchase. All other money market securities with a maturity on the date of purchase that is greater than 90 days, but less than one year, are recorded as short-term investments and classified as current assets. These securities are valued at the lower of cost and market.

Inventories

Inventories, consisting of fuel and materials and supplies, are measured at the lower of cost and net realizable value. Cost is determined as weighted average cost for fuel inventory and average cost for materials and supplies.

Property, Plant and Equipment, Intangible Assets and Depreciation and Amortization

PP&E and intangible assets are recorded at cost. Interest costs incurred during construction and development are capitalized as part of the cost of the asset based on the interest rates on OPG's long-term debt. Expenditures for replacements of major components are capitalized.

Depreciation and amortization rates for the various classes of assets are based on their estimated service lives. Asset removal costs that have not been specifically provided for in current or previous periods are charged to operations, maintenance and administration (OM&A) expenses when incurred. Repairs and maintenance costs also are expensed when incurred.

PP&E are depreciated on a straight-line basis, except for computers, which are depreciated on a declining balance basis. Intangible assets, which consist of major application software, are amortized on a straight-line basis. As at December 31, 2016, the amortization periods of PP&E and intangible assets are as follows:

Nuclear generating stations and major components	15 to 74 years [1]
Thermal generating stations and major components	5 to 50 years
Hydroelectric generating stations and major components	10 to 100 years
Administration and service facilities	10 to 50 years
Computers – declining balance	12% to 40% per year
Major application software	5 years
Service equipment	5 to 10 years

[1] As at December 31, 2016, the end of station life for depreciation purposes for the Darlington, Pickering, Bruce A and Bruce B nuclear generating stations ranged between 2020 and 2061. Major components are depreciated over the lesser of the station life and the life of the components.

Asset Impairment

Long-lived assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. The review is based on the presence of impairment indicators such as the future economic benefit of the assets and external market conditions. The net carrying amount of assets is considered impaired if it exceeds the sum of the estimated undiscounted cash flows expected to result from the asset's use and eventual disposition. In cases where the sum of the undiscounted expected future cash flows is less than the carrying amount, an impairment loss is recognized. This loss equals the amount by which the carrying amount exceeds the fair value. Fair value is determined using expected discounted cash flows when quoted market prices are not available. The impairment is recognized in income in the period in which it is identified.

The carrying value of investments accounted for under the equity method are reviewed annually for the presence of any indicators of impairment. If an impairment exists and is determined to be other-than-temporary, an impairment charge is recognized. This charge equals the amount by which the carrying value exceeds the investment's fair value.

Rate Regulated Accounting

The *Ontario Energy Board Act, 1998* and *Ontario Regulation 53/05* provide that OPG receives regulated prices for electricity generated from the Sir Adam Beck 1, 2 and Pump hydroelectric generating stations, the DeCew Falls 1 and 2 hydroelectric generating stations, the R.H. Saunders Hydroelectric GS, the 48 hydroelectric generating stations prescribed for rate regulation effective in 2014, and the Pickering and Darlington nuclear generating stations (collectively, prescribed facilities or regulated facilities). OPG's regulated prices for these facilities are determined by the Ontario Energy Board (OEB).

The OEB is a self-funding Crown corporation. Its mandate and authority come from the *Ontario Energy Board Act, 1998,* the *Electricity Act, 1998*, and a number of other provincial statutes. The OEB is an independent, quasi-judicial tribunal that reports to the Legislature of the Province through the Ontario Ministry of Energy. It regulates market participants in Ontario's natural gas and electricity industries. The OEB carries out its regulatory functions through public hearings and other more informal processes such as consultations.

US GAAP recognizes that rate regulation can create economic benefits and obligations that are required by the regulator to be obtained from, or settled with, the customers. When the Company assesses that there is sufficient assurance that incurred costs in respect of the regulated facilities will be recovered in the future, those costs are deferred and reported as a regulatory asset. When the Company is required to refund amounts to customers in the future in respect of the regulated facilities, including amounts related to costs that have not been incurred but for which the OEB has provided recovery through regulated prices, the Company records a regulatory liability.

Certain of the regulatory assets and liabilities recognized by the Company relate to variance and deferral accounts authorized by the OEB, including those authorized pursuant to *Ontario Regulation 53/05*. Variance and deferral accounts typically capture differences between actual costs and revenues and the corresponding forecast amounts approved by the OEB in setting regulated prices, or record the impact of items not reflected in the approved regulated prices. The measurement of these regulatory assets and liabilities is subject to certain estimates and assumptions, including assumptions made in the interpretation of *Ontario Regulation 53/05* and the OEB's decisions. The estimates and assumptions made in the interpretation of the regulation and the OEB's decisions are reviewed as part of the OEB's regulatory process.

Regulatory assets and liabilities for variance and deferral account balances approved by the OEB for inclusion in regulated prices are amortized based on approved recovery or repayment periods. Disallowed balances are charged to operations in the period that the corresponding OEB decision is issued.

Regulatory assets and liabilities for variance and deferral account balances approved by the OEB are classified as current if they are expected to be recovered from, or refunded to, customers within 12 months of the end of the reporting period, based on recovery or repayment periods authorized by the OEB. All other regulatory asset and liability balances are classified as non-current on the consolidated balance sheets.

In addition to regulatory assets and liabilities for variance and deferral accounts, OPG recognizes regulatory assets and liabilities for unamortized amounts recorded in accumulated other comprehensive income (AOCI) in respect of pension and OPEB obligations, and deferred income taxes, in order to reflect the expected recovery or repayment of these amounts through future regulated prices charged to customers. There are measurement uncertainties related to these balances due to the assumptions made in the determination of pension and OPEB obligations and deferred income taxes that are attributed to rate regulated business segments.

The regulatory asset for unamortized pension and OPEB amounts recorded in AOCI has reflected the OEB's use, since April 1, 2008, of the accrual basis of accounting for including pension and OPEB amounts in approved regulated prices for OPG. This is also the manner in which these costs are recognized in OPG's consolidated financial statements. Therefore, unamortized amounts in respect of OPG's pension and OPEB plans recognized in AOCI generally would not be reflected in regulated prices until they have been reclassified from AOCI and recognized as amortization components of the benefit costs for these plans. The regulatory asset is reversed as underlying unamortized balances are amortized as components of the benefit cost.

In setting OPG's regulated prices effective November 1, 2014, the OEB limited amounts for pension and OPEB costs allowed in the approved revenue requirements to the regulated business portion of the Company's cash expenditures on its pension and OPEB plans. It is the Company's position that this decision by the OEB does not constitute a change in the basis of rate recovery for OPG's of pension and OPEB costs. This position is based on the OEB's establishment of the Pension & OPEB Cash Versus Accrual Differential Deferral Account pursuant to its November 2014 decision, and the expectation expressed by the OEB in that decision that a transition from the accrual basis of recovery for OPG, if required, would be addressed in a future OPG rate proceeding, informed by the outcome of an OEB generic proceeding related to the regulatory treatment and recovery of pension and OPEB costs. Effective November 1, 2014, the Pension & OPEB Cash Versus Accrual Differential Deferral Account records the difference between OPG's actual pension and OPEB costs for the regulated business determined using the accrual method applied in OPG's audited consolidated financial statements and OPG's corresponding actual cash expenditures for these plans. The OEB's November 2014 decision indicated that the future recovery, if any, of amounts recorded in the deferral account would be subject to the outcome of an OEB generic proceeding on the regulatory treatment and recovery of pension and OPEB costs. In May 2015, the OEB began a consultation process to develop standard principles to guide its future review of pension and OPEB costs of rate regulated utilities in the electricity and natural gas sectors, including establishing appropriate regulatory mechanisms for cost recovery. The consultation is continuing. OPG is participating in the consultation and has advanced its position in support of the appropriateness of using the accrual basis for cost recovery purposes.

In consideration of the above factors, the Company continues to believe that there is sufficient likelihood that unamortized pension and OPEB amounts that have not yet been reclassified from AOCI will be included in future regulated prices or in an OEB-authorized deferral or variance account for future recovery, as they are recognized in benefit costs. Therefore, the Company continues to recognize a regulatory asset for these unamortized amounts and also has recognized a regulatory asset for the balance of the Pension & OPEB Cash Versus Accrual Differential Deferral Account discussed in Note 5.

If, as part of the above noted consultation process or in a future proceeding, the OEB decides that the recovery basis for OPG's pension and OPEB amounts should be changed from the accrual basis, OPG may be required to adjust the regulatory assets for unamortized pension and OPEB amounts recorded in AOCI and for the Pension & OPEB Cash Versus Accrual Differential Deferral Account.

See Notes 5, 8, 9, and 11 for additional disclosures related to the OEB's decisions, regulatory assets and liabilities, and rate regulated accounting.

Revenue Recognition

All of OPG's electricity generation is offered into the real-time energy spot market administered by the Independent Electricity System Operator (IESO). Revenue is recognized as electricity is generated and metered to the IESO.

Revenue Recognition – Regulated Generation

Energy revenue generated from OPG's regulated facilities is based on regulated prices determined by the OEB that include a base regulated price and, as applicable, rate riders for the recovery or repayment of approved variance and deferral account balances.

The base regulated prices in effect during 2016 and 2015 were established by the OEB's November 2014 decision and December 2014 order, effective November 1, 2014, using a forecast cost-of-service rate-setting methodology based on the OEB-approved revenue requirements, taking into account the OEB-approved forecasts of production and operating costs for the regulated facilities for 2014 and 2015 and a return on rate base. Rate base is a regulatory construct that, for OPG, represents the average net level of investment in regulated fixed and intangible assets in-service and an allowance for working capital. The revenues from the regulated hydroelectric facilities are also subject to the OEB-approved hydroelectric incentive mechanism. The mechanism provides a pricing incentive to OPG to shift hydroelectric production from lower market price periods to higher market price periods, reducing the overall costs to customers.

The rate riders in effect during 2016 were established by the OEB in its October 2015 order on OPG's application to recover balances in most of the Company's authorized variance and deferral accounts as at December 31, 2014. The rate riders in effect during 2015 included those established by the OEB in 2014 in conjunction with the base regulated prices in effect since November 1, 2014 and those authorized by the OEB's October 2015 order. The OEB-authorized variance and deferral accounts are discussed in Note 5.

In May 2016, OPG filed an application with the OEB for new base regulated prices and rate riders for production from its regulated hydroelectric and nuclear facilities for the 2017-2021 period, with a proposed effective date of January 1, 2017. The application was made using an incentive regulation ratemaking methodology for the hydroelectric operations and a custom incentive regulation framework for the nuclear operations. Rate-setting under incentive regulation is typically more formulaic and involves greater de-coupling of a regulated entity's allowed revenues or prices from its costs than under a cost-of-service rate-setting methodology. Consistent with the requirements of *Ontario Regulation 53/05*, the application incorporates a rate smoothing proposal, which would result in OPG deferring a portion of the approved nuclear revenue requirements in a deferral account for future collection.

In December 2016, the OEB issued an order granting OPG's request to declare the existing base regulated prices interim, effective January 1, 2017. This preserves the OEB's ability to make the new regulated prices effective as early as January 1, 2017, which would allow OPG to recover the difference between the approved new regulated prices and the existing prices for the period between the effective date of the new prices and their implementation date based on the OEB's order. The final decision on the application will be made by the OEB following a public proceeding, which commenced in 2016 and is continuing. See Note 5 for further information on OPG's May 2016 application.

Revenue Recognition – Non-regulated Generation and Other Revenue

The electricity generation from OPG's non-regulated assets receives the Ontario electricity spot market price, except where an energy supply agreement (ESA) with the IESO or another contractual agreement is in place. As at December 31, 2016, most of OPG's operating non-regulated assets are subject to an ESA. Revenue from the generating stations subject to an ESA is recognized in accordance with the terms of the agreement. Effective January 1, 2015, the Ontario Power Authority (OPA) merged with the IESO. The new entity continued under the name Independent Electricity System Operator. As such, the IESO is substituted as the counterparty of the ESAs or other agreements that were previously executed with the OPA.

OPG also sells into, and purchases from, interconnected markets of other provinces and the northeast and midwest regions of the US. All contracts that are not designated as hedges are recorded on the consolidated balance sheets at market value, with gains or losses recorded in the consolidated statements of income. Gains and losses on energy trading contracts (including those to be physically settled) are recorded on a net basis in the consolidated statements of income. Accordingly, power purchases of $19 million were netted against revenue in 2016 (2015 – $75 million).

OPG derives non-energy revenue under the terms of a lease arrangement and associated agreements with Bruce Power L.P. (Bruce Power) related to the Bruce nuclear generating stations. This includes lease revenue and revenue from heavy water sales, detritiation services and waste management services. OPG's net revenues from the lease of these stations and related agreements, including a portion of heavy water sales, are credited to customers and therefore have reduced regulated prices for the generation from the nuclear facilities owned and operated by OPG. The minimum lease payments are recognized in revenue on a straight-line basis over the term of the lease.

In addition, non-energy revenue includes isotope sales, real estate rentals and other service revenues. Revenues from these activities are recognized as services are provided, or as products are delivered.

Fixed Asset Removal and Nuclear Waste Management Liabilities

OPG recognizes AROs for fixed asset removal and nuclear waste management, discounted for the time value of money. OPG estimates both the amount and timing of future cash expenditures based on the plans for fixed asset removal and nuclear waste management. The liabilities are initially recorded at their estimated fair value, which is based on a discounted value of the expected costs to be paid.

On an ongoing basis, the liabilities for nuclear fixed asset removal and nuclear waste management (Nuclear Liabilities) are increased by the present value of the incremental (variable) cost portion for the nuclear waste generated each year, with the corresponding amounts charged to operating expenses. Variable expenses relating to

L&ILW are charged to OM&A expenses. Variable expenses relating to the management and storage of nuclear used fuel are charged to fuel expense. The liabilities may also be adjusted due to changes in the estimated amount or timing of the underlying future cash flows, with resulting changes in the related asset retirement costs capitalized as part of the carrying amount of the related fixed assets in service. A comprehensive reassessment of all underlying assumptions and baseline cost estimates for the Nuclear Liabilities is performed periodically. Changes in the Nuclear Liabilities resulting from changes in assumptions or estimates that impact the amount or timing of the originally estimated undiscounted future cash flows are recorded as an adjustment to the liabilities. Upward revisions in the Nuclear Liabilities represent the present value of increases in future undiscounted cash flows determined using a current credit-adjusted risk-free rate. Downward revisions in the Nuclear Liabilities represent the present value of decreases in future undiscounted cash flows determined using the weighted average discount rate reflected in the existing liability. Upon settlement of the liabilities, a gain or loss would be recorded.

Accretion arises because the fixed asset removal and nuclear waste management liabilities are reported on a net present value basis. Accretion expense is the increase in the carrying amount of the liabilities due to the passage of time.

The asset retirement cost is capitalized by increasing the carrying value of the related fixed assets in service. The capitalized cost is depreciated over the remaining service life of the related fixed assets and is included in depreciation and amortization expenses.

OPG has no legal obligation associated with the decommissioning of its hydroelectric generating facilities and the costs cannot be reasonably estimated because of the long service life of these assets. With either maintenance efforts or rebuilding, the water control structures are assumed to be used for the foreseeable future. Accordingly, OPG has not recognized a liability for the decommissioning of its hydroelectric generating facilities.

Nuclear Fixed Asset Removal and Nuclear Waste Management Funds

Pursuant to the Ontario Nuclear Funds Agreement (ONFA) between OPG and the Province, OPG has established and sets aside funds in a Used Fuel Segregated Fund and a Decommissioning Segregated Fund (together the Nuclear Segregated Funds). The Used Fuel Segregated Fund is intended to fund expenditures associated with the long-term management of radioactive used nuclear fuel bundles and certain costs of used fuel storage incurred after the nuclear stations are shut down, while the Decommissioning Segregated Fund was established to fund the costs of nuclear fixed asset removal and long-term L&ILW management, and certain costs of used fuel storage incurred after the nuclear stations are shut down. OPG's funding obligations and resulting contributions to the Nuclear Segregated Funds are determined based on periodically updated reference plans approved by the Province under the ONFA. OPG maintains the Nuclear Segregated Funds in third-party custodial and trust accounts that are segregated from the rest of OPG's assets.

OPG's investments in the Nuclear Segregated Funds and the corresponding amounts payable to/receivable from the Province are classified as held-for-trading. The Nuclear Segregated Funds are measured at fair value based on the bid prices of the underlying equity and fixed income securities, and, in the case of the alternative investment portfolio, using appropriate valuation techniques as outlined in Note 13, with realized and unrealized gains and losses recognized in OPG's consolidated statements of income.

Derivatives

All derivatives, including embedded derivatives that must be separately accounted for, generally are classified as held-for-trading and recorded at fair value in the consolidated balance sheets. Transaction costs are expensed as incurred for financial instruments classified or designated as held-for-trading.

Derivatives qualify for hedge accounting if they meet stringent documentation requirements, and if the derivative instrument that is designated as a hedge is expected to effectively hedge the identified risk throughout the life of the hedged item. At the inception of a hedging relationship, OPG documents the relationship between the hedging instrument and the hedged item, its risk management objective, and its strategy for undertaking the hedge. A documented assessment is made, both at the inception of a hedge and on an ongoing basis, of whether or not the derivatives that are used in hedging transactions are highly effective in offsetting the changes attributable to the hedged risks in the fair values or cash flows of the hedged items.

All derivative contracts not designated as hedges are recorded on the consolidated balance sheets as derivative assets or liabilities at fair value, with changes in the fair value recorded in the revenue of the Services, Trading, and Other Non-Generation segment. Refer to Note 12 for a discussion of OPG's risk exposures and the derivative instruments used to manage these risks.

Fair Value Measurements

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly arm's-length transaction between market participants at the measurement date. Fair value measurements are required to reflect the assumptions that market participants would use in pricing an asset or liability based on the best available information. These assumptions include the risks inherent in a particular valuation technique, such as a pricing model, and the risks inherent in the inputs to the model. OPG uses a fair value hierarchy, grouping assets and liabilities into three levels based on the relative objectivity of the inputs used to measure fair value, with Level 1 representing the most objective. Refer to Note 13 for a discussion of fair value measurements and the fair value hierarchy.

Available-for-Sale Securities

Available-for-sale (AFS) securities are measured at fair value, with unrealized gains and losses due to changes in fair value recognized in other comprehensive income (OCI). Gains and losses are realized and included in net income when the securities are sold or awarded. Related transaction costs are expensed as incurred, and dividend income is included in net income in the period dividends are declared. Equity securities are initially measured at the transaction price.

Research and Development

Research and development costs are expensed as incurred. Research and development costs incurred to discharge long-term obligations for which specific provisions have already been made, such as the Nuclear Liabilities, are charged to the related liability.

Leases

Leases are evaluated and classified as either operating or capital leases for financial reporting purposes. Capital leases, which transfer substantially all of the risks and benefits incidental to ownership of the leased item, are capitalized at the inception of the lease at the fair value of the leased property or, if lower, at the present value of the minimum lease payments. Capital leases are depreciated over the shorter of the estimated useful life of the asset and the lease term.

Leases where the lessor retains substantially all the risks and benefits incidental to ownership of the asset are classified as operating leases. Operating lease payments, other than contingent rentals, are recognized as an expense in the consolidated statements of income on a straight-line basis over the lease term. Where the amount of rent expense recognized is different from the actual operating lease payment, other than contingent rentals, the difference is deferred and included as assets or liabilities on the consolidated balance sheets.

Pension and Other Post-Employment Benefits

OPG's post-employment benefit programs consist of a contributory defined benefit registered pension plan, a defined benefit supplementary pension plan, and other post-retirement benefits (OPRB) including group life insurance and health care benefits, and long-term disability (LTD) benefits. Post-employment benefit programs are also provided by the NWMO, which is consolidated into OPG's financial results. Unless otherwise noted, information on the Company's post-employment benefit programs is presented on a consolidated basis.

OPG accrues its obligations under pension and OPEB plans in accordance with US GAAP. The obligations for pension and OPRB are determined using the projected benefit method pro-rated on service. The obligation for LTD benefits is determined using the projected benefit method on a terminal basis. Pension and OPEB obligations are impacted by factors including interest rates, adjustments arising from plan amendments, demographic assumptions, experience gains or losses, salary levels, inflation, and health care cost escalation assumptions. Pension and OPEB costs and obligations are determined annually by independent actuaries using management's best estimate assumptions.

Assumptions are significant inputs to actuarial models that measure pension and OPEB obligations and related effects on operations. Discount rate, inflation rate, and changes in salary levels are three critical assumptions in the determination of benefit costs and obligations. In addition, the expected long-term rate of return on plan assets is a critical assumption in the determination of registered pension plan cost and the health care cost trend rate is a critical assumption in the determination of OPEB cost and obligations. These assumptions, as well as other assumptions involving demographic factors such as retirement age, mortality, and employee turnover, are evaluated periodically by management in consultation with independent actuaries. During the evaluation process, the assumptions are updated to reflect past experience and expectations for the future. Actual results in any given year will often differ from actuarial assumptions because of economic and other factors giving rise to actuarial gains and losses. In accordance with US GAAP, for pension and OPRB, the impact of these updates and differences on the respective benefit obligations is accumulated and amortized over future periods. For LTD benefits, the impact of these updates and differences is immediately recognized as OPEB costs in the period incurred.

The discount rates, which are representative of AA corporate bond yields, are used to calculate the present value of the expected future cash flows on the measurement date in order to determine the projected benefit obligations for the Company's employee benefit plans. A lower discount rate increases the benefit obligations and increases benefit costs. The expected rate of return on plan assets is based on the pension fund's asset allocation and the expected return considering long-term risks and returns associated with each asset class within the plan portfolio. A lower expected rate of return on plan assets increases pension cost.

Pension fund assets include equity securities, corporate and government debt securities, pooled funds, real estate, infrastructure, and other investments. These assets are managed by professional investment managers. The pension fund does not invest in equity or debt securities issued by OPG. Pension fund assets are valued using market-related values for purposes of determining the amortization of actuarial gains or losses and the expected return on plan assets. The market-related value recognizes gains and losses on equity assets relative to a six percent assumed real return over a five-year period.

Pension and OPEB costs include current service costs, interest costs on the obligations, the expected return on pension plan assets, adjustments for plan amendments, and adjustments for actuarial gains or losses, which result from changes in assumptions and experience gains and losses. Past service costs or credits arising from pension and OPRB plan amendments are amortized on a straight-line basis over the expected average remaining service life to full eligibility of the employees covered by the corresponding plan. Past service costs or credits arising from amendments to LTD benefits are immediately recognized as OPEB costs in the period incurred. Due to the long-term nature of pension and OPRB liabilities, the excess of the net cumulative unamortized gain or loss, over 10 percent of the greater of the benefit obligation and the market-related value of the plan assets (the corridor), is amortized over the expected average remaining service life of the employees, which represents the period during which the associated economic benefits are expected to be realized by the Company. Actuarial gains or losses for LTD benefits are immediately recognized as OPEB costs in the period incurred.

OPG recognizes the funded status of its defined benefit plans on the consolidated balance sheets. The funded status is measured as the difference between the fair value of plan assets and the benefit obligation, on a plan-by-plan basis.

Actuarial gains or losses and past service costs or credits arising during the year that are not recognized immediately as components of benefit costs are recognized as increases or decreases in OCI, net of income taxes. These unamortized amounts in AOCI are subsequently reclassified and recognized as components of pension and OPRB costs as described above.

OPG records an offsetting regulatory asset or liability for the portion of the adjustments to AOCI that is attributable to the regulated operations in order to reflect the expected recovery or refund of these amounts through future regulated prices charged to customers. For the recoverable or refundable portion attributable to regulated operations, OPG records a corresponding change in this regulatory asset or liability for the amount of the increases or decreases in OCI and for the amounts reclassified from AOCI into benefit costs during the period.

When the recognition of the transfer of employees and employee-related benefits gives rise to both a curtailment and a settlement, the curtailment is accounted for prior to the settlement. A curtailment is the loss by employees of the right to earn future benefits under the plan. A settlement is the discharge of a plan's liability.

Income Taxes and Investment Tax Credits

OPG is exempt from income tax under the *Income Tax Act* (Canada). However, under the *Electricity Act, 1998*, OPG is required to make payments in lieu of corporate income taxes to the Ontario Electricity Financial Corporation (OEFC). These payments are calculated in accordance with the *Income Tax Act* (Canada) and the *Taxation Act, 2007* (Ontario), as modified by the *Electricity Act, 1998* and related regulations. This results in OPG paying taxes similar to those imposed under the federal and Ontario tax acts.

OPG's operations are complex and the computation of the provision for income taxes involves interpretation of the various tax statutes and regulations. OPG has taken certain filing positions in calculating the amount of its income tax provision. These filing positions may be challenged on audit by the Ontario Ministry of Finance and some of them possibly disallowed, resulting in a potential significant change in OPG's tax provision upon reassessment. A change in the tax provision upon reassessment impacting regulated operations may be recoverable from or refundable to customers through the Income and Other Taxes Variance Account authorized by the OEB.

OPG follows the liability method of accounting for income taxes. Under the liability method, deferred income tax assets and liabilities are determined based on differences between the accounting and tax bases of assets and liabilities. Deferred amounts are measured using the enacted tax rates and laws that will be in effect when the differences are expected to reverse. The effect of a change in tax rates on deferred income tax assets and liabilities is included in income in the period the change is enacted.

If management determines that it is more likely than not that some, or all, of a deferred income tax asset will not be realized, a valuation allowance is recorded to report the balance at the amount expected to be realized.

OPG recognizes deferred income taxes associated with its regulated operations and records an offsetting regulatory asset or liability for the deferred income taxes that are expected to be recovered or refunded through future regulated prices charged to customers.

Tax benefits associated with income tax positions taken, or expected to be taken, in a tax return and investment tax credits are recorded only when the more likely than not recognition threshold is satisfied. Tax benefits and investment tax credits recognized are measured at the largest amount of benefit that is greater than 50 percent likely of being realized upon settlement.

Investment tax credits are recorded as a reduction to income tax expense. OPG classifies interest and penalties associated with unrecognized income tax benefits as income tax expense.

Changes in Accounting Policies and Estimates

Change in Nuclear Liabilities Estimate

In the fourth quarter of 2016, a comprehensive update of the estimate for OPG's obligations for nuclear waste management and nuclear decommissioning was finalized as part of the required process to update the ONFA reference plan. The update resulted in a decrease of approximately $1,570 million in the Nuclear Liabilities as at December 31, 2016, with a corresponding decrease to the asset retirement costs capitalized as part of the nuclear generating stations to which the liabilities relate. OPG undertakes to perform a comprehensive review of the underlying assumptions and baseline cost estimates for nuclear waste management and nuclear facilities decommissioning at least once every five years, in line with the required ONFA reference plan update process.

The decrease in the Nuclear Liabilities and associated capitalized asset retirement costs recognized as of December 31, 2016 did not impact OPG's income for 2016. The estimated impact of these changes on 2017 expenses, before the impact of regulatory variance and deferrals accounts, includes a decrease to depreciation expense of approximately $8 million, a decrease to accretion expense of approximately $78 million, and a decrease in used fuel and L&ILW variable expenses of approximately $20 million. Under the current OEB-approved cost recovery methodology for OPG's nuclear waste management and nuclear facilities decommissioning obligations, these 2017 impacts are expected to be largely offset by the Nuclear Liability Deferral Account and the Bruce Lease Net Revenues Variance Account, authorized by the OEB pursuant to *Ontario Regulation 53/05,* or corresponding changes to OPG's nuclear regulated prices.

In the fourth quarter of 2016, OPG recorded a reduction of $88 million to the Nuclear Segregated Funds assets on the consolidated balance sheet as a result of the updated ONFA reference plan, through a reduction in earnings from the Nuclear Segregated Funds and an associated increase in the amount due to the Province. This accounting adjustment represented the incremental overfunded position of the Used Fuel Segregated Fund and the Decommissioning Segregated Fund as at December 31, 2016 resulting from the reduction in the life cycle liabilities per the updated ONFA reference plan. This excess amount was recorded as due to the Province, because OPG does not have the right to withdraw the amount from the Nuclear Segregated Funds and because any excess funding in the funds accrues to the Province upon termination of the ONFA. Of the $88 million reduction in the Nuclear Segregated Funds assets, $43 million was offset by the impact of the Bruce Lease Net Revenues Variance Account. The Bruce Lease Net Revenues Variance Account is discussed in Note 5.

Pension and Other Post-Employment Benefits

A new actuarial valuation of the OPG registered pension plan was filed with the Financial Services Commission of Ontario (FSCO) in September 2016 with an effective date of January 1, 2016. The annual funding requirements in accordance with the new actuarial valuation are outlined in Note 15. OPG also conducted a comprehensive actuarial valuation for accounting purposes of its pension and OPEB plans in 2016, using demographic data as at January 1, 2016 consistent with the new funding valuation, and assumptions as at December 31, 2016. As part of the valuation, the plan's demographic and other assumptions were reviewed and revised, as necessary, by independent actuaries.

The weighted average discount rate used to determine the projected pension benefit obligations and the projected benefit obligations for OPEB as at December 31, 2016 was 3.9 percent. This represents a decrease, compared to the 4.1 percent discount rate that was used to determine the obligations as at December 31, 2015.

The deficit for the registered pension plan increased, for accounting purposes, from $2,315 million as at December 31, 2015 to $2,693 million as at December 31, 2016. This increase was largely due to a re-measurement of the liabilities at the end of 2016 reflecting lower discount rates, as well as current service and interest costs for the year, partially offset by the impact of the updated membership data as part of the 2016 actuarial valuation and employer contributions to the pension plan during the year.

The projected benefit obligations for OPEB decreased from $3,188 million at December 31, 2015 to $2,992 million as at December 31, 2016. This decrease was largely due to the updated, lower per capita health care claims costs assumption as part of the 2016 actuarial valuation, partially offset by the re-measurement of the liabilities at the end of 2016 reflecting a decrease in the discount rates.

As at December 31, 2016, the unamortized net actuarial loss and unamortized past service costs for the pension and OPEB plans totalled $3,668 million (2015 – $3,646 million). Details of the unamortized net actuarial loss and unamortized past service costs as at December 31, 2016 and 2015 are as follows:

(millions of dollars)	**Registered Pension Plans**		**Supplementary Pension Plans**		**Other Post-Employment Benefits**	
	2016	**2015**	**2016**	**2015**	**2016**	**2015**
Net actuarial gain not yet subject to amortization due to use of market-related values	**(570)**	(809)	**-**	-	**-**	-
Net actuarial loss not subject to amortization due to use of the corridor	**1,619**	1,544	**34**	30	**267**	293
Net actuarial loss subject to amortization	**2,238**	2,288	**72**	47	**3**	247
Unamortized net actuarial loss	**3,287**	3,023	**106**	77	**270**	540
Unamortized past service costs	**-**	-	**-**	-	**5**	6

A change in the following assumptions, holding all other assumptions constant, would increase (decrease) pension and OPEB costs for the year ended December 31, 2016 as follows:

(millions of dollars)	**Registered Pension Plans** [1]	**Supplementary Pension Plans** [1]	**Other Post-Employment Benefits** [1]
Expected long-term rate of return			
0.25% increase	(30)	n/a	n/a
0.25% decrease	30	n/a	n/a
Discount rate			
0.25% increase	(57)	(1)	(12)
0.25% decrease	60	1	16
Inflation			
0.25% increase	103	1	1
0.25% decrease	(97)	(1)	(1)
Salary increases			
0.25% increase	20	3	1
0.25% decrease	(20)	(2)	(1)
Health care cost trend rate			
1% increase	n/a	n/a	86
1% decrease	n/a	n/a	(52)

n/a – change in assumption not applicable.
[1] Excludes the impact of regulatory variance and deferral accounts.

OEB's Decision on OPG's December 2014 Motion

In January 2016, OEB issued its decision on OPG's December 2014 motion that requested the OEB to review and vary parts of its November 2014 decision, including the disallowed Niagara Tunnel project capital costs. In its January 2016 decision, the OEB reversed a portion of the November 2014 Niagara Tunnel capital cost disallowance and established a new variance account, the Niagara Tunnel Project Pre-December 2008 Disallowance Variance Account, to record the revenue requirement impact of the reversed disallowance effective November 1, 2014. The November 2014 disallowance resulted in a write off of capital costs of $77 million in the fourth quarter of 2014. To recognize the expected future recovery of the reversed portion of the disallowance, OPG recorded an increase to PP&E and a corresponding gain of $22 million in 2016 in accordance with Accounting Standards Codification (ASC) Topic 980, *Regulated Operations*. During 2016, OPG also recorded a regulatory asset of $3 million for the balance in the Niagara Tunnel Project Pre-December 2008 Disallowance Variance Account.

Recent Accounting Pronouncements Not Yet Adopted

Revenue from Contracts with Customers

In May 2014, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) No. 2014-09, *Revenue from Contracts with Customers* (Topic 606), which supersedes nearly all existing revenue recognition guidance, including industry-specific guidance, under US GAAP. The core principle of Topic 606 is to recognize revenues when promised goods or services are transferred to customers in an amount that reflects the consideration to which an entity expects to be entitled for those goods or services. Either a full retrospective application or a modified retrospective application is required for annual periods beginning on or after January 1, 2018, including interim periods within that year. Early adoption is permitted.

OPG currently expects to apply the new revenue standard in its 2018 first quarter interim financial statements. During 2016, the Company implemented a comprehensive project governance framework, which comprises a Steering Committee, Implementation & Stakeholder Committee, Project Management Office, and various working groups. The working groups are represented by cross-functional finance and non-finance stakeholders who will support the financial and operational implementation of the new accounting standard. Targeted technical updates and training have been provided to financial controllers and working group members corresponding to their responsibilities during 2016.

The Company is in the process of concluding on the method of adoption, as well as evaluating the impact of the new standard on its consolidated financial statements.

Lease Accounting

In February 2016, the FASB issued ASU No. 2016-02, *Leases* (Topic 842). The update includes comprehensive changes to existing guidance for lease accounting, particularly for lessees, and aims to increase transparency and comparability among organizations by requiring the recognition of lease assets and lease liabilities on the balance sheet. The standard is effective for annual periods beginning after December 15, 2018, including interim periods within that year. Entities are required to use a modified retrospective approach for leases that exist, or are entered into, after the beginning of the earliest comparative period presented in the financial statements for the period of adoption. Full retrospective application is prohibited. Early adoption is permitted.

During 2016, the Company implemented a comprehensive project governance framework, which comprises a Steering Committee, Implementation & Stakeholder Committee, Project Management Office, and various working groups. The working groups are represented by cross functional finance and non-finance stakeholders who will support the financial and operational implementation of the new accounting standard. The Company is in the process of evaluating the impact of the new standard on its consolidated financial statements.

Recognition and Measurement of Financial Assets and Financial Liabilities

In January 2016, the FASB issued ASU No. 2016-01, *Financial Instruments – Overall: Recognition and Measurement of Financial Assets and Financial Liabilities*. Under the updated guidance, entities will have to measure equity investments at fair value and recognize any changes in fair value in net income. The update will be effective for OPG's 2018 fiscal year, including interim periods. As a result of this update, effective January 1, 2018, the AFS classification for securities will no longer be available, with any unrealized gains and losses related to such securities recognized in net income instead of other comprehensive income. Any unrealized gains and losses for AFS securities reported by OPG in AOCI as of the end of 2017 will be reclassified to retained earnings as of January 1, 2018. OPG's Hydro One Limited (Hydro One) share holdings are currently the Company's only AFS securities. As at December 31, 2016, these shares were valued on the consolidated balance sheet at $212 million, of which a loss of $1 million was recorded in AOCI. OPG will continue to evaluate this ASU to determine if there is any further impact on its consolidated financial statements.

Intra-Entity Transfers of Assets Other than Inventory

In October 2016, the FASB issued ASU No. 2016-16, *Income* Taxes, where entities will be required to recognize the income tax effects of certain intercompany transfers of assets as an income tax expense or benefit in the period the transaction occurs. This is different from existing guidance that requires entities to defer such income tax effects until the transferred asset has been sold to a third party or otherwise recognized. OPG is required to adopt this ASU on January 1, 2018. The amendments in this ASU are required to be applied on a modified retrospective basis through a cumulative-effect adjustment directly to retained earnings as of the beginning of the period of adoption. OPG expects to record a cumulative-effect downward adjustment of $7 million to the 2018 opening retained earnings.

Significant Accounting Standards Update Adopted

Disclosures for Investments in Certain Entities That Calculate Net Asset Value per Share

In May 2015, the FASB issued ASU No. 2015-07, *Fair Value Measurement (Topic 820) – Disclosures for Investments in Certain Entities That Calculate Net Asset Value per Share (or its Equivalent)*. Under the new guidance, investments measured at net asset value (NAV), which have been elected under the guidance as a practical expedient for fair value, are excluded from the fair value hierarchy. Removing investments measured using the practical expedient from the fair value hierarchy is intended to eliminate the diversity in practice that has existed with respect to the categorization of these investments. The only criterion for categorizing investments in the fair value hierarchy is the observability of the inputs. OPG has adopted these updates to ASC Topic 820, *Fair Value Measurement* in 2016. The changes in disclosures required under this update are reflected in Notes 11 and 13.

4. PROPERTY, PLANT AND EQUIPMENT, INTANGIBLE ASSETS AND DEPRECIATION AND AMORTIZATION

Depreciation and amortization expenses, including amounts recognized in regulatory variance and deferral accounts authorized by the OEB, for the years ended December 31 consist of the following:

(millions of dollars)	**2016**	**2015**
Depreciation	**602**	617
Amortization of intangible assets	**27**	20
Amounts recognized in regulatory variance and deferral accounts	**26**	(1)
Amortization of regulatory assets and liabilities *(Note 5)*	**602**	464
	1,257	1,100

Property, plant and equipment as at December 31 consist of the following:

(millions of dollars)	**2016**	**2015**
Nuclear generating stations	**11,057**	11,999
Regulated hydroelectric generating stations	**9,430**	9,351
Contracted generation portfolio generating stations	**3,751**	3,713
Other property, plant and equipment	**1,595**	1,839
Construction in progress	**3,482**	2,567
	29,315	29,469
Less: accumulated depreciation		
Generating stations	**7,948**	7,359
Other property, plant and equipment	**1,369**	1,515
	9,317	8,874
	19,998	20,595

In December 2015, OPG received a Shareholder Declaration and a Shareholder Resolution that requires the Company to sell its head office premises and associated parking facility located at 700 University Avenue and 40 Murray Street in Toronto, Ontario. An active program to locate a buyer was initiated in October 2016. As such, in the fourth quarter of 2016, OPG reclassified the net book value of $96 million (December 31, 2015 – $96 million) for these assets out of PP&E of the Services, Trading, and Other Non-Generation segment into Other current assets. Depreciation on the assets ceased in the fourth quarter of 2016. In December 2016, a purchase and sale agreement was executed, and the sale is expected to be completed during the second quarter of 2017. An estimated after-tax gain on sale in excess of $200 million is expected to be recognized upon completion of the transaction. Pursuant to the December 2015 Shareholder Declaration and Shareholder Resolution, and as prescribed in the *Trillium Trust Act 2014*, OPG is required to transfer the proceeds, net of prescribed deductions under the act, from this disposition into the Province's Consolidated Revenue Fund.

Construction in progress as at December 31 consists of the following:

(millions of dollars)	**2016**	**2015**
Darlington Refurbishment	**2,563**	1,868
Peter Sutherland Sr. GS	**236**	95
Other	**683**	604
	3,482	2,567

Interest capitalized to construction and development in progress at an average rate of five percent during 2016 (2015 – five percent) was $141 million (2015 – $102 million).

Intangible assets as at December 31 consist of the following:

(millions of dollars)	**2016**	**2015**
Nuclear generating stations	**122**	118
Regulated hydroelectric generating stations	**7**	4
Contracted generation portfolio generating stations	**4**	5
Computer software and other intangible assets	**350**	321
Development in progress	**20**	28
	503	476
Less: accumulated amortization		
Generating stations	**120**	115
Computer software and other intangible assets	**284**	263
	404	378
	99	98

The estimated aggregate amortization expense for each of the five succeeding years for intangible assets in service as at December 31, 2016 is as follows:

(millions of dollars)	**2017**	**2018**	**2019**	**2020**	**2021**
Amortization expense	24	21	20	8	2

5. REGULATORY ASSETS AND LIABILITIES

In December 2014, OPG filed an application with the OEB to recover approximately $1.8 billion in December 31, 2014 balances in most of its authorized regulatory variance and deferral accounts. These amounts were approved by the OEB in 2015, without adjustments. In October 2015, the OEB issued an order implementing its 2015 decisions on this application that authorized OPG to recover $933 million over the period from October 1, 2015 to December 31, 2016, through rate riders for generation from OPG's regulated nuclear and regulated hydroelectric facilities during this period. The remaining approved balances are subject to recovery after 2016.

In 2016, OPG recorded amortization of regulatory assets and liabilities for the variance and deferral account balances approved for disposition, on a straight-line basis, based on recovery or repayment periods authorized by the OEB's October 2015 order. In 2015, OPG recorded such amortization on a straight-line basis based on account balances and recovery or repayment periods authorized by the OEB's December 2014 and October 2015 orders applicable to that period.

Any shortfall or over-recovery of the approved balances due to differences between actual and forecast production is recorded in the authorized Nuclear Deferral and Variance Over/Under Recovery Variance Account and the Hydroelectric Deferral and Variance Over/Under Recovery Variance Account to be collected from, or refunded to, customers in the future.

The OEB's December 2014 and October 2015 orders also approved the continuation of previously authorized variance and deferral accounts, including those authorized pursuant to *Ontario Regulation 53/05*. During the period from January 1, 2015 to December 31, 2016, OPG recorded additions to the variance and deferral accounts as authorized by these orders, relative to the forecast amounts reflected in the cost-of-service regulated prices in effect during that period, where applicable. Where authorized by the OEB, OPG recorded interest on the unamortized balances in the applicable variance and deferral accounts at the OEB-prescribed rates of 1.10 percent per annum for the period from April 1, 2015 to December 31, 2016 and 1.47 percent per annum for the period from January 1, 2015 to March 31, 2015.

OPG's May 2016 application with the OEB for new regulated prices included a request for new rate riders to recover or repay the December 31, 2015 balances in all of the Company's OEB-authorized variance and deferral accounts, with the exception of the Pension & OPEB Cash Versus Accrual Differential Deferral Account, less amounts previously approved for recovery or repayment for these accounts in 2016 through rate riders in effect to December 31, 2016. Additions recorded to these accounts during 2016 would be subject to OEB's review and approval in a future application. OPG's May 2016 application also requested the continuation of all applicable existing variance and deferral accounts.

In January 2017, OPG and the intervenors reached a proposed settlement agreement on a limited set of issues in OPG's application (Proposed Settlement Agreement). The Proposed Settlement Agreement was submitted to the OEB for approval. Among the settled issues, the Proposed Settlement Agreement provides for the continuation of all applicable existing variance and deferral accounts and accepts a number of variance and deferral account balances for recovery, as requested by OPG. In addition, the proposed agreement would result in approval of OPG's proposed adjustments to the existing regulated hydroelectric base regulated prices for the purposes of determining the starting point for an incentive regulation formula for the 2017 to 2021 period. The balances of the Nuclear Liability Deferral Account, the Bruce Lease Net Revenues Variance Account, and the Capacity Refurbishment Variance Account are excluded from the scope of the Proposed Settlement Agreement. The periods of recovery or repayment for the accepted variance and deferral account balances also are excluded. The Proposed Settlement Agreement did not impact OPG's 2016 financial results.

The regulatory assets and liabilities recorded as at December 31 are as follows:

(millions of dollars)	**2016**	**2015**
Regulatory assets		
Variance and deferral accounts authorized by the OEB		
Pension and OPEB Cost Variance Account	**716**	865
Pension & OPEB Cash Versus Accrual Differential Deferral Account *(Note 11)*	**497**	315
Hydroelectric Surplus Baseload Generation Variance Account	**210**	114
Bruce Lease Net Revenues Variance Account	**95**	95
Nuclear Deferral and Variance Over/Under Recovery Variance Account	**74**	82
Other variance and deferral accounts	**33**	243
	1,625	1,714
Pension and OPEB Regulatory Asset *(Note 11)*	**3,392**	3,362
Deferred Income Taxes *(Note 9)*	**838**	792
Total regulatory assets	**5,855**	5,868
Less: current portion	**-**	628
Non-current regulatory assets	**5,855**	5,240
Regulatory liabilities		
Variance and deferral accounts authorized by the OEB		
Capacity Refurbishment Variance Account	**102**	-
Other variance and deferral accounts	**208**	60
Total regulatory liabilities	**310**	60
Less: current portion	**-**	26
Non-current regulatory liabilities	**310**	34

The changes in the regulatory assets and liabilities during 2016 and 2015 are as follows:

(millions of dollars)	**Pension and OPEB Cost Variance**	**Pension & OPEB Cash vs Accrual Differential Deferral**	**Hydro-electric Surplus Baseload Generation Variance**	**Bruce Lease Net Revenues Variance**	**Nuclear Deferral and Variance Over/Under Recovery Variance**	**Capacity Refurb-ishment Variance**	**Other Variance and Deferral (net)**	**Pension and OPEB Regula-tory Asset**	**Deferred Income Taxes**
Net regulatory assets January 1, 2015	939	36	67	315	56	190	320	4,363	861
Increase (decrease)	-	279	82	(149)	44	(68)	3	(1,001)	(69)
Interest	-	-	-	-	1	2	1	-	-
Amortization	(74)	-	(35)	(71)	(19)	(124)	(141)	-	-
Net regulatory assets December 31, 2015	865	315	114	95	82	-	183	3,362	792
Increase (decrease)	**-**	**182**	**126**	**143**	**29**	**(36)**	**(184)**	**30**	**46**
Interest	**-**	**-**	**2**	**-**	**1**	**-**	**-**	**-**	**-**
Amortization	**(149)**	**-**	**(32)**	**(143)**	**(38)**	**(66)**	**(174)**	**-**	**-**
Net regulatory assets December 31, 2016	**716**	**497**	**210**	**95**	**74**	**(102)**	**(175)**	**3,392**	**838**

Pension and OPEB Cost Variance Account

As authorized by the OEB, for the period from March 1, 2011 to October 30, 2014, the Pension and OPEB Cost Variance Account recorded the differences between OPG's actual pension and OPEB costs for the regulated business determined on an accrual basis and related tax impacts, and corresponding forecast amounts reflected in the regulated prices then in effect. In its November 2014 decision, the OEB determined that the pension and OPEB amounts reflected in OPG's regulated prices established by that decision effective November 1, 2014 would be limited to the Company's estimated minimum contributions to its registered pension plan and a forecast of OPG's expenditures on the OPEB and supplementary pension plans. As such, the OEB ordered the Pension and OPEB Cost Variance Account to record only amortization beginning on November 1, 2014.

In its October 2015 order, the OEB approved the continuation of the previously authorized recovery of 10/12 of the account balance as at December 31, 2012 over a 144-month period to December 31, 2024. Amounts recorded in the account in 2013 and 2014 were approved for recovery over a 72-month period to June 30, 2021 by the OEB's October 2015 order. OPG's May 2016 application for new regulated prices has requested the continuation of these recovery schedules.

Pension & OPEB Cash Versus Accrual Differential Deferral Account

In its November 2014 decision and December 2014 order, the OEB established the Pension & OPEB Cash Versus Accrual Differential Deferral Account. Effective November 1, 2014, this deferral account records the difference between OPG's actual pension and OPEB costs for the regulated business determined on an accrual basis under US GAAP and OPG's corresponding actual cash expenditures for these plans. The balance in the account as at December 31, 2016 represents the excess of costs calculated using the accrual basis over the cash basis for the period from November 1, 2014 to December 31, 2016. The Company has recognized the amount set aside in the deferral account as a regulatory asset.

The OEB's November 2014 decision indicated that the future recovery, if any, of amounts recorded in the deferral account would be subject to the outcome of the OEB generic proceeding on the regulatory treatment and recovery of pension and OPEB costs. The OEB's consultation process to develop standard principles to guide its review of pension and OPEB costs of rate regulated utilities in the electricity and natural gas sectors, including establishing appropriate regulatory mechanisms for cost recovery, began in May 2015 and is continuing.

In its May 2016 application for new regulated prices, OPG has proposed to continue recording the difference between actual pension and OPEB costs for the regulated business determined on an accrual basis and OPG's corresponding actual cash expenditures for these plans in the Pension & OPEB Cash Versus Accrual Differential Deferral Account, pending the outcome of the OEB's consultation process.

Hydroelectric Surplus Baseload Generation Variance Account

The Hydroelectric Surplus Baseload Generation Variance Account records the impact of forgone production at OPG's regulated hydroelectric facilities due to surplus baseload generation conditions.

The OEB's October 2015 order provided for the recovery of amounts recorded in the account during 2014 over an 18-month period from July 1, 2015 to December 31, 2016. The regulatory asset balance for this account as at December 31, 2016 represents amounts recorded in the account during 2015 and 2016.

Bruce Lease Net Revenues Variance Account

In accordance with *Ontario Regulation 53/05*, the OEB is required to include the difference between OPG's revenues and costs associated with the two nuclear generating stations on lease to Bruce Power in the determination of the regulated prices for production from OPG's regulated nuclear facilities. Based on *Ontario Regulation 53/05* requirements, the OEB has established a variance account that captures differences between OPG's actual revenues and costs related to these stations and the corresponding forecasts included in approved nuclear regulated prices, including the costs associated with OPG's Nuclear Liabilities and the earnings from the portion of the Nuclear Segregated Funds related to the Bruce stations.

In 2013, the OEB ordered the portion of the balance in the Bruce Lease Net Revenues Variance Account related to the impact of the derivative liability embedded in the terms of the lease agreement between OPG and Bruce Power related to the Bruce nuclear generating stations (Bruce Lease) in effect prior to December 2015 to be recovered on the basis of OPG's expected rent rebate payments to Bruce Power and associated income tax impacts. The OEB's October 2015 order reaffirmed this approach and included, in amounts authorized for recovery over the period to the end of 2016, amounts for the derivative liability. In December 2015, as a result of amendments to the Bruce Lease, OPG reversed the derivative liability, with a corresponding reduction to the regulatory asset for the Bruce Lease Net Revenue Variance Account. Amounts collected from customers for the derivative liability for periods after its reversal are subject to refund in the future and have been recognized as a regulatory liability as part of the variance account balance.

In its October 2015 order, the OEB approved the continuation of the previously authorized recovery of the non-derivative portion of the account balance as at December 31, 2012 over a 48-month period ending December 31, 2016, and the recovery of the non-derivative portion of amounts recorded in the account in 2013 and 2014 over an 18-month period ending December 31, 2016.

The regulatory asset balance for the Bruce Lease Net Revenues Variance Account as at December 31, 2016 reflects a net amount of $164 million recoverable from customers for non-derivative variances recorded in 2015 and 2016, partially offset by a liability of $69 million to customers for amounts recovered for the derivative liability since its reversal in December 2015. Non-derivative amounts recorded during 2016 included those arising from the adjustment to the Nuclear Liabilities and related changes to the estimated service lives of OPG's nuclear stations, for accounting purposes, effective December 31, 2015.

Nuclear Deferral and Variance Over/Under Recovery Variance Account

The Nuclear Deferral and Variance Over/Under Recovery Variance Account records any shortfall or over-recovery of the approved variance and deferral account balances due to differences between actual and forecast nuclear production. It also captures the transfer of balances remaining in other variance and deferral accounts as they expire, from time to time.

The OEB's October 2015 order provided for the recovery of amounts recorded in the account in 2013 and 2014 over an 18-month period from July 1, 2015 to December 31, 2016. The regulatory asset balance for this account as at December 31, 2016 represents amounts recorded during 2015 and 2016.

Capacity Refurbishment Variance Account

Pursuant to *Ontario Regulation 53/05*, the OEB has authorized the Capacity Refurbishment Variance Account (CRVA). The account captures variances from the forecasts reflected in the regulated prices for capital and non-capital costs incurred to increase the output of, refurbish, or add operating capacity to one or more of the regulated facilities. The balance in the account as at December 31, 2016 includes variances related to the refurbishment of the Darlington nuclear generating station, life extension initiatives at the Pickering nuclear generation station, and other projects.

OPG determines amounts to be recovered from, or refunded to, customers with respect to variances in capital costs as the difference from forecast depreciation expense and cost of capital associated with the in-service capital reflected in the regulated prices and associated income tax effects. The cost of capital amount in the account is calculated using the weighted average cost of capital, including a return on equity, as approved by the OEB in determining the regulated prices. In accordance with US GAAP, in recognizing a regulatory asset for these amounts, OPG limits the portion of cost of capital additions to amounts calculated using the average rate of capitalized interest applied to construction and development in progress. Upon approval of recovery by the OEB, the amortization of these balances is recorded in the consolidated financial statements on the basis of amounts recognized as a regulatory asset. This can result in a net income impact upon recovery of these balances, as the amortization of the regulatory asset for cost of capital additions recorded at the average rate of capitalized interest would be lower than the corresponding amounts recovered, as revenue, based on OEB-approved balances calculated using the weighted average cost of capital.

The OEB's October 2015 order provided for the recovery of amounts recorded in the account in 2013 and 2014 over an 18-month period from July 1, 2015 to December 31, 2016. The regulatory liability balance for this account as at December 31, 2016 represents amounts recorded during 2015 and 2016.

Impact Resulting from Changes in Station End-of-Life Dates Deferral Account

In December 2015, as required by the OEB's previous decisions and orders, OPG applied to the OEB for an accounting order to establish a new deferral account to record the revenue requirement impact on the Pickering and Darlington nuclear generating stations of changes to the Nuclear Liabilities and depreciation expense arising from extensions in the estimated useful lives of OPG's nuclear stations, for accounting purposes, effective December 31, 2015. These impacts were not reflected in the existing regulated prices. In March 2016, the OEB issued its final decision and order establishing the requested account, the Impact Resulting from Changes in Station End-of-Life Dates Deferral Account, effective January 1, 2016. As at December 31, 2016, OPG recognized a regulatory liability of $71 million related to the balance in the deferral account. The deferral account will record these impacts until such time as new regulated prices reflecting the above changes come into effect.

The extensions to the estimated useful lives of OPG's nuclear generating stations effective December 31, 2015, for accounting purposes, included those of the Bruce A GS and the Bruce B GS to reflect the estimated end-of-life dates per the updated refurbishment agreement between the IESO and Bruce Power announced in December 2015, a one-year extension for the Darlington GS to reflect the approval of the refurbishment schedule in 2015, and an extension of less than one year for the Pickering GS. To reflect these changes, OPG recognized a total increase of $2,330 million in the Nuclear Liabilities and a corresponding increase in the related asset retirement costs capitalized to PP&E, effective December 31, 2015.

Other Variance and Deferral Accounts

Regulatory assets

As at December 31, 2016 and 2015, regulatory assets for Other variance and deferral accounts included amounts for the Nuclear Liability Deferral Account, the Hydroelectric Deferral and Variance Over/Under Recovery Variance Account, the Nuclear Development Variance Account, and the Pickering Life Extension Depreciation Variance Account.

Pursuant to *Ontario Regulation 53/05*, the Nuclear Liability Deferral Account has been authorized by the OEB in connection with changes to OPG's liabilities for nuclear used fuel management and nuclear decommissioning and L&ILW management associated with the nuclear facilities owned and operated by OPG, which are comprised of the Pickering and Darlington nuclear generating stations. The deferral account records the revenue requirement impact associated with the changes in these liabilities arising from an approved reference plan, in accordance with the terms of the ONFA.

The Nuclear Development Variance Account records variances between the actual non-capital costs incurred and firm financial commitments made in the course of planning and preparation for the development of proposed new nuclear generation facilities and the corresponding forecasts reflected in the regulated prices approved by the OEB.

The Pickering Life Extension Depreciation Variance Account balance was recorded wholly during the period from November 1, 2014 to December 31, 2014 and was fully amortized during the year ended December 31, 2016 based on the recovery period authorized in the OEB's October 2015 order.

As at December 31, 2016, regulatory assets for Other variance and deferral accounts also included the Niagara Tunnel Project Pre-December 2008 Disallowance Variance Account, which is discussed in Note 3.

As at December 31, 2015, regulatory assets for Other variance and deferral accounts also included the Pension & OPEB Cash Payment Variance Account. This account records, effective November 1, 2014, the difference between OPG's actual contributions to its registered pension plan and expenditures on its OPEB and supplementary pension plans for the regulated business, and the corresponding amounts reflected in the regulated prices.

Regulatory liabilities

As at December 31, 2016 and 2015, regulatory liabilities for Other variance and deferral accounts included amounts for the Hydroelectric Water Conditions Variance Account, the Ancillary Services Net Revenue Variance Account, the Income and Other Taxes Variance Account, and the Hydroelectric Incentive Mechanism Variance Account.

The Hydroelectric Water Conditions Variance Account captures the impact of differences in regulated hydroelectric electricity production due to differences between forecast water conditions underlying the production forecast approved by the OEB in setting regulated hydroelectric prices, and the actual water conditions.

The Ancillary Services Net Revenue Variance Account has been authorized by the OEB to capture differences between actual nuclear and regulated hydroelectric ancillary services net revenue and the forecast amounts of such revenue approved by the OEB in setting regulated prices.

The Income and Other Taxes Variance Account includes deviations in income taxes for the regulated business, from those approved by the OEB in setting regulated prices, caused by changes in tax rates and rules, as well as reassessments.

The Hydroelectric Incentive Mechanism Variance Account records a credit to customers equal to 50 percent of OPG's hydroelectric incentive mechanism revenues above a specified threshold for the regulated hydroelectric facilities.

As at December 31, 2016, regulatory liabilities for Other variance and deferral accounts also included the Pension & OPEB Cash Payment Variance Account and the Impact Resulting from Changes in Station-End-of-Life Dates Deferral Account.

In its October 2015 order, the OEB approved the recovery or repayment of the majority of the account balances of the Other variance and deferral accounts as at December 31, 2014, less amounts approved in the December 2014 order, over an 18-month period from July 1, 2015 to December 31, 2016.

Pension and OPEB Regulatory Asset

The Pension and OPEB Regulatory Asset represents unamortized amounts in respect of OPG's pension and OPEB plans that have been recognized in OCI and not yet reclassified into the amortization component of the benefit costs in respect of these plans. These amounts are expected to be recovered from customers through future regulated prices. The regulatory asset is reversed as underlying unamortized balances are amortized as components of benefit costs. For further details, refer to Note 3 under the heading, *Rate Regulated Accounting*. The AOCI amounts related to pension and OPEB plans are presented in Note 11.

Deferred Income Taxes

OPG is required to record a regulatory asset or liability for the deferred income taxes that are expected to be recovered or refunded through future regulated prices charged to customers for generation from OPG's regulated facilities. In addition, OPG is required to recognize a deferred income tax liability or asset for the regulatory asset or liability for the amount of deferred income taxes expected to be included in future regulated prices and paid to, or recovered, from customers. Income taxes are discussed in Note 9.

6. LONG-TERM DEBT

Long-term debt consists of the following as at December 31: [1]

(millions of dollars)	2016	2015
Notes payable to the OEFC		
Senior Notes [2]		
4.91% due 2016	**-**	270
5.35% due 2017	**900**	900
5.27% due 2018	**395**	395
5.44% due 2019	**365**	365
4.56% due 2020	**660**	660
4.28% due 2021	**185**	185
3.30% due 2022	**150**	150
3.12% due 2023	**40**	40
3.04% due 2026	**50**	-
5.07% due 2041	**300**	300
4.36% due 2042	**200**	200
4.03% due 2046	**50**	-
UMH Energy Partnership [3]		
Senior Notes		
7.86% due to 2041	**184**	187
PSS Generating Station Limited Partnership [4]		
Senior Notes		
4.90% due to 2067	**245**	245
Lower Mattagami Energy Limited Partnership [5]		
Senior Notes		
2.35% due 2017	**200**	200
4.46% due 2021	**225**	225
3.53% due 2024	**200**	200
2.40% due 2026	**220**	-
5.26% due 2041	**250**	250
5.05% due 2043	**200**	200
4.26% due 2046	**275**	275
4.26% due 2052	**225**	225
Other	**15**	-
	5,534	5,472
Less: bond issuance fees	**(14)**	(13)
Less: due within one year	**(1,103)**	(273)
Long-term debt	**4,417**	5,186

1 The interest rates disclosed reflect the effective interest rate of the debt.

2 OEFC senior debt is entitled to receive, in full, amounts owing in respect of the senior debt and is pari passu to the Lower Mattagami Energy Limited Partnership senior notes.

3 These notes are secured by the assets of the Upper Mattagami and Hound Chute project. Principal repayments of $3 million per year are made on a semi-annual basis until maturity in 2041, at which time the remaining principal balance of $116 million becomes due.

4 These notes are secured by the assets of the Peter Sutherland Sr. GS project. The notes have an interest-only feature until 2025 and will be amortized with blended semi-annual principal and interest payments thereafter until maturity in 2067, at which time the remaining principal balance of $49 million becomes due.

5 These notes are secured by the assets of the Lower Mattagami River project, including existing and new operating facilities, and are recourse to OPG until the recourse release date. These notes rank pari passu to the OEFC senior notes.

In December 2014, OPG entered into an $800 million general corporate credit facility with the OEFC in support of its financing requirements for 2015 and 2016. As at December 31, 2016, there were outstanding long-term borrowings of $100 million under this credit facility, which are included in the table above. The balance of the credit facility expired on December 31, 2016. In June 2016, OPG entered into a $700 million general corporate credit facility agreement with the OEFC, which expires on December 31, 2017. There were no outstanding borrowings under this credit facility as of December 31, 2016.

Interest paid in 2016 was $269 million (2015 – $269 million), of which $261 million (2015 – $261 million) relates to interest paid on long-term debt.

In the fourth quarter of 2015, PSS, a subsidiary of OPG, issued long-term debt totalling $245 million in support of the Peter Sutherland Sr. GS project. The majority of the debt proceeds, totalling $180 million, were invested in a structured deposit note with staggered maturity dates ranging from January 2016 to April 2017. As at December 31, 2016, the remaining deposit note balance of $70 million was reported as Other current assets on the consolidated balance sheets, based on the terms of the deposit note. As at December 31, 2015, $110 million was reported as Other current assets and $70 million as Other long-term assets in respect of the deposit note.

In October 2016, Lower Mattagami Energy Limited Partnership (LME) issued senior notes totalling $220 million maturing in October 2026. The effective interest rate and coupon interest rate of these notes were 2.40 percent and 2.31 percent, respectively.

In February 2017, OPG issued senior notes payable to the OEFC totalling $200 million and maturing in February 2047. The effective interest rate and coupon interest rate of these notes was 4.12 percent.

A summary of the contractual maturities of all long-term borrowings outstanding as at December 31, 2016, by year, is as follows:

(millions of dollars)	
2017	**1,103**
2018	**398**
2019	**368**
2020	**663**
2021	**413**
Thereafter	**2,589**
	5,534

The net book value of the pledged assets as at December 31, 2016 was $3,510 million (2015 – $3,520 million).

7. SHORT-TERM DEBT AND NET INTEREST EXPENSE

OPG maintains a $1 billion revolving committed bank credit facility, which is divided into two $500 million multi-year term tranches. In the second quarter of 2016, OPG renewed and extended both tranches to May 2021. As at December 31, 2016 and 2015, there were no outstanding borrowings under the bank credit facility.

As at December 31, 2016, the LME maintained a $500 million bank credit facility to support the funding requirements for the Lower Mattagami River project including support for the LME's commercial paper program. The facility consists of a $300 million tranche maturing in August 2021 and a $200 million tranche maturing in August 2017. As at December 31, 2016, there was no external commercial paper outstanding under LME's commercial paper program (2015 – $225 million). There were also no amounts outstanding under LME's bank credit facility as at December 31, 2016 and 2015.

As at December 31, 2016, OPG maintained $25 million of short-term, uncommitted overdraft facilities and $460 million of short-term, uncommitted credit facilities, which support the issuance of the Letters of Credit. OPG uses Letters of Credit to support its supplementary pension plans and for other general corporate purposes. As at

December 31, 2016, a total of $386 million of Letters of Credit had been issued under these facilities. This included $349 million for the supplementary pension plans, $36 million for general corporate purposes, and $1 million related to the operation of the PEC.

The Company has an agreement to sell an undivided co-ownership interest in its current and future accounts receivable to an independent trust. The maximum amount of co-ownership interest that can be sold under this agreement is $150 million. In October 2016, the expiry date of the agreement was extended from November 30, 2016 to November 30, 2018. As at December 31, 2016 and 2015, there were Letters of Credit outstanding under this agreement of $150 million which were issued in support of OPG's supplementary pension plans.

In October 2014, UMH Energy Partnership entered into an $8 million short-term, uncommitted overdraft facility and $16 million of irrevocable, standby Letters of Credit facilities in support of its operations. As at December 31, 2016, total Letters of Credit of $14 million had been issued under these facilities.

The following table summarizes the net interest expense for the years ended December 31:

(millions of dollars)	**2016**	**2015**
Interest on long-term debt	**290**	285
Interest on short-term debt	**8**	8
Interest income	**(7)**	(9)
Interest capitalized to property, plant and equipment and intangible assets	**(141)**	(102)
Interest related to regulatory assets and liabilities [1]	**(30)**	(2)
Net interest expense	**120**	180

[1] Includes interest to recognize the cost of financing related to regulatory variance and deferral accounts, as authorized by the OEB, and interest deferred in the Bruce Lease Net Revenues Variance Account, the Capacity Refurbishment Variance Account, and the Niagara Tunnel Project Pre-December 2008 Disallowance Variance Account.

8. FIXED ASSET REMOVAL AND NUCLEAR WASTE MANAGEMENT LIABILITIES AND FUNDS

The liabilities for fixed asset removal and nuclear waste management on a present value basis consist of the following as at December 31:

(millions of dollars)	2016	2015
Liability for nuclear used fuel management	11,292	12,793
Liability for nuclear decommissioning and nuclear L&ILW waste management	7,811	6,999
Liability for non-nuclear fixed asset removal	381	377
Fixed asset removal and nuclear waste management liabilities	19,484	20,169

The changes in the fixed asset removal and nuclear waste management liabilities for the years ended December 31 are as follows:

(millions of dollars)	2016	2015
Liabilities, beginning of year	20,169	17,028
Increase in liabilities due to accretion [1]	1,024	906
Decrease in liabilities resulting from the ONFA reference plan update process *(Note 3)*	(1,567)	-
Increase in liabilities reflecting changes to the estimated useful lives of nuclear generating stations	-	2,330
Increase in liabilities due to nuclear used fuel and nuclear waste management expenses and other expenses [1]	133	123
Liabilities settled by expenditures on fixed asset removal and nuclear waste management	(275)	(218)
Liabilities, end of year	19,484	20,169

[1] Amounts shown exclude the impact of regulatory variance and deferral accounts.

OPG's fixed asset removal and nuclear waste management liabilities are comprised of expected costs to be incurred up to and beyond termination of operations and the closure of nuclear and thermal generating facilities, and other facilities. Costs will be incurred for activities such as preparation for safe storage and safe storage of the nuclear stations, dismantlement, demolition and disposal of facilities and equipment, remediation and restoration of sites, and the ongoing and long-term management of nuclear used fuel and L&ILW material.

The determination of the accrual for fixed asset removal and nuclear waste management costs requires significant assumptions since these programs are long-term in nature. The most recent comprehensive update of the cost estimates for the Nuclear Liabilities is contained in the 2017-2021 ONFA reference plan, which was finalized and approved by the Province in the fourth quarter of 2016 (2017 ONFA Reference Plan). As discussed in Note 3, effective December 31, 2016, OPG recognized a decrease in the Nuclear Liabilities of approximately $1,570 million and a corresponding decrease in asset retirement costs capitalized as part of the carrying value of nuclear PP&E to reflect the changes in cost estimates arising from the 2017 ONFA Reference Plan update process. The reduction in the liabilities as at December 31, 2016 was determined by discounting the net decrease in future undiscounted cash flows using the weighted average discount rate of 4.95 percent reflected in the existing liability. The cost escalation rates used to determine the future undiscounted cash flows reflected in the December 31, 2016 adjustment to the Nuclear Liabilities ranged from 2.0 percent to 3.4 percent.

For the purposes of calculating OPG's Nuclear Liabilities, as at December 31, 2016, consistent with the current accounting end-of-life assumptions, nuclear station decommissioning activities are projected to occur over approximately the next 80 years. The estimates for the Nuclear Liabilities include cash flow estimates for decommissioning the nuclear stations for approximately 40 years after stations are shut down and to 2088 for placement of used fuel into the assumed long-term disposal repository, followed by extended monitoring.

The significant assumptions underlying operational, technical, and economic factors used in the calculation of the accrued Nuclear Liabilities are subject to periodic review. Changes to these assumptions, including changes to assumptions on the timing of the nuclear waste programs including construction of waste disposal facilities, station end-of-life dates, waste disposal methods, financial indicators, or the technology employed, may result in significant changes to the value of the accrued liabilities. With programs of this long-term duration and the evolving technology to handle the nuclear waste, there is a significant degree of inherent uncertainty surrounding the measurement of the costs for these programs. These costs may increase or decrease over time.

Liability for Nuclear Used Fuel Management Costs

The liability for nuclear used fuel management represents the cost of managing the highly radioactive used nuclear fuel bundles. The federal NFWA, proclaimed into force in 2002, required that Canada's nuclear fuel waste owners form a nuclear waste management organization, and that each waste owner establish a trust fund for used fuel management costs as specified in the NFWA. This organization, the NWMO, is responsible for the design and implementation of Canada's plan for the long-term management of nuclear used fuel waste. To estimate its liability for nuclear used fuel management costs, OPG has adopted a conservative approach consistent with the Adaptive Phased Management concept approved by the Government of Canada, which assumes a deep geologic repository as part of the long-term management of nuclear used fuel, with an in-service date of 2043 at the earliest.

Liability for Nuclear Decommissioning and L&ILW Management Costs

The liability for nuclear decommissioning and L&ILW management represents the estimated costs of decommissioning the nuclear generating stations after the end of their service lives, as well as the cost of managing L&ILW generated by the stations. The significant assumptions used in estimating future nuclear fixed asset removal costs include a deferred dismantlement basis for decommissioning of the stations, whereby the reactors will be de-watered and de-fueled immediately after the station has ceased operations and thereafter will remain in a safe state condition for a 30-year period, prior to an approximate 10-year dismantlement period.

The life cycle costs of L&ILW management include the costs of processing and storage of such radioactive wastes during and following the operation of the nuclear stations, as well as the costs of the ultimate long-term management of these wastes. The current assumptions used to establish the accrued costs for the management of L&ILW include an L&ILW DGR to be owned and operated by OPG. Agreement was previously reached with local municipalities for OPG to develop a deep geologic repository for the long-term management of L&ILW adjacent to OPG's Western Waste Management Facility in Kincardine, Ontario. OPG has suspended design activities for the L&ILW DGR, pending receipt of the site preparation and construction licence.

Liability for Non-Nuclear Fixed Asset Removal Costs

The liability for non-nuclear fixed asset removal primarily represents the estimated costs of decommissioning OPG's thermal generating stations at the end of their services lives. The liability is based on third-party cost estimates based on an in-depth review of plant sites and an assessment of required clean-up and restoration activities completed in 2011 for most of the thermal generating stations. For the purpose of measuring the liability, asset removal activities are estimated to take place over the next one to 15 years.

Ontario Nuclear Funds Agreement

In accordance with the ONFA, OPG sets aside and invests funds that are held in segregated custodian and trustee accounts specifically for discharging its life cycle obligation for nuclear decommissioning and long-term nuclear waste management. The Used Fuel Segregated Fund and the Decommissioning Segregated Fund were established under the ONFA for this purpose. OPG makes contributions to the Nuclear Segregated Funds based on the approved ONFA reference plan in effect. ONFA reference plans are subject to approval by the Province.

Since inception, OPG has been making quarterly payments to the Used Fuel Segregated Fund over the assumed lives of its nuclear generating stations, as specified in the ONFA, including contributions to the NFWA Trust (the Trust) established by OPG pursuant to the NFWA. The Trust forms part of the Used Fuel Segregated Fund, with any OPG contributions to the Used Fuel Segregated Fund, as well as any portion of the fund currently not in the trust, being able to be applied towards the Trust's annual contribution requirements pursuant to the NFWA. Required funding of the Used Fuel Segregated Fund for 2016 was $150 million (2015 – $143 million). ONFA requirements have resulted in the majority of the underlying used fuel management obligation being funded through OPG contributions over the initial estimated useful lives of the nuclear generating stations assumed in the ONFA, which did not reflect subsequent extensions to the nuclear station lives to reflect refurbishment and life extension decisions.

OPG has not been required to make contributions to the Decommissioning Segregated Fund, which was fully funded at its inception through an initial contribution made by the Province and, taking into account asset performance and changes in underlying funding obligation over time, at the time of every subsequent approved ONFA reference plan.

The 2017 ONFA Reference Plan was approved by the Province in December 2016, with an effective date of January 1, 2017. Based on the funded status of the Used Fuel Segregated Fund and the Decommissioning Segregated Fund reflecting the life cycle liability estimates per the 2017 ONFA Reference Plan, no overall contributions to either fund are currently required starting in 2017. Contributions may be required in the future should either or both of the funds be in an underfunded position when a new reference plan is prepared.

The *Nuclear Safety and Control Act* (Canada) requires OPG to have sufficient funds available to discharge its existing nuclear waste management and nuclear facilities decommissioning obligations. As required by the terms of the ONFA, the Province has provided a Provincial Guarantee to the Canadian Nuclear Safety Commission (CNSC) since 2003, on behalf of OPG. The Provincial Guarantee provides for any shortfall between the CNSC consolidated financial guarantee requirement and the value of the Nuclear Segregated Funds. OPG pays the Province an annual guarantee fee of 0.5 percent of the amount of the Provincial Guarantee. The current value of the Provincial Guarantee amount of $1,551 million is in effect through to the end of 2017. Based on this guarantee amount, OPG paid a guarantee fee of $8 million to the Province for each of 2015 and 2016.

The investments in the Nuclear Segregated Funds include a diversified portfolio of equities and fixed income securities that are invested across geographic markets, as well as investments in infrastructure, real estate, and agriculture. The Nuclear Segregated Funds are invested to fund long-term liability requirements and, as such, the portfolio asset mix is structured to achieve the required return over a long-term horizon. While short-term fluctuations in market value will occur, managing the long-term return of the Nuclear Segregated Funds remains the primary goal. OPG jointly oversees the investment management of the Nuclear Segregated Funds with the Province.

Decommissioning Segregated Fund

Under the ONFA, OPG is wholly responsible for cost estimate changes and investment returns in the Decommissioning Segregated Fund. As at December 31, 2016 and 2015, the Decommissioning Segregated Fund was in an overfunded position.

Upon termination of the ONFA, the Province has the sole right to any excess funds in the Decommissioning Segregated Fund, which is the excess of the fair market value of the fund's assets over the underlying estimated future costs, as per the most recently approved ONFA reference plan. Accordingly, when the Decommissioning Segregated Fund is overfunded, OPG limits the fund earnings recognized in the consolidated financial statements by recording an amount due to the Province, such that the asset recognized for the fund on the consolidated balance sheet is equal to the cost estimate of the liability based on the most recently approved ONFA reference plan. Additionally, OPG recognizes the portion of the surplus that it may direct to the Used Fuel Segregated Fund, which is possible when the surplus in the Decommissioning Segregated Fund is such that the underlying liabilities, as defined by the most recently approved ONFA reference plan, are at least 120 percent funded. In those circumstances, OPG may direct, at the time a new reference plan is approved, up to 50 percent of the surplus over 120 percent to the

Used Fuel Segregated Fund, with the OEFC entitled to a distribution of an equal amount. Therefore, when the Decommissioning Segregated Fund is at least 120 percent funded, OPG recognizes 50 percent of the excess greater than 120 percent in income, up to the amount by which the Used Fuel Segregated Fund is underfunded. Based on the 2017 ONFA Reference Plan, the Used Fuel Segregated Fund was in a marginally overfunded position as at December 31, 2016, for the first time since inception. As a result, OPG recognized a due to the Province amount such that the Decommissioning Segregated Fund asset on the consolidated balance sheet as at December 31, 2016 was limited to the value of the underlying liability per the 2017 ONFA Reference Plan. The payable to the Province may be reduced in subsequent periods in the event that the Decommissioning Segregated Fund earns less than its target rate of return, a new ONFA reference plan is approved with a higher underlying funding liability, or the Used Fuel Segregated Fund changes to an underfunded status. When the Decommissioning Segregated Fund is underfunded, the earnings on the fund reflect actual fund returns based on the market value of the assets.

When the Decommissioning Segregated Fund is in an overfunded status at less than 120 percent, OPG recognized its annual earnings on the fund at 3.25 percent plus the long-term Ontario Consumer Price Index (CPI) specified in the most recently approved ONFA reference plan, which is the rate of growth in the underlying funding liability. The same treatment is applied to the Decommissioning Segregated Fund when it is in an overfunded status at greater than 120 percent, if the Used Fuel Segregated Fund is fully funded.

Used Fuel Segregated Fund

OPG is responsible for cost increases in the funding liability for used fuel waste management under the ONFA, subject to specified graduated liability thresholds, pursuant to which the Province limits OPG's total financial exposure for the first 2.23 million nuclear used fuel bundles at approximately $15 billion in present value dollars as at December 31, 2016. The graduated liability thresholds do not apply to used fuel bundles beyond the 2.23 million threshold.

Under the ONFA, the Province guarantees OPG's annual return in the Used Fuel Segregated Fund at 3.25 percent plus the change in the Ontario CPI, as defined by ONFA, for funding related to the first 2.23 million used fuel bundles, ("committed return"). OPG recognizes the committed return on the Used Fuel Segregated Fund as earnings on the Nuclear Segregated Funds. The difference between the committed return and the actual market return determined based on the fair value of the fund assets related to the first 2.23 million used fuel bundles is recorded as due to or due from the Province. This amount due to or due from the Province represents the amount that would be paid to or received from the Province if the committed return were to be settled as of the consolidated balance sheet date. The 2.23 million threshold represents the estimated total life cycle fuel bundles based on the initial estimated useful lives of the nuclear stations assumed in the ONFA.

As prescribed under the ONFA, OPG's contributions for fuel bundles in excess of 2.23 million are not subject to the Province's guaranteed rate of return, and earn a return based on changes in the market value of the assets of the Used Fuel Segregated Fund.

If there is a surplus in the Used Fuel Segregated Fund such that the liabilities, as defined by the most recently approved ONFA reference plan, are at least 110 percent funded, the Province, has the right, at any time, to access the excess amount greater than 110 percent. Upon termination of the ONFA, the Province is entitled to any surplus in the fund, which is the excess of the fair market value of the Used Fuel Segregated Fund assets over the estimated future costs, as per the most recently approved ONFA reference plan. Neither OPG nor the Province has a right to direct any amounts from the Used Fuel Segregated Fund to the Decommissioning Segregated Fund. Therefore, when the Used Fuel Fund is overfunded, OPG limits the earnings it recognizes by recording an amount due to the Province, such that the asset recognized for the fund on the consolidated balance sheet is equal to the cost estimate of the liability per the most recently approved ONFA reference plan. This results in OPG recognizing annual earnings on the fund at 3.25 percent plus the long-term Ontario CPI specified in the most recently approved ONFA reference plan, which is the rate of growth in the underlying funding liability, when the fund is overfunded.

As at December 31, 2016, the Used Fuel Segregated Fund was marginally overfunded in accordance with the 2017 ONFA Reference Plan, and OPG recognized a due to the Province amount of $25 million such that the asset recognized for the fund was limited to the value of the underlying funding liability. This payable to the Province may be reduced in subsequent periods in the event that the Used Fuel Segregated Fund earns less than its target rate of return or in the event that a new ONFA reference plan is approved with a higher underlying funding liability.

Nuclear Segregated Funds

The nuclear fixed asset removal and nuclear waste management funds as at December 31 consist of the following:

	Fair Value	
(millions of dollars)	**2016**	**2015**
Decommissioning Segregated Fund	**8,317**	7,834
Due to Province – Decommissioning Segregated Fund	**(1,477)**	(1,285)
	6,840	6,549
Used Fuel Segregated Fund [1]	**11,082**	10,290
Due to Province – Used Fuel Segregated Fund	**(1,938)**	(1,703)
	9,144	8,587
Total Nuclear Segregated Funds	**15,984**	15,136
Less: current portion	**24**	15
Non-current Nuclear Segregated Funds	**15,960**	15,121

[1] The Ontario NFWA Trust represents $3,688 million as at December 31, 2016 (2015 – $3,409 million) of the Used Fuel Segregated Fund on a fair value basis.

The fair value of the securities invested in the Nuclear Segregated Funds as at December 31 is as follows:

	Fair Value	
(millions of dollars)	**2016**	**2015**
Cash and cash equivalents and short-term investments	**354**	343
Alternative investments	**1,989**	1,620
Pooled funds	**1,329**	1,311
Marketable equity securities	**9,503**	8,621
Fixed income securities	**6,181**	6,219
Net receivables/payables	**43**	10
	19,399	18,124
Due to Province	**(3,415)**	(2,988)
	15,984	15,136

The historical cost, gross unrealized aggregate appreciation and depreciation of investment, gross unrealized foreign exchange gains, and fair value of the Nuclear Segregated Funds as at December 31, 2016 and 2015 are summarized as follows:

	2016		
(millions of dollars)	**Decommissioning Segregated Fund**	**Used Fuel Segregated Fund**	**Total**
Historical cost	6,896	9,385	16,281
Gross unrealized gains (losses)			
Aggregate appreciation	1,326	1,564	2,890
Aggregate depreciation	(165)	(222)	(387)
Foreign exchange	260	355	615
	8,317	11,082	19,399
Due to Province	(1,477)	(1,938)	(3,415)
Total fair value	6,840	9,144	15,984
Less: current portion	8	16	24
Non-current fair value	6,832	9,128	15,960

	2015		
(millions of dollars)	**Decommissioning Segregated Fund**	**Used Fuel Segregated Fund**	**Total**
Historical cost	6,608	8,819	15,427
Gross unrealized gains (losses)			
Aggregate appreciation	1,098	1,283	2,381
Aggregate depreciation	(297)	(383)	(680)
Foreign exchange	425	571	996
	7,834	10,290	18,124
Due to Province	(1,285)	(1,703)	(2,988)
Total fair value	6,549	8,587	15,136
Less: current portion	5	10	15
Non-current fair value	6,544	8,577	15,121

Net realized and unrealized gains or losses from investments for the years ended December 31, 2016 and 2015 are summarized as follows:

	2016		
(millions of dollars)	**Decommissioning Segregated Fund**	**Used Fuel Segregated Fund**	**Total**
Net realized gains			
Realized gains excluding foreign exchange	84	180	264
Realized foreign exchange gains	30	41	71
Net realized gains	114	221	335
Net unrealized gains			
Unrealized gains excluding foreign exchange	360	442	802
Unrealized foreign exchange losses	(165)	(216)	(381)
Net unrealized gains	195	226	421

	2015		
(millions of dollars)	**Decommissioning Segregated Fund**	**Used Fuel Segregated Fund**	**Total**
Net realized gains			
Realized gains excluding foreign exchange	159	221	380
Realized foreign exchange gains	56	71	127
Net realized gains	215	292	507
Net unrealized gains			
Unrealized losses excluding foreign exchange	(267)	(367)	(634)
Unrealized foreign exchange gains	335	439	774
Net unrealized gains	68	72	140

The change in the Nuclear Segregated Funds for the years ended December 31 is as follows:

	Fair Value	
(millions of dollars)	**2016**	**2015**
Decommissioning Segregated Fund, beginning of year	**6,549**	6,246
Increase in fund due to return on investments	**505**	507
Decrease in fund due to reimbursement of eligible expenditures	**(22)**	(19)
Increase in due to Province	**(192)**	(185)
Decommissioning Segregated Fund, end of year	**6,840**	6,549
Used Fuel Segregated Fund, beginning of year	**8,587**	8,133
Increase in fund due to contributions made	**150**	143
Increase in fund due to return on investments	**690**	642
Decrease in fund due to reimbursement of eligible expenditures	**(48)**	(57)
Increase in due to Province	**(235)**	(274)
Used Fuel Segregated Fund, end of year	**9,144**	8,587

The earnings from the Nuclear Segregated Funds during 2016 and 2015 were impacted by the Bruce Lease Net Revenues Variance Account authorized by the OEB. The earnings on the Nuclear Segregated Funds for the years ended December 31 are as follows:

(millions of dollars)	**2016**	**2015**
Decommissioning Segregated Fund	**313**	322
Used Fuel Segregated Fund	**455**	368
Bruce Lease Net Revenues Variance Account	**(22)**	14
Total earnings	**746**	704

9. INCOME TAXES

OPG follows the liability method of accounting for income taxes. The Company records an offsetting regulatory asset or liability for the deferred income taxes that are expected to be recovered or refunded through future regulated prices charged to customers for generation from OPG's regulated facilities.

A reconciliation between the statutory and the effective rate of income taxes is as follows:

(millions of dollars)	**2016**	**2015**
Income before income taxes	**621**	509
Combined Canadian federal and provincial statutory enacted income tax rates	**26.5%**	26.5%
Statutory income tax rates applied to accounting income	**165**	135
Increase (decrease) in income taxes resulting from:		
Income tax expense deferred in regulatory assets and liabilities	**65**	29
Scientific Research and Experimental Development investment tax credits	**(48)**	(44)
Manufacturing and processing credit	**(9)**	(8)
Other	**(5)**	(20)
	3	(43)
Income tax expense	**168**	92
Effective rate of income taxes	**27.0%**	18.1%

Significant components of the income tax expense are presented in the table below:

(millions of dollars)	**2016**	**2015**
Current income tax expense	**204**	59
Deferred income tax (recovery) expense	**(36)**	33
Income tax expense	**168**	92

The income tax effects of temporary differences that give rise to deferred income tax assets and liabilities as at December 31 are as follows:

(millions of dollars)	**2016**	**2015**
Deferred income tax assets:		
Fixed asset removal and nuclear waste management liabilities	**4,861**	5,032
Other assets and liabilities	**1,813**	1,699
	6,674	6,731
Deferred income tax liabilities:		
Property, plant and equipment and intangible assets	**(1,807)**	(2,119)
Nuclear fixed asset removal and nuclear waste management funds	**(3,996)**	(3,784)
Other assets and liabilities	**(1,700)**	(1,708)
	(7,503)	(7,611)
Net deferred income tax liabilities	**(829)**	(880)

During 2016, OPG recorded an increase in the deferred income tax liability for the income taxes that are expected to be recovered or refunded through regulated prices charged to customers of $46 million (2015 – a decrease of $69 million). Since these deferred income taxes are expected to be refunded through future regulated prices, OPG recorded a corresponding increase to the regulatory asset for deferred income taxes. As a result, the deferred income tax expense for 2016 and 2015 was not impacted.

The following table summarizes the deferred income tax liabilities recorded for the rate regulated operations that are expected to be recovered through future regulated prices:

(millions of dollars)	2016	2015
January 1:		
Deferred income tax liabilities on temporary differences related to regulated operations	592	644
Deferred income tax liabilities on temporary differences related to the regulatory asset for the deferred income tax liabilities	200	217
	792	861
Changes during the year:		
Increase (decrease) in deferred income tax liabilities on temporary differences related to regulated operations	35	(52)
Increase (decrease) in deferred income tax liabilities on temporary differences related to the regulatory asset for the deferred income tax liabilities	11	(17)
Balance as at December 31	838	792

The tax benefit associated with an income tax position is recognized only when it is more likely than not that such a position will be sustained upon examination by the taxing authorities based on the technical merits of the position. The current and deferred income tax benefit is equal to the largest amount, considering possible settlement outcomes, that is greater than 50 percent likely of being realized upon settlement with the taxing authorities.

A reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows:

(millions of dollars)	2016	2015
Unrecognized tax benefits, beginning of year	72	79
Additions based on tax positions related to the current year	19	16
Additions for tax positions of prior years	2	7
Reductions for tax positions of prior years	(16)	(14)
Other	-	(16)
Unrecognized tax benefits, end of year	77	72

As at December 31, 2016, OPG's unrecognized tax benefits were $77 million (2015 – $72 million), excluding interest and penalties, all of which, if recognized, would affect OPG's effective tax rate. Changes in unrecognized tax benefits over the next 12 months cannot be predicted with certainty.

OPG recognizes interest and penalties related to unrecognized tax benefits as income tax expense. As at December 31, 2016, OPG had recorded interest on unrecognized tax benefits of $8 million (2015 – $7 million). OPG considers its significant tax jurisdiction to be Canada. OPG remains subject to income tax examination for years after 2012.

OPG paid $98 million in income taxes (net of tax refunds) during 2016 (2015 – $47 million).

10. ACCUMULATED OTHER COMPREHENSIVE LOSS

The changes in the balance of each component of accumulated other comprehensive loss (AOCL), net of income taxes, during the years December 31, 2016 and 2015 are as follows:

	2016			
(millions of dollars)	**Unrealized Gains and Losses on Cash Flow Hedges [1]**	**Pension and OPEB [1]**	**Available-for-sale Securities [1]**	**Total [1]**
AOCL, beginning of year	**(106)**	**(213)**	**-**	**(319)**
Actuarial loss on re-measurement of liabilities for pension and OPEB	**-**	**(6)**	**-**	**(6)**
Unrealized loss on available-for-sale securities	**-**	**-**	**(1)**	**(1)**
Amounts reclassified from AOCL	**19**	**12**	**-**	**31**
OCI for the year	**19**	**6**	**(1)**	**24**
AOCL, end of year	**(87)**	**(207)**	**(1)**	**(295)**

[1] All amounts are net of income taxes.

	2015		
(millions of dollars)	**Unrealized Gains and Losses on Cash Flow Hedges [1]**	**Pension and OPEB [1]**	**Total [1]**
AOCL, beginning of year	(117)	(379)	(496)
Net loss on cash flow hedges	(5)	-	(5)
Actuarial gain on re-measurement of liabilities for pension and OPEB	-	148	148
Amounts reclassified from AOCL	16	18	34
OCI for the year	11	166	177
AOCL, end of year	(106)	(213)	(319)

[1] All amounts are net of income taxes.

The significant amounts reclassified out of each component of AOCL, net of income taxes, during the years ended December 31, 2016 and 2015 are as follows:

	Amount Reclassified from AOCL		
(millions of dollars)	**2016**	**2015**	**Statement of Income Line Item**
Amortization of losses from cash flow hedges			
Losses	**21**	18	Net interest expense and fuel expense
Income tax recovery	**(2)**	(2)	Income tax expense
	19	16	
Amortization of amounts related to pension and OPEB			
Actuarial losses and past service costs	**16**	25	See (1) below
Income tax recovery	**(4)**	(7)	Income tax expense
	12	18	
Total reclassifications for the year	**31**	34	

[1] These AOCL components are included in the computation of pension and OPEB costs (see Note 11 for additional details).

11. PENSION AND OTHER POST-EMPLOYMENT BENEFITS

Fund Assets

The OPG registered pension fund investment guidelines are stated in an approved Statement of Investment Policies and Procedures (SIPP). The SIPP is reviewed and approved by the Audit and Risk Committee of OPG's Board of Directors at least annually and includes a discussion of investment objectives and expectations, asset mix and rebalancing, and the basis for measuring the performance of the pension fund assets.

In accordance with the SIPP, investment allocation decisions are made with a view to achieve OPG's objective of meeting obligations of the plan as they come due. The pension fund assets are invested in four categories of asset classes. The first category is liability hedging assets which are intended to hedge the inflation and interest rate sensitivity of the plan liabilities. The second category is return enhancing assets which are intended to obtain higher investment returns compared to the returns expected for liability hedging assets. The third category is real assets which offer exposure to the combined characteristics of liability hedging and return enhancing assets. The fourth category is return diversifying strategies, which are intended to improve the overall return of the pension fund while mitigating the downside market risk.

To achieve the above objective, OPG has adopted the following target strategic asset allocation:

	Target
Asset Class	
Liability Hedging Assets	34%
Return Enhancing Assets	31%
Real Assets	20%
Return Diversifying Assets	15%

The plan may enter into derivative securities, such as interest rate swaps and forward foreign exchange contracts, for risk management purposes, where such activity is consistent with the plan's investment objectives.

Significant Concentrations of Risk in Fund Assets

The assets of the pension fund are diversified to limit the impact of any individual investment. The pension fund is diversified across multiple asset classes. Fixed income securities are diversified among Canadian government bonds, government agency bonds, real return bonds, corporate bonds, and an interest rate overlay hedging program, which is disclosed under pooled funds. Equity securities are diversified across Canadian, US, and Global stocks. There are also real estate, infrastructure, and agriculture portfolios that represent approximately 12 percent of the total pension fund assets as at December 31, 2016. Investments in the above asset classes are further diversified across funds, investment managers, strategies, vintages, sectors and geographies, depending on the specific characteristics of each asset class.

Credit risk with respect to the pension fund's fixed income securities is managed by risk tolerance guidelines, which requires that fixed income securities comply with various investment constraints that ensure prudent diversification and prescribed minimum required credit rating quality. Credit risk, as it relates to the pension fund's derivatives, is managed through the use of International Swap and Derivatives Association documentation and counterparty management performed by the fund's investment managers.

Risk Management

Risk management oversight with respect to the pension fund includes, but is not limited to, the following activities:

- Periodic asset/liability management and strategic asset allocation studies
- Monitoring of funding levels and funding ratios
- Monitoring compliance with asset allocation guidelines and investment management agreements
- Monitoring asset class performance against asset class benchmarks

- Monitoring investment manager performance against benchmarks
- Monitoring of risk tolerance guidelines

Expected Rate of Return on Plan Assets

The expected rate of return on plan assets is based on the fund's asset allocation, as well as the return expectations considering long-term risks and returns associated with each asset class within the plan portfolio. The asset management decisions consider the economic liabilities of the plan.

Fair Value Measurements

OPG is required to classify fair value measurements using a fair value hierarchy. This hierarchy groups financial instruments into three levels, based on the significance of inputs used in measuring the fair value of the assets and liabilities. Refer to Note 13 for a detailed discussion of fair value measurements and the fair value hierarchy.

The following tables present pension plan assets measured at fair value in accordance with the fair value hierarchy:

	December 31, 2016			
(millions of dollars)	**Level 1**	**Level 2**	**Level 3**	**Total**
Cash and cash equivalents	690	-	-	690
Fixed income				
Corporate debt securities	-	407	-	407
Government bonds	-	3,483	-	3,483
Equities				
Canadian	1,451	291	-	1,742
US	1,495	-	-	1,495
Global	1,643	-	-	1,643
Pooled funds	118	413	-	531
Other	(2)	-	-	(2)
	5,395	4,594	-	9,989
Investments measured at NAV [1]				3,504
				13,493 [2]

[1] Represents investments measured at fair value using NAV as a practical expedient, which have not been classified in the fair value hierarchy. The fair value amounts for these investments presented in this table are intended to permit the reconciliation of the fair value hierarchy to the total fair value of plan assets presented in tables following.
[2] The table above excludes pension fund receivables and payables.

	December 31, 2015			
(millions of dollars)	**Level 1**	**Level 2**	**Level 3**	**Total**
Cash and cash equivalents	374	-	-	374
Short-term investments	-	1	-	1
Fixed income				
Corporate debt securities	-	392	-	392
Government bonds	-	3,794	-	3,794
Equities				
Canadian	1,547	-	-	1,547
US	1,786	-	-	1,786
Global	1,992	-	-	1,992
Pooled funds	37	147	-	184
Other	1	-	-	1
	5,737	4,334	-	10,071
Investments measured at NAV [1]				3,079
				13,150 [2]

[1] Represents investments measured at fair value using NAV as a practical expedient, which have not been classified in the fair value hierarchy. The fair value amounts for these investments presented in this table are intended to permit the reconciliation of the fair value hierarchy to the total fair value of plan assets presented in tables following.
[2] The table above excludes pension fund receivables and payables.

During the years ended December 31, 2016 and 2015, there were no transfers between Level 1 and Level 2.

Plan Costs and Liabilities

Details of OPG's pension and OPEB obligations, pension fund assets and costs are presented in the following tables:

	Registered and Supplementary Pension Plans		Other Post-Employment Benefits	
	2016	**2015**	**2016**	**2015**
Weighted Average Assumptions – Benefit Obligations at Year-End				
Rate used to discount future benefits	**3.90%**	4.10%	**3.94%**	4.13%
Salary schedule escalation rate - initial rate [1]	**1.80%**	1.60%	**1.80%**	1.60%
- thereafter	**2.50%**	2.50%	**2.50%**	2.50%
Rate of cost of living increase to pensions	**2.00%**	2.00%	**n/a**	n/a
Initial health care trend rate	**n/a**	n/a	**5.90%**	6.00%
Ultimate health care trend rate	**n/a**	n/a	**4.32%**	4.33%
Year ultimate health care trend rate reached	**n/a**	n/a	**2030**	2030
Rate of increase in disability benefits	**n/a**	n/a	**2.00%**	2.00%

[1] Per year to December 31, 2021.

	Registered and Supplementary Pension Plans		Other Post-Employment Benefits	
	2016	**2015**	**2016**	**2015**
Weighted Average Assumptions – Costs for the Year				
Expected return on plan assets, net of expenses	**6.00%**	6.25%	**n/a**	n/a
Rate used to discount future benefits	**4.10%**	4.00%	**4.13%**	4.03%
Salary schedule escalation rate - initial rate [1]	**1.60%**	2.00%	**1.60%**	2.00%
- thereafter	**2.50%**	2.50%	**2.50%**	2.50%
Rate of cost of living increase to pensions	**2.00%**	2.00%	**n/a**	n/a
Initial health care trend rate	**n/a**	n/a	**6.00%**	6.09%
Ultimate health care trend rate	**n/a**	n/a	**4.33%**	4.33%
Year ultimate health care trend rate reached	**n/a**	n/a	**2030**	2030
Rate of increase in disability benefits	**n/a**	n/a	**2.00%**	2.00%
Expected average remaining service life for employees (years)	**12**	12	**13**	13

[1] For 2016, per year to December 31, 2021. For 2015, per year to December 31, 2020.

	Registered Pension Plans		Supplementary Pension Plans		Other Post-Employment Benefits	
(millions of dollars)	**2016**	**2015**	**2016**	**2015**	**2016**	**2015**
Components of Cost Recognized for the Year						
Current service costs	**277**	320	**7**	7	**67**	71
Interest on projected benefit obligation	**634**	630	**12**	13	**133**	127
Expected return on plan assets, net of expenses	**(734)**	(717)	**-**	-	**-**	-
Amortization of past service costs [1]	**-**	-	**-**	-	**1**	-
Amortization of net actuarial loss [1]	**192**	292	**4**	6	**19**	27
Recognition of LTD net actuarial (gain) loss	**-**	-	**-**	-	**(52)**	7
Costs recognized [2]	**369**	525	**23**	26	**168**	232

[1] The amortization of past service costs and net actuarial loss was recognized as an increase to OCI. This increase was partially offset by the impact of the Pension and OPEB Regulatory Asset discussed in Note 5.

[2] Excludes the impact of regulatory variance and deferral accounts discussed in Note 5.

Total benefit costs, including the impact of the Pension & OPEB Cash Payment Variance Account and the Pension & OPEB Cash Versus Accrual Differential Deferral Account, for the years ended December 31 are as follows:

(millions of dollars)	2016	2015
Registered pension plans	369	525
Supplementary pension plans	23	26
Other post-employment benefits	168	232
Pension & OPEB Cash Payment Variance Account *(Note 5)*	86	(21)
Pension & OPEB Cash Versus Accrual Differential Deferral Account *(Note 5)*	(182)	(279)
Pension and other post-employment benefit costs	464	483

The pension and OPEB obligations and the pension fund assets measured as at December 31 are as follows:

	Registered Pension Plans		Supplementary Pension Plans		Other Post-Employment Benefits	
(millions of dollars)	2016	2015	2016	2015	2016	2015
Change in Plan Assets						
Fair value of plan assets at beginning of year	13,160	12,407	-	-	-	-
Contributions by employer	255	362	15	24	93	94
Contributions by employees	85	72	-	-	-	-
Actual return on plan assets, net of expenses	714	1,151	-	-	-	-
Benefit payments	(708)	(832)	(15)	(24)	(93)	(94)
Fair value of plan assets at end of year	13,506	13,160	-	-	-	-
Change in Projected Benefit Obligations						
Projected benefit obligations at beginning of year	15,475	15,669	299	317	3,188	3,143
Employer current service costs	277	320	7	7	67	71
Contributions by employees	85	72	-	-	-	-
Interest on projected benefit obligation	634	630	12	13	133	127
Benefit payments	(708)	(832)	(15)	(24)	(93)	(94)
Past service costs	-	-	-	-	-	5
Net actuarial loss (gain)	436	(384)	33	(14)	(303)	(64)
Projected benefit obligations at end of year	16,199	15,475	336	299	2,992	3,188
Funded status – deficit at end of year	(2,693)	(2,315)	(336)	(299)	(2,992)	(3,188)

The following table provides the pension and OPEB liabilities and their classification on the consolidated balance sheets as at December 31:

	Registered Pension Plans		Supplementary Pension Plans		Other Post-Employment Benefits	
(millions of dollars)	2016	2015	2016	2015	2016	2015
Current liabilities	-	-	(17)	(17)	(95)	(103)
Non-current liabilities	(2,693)	(2,315)	(319)	(282)	(2,897)	(3,085)
Total liabilities	(2,693)	(2,315)	(336)	(299)	(2,992)	(3,188)

The accumulated benefit obligations for the registered pension plans and supplementary pension plans as at December 31, 2016 are $14,909 million and $293 million, respectively (2015 – $14,327 million and $267 million, respectively). The accumulated benefit obligation differs from the projected benefit obligation in that the accumulated benefit obligation includes no assumption about future compensation levels.

The following table provides the components of OPG's OCI related to pension and OPEB plans and the offsetting Pension and OPEB Regulatory Asset, discussed in Note 5, for the years ended December 31, on a pre-tax basis:

(millions of dollars)	Registered Pension Plans 2016	Registered Pension Plans 2015	Supplementary Pension Plans 2016	Supplementary Pension Plans 2015	Other Post-Employment Benefits 2016	Other Post-Employment Benefits 2015
Changes in plan assets and benefit obligations recognized in OCI						
Current year net actuarial loss (gain)	**456**	(818)	**33**	(14)	**(251)**	(71)
Current year past service costs	**-**	-	**-**	-	**-**	5
Amortization of net actuarial loss	**(192)**	(292)	**(4)**	(6)	**(19)**	(27)
Amortization of past service costs	**-**	-	**-**	-	**(1)**	-
Total decrease (increase) in OCI	**264**	(1,110)	**29**	(20)	**(271)**	(93)
Less: Increase (decrease) in Pension and OPEB Regulatory Asset *(Note 5)*	**253**	(916)	**27**	(15)	**(250)**	(70)
Net decrease (increase) in OCI (pre-tax)	**11**	(194)	**2**	(5)	**(21)**	(23)

The following table provides the components of OPG's AOCL and the offsetting Pension and OPEB Regulatory Asset that have not yet been recognized as components of benefit costs as at December 31, on a pre-tax basis:

(millions of dollars)	Registered Pension Plans 2016	Registered Pension Plans 2015	Supplementary Pension Plans 2016	Supplementary Pension Plans 2015	Other Post-Employment Benefits 2016	Other Post-Employment Benefits 2015
Unamortized amounts recognized in AOCL						
Past service costs	**-**	-	**-**	-	**5**	6
Net actuarial loss	**3,287**	3,023	**106**	77	**270**	540
Total recognized in AOCL	**3,287**	3,023	**106**	77	**275**	546
Less: Pension and OPEB Regulatory Asset *(Note 5)*	**3,039**	2,786	**100**	73	**253**	503
Net recognized in AOCL (pre-tax)	**248**	237	**6**	4	**22**	43

The following table provides the components of OPG's AOCL and the offsetting Pension and OPEB Regulatory Asset as at December 31 (included in the table above) that are expected to be amortized as components of benefit costs and recognized as increases to OCI and reductions in the Pension and OPEB Regulatory Asset in 2017, on a pre-tax basis:

(millions of dollars)	Registered Pension Plans	Supplementary Pension Plans	Other Post-Employment Benefits
Past service costs	**-**	**-**	**1**
Net actuarial loss	**183**	**6**	**-**
Total increase in OCI	**183**	**6**	**1**
Less: Estimated decrease in Pension and OPEB Regulatory Asset	**170**	**6**	**1**
Net increase in OCI (pre-tax)	**13**	**-**	**-**

The most recently filed actuarial valuation, for funding purposes, of the OPG registered pension plan, as at January 1, 2016, was filed with the FSCO in September 2016. The next filed funding valuation must have an effective date no later than January 1, 2019. For 2017, OPG's required contribution to its registered pension plan is expected to be

$248 million. The amount of OPG's additional, voluntary contribution, if any, is revisited from time to time. OPG will continue to assess the requirements for contributions to the pension plan.

The supplementary pension plans are not funded, but are secured by Letters of Credit totalling $349 million as at December 31, 2016 (2015 – $345 million).

Estimated future benefit payments to participants in the pension and OPEB plans based on the assumptions used to measure the benefit obligations as at December 31, 2016 are as follows:

(millions of dollars)	**Registered Pension Plans**	**Supplementary Pension Plans**	**Other Post-Employment Benefits**
2017	687	18	95
2018	759	18	98
2019	750	18	101
2020	767	19	105
2021	795	19	108
2022 through 2026	4,218	102	613

A one percent increase or decrease in the health care trend rate would result in an increase in the current service and interest components of the 2016 OPEB costs of $45 million (2015 – $45 million) or a decrease in the service and interest components of the 2016 OPEB costs of $33 million (2015 – $33 million). A one percent increase or decrease in the health care trend rate would result in an increase in the projected OPEB obligation as at December 31, 2016 of $560 million (2015 – $584 million) or a decrease in the projected OPEB obligation as at December 31, 2016 of $426 million (2015 – $446 million).

12. RISK MANAGEMENT AND DERIVATIVES

OPG is exposed to risks related to changes in market interest rates on debt expected to be issued in the future and movements in foreign currency that affect the Company's assets, liabilities, and forecasted transactions. Select derivative instruments are used to manage such risks. Derivatives are used as hedging instruments, as well as for trading purposes.

Interest rate risk is the risk that the value of assets and liabilities can change due to movements in related interest rates. Interest rate risk for OPG arises with the need to refinance existing debt and/or undertake new financing. The management of these risks includes using derivatives to hedge the exposure in accordance with corporate risk management policies. OPG periodically uses interest rate swap agreements to mitigate elements of interest rate risk exposure associated with anticipated financing.

OPG's financial results are exposed to volatility in the Canadian/US foreign exchange rate as fuels and certain supplies and services purchased for generating stations and major development projects are primarily denominated in, or tied to, US dollars. OPG enters into foreign exchange derivatives and agreements with major financial institutions, when appropriate, in order to manage the Company's exposure to foreign currency movements.

The majority of OPG's revenues are derived from sales through the IESO-administered spot market. Market participants in the IESO spot market provide collateral in accordance with the IESO prudential support requirements to cover funds that they might owe to the market. Although the credit exposure to the IESO represents a significant portion of OPG's accounts receivable, the Company's management accepts this risk due to the IESO's primary role in the Ontario electricity market. The remaining receivables exposure is to a diverse group of generally high quality counterparties. OPG's allowance for doubtful accounts as at December 31, 2016 was less than $1 million. OPG's fair value derivatives totalled a net liability of $24 million as at December 31, 2016 (2015 – $2 million). During 2015, OPG reversed a derivative liability of $299 million embedded in the Bruce Lease, with a corresponding reduction in the regulatory asset for the Bruce Lease Net Revenues Variance Account, following amendments to the Bruce Lease that removed the provision of the agreement giving rise to the derivative.

The following table shows the pre-tax amounts related to derivatives recorded in AOCL and net income for the years ended December 31:

(millions of dollars)	2016	2015
Cash flow hedges (recorded in AOCL)		
Losses in OCI	**-**	(7)
Reclassification of losses to net interest expense	**21**	20
Reclassification of gains to fuel expense	**-**	(2)
Commodity derivatives (recorded in net income)		
Realized losses in revenue	**(12)**	(16)
Unrealized losses in revenue	**(3)**	(7)
Embedded derivative (recorded in net income)		
Unrealized gains in revenue [1]	**-**	225

[1] Excludes the impact of the Bruce Lease Net Revenues Variance Account.

Existing net losses of $20 million deferred in AOCL as at December 31, 2016 are expected to be reclassified to net income within the next 12 months.

13. FAIR VALUE MEASUREMENTS

OPG is required to classify fair value measurements using a fair value hierarchy. This hierarchy groups financial assets and liabilities into three levels, based on the inputs used in measuring the fair value of the financial assets and liabilities. The fair value hierarchy has the following levels:

- Level 1: Valuation of inputs is based on unadjusted quoted market prices observed in active markets for identical assets or liabilities.
- Level 2: Valuation is based on inputs other than quoted prices under Level 1 that are observable for the asset or liability, either directly or indirectly.
- Level 3: Valuation is based on inputs for the asset or liability that are not based on observable market data.

The fair value of financial instruments traded in active markets is based on quoted market prices at the consolidated balance sheet dates. A market is regarded as active if quoted prices are readily and regularly available from an exchange, dealer, broker, industry group, pricing service, or regulatory agency, and those prices represent actual and regularly occurring market transactions on an arm's length basis. The quoted market price used for financial assets held by OPG is the current bid price. These instruments are included in Level 1 and are comprised primarily of equity investments and fund investments.

For financial instruments for which quoted market prices are not directly available, fair values are estimated using forward price curves developed from observable market prices or rates. The estimation of fair value may include the use of valuation techniques or models, based wherever possible on assumptions supported by observable market prices or rates prevailing at the consolidated balance sheet dates. This is the case for over-the-counter derivatives and securities, which include energy commodity derivatives, foreign exchange derivatives, interest rate swap derivatives, and fund investments. Pooled fund investments are valued at the unit values supplied by the pooled fund administrators. The unit values represent the underlying net assets at fair values, determined using closing market prices. Valuation models use general assumptions and market data and therefore do not reflect the specific risks and other factors that would affect a particular instrument's fair value. The methodologies used for calculating the fair value adjustments are reviewed on an ongoing basis to ensure that they remain appropriate. If all significant inputs required to fair value an instrument are observable, the instrument is included in Level 2.

If one or more of the significant inputs is not based on observable market data, the instrument is included in Level 3. Specific valuation techniques are used to value these instruments. Significant Level 3 inputs include: recent comparable transactions, comparable benchmark information, bid/ask spread of similar transactions, and other relevant factors.

Transfers into, out of, or between levels are deemed to have occurred on the date of the event or change in circumstances that caused the transfer to occur.

The Company is required to determine the fair value of all its financial instruments. The following is a summary of OPG's financial instruments as at December 31:

(millions of dollars)	**Fair Value** 2016	2015	**Carrying Value** [1] 2016	2015	**Balance Sheet Line Item**
Nuclear Segregated Funds (includes current portion)	**15,984**	15,136	**15,984**	15,136	Nuclear fixed asset removal and nuclear waste management funds
Investment in Hydro One shares	**212**	-	**212**	-	Available-for-sale securities
Payable related to cash flow hedges	**(48)**	(56)	**(48)**	(56)	Long-term accounts payable and accrued charges
Long-term debt (includes current portion)	**(6,033)**	(5,978)	**(5,520)**	(5,459)	Long-term debt
Other financial instruments	**(18)**	6	**(18)**	6	Various

[1] The carrying values of other financial instruments included in cash and cash equivalents, receivables from related parties, Other current assets, short-term debt, and accounts payable and accrued charges approximate their fair values due to the immediate or short-term maturity of these financial instruments.

The fair value of long-term debt instruments is determined based on a conventional pricing model, which is a function of future cash flows, the current market yield curve and term to maturity. These inputs are considered Level 2 inputs.

The following tables present financial assets and financial liabilities measured at fair value in accordance with the fair value hierarchy as at December 31, 2016 and 2015:

	December 31, 2016			
(millions of dollars)	**Level 1**	**Level 2**	**Level 3**	**Total**
Assets				
Used Fuel Segregated Fund				
Investments measured at fair value, excluding investments measured at NAV	5,602	4,394	-	9,996
Investments measured at NAV [1]				1,086
				11,082
Due to Province				(1,938)
Used Fuel Segregated Fund, net				9,144
Decommissioning Segregated Fund				
Investments measured at fair value, excluding investments measured at NAV	4,171	3,243	-	7,414
Investments measured at NAV [1]				903
				8,317
Due to Province				(1,477)
Decommissioning Segregated Fund, net				6,840
Investment in available-for-sale securities	212	-	-	212
Other financial assets	6	2	9	17
Liabilities				
Other financial liabilities	(29)	(6)	-	(35)

[1] Represents investments measured at fair value using NAV as a practical expedient, which have not been classified in the fair value hierarchy. The fair value amounts for these investments presented in this table are intended to permit the reconciliation of the fair value hierarchy to amounts presented on the consolidated balance sheets.

	December 31, 2015			
(millions of dollars)	**Level 1**	**Level 2**	**Level 3**	**Total**
Assets				
Used Fuel Segregated Fund				
Investments measured at fair value, excluding investments measured at NAV	5,114	4,293	-	9,407
Investments measured at NAV [1]				883
				10,290
Due to Province				(1,703)
Used Fuel Segregated Fund, net				8,587
Decommissioning Segregated Fund				
Investments measured at fair value, excluding investments measured at NAV	3,870	3,227	-	7,097
Investments measured at NAV [1]				737
				7,834
Due to Province				(1,285)
Decommissioning Segregated Fund, net				6,549
Other financial assets	14	4	16	34
Liabilities				
Other financial liabilities	(18)	(8)	(2)	(28)

[1] Represents investments measured at fair value using NAV as a practical expedient, which have not been classified in the fair value hierarchy. The fair value amounts for these investments presented in this table are intended to permit the reconciliation of the fair value hierarchy to amounts presented on the consolidated balance sheets.

During the year ended December 31, 2016, there were no transfers between Level 1 and Level 2. In addition, there were no transfers into and out of Level 3.

The following table presents the changes in OPG's net assets measured at fair value that are classified as Level 3:

(millions of dollars)	**Other financial instruments**
Opening balance, January 1, 2016	14
Unrealized gains included in revenue	1
Realized losses included in revenue	(12)
Purchases	6
Closing balance, December 31, 2016	9

Nuclear Segregated Funds

The fair value of the investments within the Nuclear Segregated Funds' alternative investment portfolio is determined using appropriate valuation techniques, such as recent arm's length market transactions, references to current fair values of other instruments that are substantially the same, discounted cash flow analyses, third-party independent appraisals, valuation multiples, or other valuation methods. Any control, size, liquidity or other discount premiums on the investments are considered in the determination of fair value. Alternative investments are measured at fair value using NAV as a practical expedient.

The process of valuing investments for which no published market price exists is based on inherent uncertainties and the resulting values may differ from values that would have been used had a ready market existed for these investments. The values may also differ from the prices at which the investments may be sold.

The following are the classes of investments within the Nuclear Segregated Funds that are reported on the basis of NAV as at December 31, 2016:

(millions of dollars except where noted)	**Fair Value**	**Unfunded Commitments**	**Redemption Frequency**	**Redemption Notice**
Alternative Investments				
Infrastructure	1,205	648	n/a	n/a
Real Estate	713	406	n/a	n/a
Agriculture	71	128	n/a	n/a
Pooled Funds				
Short-term Investments	34	n/a	Daily	1 - 5 Days
Fixed Income	553	n/a	Daily	1 - 5 Days
Equity	742	n/a	Daily	1 - 5 Days
Total	3,318	1,182		

The fair value of the pooled funds is classified as Level 2.

Infrastructure

This class includes investments in funds whose investment objective is to generate a combination of long-term capital appreciation and current income, generally through investments such as energy, transportation and utilities. The fair values of investments in this class have been estimated using NAV of the Nuclear Segregated Funds' ownership interest in partners' capital and/or underlying investments held by subsidiaries of an infrastructure fund. The investments in the respective infrastructure funds are not redeemable. However, the Nuclear Segregated Funds may transfer any of its partnership interests/shares to another party, as stipulated in the partnership agreements and/or shareholders' agreements. Distributions from each infrastructure fund will be received based on the operations of the underlying investments and/or as the underlying investments of the infrastructure funds are liquidated. It is not possible to estimate when the underlying assets of the infrastructure funds will be liquidated. However, the infrastructure funds have a maturity end period ranging from 2019 to 2025.

Real Estate

This class includes investments in institutional-grade real estate property. The investment objective is to provide a stable level of income with the opportunity for long-term capital appreciation. The fair values of the investments in this class have been estimated using NAV of the Nuclear Segregated Funds' ownership interest in these investments. The partnership investments are not redeemable. However, the Nuclear Segregated Funds may transfer any of its partnership interests to another party, as stipulated in the partnership agreement. For investments in private real estate corporations, shares may be redeemed through a pre-established redemption process. It is not possible to estimate when the underlying assets in this class will be liquidated.

Agriculture

This class includes a diversified portfolio of global farmland and timberland investments. The investment objective is to provide a differentiated return source, income yield, and inflation protection. The fair values of the investments in this class have been estimated using NAV of the Nuclear Segregated Funds' ownership interest in these investments. The investments are not redeemable. However, the Nuclear Segregated Funds may transfer any of its partnership interests/shares to another party, as stipulated in the partnership agreements and/or shareholders' agreements.

Pooled Funds

This class represents investments in pooled funds, which primarily include a diversified portfolio of fixed income securities, issued mainly by Canadian corporations, and diversified portfolios of Emerging Market listed equity. The investment objective of the pooled funds is to achieve capital appreciation and income through professionally managed portfolios. The fair value of the investments in this class has been estimated using NAV per share of the investments. There are no significant restrictions on the ability to sell the investments in this class.

14. COMMON SHARES

As at December 31, 2016 and 2015, OPG had 256,300,010 common shares issued and outstanding at a stated value of $5,126 million. OPG is authorized to issue an unlimited number of common shares without nominal or par value. Any issue of new shares is subject to the consent of OPG's shareholder.

15. COMMITMENTS AND CONTINGENCIES

Litigation

On August 9, 2006, a Notice of Action and Statement of Claim filed with the Ontario Superior Court of Justice in the amount of $500 million was served against OPG and Bruce Power by British Energy Limited and British Energy International Holdings Limited (together British Energy). The action is for contribution and indemnity of any amounts British Energy was liable for in an arbitration against it by some of the owners of Bruce Power regarding an alleged breach of British Energy's representations and warranties to the claimants when they purchased British Energy's interest in Bruce Power (the Arbitration). Both the action and the Arbitration relate to corrosion to a steam generator unit discovered after OPG leased the Bruce nuclear generating stations to Bruce Power.

In 2012, the arbitrator found that British Energy was liable to the claimants for some of the damages they claimed. The final settlement amount was valued by British Energy at $71 million. In September 2014, British Energy amended its Statement of Claim (Amended Claim) to reduce the claim amount to $100 million to reflect that the purchasers of British Energy's interest in Bruce Power did not receive the full damages they originally claimed in the

Arbitration. British Energy also added an allegation to its Amended Claim that OPG breached a covenant to maintain the steam generator between the time of the initial agreement to lease and the effective date of the lease in accordance with “Good Utility Practices”.

In November 2016, British Energy obtained consent to a timetable for the remaining steps in the litigation, pursuant to which the matter must be set down for trial by December 31, 2018. OPG is preparing a statement of defence to be delivered by June 30, 2017, as required by the timetable.

Various other legal proceedings are pending against OPG or its subsidiaries covering a wide range of matters that arise in the ordinary course of business activities.

Each of these matters is subject to various uncertainties. Some of these matters may be resolved unfavourably. While it is not possible to determine the ultimate outcome of the various pending actions, it is the Company’s belief that their resolution is not likely to have a material adverse impact on its financial position.

Guarantees

The Company and its joint venture partners have jointly guaranteed the financial performance of jointly owned entities related primarily to the payment of liabilities. As at December 31, 2016, the total amount of guarantees OPG provided to these entities was $83 million (2015 – $81 million). OPG may terminate some of these guarantees within a short time frame by providing written notice to the counterparties at any time. Other guarantees have terms ending between 2019 and 2029. As at December 31, 2016, the potential impact of the fair value of these guarantees to income has been estimated to be negligible and OPG does not expect to make any payments associated with these guarantees.

Contractual and Commercial Commitments

OPG’s contractual obligations and commercial commitments as at December 31, 2016, are as follows:

(millions of dollars)	**2017**	**2018**	**2019**	**2020**	**2021**	**Thereafter**	**Total**
Fuel supply agreements	186	169	96	76	61	102	690
Contributions to the OPG registered pension plan [1]	248	251	-	-	-	-	499
Long-term debt repayment	1,103	398	368	663	413	2,589	5,534
Interest on long-term debt	252	196	177	155	125	2,241	3,146
Commitments related to Darlington Refurbishment project [2]	473	-	-	-	-	-	473
Commitments related to Peter Sutherland Sr. GS project	46	-	-	-	-	-	46
Operating licences	43	37	23	24	28	114	269
Operating lease obligations [3]	24	27	25	25	23	92	216
Unconditional purchase obligations	65	58	57	55	4	-	239
Accounts payable and accrued charges	916	-	-	-	-	18	934
Other	52	6	1	2	1	65	127
Total	3,408	1,142	747	1,000	655	5,221	12,173

[1] The pension contributions include ongoing funding requirements and additional funding requirements towards the deficit, in accordance with the actuarial valuation of the OPG registered pension plan as at January 1, 2016, filed with the FSCO in September 2016. The next actuarial valuation of the OPG registered pension plan must have an effective date no later than January 1, 2019. The pension contributions are affected by various factors including market performance, changes in actuarial assumptions, plan experience, changes in the pension regulatory environment, and the timing of funding valuations. Funding requirements after 2018 are excluded due to significant variability in the assumptions required to project the timing of future cash flows. The amount of OPG’s additional, voluntary contribution, if any, is revisited from time to time.

[2] Represents estimated currently committed costs to close the project, including accruals for completed work, demobilization of project staff and cancellation of existing contracts and material orders.

[3] Includes office lease commitments subsequent to the closing of the sale of the Company’s head office premises expected in the second quarter of 2017.

Contractual and commercial commitments as noted exclude certain purchase orders, as they represent purchase authorizations rather than legally binding contracts, and are subject to change without significant penalties.

Lease Commitments

The Company leases the Bruce A and Bruce B nuclear generating stations to Bruce Power. Under the lease agreement, as amended in December 2015, Bruce Power has options to renew the lease up to the end of 2064. As per *Ontario Regulation 53/05* pursuant to the *Ontario Energy Board Act, 1998*, the difference between OPG's revenues and costs associated with the Bruce A and Bruce B nuclear generating stations is included in the determination of OPG's nuclear regulated prices established by the OEB. The OEB has determined that, since the Bruce nuclear generating stations are not prescribed under *Ontario Regulation 53/05*, these revenues, including lease revenues, and costs, including depreciation expense, are to be calculated on the basis of the manner in which they are recognized in OPG's consolidated financial statements, without the application of regulatory constructs. As such, the net book value of the assets for these stations is not included in the regulated rate base.

The net book value of property, plant and equipment on lease to Bruce Power as at December 31, 2016 was $2,986 million (2015 – $4,400 million). The net book value largely comprises asset retirement costs, which decreased effective December 31, 2016 as a result of the change in the estimate for the ARO. Refer to Note 3 for further details on the change in the estimate for the ARO.

Collective Bargaining Agreements

As at December 31, 2016, the Power Workers' Union (PWU) represented approximately 5,070 OPG regular employees or approximately 55 percent of OPG's regular workforce. The previous collective agreement between OPG and the PWU expired on March 31, 2015. In May 2015, the parties agreed to renew the collective agreement for a three-year term, expiring on March 31, 2018. The changes to the collective agreement included increases to employee pension plan contributions in each year of the agreement.

As at December 31, 2016, The Society of Energy Professionals (The Society) represented approximately 3,140 OPG employees or approximately 34 percent of OPG's regular workforce. The previous collective agreement between OPG and The Society expired on December 31, 2015. In November 2015, the parties agreed to renew the collective agreement for a three-year term, expiring on December 31, 2018. The changes to the collective agreement included increases to employee pension plan contributions in each of the first two years of the agreement.

The changes to both collective agreements provide existing employees with lump-sum payments for each of the first two years of the contract and eligibility to annually receive shares in Hydro One for up to 15 years starting in year three of the contract, as long as these employees continue to make contributions to the OPG pension plan and have less than 35 years of pensionable service.

16. BUSINESS SEGMENTS

OPG has the following five reportable business segments:

- Regulated – Nuclear Generation
- Regulated – Nuclear Waste Management
- Regulated – Hydroelectric
- Contracted Generation Portfolio
- Services, Trading, and Other Non-Generation

Regulated – Nuclear Generation Segment

The Regulated – Nuclear Generation business segment operates in Ontario, generating and selling electricity from the Pickering GS and the Darlington GS, both owned and operated by OPG. The business segment also includes revenue under the terms of a long-term lease arrangement and related agreements with Bruce Power related to the Bruce nuclear generating stations. This revenue includes lease revenue, fees for nuclear waste management, and revenue from heavy water sales and detritiation services. The segment also earns revenue from isotope sales and ancillary services supplied by OPG-operated nuclear stations. Ancillary revenues are earned through voltage control and reactive support. Revenues under the agreements with Bruce Power, including a portion of heavy water sales, and from isotope sales and ancillary services are included by the OEB as a credit to customers in the determination of the regulated prices for production from OPG's nuclear facilities, which has had the effect of reducing these prices.

Regulated – Nuclear Waste Management Segment

OPG's Regulated – Nuclear Waste Management segment reports the results of the Company's operations associated with the management of nuclear used fuel and L&ILW, the decommissioning of OPG's nuclear generating stations including the stations on lease to Bruce Power and other waste management facilities, the management of the Nuclear Segregated Funds, and related activities including the inspection and maintenance of the waste storage facilities. Accordingly, accretion expense, which is the increase in the Nuclear Liabilities carried on the consolidated balance sheets in present value terms due to passage of time, and earnings from the Nuclear Segregated Funds are reported under this segment.

As the nuclear generating stations operate over time, OPG incurs incremental costs related to used nuclear fuel and low and intermediate level wastes, which increase the Nuclear Liabilities. OPG charges these incremental costs to current operations in the Regulated – Nuclear Generation segment to reflect the cost of producing energy from the Pickering and Darlington nuclear generating stations and earning revenue under the Bruce Lease and related agreements. Since the incremental costs increase the Nuclear Liabilities in the Regulated – Nuclear Waste Management segment, OPG records an inter-segment charge between the Regulated – Nuclear Generation and the Regulated – Nuclear Waste Management segments. The impact of the inter-segment charge is eliminated in the consolidated statements of income and balance sheets.

The Regulated – Nuclear Waste Management segment is considered rate regulated because OPG's costs associated with the Nuclear Liabilities have been included in the determination of regulated prices for production from the Pickering and Darlington nuclear generating stations, in accordance with the methodology applied by the OEB since its 2008 decision on OPG's first application for regulated prices.

Regulated – Hydroelectric Segment

OPG's Regulated – Hydroelectric business segment operates in Ontario, generating and selling electricity from most of the Company's hydroelectric generating stations. The business segment includes the results of the Sir Adam Beck 1, 2 and Pump generating stations, the DeCew Falls 1 and 2 generating stations, and the R.H. Saunders GS that were prescribed for rate regulation prior to 2014, and the 48 hydroelectric stations prescribed for rate regulation effective in 2014.

In addition, the business segment includes ancillary and other revenues from OPG's regulated hydroelectric stations. Ancillary revenues are earned through offering available generating capacity as operating reserve and through the supply of other ancillary services including voltage control and reactive support, certified black start facilities, regulation service, and other services. These ancillary revenues and other revenues are included by the OEB as a credit to ratepayers in the determination of the regulated prices for production from OPG's prescribed hydroelectric facilities, which has had the effect of reducing these prices.

Contracted Generation Portfolio Segment

The Contracted Generation Portfolio business segment operates in Ontario, generating and selling electricity from the Company's generating stations that are not prescribed for rate regulation. The segment primarily includes generating facilities that are under an ESA with the IESO or other long-term contracts.

The Contracted Generation Portfolio segment also includes OPG's share of equity income from its 50 percent ownership interests in the PEC and Brighton Beach stations.

The business segment also includes ancillary revenues and other revenues from the stations included in the segment, which are earned through offering available generating capacity as operating reserve, and the supply of other ancillary services including voltage control and reactive support, certified black start facilities, regulation service, and other services.

Services, Trading, and Other Non-Generation Segment

The Services, Trading, and Other Non-Generation segment is a non-generation segment that is not subject to rate regulation. It includes the revenue and expenses related to OPG's trading and other non-hedging activities. As part of these activities, OPG transacts with counterparties in Ontario and neighbouring energy markets in predominantly short-term trading activities of typically one year or less in duration. These activities relate to electricity that is purchased and sold at the Ontario border, financial energy trades, financial risk management energy product revenues, and sales of energy-related products. In addition, OPG has a wholly owned trading subsidiary that transacts solely in the US market. The results of this subsidiary are reported in this segment. All contracts that are not designated as hedges are recorded as assets or liabilities at fair value on the consolidated balance sheets with changes in fair value recorded in the revenue of this segment. In addition, the segment includes revenue from real estate rentals and non-regulated services, non-regulated business development activities, and, prior to OPG's decision to decommission the stations, preservation costs related to the former coal-fired Lambton GS and the Nanticoke GS sites.

OM&A expenses of the generation business segments include an inter-segment service fee for the use of certain PP&E and intangible assets held within Service, Trading, and Other Non-Generation segment. The total service fee is recorded as a reduction to the segment's OM&A expenses.

The service fee included in OM&A expenses by segment in 2016 and 2015 was as follows:

(millions of dollars)	**2016**	**2015**
Regulated – Nuclear Generation	34	33
Regulated – Hydroelectric	7	6
Contracted Generation Portfolio	4	4
Reduction to Services, Trading, and Other Non-Generation	45	43

Segment Income (Loss) for the Year Ended December 31, 2016 *(millions of dollars)*	**Nuclear Generation**	**Regulated Nuclear Waste Management**	**Hydroelectric**	**Unregulated Contracted Generation Portfolio**	**Services, Trading, and Other Non-Generation**	**Elimination**	**Total**
Revenue	3,481	138	1,527	573	68	(134)	5,653
Fuel expense	315	-	353	58	1	-	727
Gross margin	3,166	138	1,174	515	67	(134)	4,926
Operations, maintenance and administration	2,210	146	325	178	22	(134)	2,747
Depreciation and amortization	925	-	225	75	32	-	1,257
Accretion on fixed asset removal and nuclear waste management liabilities	-	912	-	9	8	-	929
Earnings on nuclear fixed asset removal and nuclear waste management funds	-	(746)	-	-	-	-	(746)
Income from investments subject to significant influence	-	-	-	(37)	-	-	(37)
Property taxes	26	-	1	7	12	-	46
Restructuring	-	-	-	-	6	-	6
Other losses (gains)	1	-	(19)	1	-	-	(17)
Income (loss) before interest and income taxes	4	(174)	642	282	(13)	-	741

Segment Income (Loss) for the Year Ended December 31, 2015 *(millions of dollars)*	Nuclear Generation	Regulated Nuclear Waste Manage-ment	Hydro-electric	Unregulated Contracted Generation Portfolio	Services, Trading, and Other Non-Generation	Elimination	Total
Revenue	3,245	122	1,619	535	73	(118)	5,476
Fuel expense	301	-	345	39	2	-	687
Gross margin	2,944	122	1,274	496	71	(118)	4,789
Operations, maintenance and administration	2,196	132	340	185	48	(118)	2,783
Depreciation and amortization	717	-	282	72	29	-	1,100
Accretion on fixed asset removal and nuclear waste management liabilities	-	880	-	8	7	-	895
Earnings on nuclear fixed asset removal and nuclear waste management funds	-	(704)	-	-	-	-	(704)
Income from investments subject to significant influence	-	-	-	(39)	-	-	(39)
Property taxes	26	-	1	7	11	-	45
Restructuring	-	-	-	-	6	-	6
Other losses	3	-	3	1	7	-	14
Income (loss) before interest and income taxes	2	(186)	648	262	(37)	-	689

Selected Consolidated Balance Sheet Information as at December 31, 2016 *(millions of dollars)*	**Nuclear Generation**	**Regulated Nuclear Waste Management**	**Hydroelectric**	**Unregulated Contracted Generation Portfolio**	**Unregulated Services, Trading, and Other Non-Generation**	**Total**
Segment property, plant and equipment in-service, net	**5,653**	**-**	**7,355**	**3,282**	**226**	**16,516**
Segment construction in progress	**2,988**	**-**	**166**	**301**	**27**	**3,482**
Segment property, plant and equipment, net	**8,641**	**-**	**7,521**	**3,583**	**253**	**19,998**
Segment intangible assets in-service, net	**7**	**-**	**2**	**4**	**66**	**79**
Segment development in progress	**3**	**-**	**-**	**1**	**16**	**20**
Segment intangible assets, net	**10**	**-**	**2**	**5**	**82**	**99**
Segment fuel inventory	**276**	**-**	**-**	**34**	**-**	**310**
Segment materials and supplies inventory, net:						
Current	**99**	**-**	**-**	**1**	**-**	**100**
Long-term	**340**	**-**	**1**	**4**	**-**	**345**
Nuclear fixed asset removal and nuclear waste management funds (current and non-current portions)	**-**	**15,984**	**-**	**-**	**-**	**15,984**
Fixed asset removal and nuclear waste management liabilities	**-**	**(19,103)**	**-**	**(160)**	**(221)**	**(19,484)**

Selected Consolidated Balance Sheet Information as at December 31, 2015 *(millions of dollars)*	Regulated Nuclear Generation	Regulated Nuclear Waste Manage-ment	Regulated Hydro-electric	Unregulated Contracted Generation Portfolio	Unregulated Services, Trading, and Other Non-Generation	Total
Segment property, plant and equipment in-service, net	6,972	-	7,413	3,319	324	18,028
Segment construction in progress	2,289	-	99	141	38	2,567
Segment property, plant and equipment, net	9,261	-	7,512	3,460	362	20,595
Segment intangible assets in-service, net	8	-	1	3	58	70
Segment development in progress	-	-	4	-	24	28
Segment intangible assets, net	8	-	5	3	82	98
Segment fuel inventory	304	-	-	40	-	344
Segment materials and supplies inventory, net:						
Current	95	-	-	1	-	96
Long-term	333	-	1	3	-	337
Nuclear fixed asset removal and nuclear waste management funds (current and non-current portions)	-	15,136	-	-	-	15,136
Fixed asset removal and nuclear waste management liabilities	-	(19,792)	-	(151)	(226)	(20,169)

Selected Consolidated Cash Flow Information *(millions of dollars)*	Regulated Nuclear Generation	Regulated Nuclear Waste Management	Regulated Hydro-electric	Unregulated Contracted Generation Portfolio	Unregulated Services, Trading, and Other Non-Generation	Total
Year ended December 31, 2016 Investment in property, plant and equipment, and intangible assets	**1,338**	**-**	**132**	**198**	**36**	**1,704**
Year ended December 31, 2015 Investment in property, plant and equipment, and intangible assets	1,023	-	89	222	42	1,376

17. NET CHANGES IN NON-CASH WORKING CAPITAL BALANCES

(millions of dollars)	2016	2015
Receivables from related parties	116	(63)
Prepaid expenses	(108)	(35)
Other current assets [1]	(32)	(12)
Fuel inventory	34	(10)
Materials and supplies	(4)	(2)
Income taxes payable	57	42
Accounts payable and accrued charges	5	(49)
	68	(129)

[1] Represents other accounts receivable.

18. RELATED PARTY TRANSACTIONS

Given that the Province owns all of the shares of OPG, related parties include the Province and other entities controlled by the Province.

The related party transactions summarized below include transactions with the Province and the principal successors to the former Ontario Hydro's integrated electricity business, including Hydro One, the IESO and the OEFC. The transactions between OPG and related parties are measured at the exchange amount, which is the amount of consideration established and agreed to by the related parties. As one of several wholly-owned government business enterprises of the Province, OPG also has transactions in the normal course of business with various government ministries and organizations in Ontario that fall under the purview of the Province.

The related party transactions for the years ended December 31 are summarized below:

	2016		2015	
(millions of dollars)	Revenue	Expense	Revenue	Expense
Hydro One				
Electricity sales	6	-	12	-
Services	1	5	1	6
Dividends	6	-	-	-
Province of Ontario				
Change in Decommissioning Segregated Fund amount due to Province [1]	-	192	-	185
Change in Used Fuel Segregated Fund amount due to Province [1]	-	235	-	274
Hydroelectric gross revenue charge	-	120	-	121
ONFA guarantee fee	-	8	-	8
OEFC				
Gross revenue charge	-	203	-	207
Interest expense on long-term notes	-	169	-	177
Income taxes, net of investment tax credits	-	104	-	80
Contingency support agreement	-	-	8	-
IESO				
Electricity related revenue	5,105	24	4,903	65
	5,118	1,060	4,924	1,123

[1] The Nuclear Segregated Funds are reported on the consolidated balance sheets net of amounts recognized as due to the Province in respect of excess funding and, for the Used Fuel Segregated Fund, the Province's rate of return guarantee. As at December 31, 2016 and December 31, 2015, the Nuclear Segregated Funds were reported net of amounts due to the Province of $3,415 million and $2,988 million, respectively.

The receivable, available-for-sale securities, payable and long-term debt balances between OPG and its related parties are summarized below:

(millions of dollars)	**2016**	**2015**
Receivables from related parties		
Hydro One	1	1
IESO	421	531
OEFC	1	9
PEC	4	3
Province of Ontario	2	1
Available-for-sale securities		
Hydro One shares	212	-
Accounts payable and accrued charges		
Hydro One	-	1
OEFC	61	51
Province of Ontario	2	20
IESO	2	18
Long-term debt (including current portion)		
Notes payable to OEFC	3,295	3,465

OPG holds interest-bearing Province of Ontario bonds in the Nuclear Segregated Funds and the OPG registered pension fund. As at December 31, 2016, the Nuclear Segregated Funds and the registered pension fund held $1,652 million and $284 million of interest-bearing Province of Ontario bonds, respectively. As at December 31, 2015, the Nuclear Segregated Funds and the registered pension fund held $1,597 million and $288 million of interest-bearing Province of Ontario bonds, respectively. These bonds are publicly traded securities and are measured at fair value. OPG jointly oversees the investment management of the Nuclear Segregated Funds with the Province.

Hydro One Limited Shares

During 2015, OPG entered into renewed three-year collective bargaining agreements with the PWU and The Society. Changes to the respective collective agreements included increases to employee pension plan contributions and provided existing employees represented by the PWU and The Society with eligibility to annually receive common shares of Hydro One for up to 15 years starting in the third year of the respective agreements. In April 2016, OPG acquired nine million common shares of Hydro One at $23.65 per share as part of a secondary share offering by the Province through a syndicate of underwriters. The acquisition, totalling $213 million, was made for investment purposes to mitigate the risk of future price volatility related to OPG's future share delivery obligations under the collective agreements. The shares acquired in this transaction represent the substantial majority of OPG's currently anticipated purchases of Hydro One shares.

OPG classified the Hydro One shares as AFS securities.

For the year ended December 31, 2016, unrealized losses recognized in accumulated AOCL related to the changes in the fair value of the Hydro One shares were $1 million, net of income taxes. The fair value of the shares was $212 million as at December 31, 2016. Refer to Notes 10 and 13 for the required disclosures related to the AFS securities.

19. INVESTMENTS SUBJECT TO SIGNIFICANT INFLUENCE

Investments subject to significant influence consist of OPG's 50 percent ownership interest in the jointly controlled entities of PEC and Brighton Beach, which are accounted for using the equity method, as described in Note 3. The details of the balance included in the consolidated balance sheets as at December 31 are as follows:

(millions of dollars)	**2016**	**2015**
PEC		
Current assets	**18**	14
Long-term assets	**256**	270
Current liabilities	**(8)**	(4)
Long-term liabilities	**(5)**	(5)
Brighton Beach		
Current assets	**5**	9
Long-term assets	**168**	177
Current liabilities	**(16)**	(15)
Long-term liabilities	**(7)**	(6)
Long-term debt	**(90)**	(104)
Investments subject to significant influence	**321**	336

20. RESEARCH AND DEVELOPMENT

For the year ended December 31, 2016, research and development expenses of $82 million (2015 – $91 million) were charged to operations.

21. NON-CONTROLLING INTEREST

Lower Mattagami Limited Partnership (LMLP) is an Ontario limited partnership between OPG and Amisk-oo-Skow Finance Corporation (AFC), a corporation wholly owned by the Moose Cree First Nation. The principal business of LMLP is the development, construction, ownership, operation and maintenance of hydroelectric generating facilities located on the Lower Mattagami River.

During 2014, all six new units constructed as part of the Lower Mattagami River project were declared in-service. Subsequent to the units' in-service dates, the AFC made contributions of $141 million to acquire their equity interest in LMLP, through the settlement of existing liabilities, including long-term debt. As of December 31, 2016, the AFC had a 25 percent interest in LMLP. OPG consolidates the results of LMLP in its consolidated financial statements. The non-controlling interest reported in OPG's consolidated financial statements represents the AFC's equity interest in LMLP.