

Mar. 10, 2017

OPG REPORTS 2016 FINANCIAL RESULTS

Solid operating and financial results position the Company for success with major generation projects

[Toronto]: – Ontario Power Generation Inc. (OPG or Company) today reported net income attributable to the Shareholder of \$436 million for 2016, compared to \$402 million in 2015. The increase was primarily the result of higher generation from the nuclear fleet and higher earnings from the Contracted Generation Portfolio segment. The higher nuclear production reflected more days when the Darlington nuclear units were producing electricity in 2016, compared to 2015.

“I’m pleased with OPG’s 2016 financial results,” said OPG President and CEO Jeff Lyash. “The continued strong financial performance of OPG benefits the Province and electricity consumers. It is essential that we manage our operations effectively for the benefit of Ontarians.”

“Both the Darlington and Pickering generating stations, alongside our renewable power fleet of hydroelectric generating stations, produce clean, reliable power with virtually no smog or greenhouse gas emissions. The refurbishment of the Darlington station will provide another 30 years of operations at one of Ontario’s most important public assets,” said Lyash. “The \$12.8 billion that we are investing in the refurbishment will provide important economic stimulus in Ontario, creating jobs and providing opportunities for more than 60 companies from over 25 communities across the province. At the same time, OPG continues to produce about half the electricity used in Ontario with the power priced 40 per cent lower than other generators, which helps moderate customer bills.”

Higher electricity demand for stations in the Contracted Generation Portfolio segment in 2016, namely the Lennox Generating Station (GS) and the Atikokan GS, also contributed to the increase in earnings.

“We have achieved significant progress in a number of projects during the year, including the refurbishment work at the Sir Adam Beck Pump Hydroelectric Generating Station’s 300-hectare reservoir, and the construction of the Peter Sutherland Sr. Hydroelectric Generating Station in northeastern Ontario. The construction of the Peter Sutherland Sr. station is our third partnership with an Indigenous community,” said Lyash. “We’re pleased that construction is progressing ahead of schedule and within budget. The 28 megawatt generating station is currently being commissioned and is expected to be in service this spring. This project is another example of OPG’s strong partnerships with Ontario’s Indigenous communities, yielding renewable power and lasting economic benefits.”

Generating and Operating Performance

Electricity generated increased in 2016 to 78.2 terawatt hours (TWh) from 78.0 TWh in 2015. Higher nuclear generation of 1.1 TWh was primarily due to a lower number of planned outage days during 2016.

Higher volume of water spilled at OPG's hydroelectric stations in 2016 as a result of more prevalent surplus baseload generation (SBG) conditions partially offset the increase in nuclear generation. OPG's generation for 2016 was also affected by the Unit 2 refurbishment outage at the Darlington GS, which commenced in October 2016.

The unit capability factor at the Darlington GS increased to 89.5 per cent for 2016, compared to 76.9 per cent for 2015, primarily due to fewer planned and unplanned outage days at the station during 2016, compared to 2015. The unit capability factor excludes Unit 2 while it is undergoing refurbishment.

At the Pickering GS, the unit capability factor decreased to 75.2 per cent for 2016, compared to 79.4 per cent for 2015, primarily due to a higher number of additional outage days at the station in 2016 as a result of emergent discovery work during planned outages.

The availability of OPG's regulated hydroelectric generating stations decreased to 89.0 per cent for 2016, from 91.2 per cent for 2015. The decrease was primarily due to the scheduled reservoir refurbishment project at the Sir Adam Beck Pump hydroelectric GS, discussed below.

For the contracted hydroelectric stations, the availability decreased to 77.3 per cent for 2016, from 88.6 per cent for 2015. The decrease reflected an increase in planned outage days.

The Enterprise Total Generating Cost per megawatt hour (MWh) was \$48.45 for the year ended December 31, 2016, compared to \$50.84 for the same period in 2015. The year-over-year improvement was primarily a result of lower operations, maintenance and administration expenses, excluding the impact of regulatory variance and deferral accounts, and higher electricity generation adjusted for forgone hydroelectric generation due to SBG conditions during 2016.

In the fourth quarter of 2016, a comprehensive update of the estimate for OPG's obligations for nuclear waste management and nuclear facilities decommissioning as at December 31, 2016 was finalized as part of the required process to update the reference plan under the Ontario Nuclear Funds Agreement. As at December 31, 2016, the update resulted in a decrease of approximately \$1.6 billion in OPG's obligation, with a corresponding decrease to the asset retirement costs capitalized as part of the carrying value of the nuclear generating stations to which the liabilities relate.

Generation Development

OPG is undertaking a number of generation development and life extension projects in support of Ontario's electricity planning initiatives. Significant developments during 2016 were as follows:

Darlington Refurbishment

In 2016, the Darlington Refurbishment project transitioned from the planning phase to the execution phase, as OPG prepared to commence the refurbishment of the first unit, Unit 2, in October 2016, as planned. The unit was taken offline on October 15, 2016. De-fuelling of the reactor, the first critical refurbishment activity undertaken once the unit was removed from service, was safely completed in January 2017, ahead of schedule, with a total of 480 fuel channels de-fuelled. Preparatory work in the reactor vault to support the removal of feeder tubes and fuel channel assemblies commenced immediately after de-fuelling was completed. The project is tracking on budget.

Once refurbished, Unit 2 is scheduled to be returned to service in the first quarter of 2020, at which time capital expenditures of approximately \$4.8 billion are planned to be placed in service. This includes expenditures incurred during the definition and planning phase of the project. The Darlington Refurbishment project is expected to extend the operating life of the station by approximately 30 years. Life-to-date capital expenditures were approximately \$3.2 billion as at December 31, 2016.

Peter Sutherland Sr. GS

Construction of the new 28 MW hydroelectric generating station continued during 2016. Commissioning of the generating station began in February 2017 and the station is expected to be in-service in the spring of 2017, well ahead of the originally planned schedule of the first half of 2018. The project's schedule was accelerated to take advantage of favourable weather conditions. The project is tracking within the approved budget of \$300 million.

Sir Adam Beck Pump GS

The Sir Adam Beck Pump GS reservoir refurbishment project began in April 2016. The 300-hectare reservoir was returned to service in February 2017 upon completion of the refurbishment, which included installation of a partial new liner and construction of a grout curtain in the bedrock foundation of the reservoir dyke. The project is expected to add approximately 50 more years to the reservoir's life. The Sir Adam Beck Pump GS facility is integral to OPG's hydroelectric fleet as it allows water to be diverted from the Sir Adam Beck complex during periods of low electricity demand and stored in the reservoir, to be used to generate up to 600 MW of electricity during subsequent periods of high demand. The project was completed ahead of the originally planned in-service date and below the approved budget of \$58 million.

FINANCIAL AND OPERATIONAL HIGHLIGHTS

<i>(millions of dollars – except where noted)</i>	2016	2015
Revenue	5,653	5,476
Fuel expense	727	687
Gross margin	4,926	4,789
Operations, maintenance and administration	2,747	2,783
Depreciation and amortization	1,257	1,100
Accretion on fixed asset removal and nuclear waste management liabilities	929	895
Earnings on Nuclear Segregated Funds - (a reduction to expenses)	(746)	(704)
Income from investments subject to significant influence	(37)	(39)
Other net expenses	35	65
Income before interest and income taxes	741	689
Net interest expense	120	180
Income tax expense	168	92
Net income	453	417
Net income attributable to the Shareholder	436	402
Net income attributable to non-controlling interest ¹	17	15
Income (loss) before interest and income taxes		
Electricity generation business segments	928	912
Regulated – Nuclear Waste Management	(174)	(186)
Services, Trading, and Other Non-Generation	(13)	(37)
Total income before interest and income taxes	741	689
Cash flow		
Cash flow provided by operating activities	1,705	1,465
Electricity generation (TWh)		
Regulated – Nuclear Generation	45.6	44.5
Regulated – Hydroelectric	29.5	30.4
Contracted Generation Portfolio ²	3.1	3.1
Total electricity generation	78.2	78.0
Nuclear unit capability factor (per cent) ³		
Darlington Nuclear GS	89.5	76.9
Pickering Nuclear GS	75.2	79.4
Availability (per cent)		
Regulated – Hydroelectric	89.0	91.2
Contracted Generation Portfolio – hydroelectric stations	77.3	88.6
Equivalent forced outage rate		
Contracted Generation Portfolio – thermal stations	1.6	11.2
Enterprise Total Generating Cost (TGC) per MWh for the twelve months ended December 31, 2016 and 2015 (\$/MWh) ⁴	48.45	50.84
Return on Equity Excluding Accumulated Other Comprehensive Income (ROE Excluding AOCI) for the twelve months ended December 31, 2016 and 2015 (%) ⁴	4.2	4.0
Funds from Operations (FFO) Adjusted Interest Coverage for the twelve months ended December 31, 2016 and 2015 (times) ⁴	5.1	5.1

¹ Relates to the 25 per cent interest of a corporation wholly owned by the Moose Cree First Nation in the Lower Mattagami Limited Partnership.

² Includes OPG's share of generation volume from its 50 per cent ownership interests in the Portlands Energy Centre and Brighton Beach GS.

³ Nuclear unit capability factor excludes unit(s) during the period in which they are undergoing refurbishment. Unit 2 of the Darlington GS was excluded from the measure effective October 15, 2016, when the unit was taken offline for refurbishment.

⁴ Enterprise TGC, ROE Excluding AOCI, and FFO Adjusted Interest Coverage are non-GAAP financial measures and do not have any standardized meaning prescribed by US GAAP. Additional information about the non-GAAP measures is provided in OPG's Management's Discussion and Analysis for the year ended December 31, 2016, under the sections *Highlights – Enterprise TGC*, *Highlights – FFO Adjusted Interest Coverage*, and *Highlights – ROE Excluding AOCI*, as well as *Supplementary Non-GAAP Financial Measures*.

Ontario Power Generation Inc. is an Ontario-based electricity generation company whose principal business is the generation and sale of electricity in Ontario. Our mission is providing low cost power in a safe, clean, reliable and sustainable manner for the benefit of our customers and shareholder.

Ontario Power Generation Inc.'s audited consolidated financial statements and Management's Discussion and Analysis as at and for the year ended December 31, 2016 can be accessed on OPG's web site (www.opg.com), the Canadian Securities Administrators' web site (www.sedar.com), or can be requested from the Company.

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- 30 -

ONTARIO POWER GENERATION INC.
MANAGEMENT'S DISCUSSION AND ANALYSIS
DECEMBER 31, 2016



2016 YEAR-END REPORT

TABLE OF CONTENTS

Forward-Looking Statements	2
The Company	3
Revenue Mechanisms for Regulated and Non-Regulated Generation	4
Highlights	6
Core Business, Strategy, and Outlook	16
Key Operating and Financial Performance Indicators	31
Business Segments	33
Discussion of Operating Results by Business Segment	35
Regulated – Nuclear Generation Segment	35
Regulated – Nuclear Waste Management Segment	36
Regulated – Hydroelectric Segment	37
Contracted Generation Portfolio Segment	38
Services, Trading, and Other Non-Generation Segment	39
Liquidity and Capital Resources	39
Balance Sheet Highlights	43
Critical Accounting Policies and Estimates	45
Risk Management	57
Related Party Transactions	72
Internal Controls over Financial Reporting and Disclosure Controls	73
Fourth Quarter	74
Quarterly Financial Highlights	76
Supplementary Non-GAAP Financial Measures	78

ONTARIO POWER GENERATION INC.

MANAGEMENT'S DISCUSSION AND ANALYSIS

This Management's Discussion and Analysis (MD&A) should be read in conjunction with the audited consolidated financial statements and accompanying notes of Ontario Power Generation Inc. (OPG or Company) as at and for the year ended December 31, 2016. OPG's consolidated financial statements are prepared in accordance with United States generally accepted accounting principles (US GAAP) and are presented in Canadian dollars.

As required by *Ontario Regulation 395/11*, as amended, a regulation under the *Financial Administration Act* (Ontario) (FAA), OPG adopted US GAAP for the presentation of its consolidated financial statements, effective January 1, 2012. The Ontario Securities Commission (OSC) has approved an exemption that allows OPG to apply US GAAP up to January 1, 2019. The term of the exemption is subject to certain conditions, which may result in the expiry of the exemption prior to January 1, 2019. For details, refer to the section, *Critical Accounting Policies and Estimates* under the heading, *Exemptive Relief for Reporting under US GAAP*. This MD&A is dated March 10, 2017.

FORWARD-LOOKING STATEMENTS

The MD&A contains forward-looking statements that reflect OPG's current views regarding certain future events and circumstances. Any statement contained in this document that is not current or historical is a forward-looking statement. OPG generally uses words such as "anticipate", "believe", "foresee", "forecast", "estimate", "expect", "schedule", "intend", "plan", "project", "seek", "target", "goal", "strategy", "may", "will", "should", "could", and other similar words and expressions to indicate forward-looking statements. The absence of any such word or expression does not indicate that a statement is not forward-looking.

All forward-looking statements involve inherent assumptions, risks, and uncertainties, including those set out under the section, *Risk Management*, and forecasts discussed under the section, *Core Business, Strategy, and Outlook*. All forward-looking statements could be inaccurate to a material degree. In particular, forward-looking statements may contain assumptions such as those relating to OPG's generating station performance and availability, fuel costs, surplus baseload generation (SBG), cost of fixed asset removal and nuclear waste management, performance and earnings of investment funds, refurbishment of existing facilities, development and construction of new facilities, pension and other post-employment benefit (OPEB) obligations and funds, income taxes, proposed new legislation, the ongoing evolution of Ontario's electricity industry, environmental and other regulatory requirements, health, safety and environmental developments, business continuity events, the weather, financing and liquidity, applications to the Ontario Energy Board (OEB) for regulatory prices, the impact of regulatory decisions by the OEB, and forecasts of earnings, cash flows, Funds from Operations (FFO) Adjusted Interest Coverage, Return on Common Equity Excluding Accumulated Other Comprehensive Income (ROE Excluding AOCI), Total Generating Cost (TGC) and capital expenditures. Accordingly, undue reliance should not be placed on any forward-looking statement. The forward-looking statements included in this MD&A are made only as of the date of this MD&A. Except as required by applicable securities laws, OPG does not undertake to publicly update these forward-looking statements to reflect new information, future events, or otherwise.

THE COMPANY

OPG is an Ontario-based electricity generation company whose principal business is the generation and sale of electricity in Ontario. OPG was established under the *Business Corporations Act (Ontario)* (OBCA) and is wholly owned by the Province of Ontario (Province or Shareholder).

As at December 31, 2016, OPG's electricity generation portfolio had an in-service capacity of 16,177 megawatts (MW). OPG operates two nuclear generating stations, 65 hydroelectric generating stations, three thermal generating stations, and one wind power turbine. In addition, OPG and TransCanada Energy Ltd. co-own the 550 MW Portlands Energy Centre (PEC) gas-fired combined cycle generating station (GS). OPG and ATCO Power Canada Ltd. co-own the 560 MW Brighton Beach gas-fired combined cycle GS (Brighton Beach). OPG's 50 percent share of the in-service capacity and generation volume of these co-owned facilities is included in the generation portfolio statistics set out in this report. The income from the co-owned facilities is accounted for using the equity method of accounting, and OPG's share of income is presented as income from investments subject to significant influence in the Contracted Generation Portfolio segment.

OPG also owns two other nuclear generating stations, the Bruce A GS and the Bruce B GS, which are leased on a long-term basis to Bruce Power LP (Bruce Power). Income from these leased stations is included in revenue under the Regulated – Nuclear Generation segment. The leased stations are not included in the generation portfolio statistics set out in this report.

All of OPG's owned and co-owned generating facilities are located in Ontario.

OPG's Reporting Structure

The composition of OPG's reportable business segments is as follows:

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

OPG receives regulated prices for electricity generated from most of its hydroelectric facilities and all of the nuclear facilities that it operates (collectively, prescribed facilities or regulated facilities). This includes the following facilities:

- the six hydroelectric generating stations prescribed for rate regulation prior to 2014, as follows:
 - o Sir Adam Beck 1, 2 and Pump hydroelectric generating stations
 - o DeCew Falls 1 and 2 hydroelectric generating stations
 - o R.H. Saunders hydroelectric GS
- the 48 hydroelectric generating stations prescribed for rate regulation effective in 2014
- Pickering Nuclear GS (Pickering GS)
- Darlington Nuclear GS (Darlington GS).

The operating results related to these regulated facilities are described under the Regulated – Nuclear Generation, Regulated – Nuclear Waste Management, and Regulated – Hydroelectric segments. For the remainder of OPG's operating generating facilities, the operating results are described under the Contracted Generation Portfolio segment. A description of all OPG's segments is provided under the section, *Business Segments*.

In-Service Generating Capacity

OPG's in-service generating capacity by business segment as of December 31 was as follows:

(MW)	2016	2015
Regulated – Nuclear Generation ¹	5,728	6,606
Regulated – Hydroelectric	6,421	6,428
Contracted Generation Portfolio ²	4,028	4,021
Total	16,177	17,055

¹ The in-service generating capacity as of December 31, 2016 excludes Unit 2 of the Darlington GS. The unit, which has a generating capacity of 878 MW, was taken offline in mid-October 2016 and is currently undergoing refurbishment.

² Includes OPG's share of in-service generating capacity of 275 MW for PEC and 280 MW for Brighton Beach.

The total in-service capacity as at December 31, 2016 decreased by 878 MW compared to 2015. The decrease was primarily due to the commencement of the refurbishment of the first Darlington GS unit, Unit 2, which was taken offline in mid-October 2016. In addition, during 2016, the capacity of the regulated hydroelectric units at the Abitibi Canyon GS and the Sir Adam Beck 1 GS was reduced to reflect unit limit capability. This decrease in in-service capacity was partially offset by an increase in capacity of the Contracted Generation Portfolio segment, reflecting the completion of an upgrade and rehabilitation of Unit 2 of the Harmon hydroelectric GS during 2016.

REVENUE MECHANISMS FOR REGULATED AND NON-REGULATED GENERATION

Regulated Generation

The OEB sets the prices for electricity generated from OPG's regulated nuclear and regulated hydroelectric facilities. The following are the OEB-authorized regulated prices for electricity generated from these facilities:

	2016	2015	
(\$/MWh)		January 1 to June 30	July 1 to December 31
Regulated – Nuclear Generation			
Base regulated price	59.29	59.29	59.29
Rate riders	10.84 ¹	1.33	12.17 ¹
	70.13	60.62	71.46
Regulated – Hydroelectric			
<i>Hydroelectric generating stations prescribed for rate regulation prior to 2014</i>			
Base regulated price	40.20	40.20	40.20
Rate riders	3.19 ¹	6.04	9.23 ¹
	43.39	46.24	49.43
<i>Hydroelectric generating stations prescribed for rate regulation effective in 2014</i>			
Base regulated price	41.93	41.93	41.93
Rate rider	3.19 ¹	-	3.19 ¹
	45.12	41.93	45.12

¹ The increase in the 2015 rate riders effective July 1, 2015 was implemented by the OEB on October 1, 2015. As such, the OEB authorized interim period rate riders for the period from October 1, 2015 to December 31, 2016 to allow for the recovery of the increase in the riders for the period from July 1, 2015 to September 30, 2015. The revenue from the new riders for the July 1, 2015 to September 30, 2015 period was accrued in 2015. The nuclear interim period rate rider was \$2.17 per megawatt hour (MWh) and the regulated hydroelectric interim period rate rider was \$0.64/MWh. These interim period rate riders have not been included in the above table. All rate riders in effect during 2016 expired on December 31, 2016.

The base regulated prices in effect during 2015 and 2016 were established by the OEB's November 2014 decision and December 2014 order, effective November 1, 2014, using a forecast cost-of-service methodology based on the OEB-approved revenue requirements for the 2014 to 2015 period, taking into account the OEB-approved forecasts of production and operating costs for the regulated facilities and a return on rate base. Rate base for OPG represents the average net level of investment in regulated fixed and intangible assets in service and an allowance for working capital.

In accordance with *Ontario Regulation 53/05* under the *Ontario Energy Board Act, 1998*, OPG's nuclear regulated prices are reduced by the amount of OPG's revenues, net of costs, from leasing the Bruce nuclear generating stations to Bruce Power. As directed by the OEB, OPG's revenues and costs related to the Bruce nuclear generating stations are determined in accordance with US GAAP for the purposes of establishing OPG's nuclear regulated prices and are subject to the Bruce Lease Net Revenues Variance Account in accordance with *Ontario Regulation 53/05*. This includes OPG's costs related to its obligations for nuclear waste management and nuclear facilities decommissioning associated with the Bruce nuclear generating stations and the corresponding portion of earnings on the nuclear fixed asset removal and nuclear waste management segregated funds (Nuclear Segregated Funds) established pursuant to the Ontario Nuclear Funds Agreement (ONFA) between OPG and the Province.

Rate riders for OPG are established to recover or repay approved balances in OEB-authorized regulatory variance and deferral accounts (regulatory accounts). Variance and deferral accounts typically capture, for subsequent review and approval, 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 rate riders in effect during 2015 included those established by the OEB's December 2014 order for the period from January 1, 2015 to December 31, 2015, as well as those authorized by the OEB's October 2015 order on OPG's 2014 application to recover the December 31, 2014 variance and deferral account balances, for the period from July 1, 2015 to December 31, 2016. The rate riders in effect during 2016 were those authorized by the October 2015 order.

Non-Regulated Generation

Electricity generated from most of OPG's non-regulated assets is subject to Energy Supply Agreements (ESAs) with the Independent Electricity System Operator (IESO). 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 was substituted as the counterparty of ESAs and other agreements that were previously executed with the OPA.

During 2016, ESAs were in effect for the following thermal generating facilities:

- Lennox GS: Capacity provided by, and production from, the station are subject to an ESA for the period from January 1, 2013 to September 30, 2022
- Atikokan GS: Capacity provided by, and production from, the station are subject to a 10-year ESA expiring in July 2024
- Thunder Bay GS: Capacity provided by, and production from, the station are subject to a 5-year ESA expiring in January 2020.

In addition, long-term hydroelectric ESAs are in place for the following facilities, with expiry dates for currently operating stations ranging from 2059 to 2064:

- Lac Seul and Ear Falls generating stations
- Healey Falls GS
- Sandy Falls, Wawaitin, Lower Sturgeon, and Hound Chute generating stations
- Little Long, Harmon, Smoky Falls, and Kipling generating stations (collectively the Lower Mattagami River generating stations)

- Peter Sutherland Sr. GS which is being commissioned. Payments under this ESA will commence when the station achieves commercial operation. Further details on the Peter Sutherland Sr. GS project are found in the section, *Core Business, Strategy, and Outlook* under the heading, *Project Excellence*.

HIGHLIGHTS

Overview of Results

This section provides an overview of OPG's operating results for 2016 and 2015.

<i>(millions of dollars – except where noted)</i>	2016	2015
Revenue	5,653	5,476
Fuel expense	727	687
Gross margin	4,926	4,789
Operations, maintenance and administration	2,747	2,783
Depreciation and amortization	1,257	1,100
Accretion on fixed asset removal and nuclear waste management liabilities	929	895
Earnings on nuclear fixed asset removal and nuclear waste management funds	(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	(17)	14
Income before interest and income taxes	741	689
Net interest expense	120	180
Income before income taxes	621	509
Income tax expense	168	92
Net income	453	417
Net income attributable to the Shareholder	436	402
Net income attributable to non-controlling interest ¹	17	15
<i>Electricity production (TWh) ²</i>	78.2	78.0
<i>Cash flow</i>		
Cash flow provided by operating activities	1,705	1,465

¹ Relates to the 25 percent interest of the Amisk-oo-Skow Finance Corporation, a corporation wholly owned by the Moose Cree First Nation, in the Lower Mattagami Limited Partnership.

² Includes OPG's share of generation volume from its 50 percent ownership interests in PEC and Brighton Beach.

Net income attributable to the Shareholder was \$436 million for 2016, an increase of \$34 million compared to 2015. Income before interest and income taxes was \$741 million for 2016, an increase of \$52 million compared to 2015.

The following summarizes the significant factors which contributed to the variance:

Significant factors that increased income before interest and income taxes:

- Higher generation of 1.1 terawatt hours (TWh) from the Regulated – Nuclear generation segment, resulting in an increase in revenue from the nuclear base regulated price of approximately \$65 million. The year-over-year increase in revenue from the higher nuclear rate riders in effect during the first half of 2016,

compared to the same period in 2015, was primarily offset by an increase in the amortization expense related to regulatory account balances

- Higher earnings on the Nuclear Segregated Funds of \$42 million, primarily due to a higher rate of return on the portion of the Used Fuel Segregated Fund that is subject to a consumer price index (CPI) adjusted rate of return guaranteed by the Province pursuant to the ONFA. This increase in Nuclear Segregated Funds earnings was partially offset by an accounting adjustment recognized in the fourth quarter of 2016 to limit the fund asset values recorded in OPG's consolidated financial statements to the lower underlying funding obligations resulting from the updated ONFA reference plan, approved by the Province in December 2016
- Increase in earnings from the Services, Trading, and Other Non-Generation segment of \$24 million, primarily due to lower operations, maintenance and administration (OM&A) expenses
- A gain of \$22 million recorded in 2016 to reflect the OEB's January 2016 decision on OPG's motion asking the OEB to review and vary parts of its November 2014 decision on OPG's regulated prices
- Increase in earnings of \$20 million from the Contracted Generation Portfolio segment, mainly as a result of an increase in the gross margin due to higher revenues from the Lower Mattagami River generating stations, the Lennox GS and the Atikokan GS.

Significant factors that reduced income before interest and income taxes:

- Higher financing expense of \$32 million, which represents an increase in the present value of the nuclear fixed asset removal and nuclear waste management liabilities (Nuclear Liabilities). The financing expense, known as accretion expense, is added to the Nuclear Liabilities balance over time
- A decrease in nuclear non-electricity revenue of \$21 million, primarily due to a decrease in nuclear detritiation services revenue and lower isotope sales
- Higher OM&A expenses, fuel expense and depreciation expense for the Regulated – Nuclear Generation segment. The increase in OM&A expenses of \$14 million reflected higher expenses related to materials and supplies obsolescence recognized in 2016. The increase in fuel expense of \$14 million reflected higher uranium costs and higher generation in 2016. Depreciation and amortization expense, excluding amortization expense related to regulatory account balances, increased by \$12 million, primarily due to new assets in service in 2016. The increase in amortization expense related to regulatory account balances was largely offset by the increase in revenue related to rate riders
- Lower earnings before other gains from the Regulated – Hydroelectric segment of \$28 million, primarily due to lower hydroelectric incentive mechanism revenue and the income impact of OEB-approved variance accounts.

Net interest expense decreased by \$60 million in 2016, compared to 2015, primarily due to a higher amount of interest costs capitalized for the Darlington Refurbishment project and a higher amount of interest costs deferred in regulatory variance and deferral accounts.

Income tax expense increased by \$76 million in 2016, compared to 2015, primarily due to higher income before income taxes and a lower amount of tax expense deferred in regulatory assets in 2016.

Segment Results

The following table summarizes OPG's income before interest and income taxes by business segment. Significant factors which contributed to the higher income during 2016, compared to 2015, are discussed above. A detailed discussion of OPG's performance by reportable segment is included in the section, *Discussion of Operating Results by Business Segment*.

<i>(millions of dollars)</i>	2016	2015
<i>Income (loss) before interest and income taxes</i>		
Regulated – Nuclear Generation	4	2
Regulated – Hydroelectric	642	648
Contracted Generation Portfolio	282	262
Total electricity generation business segments	928	912
Regulated – Nuclear Waste Management	(174)	(186)
Services, Trading, and Other Non-Generation	(13)	(37)
	741	689

Electricity Generation

Electricity generation for 2016 and 2015 was as follows:

<i>(TWh)</i>	2016	2015
Regulated – Nuclear Generation	45.6	44.5
Regulated – Hydroelectric	29.5	30.4
Contracted Generation Portfolio ¹	3.1	3.1
Total OPG electricity generation	78.2	78.0
Total electricity generation by other generators in Ontario ²	72.7	76.1

¹ Includes OPG's share of generation volume from its 50 percent ownership interests in PEC and Brighton Beach.

² Non-OPG generation is calculated as the Ontario electricity demand plus net exports, as published by the IESO, minus OPG electricity generation.

The higher electricity generation from the Regulated – Nuclear Generation segment in 2016 was primarily a result of a lower number of non-refurbishment planned outage days at the Darlington GS due to the planned Vacuum Building Outage (VBO) in 2015 and a decrease in unplanned outages at the station in 2016. The VBO is a unique outage to inspect and maintain specific safety and other systems common to all four units of the station. The 2015 VBO required the shutdown of the four units for 47 days. Vacuum building outages are currently required every 12 years at the Darlington GS. The year-over-year increase in electricity generation was partially offset by a decrease in generation from the Pickering GS, primarily due to an increase in the number of unplanned outage days, and the removal from service of Unit 2 at the Darlington GS for the duration of the unit's refurbishment beginning on October 15, 2016.

Lower electricity generation from the Regulated – Hydroelectric generating segment was primarily due to a higher volume of water spilled as a result of higher SBG conditions during 2016.

Electricity generation from the Contracted Generation Portfolio segment was 3.1 TWh for each of 2016 and 2015. Electricity generation in 2016 reflected higher production from the Lennox and Atikokan generating stations, primarily due to increased market demand. The increase was offset by a higher volume of water spilled at the contracted hydroelectric stations as a result of higher SBG conditions during 2016, and transmission system constraints in northeastern Ontario in 2016.

OPG's operating results are affected by changes in grid-supplied electricity demand resulting from variations in seasonal weather conditions, changes in economic conditions, the impact of small scale generation embedded in distribution networks, and the impact of conservation efforts in the province. Ontario's electricity demand as reported by the IESO was 137.0 TWh in each of 2016 and 2015, which excludes electricity exports out of the province.

Baseload generation supply surplus in Ontario was more prevalent in 2016 than in 2015, mainly due to higher water flows in the province during 2016 and limitations on the export of surplus power out of the province, primarily due to transmission constraints in the state of New York. Power that is surplus to the Ontario market is managed by the IESO, mainly through generation reductions at hydroelectric and nuclear stations and other grid-connected renewable resources. Reducing hydroelectric production, which often results in spilling of water, is the first measure used by the IESO to manage SBG conditions. During 2016 and 2015, OPG lost 4.7 TWh and 3.2 TWh of hydroelectric generation due to SBG conditions, respectively. The gross margin impact of production forgone at OPG's regulated hydroelectric stations due to SBG conditions in 2016 and 2015 was offset by the impact of a regulatory variance account authorized by the OEB. OPG did not forgo any electricity production at its nuclear stations due to SBG conditions.

Average Sales Prices

The majority of OPG's generation is from the Regulated – Nuclear Generation and Regulated – Hydroelectric segments. The regulated prices authorized by the OEB for electricity generated from OPG's nuclear and regulated hydroelectric generating stations are discussed in the section, *Revenue Mechanisms for Regulated and Non-Regulated Generation*.

The average sales price for the Regulated – Nuclear Generation segment during 2016 was 6.9 cents per kilowatt hour (¢/kWh), compared to 6.5 ¢/kWh during 2015. The average sales price in 2016 reflected the higher OEB-authorized nuclear rate rider of \$10.84/MWh for recovery of variance and deferral account balances in effect during the full year. The average sales price for the Regulated – Hydroelectric segment was 4.4 ¢/kWh, compared to 4.7 ¢/kWh during 2015. The decrease was primarily due to a lower rate rider in effect during 2016 related to the recovery of variance and deferral account balances for the hydroelectric facilities prescribed for rate regulation prior to 2014. These rate riders were established to recover approved balances recorded in OEB-authorized regulatory variance and deferral accounts in prior years. As such, the year-over-year changes in revenue from the rate riders were largely offset by changes in amortization expense related to regulatory account balances.

Cash Flow from Operations

Cash flow provided by operating activities for 2016 was \$1,705 million, compared to \$1,465 million for 2015. The increase in cash flow provided by operating activities for 2016, compared to 2015, was primarily due to higher generation revenue receipts reflecting higher nuclear rate riders and higher nuclear generation in 2016. The increase in cash flow was also due to lower pension plan contributions in 2016 reflecting an updated actuarial valuation of the OPG registered pension plan. The increase in cash flow was partially offset by higher OM&A expenditures during 2016, compared to 2015, and the payment of a supplemental rent rebate to Bruce Power in the first quarter of 2016 in relation to the period from January 1, 2015 to December 4, 2015. The rebate was made pursuant to a provision under the lease agreement for the Bruce nuclear generating stations. This provision was eliminated effective December 4, 2015 as part of the 2015 amendments to the lease agreement.

Funds from Operations Adjusted Interest Coverage

FFO Adjusted Interest Coverage is an indicator of OPG's ability to meet interest obligations from operating cash flow. The indicator is measured over a 12-month period. During each of the years of 2016 and 2015, the FFO Adjusted Interest Coverage was 5.1 times. The FFO Adjusted Interest Coverage in 2016 reflected a year-over-year increase in cash flow provided by operating activities, offset by lower working capital balances.

Return on Common Equity Excluding Accumulated Other Comprehensive Income

ROE Excluding AOCI is an indicator of OPG's performance consistent with its strategy to provide value to the Shareholder. ROE Excluding AOCI is measured over a 12-month period. ROE Excluding AOCI for 2016 was 4.2 percent, compared to 4.0 percent for 2015. ROE Excluding AOCI increased for 2016, compared to 2015, primarily due to higher net income attributable to the Shareholder. OPG's ROE Excluding AOCI reflects regulated prices established by the OEB in 2014. These prices were lower than requested by OPG based on submitted forecast cost and production levels, which has negatively affected OPG's ability to earn the OEB-prescribed rate of return on the Shareholder's investment in the regulated assets.

ROE Excluding AOCI also reflects the relatively higher equity component in the Company's capital structure, compared to the deemed capital structure used by the OEB in determining OPG's regulated prices. The OEB establishes the allowed return on OPG's investment in regulated assets, which represent the majority of the Company's operations, using the OEB's generic prescribed rate of return and an OPG-specific deemed capital structure. In setting the regulated prices in 2014, the OEB applied a deemed capital structure of 45 percent equity and 55 percent debt. OPG's actual capital structure (excluding AOCI) contains approximately 65 percent equity. The higher equity component in OPG's actual capital structure, compared to the deemed capital structure applied by the OEB, results in a reduced actual ROE Excluding AOCI. In its application for new regulated prices filed with the OEB in May 2016, OPG is seeking an increase in the deemed capital structure to 49 percent equity and 51 percent debt. For further discussion on OPG's application, refer to the section, *Highlights* under the heading, *Recent Developments*.

Enterprise Total Generating Cost per MWh

The Enterprise TGC per MWh was \$48.45 for the year ended December 31, 2016, compared to \$50.84 for the same period in 2015. The improvement in 2016, compared to 2015, was primarily a result of lower OM&A expenses, excluding the impact of regulatory variance and deferral accounts, and higher electricity generation from OPG-operated generating stations as adjusted for forgone generation due to SBG conditions during 2016.

Nuclear Total Generating Cost per MWh

The Nuclear TGC per MWh was \$62.30 for the year ended December 31, 2016, compared to \$66.22 for the same period in 2015. The improvement in 2016, compared to 2015, was primarily a result of lower OM&A expenses excluding the impact of regulatory variance and deferral accounts, and higher electricity generation during 2016.

Hydroelectric Total Generating Cost per MWh

The Hydroelectric TGC per MWh was \$25.49 for the year ended December 31, 2016, which was comparable to \$25.26 for the same period in 2015.

ROE Excluding AOCI, FFO Adjusted Interest Coverage, Enterprise TGC per MWh, Nuclear TGC per MWh and Hydroelectric TGC per MWh are not measurements in accordance with US GAAP and should not be considered alternative measures to net income, cash flow provided by operating activities, or any other performance measure under US GAAP. OPG believes that these non-GAAP financial measures are effective indicators of its performance and are consistent with the Company's strategic imperatives and related objectives. The definition and calculation of ROE Excluding AOCI, FFO Adjusted Interest Coverage, Enterprise TGC per MWh, Nuclear TGC per MWh and Hydroelectric TGC per MWh are found in the section, *Supplementary Non-GAAP Financial Measures*.

Recent Developments

Darlington Refurbishment

In October 2016, OPG commenced the refurbishment of the first Darlington GS unit, Unit 2, as planned, as part of the Darlington Refurbishment project. The unit was taken offline safely on October 15, 2016. De-fuelling of the reactor,

the first critical refurbishment activity undertaken once the unit is removed from service, was safely completed in January 2017, ahead of schedule, with a total of 480 fuel channels de-fuelled. Preparatory work in the reactor vault to support the removal of feeder tubes and fuel channel assemblies commenced immediately after de-fuelling was completed. The unit is scheduled to be returned to service in the first quarter of 2020. The project is tracking on budget.

In April 2016, the Federal Court of Appeal unanimously dismissed the request by certain intervenors for a judicial review of the 2013 Environmental Assessment (EA) decision for the Darlington Refurbishment project by the Canadian Nuclear Safety Commission (CNSC) and Fisheries and Oceans Canada. The EA decision had confirmed that, taking into account identified mitigation measures, the project was not likely to cause significant adverse environmental effects. In dismissing the appeal, the Federal Court of Appeal determined that there were no gaps in the EA, that there was nothing unreasonable about the discretionary determinations made by the responsible authorities, and that the intervenors' arguments were not borne out by the evidence. OPG was also awarded its costs of the appeal, as the successful party.

The Darlington Refurbishment project is discussed further in the section, *Core Business, Strategy, and Outlook* under the heading, *Project Excellence*.

OPG's Application for New Regulated Prices

In May 2016, OPG filed a 5-year application with the OEB for new base regulated prices for production from its regulated hydroelectric and nuclear facilities, with a proposed effective date of January 1, 2017. For the first time since OPG's prescribed facilities became subject to rate regulation, the new prices are expected to be determined on the basis of 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.

For the hydroelectric facilities, OPG's May 2016 application proposes to escalate the existing base regulated prices, with some adjustments, for each of the years 2017 to 2021 based on a formula that considers an industry specific inflation factor less a productivity improvement factor and less a stretch factor intended to incent additional innovation and efficiency. For the nuclear operations, the application proposes revenue requirements for each of the years 2017 to 2021 based on OPG's forecast of operating costs, reduced by a stretch factor amount, as well as a return on rate base and an annual forecast of production.

The proposed nuclear revenue requirements reflect OPG's plans to pursue Pickering extended operations until 2024, as well as the projected impact of the scheduled return to service of the first refurbished Darlington unit in the first quarter of 2020. OPG is also seeking an increase in the deemed capital structure applied to its total regulated rate base to 49 percent equity and 51 percent debt from 45 percent equity and 55 percent debt applied by the OEB in setting the existing regulated prices.

Consistent with the requirements of *Ontario Regulation 53/05*, OPG's application filed in May 2016 incorporated a nuclear rate smoothing proposal. This proposal would result in OPG deferring a portion of the approved annual nuclear revenue requirements during the period from January 1, 2017 to the end of the Darlington Refurbishment project in a deferral account for future collection. The regulation stipulates that the deferral account will record interest at a long-term debt rate reflecting OPG's cost of long-term borrowing approved by the OEB, compounded annually, and that the OEB shall authorize recovery of the balance in the account on a straight line basis over a period not to exceed 10 years following the end of the Darlington Refurbishment project. OPG expects to recognize the deferred amounts as income in the period to which the underlying approved revenue requirements relate.

On OPG's recommendation, the Province amended *Ontario Regulation 53/05* in March 2017 to require that the portion of the approved annual nuclear revenue requirements deferred for future collection under rate smoothing be

determined with a view of making more stable year-over-year changes in OPG's weighted-average nuclear and hydroelectric regulated prices, including rate riders. Previously, the regulation required that the deferred amounts be determined with a view of making more stable year-over-year changes in OPG's nuclear regulated prices only. The amendment is intended to make more predictable the impact on customer bills resulting from changes in OPG's overall regulated prices, reducing the average year-over-year change in customer bills over the term of OPG's current application. OPG is modifying the rate smoothing proposal in its application to reflect the new requirements of the regulation.

OPG's application also requests new rate riders, effective January 1, 2017, 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 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 requests the continuation of all applicable existing variance and deferral accounts. The Pension & OPEB Cash Versus Accrual Differential Deferral Account is discussed in the section, *Critical Accounting Policies and Estimates* under the heading, *Rate Regulated Accounting*.

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.

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 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 regulated prices and their implementation date based on the OEB's order. The OEB's decision on the application, including the effective date of the new regulated prices, is expected in the second half of 2017, following a public proceeding. The public proceeding is in progress, with the oral hearing portion having commenced in February 2017. Considering the timing of OPG's application and OPG's procedural adherence to date, the Company believes that the OEB could make the new regulated prices effective January 1, 2017.

OEB's Decision on OPG's December 2014 Motion

In January 2016, the OEB issued its decision on OPG's December 2014 motion asking the OEB to review and vary the parts of its November 2014 decision related to the disallowance of the Niagara Tunnel project expenditures, and the application of the 2013 regulatory tax loss to reduce the 2014/2015 revenue requirement. In its January 2016 decision, the OEB reversed a portion of the original disallowance of the Niagara Tunnel project expenditures, and upheld the original tax loss decision. In the first quarter of 2016, OPG recorded a gain of \$22 million to recognize the expected future recovery from customers of the portion of the disallowance reversed by the OEB's motion decision. The original disallowance of the Niagara Tunnel project expenditures resulted in a write-off of \$77 million that was charged to operations in 2014.

The original tax loss decision resulted in a reduction of the 2014/2015 revenue requirement by approximately \$70 million. As OPG's financial results have previously reflected the effect of the OEB's original tax loss decision, the motion decision on the tax loss did not impact OPG's 2016 financial results.

Ontario Nuclear Funds Agreement Reference Plan Update

In the fourth quarter of 2016, a comprehensive update of the estimate for OPG's obligations for nuclear waste management and nuclear facilities decommissioning as at December 31, 2016 was finalized as part of the required process to update the reference plan under the ONFA. As at December 31, 2016, the update resulted in a decrease of approximately \$1,570 million in OPG's Nuclear Liabilities, with a corresponding decrease to the asset retirement costs capitalized as part of the carrying value 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 updated estimate of the obligations was reflected in a new ONFA reference plan, for years 2017 to 2021, which was approved by the Province in December 2016, effective January 1, 2017 (the 2017 ONFA Reference Plan). Based on the lower life cycle liability estimates per the 2017 ONFA Reference Plan, starting in 2017, OPG is not currently required to make overall contributions to the Used Fuel Segregated Fund or the Decommissioning Segregated Fund established under the ONFA. Prior to 2017, OPG made contributions to the Used Fuel Segregated Fund every quarter, including a one-time special payment in earlier years, as required by the ONFA. These contributions reflected ONFA requirements to fund the majority of the underlying used fuel liability by the end of the initial estimated useful lives of the nuclear stations assumed in the ONFA, resulting in significantly higher contributions to the Used Fuel Segregated Fund in the earlier years of OPG's existence. OPG has not been required to make contributions to the Decommissioning Segregated Fund, which was fully funded at its inception through the initial contribution made by the Province and, taking into account asset performance and changes in underlying funding obligations over time, at the time of every subsequent approved ONFA reference plan. Contributions to either or both funds may be required in the future should the funds be in an underfunded position when a new reference plan is prepared. Such may be the case as a result of variability in asset performance due to volatility inherent in financial markets and, for the portion of the Used Fuel Segregated Fund guaranteed by the Province, changes in the Ontario CPI. Future contribution levels also are dependent on changes in baseline cost estimates and underpinning assumptions used to establish the funding obligations in subsequent ONFA reference plans.

The decrease in the Nuclear Liabilities and associated capitalized asset retirement costs recognized on the consolidated balance sheet as at December 31, 2016 did not impact OPG's income for 2016. Under the current OEB-approved cost recovery methodology, these changes also are not expected to materially affect OPG's income in 2017, as the associated impact on expenses is expected to be largely offset by the Nuclear Liability Deferral Account and the Bruce Lease Net Revenues Variance Account until such time as the OEB implements corresponding changes to OPG's nuclear regulated prices, and subsequently by the impact of new regulated prices. In accordance with *Ontario Regulation 53/05*, the OEB is required to ensure that OPG recovers the revenue requirement impact of its nuclear waste management and nuclear decommissioning liabilities arising from the current approved ONFA reference plan. For further discussion of the accounting for Nuclear Liabilities, refer to the section, *Critical Accounting Policies and Estimates* under the heading, *Asset Retirement Obligation*.

In the fourth quarter of 2016, OPG recorded a reduction of \$88 million in the Nuclear Segregated Funds assets related to the 2017 ONFA Reference Plan, through a reduction in earnings from the Nuclear Segregated Funds and an increase in the associated 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 2017 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 Nuclear Segregated Funds upon

termination of the ONFA accrues to the Province. Of the \$88 million reduction in Nuclear Segregated Funds earnings, \$43 million was offset by the impact of the Bruce Lease Net Revenues Variance Account.

For further discussion of the accounting for the Nuclear Segregated Funds, refer to the section, *Critical Accounting Policies and Estimates* under the heading, *Nuclear Fixed Asset Removal and Nuclear Waste Management Funds*. For further discussion of OPG's risks with respect to nuclear waste management and nuclear decommissioning obligations and Nuclear Segregated Funds, refer to the section, *Risk Management* under the headings, *Nuclear Waste Management and Nuclear Decommissioning Obligations*, and *Nuclear Segregated Funds and Financial Markets*.

Ontario's Fair Hydro Plan

On March 2, 2017, the Province announced Ontario's Fair Hydro Plan (the Plan) aimed at reducing electricity bills by 25 percent on average for all residential consumers in the province. As part of the Plan, the Province has proposed refinancing a portion of the Global Adjustment costs over a longer time period for Regulated Price Plan eligible customers (e.g., residential, farm, small businesses). According to the Plan, the Province intends to introduce legislation that would, if passed, enable the IESO and OPG to work together to undertake this financing. The Global Adjustment is administered by the IESO. OPG intends to work with the Province and the IESO as part of the proposal and is exploring implementation options. Any final agreement to implement the Plan is subject to approval by OPG's Board of Directors, which has established a Special Committee to provide timely strategic and other guidance to OPG management in connection with the implementation of the Plan and to make a recommendation to the Board of Directors. The Global Adjustment includes the difference between Ontario's electricity market clearing price used to dispatch generation and the prices paid to contracted and regulated generators in the province, and the cost of conservation and demand management programs. Virtually all non-OPG generators in Ontario have bilateral contracts with the IESO that provide for payments that are different from the market clearing price of electricity, while the prices for all of OPG's nuclear and a majority of its hydroelectric generation are set by the OEB.

Shareholder Declaration and Shareholder Resolution to Sell Certain Real Estate Properties

In December 2015, OPG received a Shareholder Declaration and a Shareholder Resolution requiring the Company to sell its head office premises and associated parking facility located at 700 University Avenue and 40 Murray Street in Toronto, Ontario. The assets are reported under the Services, Trading, and Other Non-Generation segment. An active program to locate a buyer for these real estate assets was initiated in October 2016, and a purchase and sale agreement was executed in December 2016. 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.

In June 2016, OPG received a Shareholder Declaration and a Shareholder Resolution that requires the Company to sell its former Lakeview GS site located in Mississauga, Ontario, an asset reported under the Services, Trading, and Other Non-Generation segment. OPG is in the process of preparing the site for sale. Pursuant to the June 2016 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.

Neither the former Lakeview GS site nor the Company's head office premises and associated parking facility are considered core assets to OPG's business.

Contract Award for Nanticoke Solar Facility

In March 2016, Nanticoke Solar LP, then a partnership between OPG, SunEdison Canadian Construction LP (SECCLP) and a subsidiary of the Six Nations of the Grand River Development Corporation, was selected through the first phase of the IESO's Large Renewable Procurement (LRP) program to develop a 44 MW solar facility at OPG's Nanticoke GS site and adjacent lands in Haldimand County, Ontario. The LRP program was a competitive bidding process for procuring large renewable energy projects in Ontario. In March 2016, Nanticoke Solar LP and the IESO executed a 20-year LRP contract, which formalized the terms and conditions for the development and operation of the new solar facility. In the first quarter of 2017, OPG purchased SECCLP's interests in Nanticoke Solar LP and is working to obtain approvals and permits required to enable the commencement of construction planned for the first half of 2018.

The 20-year term of the LRP contract takes effect once the station achieves commercial operation, which is expected in the first quarter of 2019. For further discussion, refer to the section, *Core Business, Strategy, and Outlook* under the heading, *Project Excellence*.

Decommissioning of the Lambton GS

In November 2016, the Company announced the decommissioning of the Lambton GS, which ceased coal-fired generation in 2013, as it was determined that continuing to preserve the station beyond 2016 for future conversion was no longer economically feasible. OPG is currently developing a decommissioning plan for the Lambton GS, which will ensure that the station is closed safely, securely, and in an environmentally responsible manner.

Canadian Nuclear Safety Commission Safety Rating for the Pickering GS and the Darlington GS

The CNSC publishes an annual report on the safety performance of Canada's nuclear power plants. The report assesses how well plant operators are meeting regulatory requirements and program expectations in the areas of operational performance, safety analysis, radiation protection, waste management and conventional health and safety. In its 2015 annual report, the CNSC gave both the Pickering GS and the Darlington GS the highest possible safety rating of "Fully Satisfactory". The Pickering GS received this rating for the first time, while the Darlington GS achieved the rating for the seventh year in a row.

Acquisition of Hydro One Limited Shares

In April 2016, OPG acquired nine million common shares of Hydro One Limited (Hydro One) at \$23.65 per share as part of a secondary share offering by the Province through a syndicate of underwriters. OPG paid the same price as other investors in the offering. The acquisition, totaling \$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 with the Power Workers' Union (PWU) and The Society of Energy Professionals (The Society) renewed in 2015. Changes to these 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, as long as these employees continue to make contributions to the OPG pension plan and have less than 35 years of pensionable service. The shares acquired in the April 2016 transaction represent the substantial majority of OPG's currently anticipated purchases of Hydro One shares.

CORE BUSINESS, STRATEGY, AND OUTLOOK

The discussion in this section is qualified in its entirety by the cautionary statements included in the section, *Forward-Looking Statements*, at the beginning of the MD&A.

OPG's mission is to provide low cost power in a safe, clean, reliable and sustainable manner for the benefit of its customers and its Shareholder. OPG also seeks to pursue, on a commercial basis, generation development projects and other business growth opportunities to the benefit of the Shareholder.

OPG's four key strategic imperatives are as follows:

- Operational Excellence
- Project Excellence
- Financial Strength
- Social Licence.

Operational Excellence

Operational excellence at OPG is accomplished by the safe and environmentally responsible generation of reliable and cost-effective electricity from the Company's generating assets through a highly trained and engaged workforce.

Workplace Safety and Public Safety

Workplace safety and public safety are fundamental core values at OPG. OPG is committed to operating all of its facilities in a safe, secure, and reliable manner that minimizes risks to a reasonably achievable level. Safety is an overriding priority in all activities performed at OPG's generating and other facilities, and all employees and contractors are expected to conduct themselves in manner that ensures workplace safety and public safety in line with the Company's safety culture.

In the area of workplace safety, OPG is committed to achieving excellent safety performance through continuous improvement and a strong safety culture, with the ultimate goal of zero injuries. OPG utilizes an integrated health and safety management system and a set of operational risk control procedures to ensure continued monitoring of health and safety performance and to support continuous learning and improvement in this area. Overall, OPG's workplace safety performance has been one of the best amongst its comparator Canadian electrical utilities. In 2016, OPG received the Canadian Electricity Association (CEA) President's Gold Award recognizing three consecutive years, 2013 to 2015, of sustained top quartile safety performance within the comparator group.

Workplace safety performance is measured using two primary indicators at OPG, All Injury Rate (AIR) and Accident Severity Rate (ASR). OPG's AIR and ASR results for employee workplace safety were as follows for the year ended December 31:

	2016	2015
AIR (<i>injuries per 200,000 hours worked</i>)	0.56	0.39
ASR (<i>days lost per 200,000 hours</i>)	2.59	0.50

In 2016, OPG's AIR and ASR safety performance was worse than in 2015. OPG's analysis of the underlying events indicated that major contributors to the injuries and near misses included inadequate situational awareness and attention to detail, and suboptimal risk-based decisions, rather than missing or inadequate standards or programs. OPG is implementing a number of initiatives to target the injury trends based on the analysis of the safety events, with a focus on the use of human performance tools including increased field supervisory oversight, situational awareness, communication, and procedural use and adherence.

In 2016, OPG launched an organization-wide "iCare Enough to Act" initiative aimed at renewing employees' commitment to their own and each other's safety and well-being. Plans to further strengthen safety as a foundational

element of the Company's values-based culture are being developed through leadership forums and other engagement activities.

Contractors are required to conduct work safely at OPG sites. In support of this requirement, OPG utilizes an independent contractor pre-qualification process, provides on-site safety support for many of its major projects, and works with contract partners to improve their health and safety programs to meet OPG's requirements. To further strengthen contractors' safety performance, in 2016, OPG updated its contractor safety requirements and related governance, and implemented additional oversight and field monitoring to ensure ongoing compliance. In the past eight years, OPG has consistently shown a better than average Construction Contractor AIR as compared to the Health and Safety Association Contractor AIR, a metric of construction contractor safety performance across Ontario.

To ensure continued public safety, radiation exposure to members of the public resulting from the operation of OPG's nuclear generating stations is estimated on an annual basis for individuals living or working near the stations. The annual dose to the public resulting from operations of each nuclear facility is expressed in microsieverts (μSv), which is an international unit of radiation dose measurement. For 2015, the annual public doses resulting from the Darlington GS operations and the Pickering GS operations were 0.5 μSv and 1.2 μSv , respectively, which is approximately 0.1 percent of the annual legal limit of 1,000 μSv . While the public doses from OPG's nuclear operations for the 2016 operating year will not be finalized until the second quarter of 2017, they are not expected to differ significantly from the 2015 levels.

In June 2016 and August 2016, the CNSC released sampling results from its independent environmental monitoring program, which confirmed that the public and the environment around OPG's nuclear generating stations continued to be safe. Also in 2016, the CNSC published its 2015 annual report on the safety performance of Canada's nuclear power plants, which gave both the Pickering GS and the Darlington GS the highest possible safety rating of "Fully Satisfactory". For further details, refer to the CNSC safety rating discussion in the section, *Highlights* under the heading, *Recent Developments*.

OPG remains committed to high standards of public safety on waterways around hydroelectric dams and generating stations. A Dam Safety Review Panel comprised of internationally recognized experts has previously concluded that OPG's dam and public safety program is comparable with international best practices in a number of areas related to maintaining safe dam operations. In cooperation with the Ontario Ministry of Natural Resources and Forestry (MNRF), OPG continues to develop a new risk-informed approach to prioritize and manage risks identified through dam safety assessments. In 2016, OPG continued its water safety campaign with a series of public service announcements illustrating the danger of water near hydroelectric dams and hydroelectric generating stations.

Electricity Generation Production and Reliability

Key strategic initiatives in support of operational excellence, specific to each of OPG's core generating operations, are discussed below. Generation and reliability performance for 2016 is discussed by operating segment in the section, *Discussion of Operating Results by Business Segment*.

Nuclear Operations

OPG is pursuing a number of strategic initiatives aimed at the continued safe and reliable operation of the Pickering GS and targeting top performance at the Darlington GS.

OPG's nuclear operations are regularly benchmarked against top performing nuclear facilities around the world. This allows OPG to identify, develop and implement initiatives to further improve performance. In May 2016, OPG hosted a World Association of Nuclear Operators peer evaluation for the Darlington GS against standards of excellence through an in-depth, objective review by an international panel of industry experts. The review maintained Darlington's excellent standing as one of the top performing nuclear plants in the world. In September 2016, OPG hosted a team of experts from the International Atomic Energy Agency at the Pickering GS to conduct a standard

Operational Safety Review Team mission. The team conducted an in-depth review of performance and adherence to international safety standards. A report on the mission is expected to be released in the second quarter of 2017.

In January 2016, OPG announced its plan to pursue continued safe and reliable operation of the Pickering GS beyond 2020. OPG's objective is to maximize the safe and reliable operating life of the Pickering units. Under OPG's current plan, all six operating units at the station would operate until 2022, at which point two units would be shut down and the remaining four units would continue to operate until 2024. The Province announced its approval of OPG's plan to pursue continued operation of the Pickering GS beyond 2020 up to 2024 in January 2016. In addition to providing Ontario with a clean, reliable source of baseload electricity during nuclear unit refurbishments at the Darlington GS and the Bruce nuclear generating stations, extending operations at the Pickering GS will provide continued employment to approximately 3,000 regular employees at OPG and help to reduce approximately 17 million tonnes of carbon dioxide emissions, which is the equivalent to removing approximately 3.4 million cars from Ontario's roads.

As part of the plan to extend Pickering operations, OPG is continuing to undertake further technical work to confirm that the station's pressure tubes, a key life-limiting component of the station, will achieve the additional life necessary to operate to 2024. OPG is also conducting component condition assessments to identify the work required to support the continued operation of the station. The accounting end of life assumptions for the Pickering GS, currently established as the end of 2020, are expected to be reassessed when OPG's further technical work confirms the longer fuel channel life and the units' fitness to operate beyond 2020, taking into account the requirement for the CNSC's approval, discussed below.

OPG's current five-year operating licence for the Pickering GS was approved by the CNSC in 2013 and expires on August 31, 2018. This licence was issued assuming that the station would shut down in 2020. By June 30, 2017, OPG is required to confirm to the CNSC the end date of commercial operations of all operating Pickering units. OPG has started work on the Pickering licence renewal application, which is expected to be filed in mid-2017 for the CNSC's approval in 2018. The requested licence renewal will span the planned extended operations period, through to the end of the planned period to de-fuel, de-water, and place the station in a safe state condition after shutdown. A Periodic Safety Review and an Integrated Implementation Plan (IIP) for the station will be submitted to the CNSC as part of the licence renewal application.

OPG strives to operate and maintain its nuclear facilities to optimize equipment, performance, availability and electricity generation, while improving the reliability and predictability of the fleet. Improved equipment reliability generally results in fewer generation interruptions. OPG continues to make investments in the performance of the Pickering GS, with a focus on improving plant reliability and maximizing the value of the asset through implementing equipment modifications and fuel handling reliability improvements, reducing equipment maintenance backlogs, and completing critical and high priority work.

Nuclear inspection and testing programs are largely driven by maintenance and regulatory requirements, and are designed to ensure that equipment is performing safely and reliably. Execution of this and other outage work continues to be a high priority. As part of its commitment to operational excellence, OPG continues to focus on improving the planning, execution, monitoring, and reporting of outage work.

Work continues to ensure the integration of life cycle management and refurbishment programs at the Darlington GS. This includes developing staffing strategies to support both ongoing station operations and the refurbishment project, planning and incorporating pre-requisite work for the refurbishment into the station's work schedule, and identifying life cycle and aging management work necessary to sustain safe and reliable station operations for the next three decades. OPG's longer-term efforts are aimed at positioning the Darlington GS for industry leading operating and cost performance.

Delivering solutions that provide the best combination of safety, cost and effectiveness, as well as establishing challenging financial targets based on comprehensive benchmarking, continues to be a vital part of OPG's strategy to

improve performance of the nuclear business unit. Financial and staffing targets continue to be reviewed and adjusted where necessary to reduce operating costs, while ensuring safety is not compromised.

In 2016, OPG submitted applications with the CNSC seeking a ten-year licence renewal for the Western Waste Management Facility (WWMF), located at the Bruce generating stations' site, to May 31, 2027, and a ten-year licence renewal for the Pickering Waste Management Facility (PWMF) to August 31, 2028. The licence renewal applications will be presented to the CNSC at a public hearing in April 2017. The current licence for the WWMF expires on May 31, 2017 and for the PWMF on March 31, 2018.

Hydroelectric Operations

The objectives of OPG's hydroelectric operations include operating and maintaining the generating facilities in an efficient and cost-effective manner, while enhancing their reliability and availability. OPG continues to evaluate and implement plans to increase capacity, maintain and improve performance, and extend the operating life of its hydroelectric generating assets.

OPG's plans for its existing hydroelectric generating stations are accomplished through multi-year capital investment and other programs, including replacements and upgrades of turbine runners, and refurbishment or replacement of existing generators, transformers, and controls. The aim of OPG's runner replacement and upgrade program is to increase hydroelectric station capacity by leveraging efficiency enhancements in runner design. Where economical and practical, OPG pursues opportunities to refurbish, expand or redevelop its existing hydroelectric stations. Over the next three years, OPG plans to increase the total capacity of its hydroelectric generating fleet by approximately 135 MW, which, in addition to the runner replacement and upgrade program, includes the Peter Sutherland Sr. GS and the Ranney Falls GS projects. Both of these projects are discussed in the section, *Core Business, Strategy, and Outlook* under the heading, *Project Excellence*. OPG is also planning to repair, rehabilitate, or replace a number of aging civil hydroelectric structures.

As part of its commitment to operational excellence, OPG continues to make investments in its existing hydroelectric generating fleet. During 2016, OPG continued to execute a number of projects, including:

- Completion of major equipment overhauls and rehabilitation work on Unit 5 of the Sir Adam Beck Pump GS and Unit 2 of the Whitedog Falls GS
- Completion of a runner upgrade, headgate replacement and rehabilitation of Unit 2 of the Harmon GS
- Completion of headgate replacement at Units 1 and 2 of the Kipling GS
- Completion of concrete rehabilitation of the main dam at Chats Falls GS
- Continued work on the rehabilitation of Unit 10 of the Sir Adam Beck 1 GS, Unit 5 of the DeCew Falls 1 GS, Unit 1 of the Harmon GS, and the replacement of the Shebandowan Lake Control Dam at the Kakabeka Falls GS.

OPG plans to commence several major sustaining hydroelectric projects during 2017, including the overhaul and upgrade of Unit 2 of the DeCew Falls 2 GS, the upgrade of Unit 2 of the Lower Notch GS, and the upgrade of Unit 2 of the Little Long GS.

Thermal Operations

OPG's thermal operations consist of biomass-fuelled generating units at each of Atikokan GS and Thunder Bay GS, and the oil/gas dual-fuelled Lennox GS.

These stations, which operate as peaking facilities, provide Ontario's electricity system with the flexibility to meet changing daily system demand and capacity requirements and enable the system to accommodate the expansion of Ontario's renewable generation portfolio. The continued operation of these stations during the initial years of the refurbishment of the Darlington GS and Bruce nuclear facilities will provide Ontario with over 2,000 MW of peaking generation.

During the third quarter of 2016, the Atikokan and Thunder Bay generating stations provided renewable generation when called upon to meet system requirements while utility maintenance was being conducted on a local transformer station. As a result of utility maintenance, the Atikokan GS operated continuously from late July 2016 to early September 2016, while the Thunder Bay GS operated as needed. To meet the increased demand for biomass fuels at Atikokan GS, OPG coordinated the acceleration of biomass fuel deliveries with suppliers while continuing to operate the plant safely.

As part of OPG's ongoing strategy to reduce costs and increase efficiency, the operations of the Company's hydroelectric and thermal assets have been combined into one organization. OPG continues to evaluate opportunities to consolidate departments within the stations and across regions.

Thermal stations that are no longer available to generate electricity are included in the Services, Trading, and Other Non-Generation segment once they are removed from service. This includes the Lambton GS and Nanticoke GS sites, which ceased coal-fired generation in 2013. In 2015, OPG announced the decommissioning of the Nanticoke GS, as it could not commercially support continued preservation costs. In November 2016, OPG announced the decommissioning of the Lambton GS, as further discussed in the section, *Highlights* under the heading, *Recent Developments*.

OPG is currently developing decommissioning plans for the Lambton and Nanticoke generating stations, which will ensure that they are closed safely, securely and in an environmentally responsible manner. The decommissioning plan for the Nanticoke GS will accommodate the construction and operation of the Nanticoke solar facility. The costs of decommissioning the stations will be charged to a previously established decommissioning provision. OPG expects to review the decommissioning provision estimates for these sites in 2017.

Environmental Performance

OPG's Environmental Policy states that "OPG shall meet all legal requirements and any environmental commitments that it makes, with the objective of exceeding these legal requirements where it makes business sense". This policy commits OPG to:

- establish and maintain an environmental management system (EMS)
- work to prevent or mitigate adverse effects on the environment with a long-term objective of continual improvement
- manage sites in a manner that strives to maintain, or enhance where it makes business sense, significant natural areas and associated species of concern.

In 2016, OPG maintained the ISO 14001 registration of its company-wide EMS. Within the EMS, OPG has planning, operational control, and monitoring programs to manage the Company's positive and negative impacts on the environment. Significant environmental aspects of OPG's operations include: spills, chemical and thermal emissions to water, water flow and level changes, radioactive emissions, low and intermediate level radioactive waste (L&ILW), impact on wildlife habitat, displacement of fossil fuels, and fish impingement and entrainment. Further details regarding OPG's environmental risks can be found in the section, *Risk Management* under the heading, *Environmental Risk*.

Environmental performance targets are set as part of the annual business planning process. OPG met or outperformed its 2016 targets for spills, environmental infractions, and carbon-14 emissions to air. An increase in the volume of waste generated from work activities at the Darlington GS and preparation for the Darlington Refurbishment project led to a higher than expected volume of L&ILW produced in 2016. Performance for tritium emissions to air and water during 2016 remained less than one percent of the regulatory limit. There were no significant environmental events during 2016.

In 2016, the Government of Ontario passed the *Climate Change Mitigation and Low-Carbon Economy Act, 2016* and the associated *Cap and Trade Program Regulation*. The legislation provides the foundation for regulating

greenhouse gas (GHG) emissions in Ontario and establishes a cap and trade program, with the first compliance period being from January 1, 2017 to December 31, 2020.

The cap and trade program is a market mechanism intended to give Ontarians an incentive to reduce GHG emissions by putting a price on carbon. The program requirements are expected to result in increased fuel costs for some OPG-owned and co-owned generating facilities. Fuel costs for these stations are generally recovered from the electricity market. With OPG's low GHG emitting fleet, the program is not expected to have a material adverse financial impact on the Company. OPG has established the necessary processes to comply with the cap and trade program requirements.

OPG is monitoring actions being taken by the Government of Ontario and the Government of Canada to reduce GHG emission levels and transition to a low-carbon economy. In support of efforts to mitigate climate change, the Company continues to evaluate and implement plans to increase the generation capacity of its hydroelectric generating fleet, where economical, and invest in other low-carbon technologies.

OPG communicates its environmental performance internally to employees and to external stakeholders, including the Ontario Ministry of the Environment and Climate Change, Environment and Climate Change Canada, the CNSC, and local communities. Details of OPG's environmental performance and initiatives to fulfill the Company's Environmental Policy can be found in OPG's 2015 Sustainability Report, available on the Company's website at www.opg.com.

Improving Efficiency and Reducing Costs

As part of its commitment to operational excellence, OPG remains focused on reducing costs by pursuing efficiency and productivity improvements across operating business units and support functions, while ensuring that there is no adverse impact on the safety, reliability and environmental sustainability of the Company's operations. This includes streamlining of processes, simplifying governance, upgrading information technology, optimizing service delivery models, and, where appropriate, continuing to leverage attrition to achieve human resource targets aligned with business requirements. Initiatives to improve cost performance and organizational capability are being implemented at the enterprise and business unit level.

To drive efficiency and performance improvement, the Company continues to leverage a more scalable, centre-led organizational model. In 2016, the reduction in OPG's regular headcount from ongoing operations, since the beginning of 2011, reached over 2,800. Improving organizational performance and building on these efficiency gains remains a key priority for the Company. OPG continues to review its cost structure, identify cost improvement strategies and embed an outcomes-driven culture that reinforces low cost, efficiency, and organizational agility as part of business decision-making. In order to enhance the overall focus on productivity, in 2016, OPG adopted Enterprise TGC per MWh as a measure of OPG's overall organizational cost performance and Hydroelectric TGC per MWh as a measure of cost performance of OPG's hydroelectric generating assets, in addition to the existing Nuclear TGC per MWh measure. Further details regarding these measures are included in the sections, *Highlights*, *Key Operating and Financial Performance Indicators* and *Supplemental Non-GAAP Financial Measures*.

People and Culture

A well trained and engaged workforce is fundamental to the achievement of OPG's strategic imperatives. To succeed in a demanding business environment, OPG is focused on building a diverse, healthy, engaged workforce and fostering a culture of collaboration, accountability and innovation. OPG also continues to communicate and implement the values and behaviours expected from its employees in order to maintain a strong focus on safety, performance excellence, continuous improvement, and corporate citizenship.

The Company continues to focus on improving the capability of its workforce through leadership development, knowledge management, diversity and inclusion programs, and hiring in key areas. Ability to secure the right talent mix in order to effectively meet the Company's immediate and longer term business needs on a timely basis is

supported through workforce planning, resourcing and on-boarding strategies, both to acquire external talent into the organization and to develop existing employees. The goal of workforce planning and resourcing strategies is to ensure that the Company's workforce is diverse and has the right skill set and capability for the safe and effective operation of the generating facilities and successful delivery of major projects, including the refurbishment of the Darlington GS. These strategies are being designed to take into account anticipated staffing requirements to the end of planned commercial operations of the Pickering GS, through to the end of the planned period to de-fuel, de-water and place the station in a safe state condition after shutdown.

As part of the strategy to develop and engage employees and to build leadership talent, the Company has an active succession planning program with a focus on accelerating development. OPG also has a talent management monitoring process to proactively assess staffing risks, challenges and opportunities. Since 2015, OPG offers a company-wide high-potential leadership development program to qualified internal candidates. This 18-month cross-functional, competitive-entry program is designed to identify and develop candidates for future leadership positions while they are relatively early in their careers.

Electricity generation involves complex technologies that require highly skilled and trained workers. Many positions at OPG have significant educational prerequisites and rigorous requirements for continuous training and periodic requalification. In addition to maintaining its internal training infrastructure, OPG relies on partnerships with government agencies, other electrical industry partners and educational institutions to meet the required level of qualification. Training delivery models are evaluated for effectiveness and efficiency.

Effective January 1, 2017, OPG implemented a new Executive Compensation Program that is compliant with *Ontario Regulation 304/16: Executive Compensation Framework*, introduced in September 2016. The regulation sets out how all employers designated under the *Broader Public Sector Executive Compensation Act, 2014*, including OPG, must establish and post compensation programs for executives. The program must include the compensation philosophy, salary and performance-related pay caps, comparative analysis details, and a description of other elements of compensation. OPG's new Executive Compensation Program, which applies to employees at the Vice President level and higher, is designed to provide compensation that is at the 50th percentile of the market and focused on at-risk, performance based pay. The program will better enable OPG to attract, align and retain the executive talent critical to delivering Shareholder and customer value, while ensuring continued safe and reliable operations.

Project Excellence

OPG is pursuing a number of generation development and other major projects in support of Ontario's electricity planning initiatives. OPG also continues to plan and execute maintenance and capital improvement projects related to its existing assets. OPG strives for excellence in the planning and delivery of all projects across the Company.

OPG's vision for project excellence is to be an industry leader in project management capability and performance. As part of its commitment to project excellence, OPG continues to enhance and streamline its approach to project planning and execution, with the goal of delivering all projects safely, on time, on budget, and with high quality. Achieving project excellence at OPG involves, among other things, implementing a common, scalable project delivery model across all business units, establishing qualified project management teams, optimizing contracting strategies, engaging qualified and experienced vendors, and effectively monitoring and controlling performance.

The status updates for OPG's major projects as of December 31, 2016 are outlined below.

Project <i>(millions of dollars)</i>	Capital expenditures		Approved budget	Expected in-service date	Current status
	Year-to-date	Life-to-date			
Darlington Refurbishment	1,019	3,185	12,800 ¹	First unit - 2020 Last unit - 2026	The refurbishment of Unit 2 commenced in October 2016, as planned. De-fuelling of Unit 2, the first critical path activity, was completed in January 2017, ahead of schedule. The project is tracking on budget. See update below.
Peter Sutherland Sr. Hydroelectric GS	141	236	300	2017	Commissioning of the generating station began in February 2017 and the station is expected to be in-service in the spring of 2017, ahead of the originally planned schedule. See update below.
Sir Adam Beck Pump GS Reservoir Refurbishment	39	46	58	2017	The refurbishment was completed and the reservoir was returned to service in February 2017, ahead of the originally planned in-service date and below the approved budget. See update below.
Ranney Falls Hydroelectric GS	2	3	77	2019	Project design work was completed in 2016 and construction is expected to commence in 2017. See update below.
Nanticoke Solar Facility	1	1		2019	Project definition work is in progress and construction is planned to commence in the first half of 2018. See update below.
Deep Geologic Repository for L&ILW	9 ²	195 ²			OPG has completed the additional studies required by the Canadian Environmental Assessment Agency (CEAA) and the federal Minister of Environment and Climate Change and submitted this information in December 2016. See update below.

¹ The total project budget of \$12.8 billion is for the refurbishment of all four units at the Darlington GS.

² Expenditures are charged against the Nuclear Liabilities.

Darlington Refurbishment

The Darlington generating units are forecast to be approaching their originally designed end-of-life. Refurbishment of the four generating units is expected to extend the operating life of the station by approximately 30 years. The Darlington Refurbishment project is a multi-phase program comprising the following five major sub-projects:

- **Retube and Feeder Replacement (RFR)**, which includes the removal and replacement of fuel channel assemblies and feeder tubes in each reactor
- **Turbines and Generators**, which consists of inspections and repairs of turbine generator sets and the replacement of analog control systems with digital control systems
- **De-fuelling and Fuel Handling**, which involves the de-fuelling of the reactors and the refurbishment of the fuel handling equipment
- **Steam Generators**, which includes mechanical cleaning, water lancing, and inspection and maintenance work on the generators
- **Balance of Plant**, which consists of work on smaller projects to replace or repair certain other station components.

In January 2016, the Government of Ontario's support for the Darlington Refurbishment project was affirmed through the Ontario Minister of Energy's announcement endorsing OPG's plan to refurbish the four Darlington units at a total project budget of \$12.8 billion, including capitalized interest and escalation. The Province's announcement followed the approval of the project budget and schedule by OPG's Board of Directors in November 2015. The refurbishment of the last unit is scheduled to be completed by 2026. OPG's current operating licence for the Darlington GS spans most of the planned duration of the Darlington Refurbishment project, expiring in November 2025.

In 2016, the Darlington Refurbishment project transitioned from the planning phase to the execution phase, as OPG commenced the refurbishment of the first unit, Unit 2, in October 2016, as planned. The unit was taken offline on October 15, 2016. De-fuelling of the reactor, the first critical refurbishment activity undertaken once the unit is removed from service, was safely completed in January 2017, ahead of schedule, with a total of 480 fuel channels de-fuelled. Preparatory work in the reactor vault to support the removal of feeder tubes and fuel channel assemblies commenced immediately after de-fuelling was completed. The project is tracking on budget.

Once refurbished, Unit 2 is scheduled to be returned to service in the first quarter of 2020, at which time capital expenditures of approximately \$4.8 billion are planned to be placed in service. This includes expenditures incurred during the definition and planning phase of the project. *Ontario Regulation 53/05* requires the OEB to accept the need for the Darlington Refurbishment project in light of Ontario's 2013 Long-Term Energy Plan (LTEP) and the related policy of the Province endorsing the need for nuclear refurbishment. It also requires the OEB to ensure that OPG recovers capital and non-capital costs and firm financial commitments in respect of the Darlington Refurbishment project, if the OEB is satisfied that the costs were prudently incurred and the firm financial commitments were prudently made.

A number of pre-requisite projects in support of the execution phase of the project, including construction of facilities, infrastructure upgrades and installation of safety enhancements have been completed, with the remaining projects tracking for completion within the overall refurbishment execution schedule.

All major contracts for the Darlington Refurbishment project that OPG expected to award were in place prior to proceeding with the Unit 2 refurbishment. This included the RFR execution phase contract awarded in January 2016 and valued at approximately \$2.75 billion for work to be executed on all four units. All of the major contracts contain suspension and termination provisions.

Other key activities related to the project in 2016 included the following:

- Fabrication of the major reactor components including fuel channels and feeder tubes is in progress, with the first set of feeder tubes delivered in the fourth quarter of 2016. The remaining components have planned deliveries tracking in line with the project schedule.
- The specialized tooling for removal and replacement of feeder tubes and fuel channel assemblies in each reactor was delivered to OPG's reactor training and mock-up facility in the second quarter of 2016, as planned, and testing of the tooling has been completed.
- All 28 storage tanks have been installed in the Heavy Water Storage and Drum Handling Facility, which is intended to provide storage and processing capability for the removal of heavy water from the units during refurbishment, as well as for continued station operations.
- The RFR Island Support Annex was completed in February 2016. The facility houses RFR field preparatory, contractor management, and project oversight activities.

In addition to the de-fuelling of the Unit 2 reactor completed in January 2017, milestones for the Darlington Refurbishment project in 2017 include:

- Completion of reactor vault preparation activities to support RFR work.
- Continued refurbishment task rehearsals for the specialized tooling to be used for removal and replacement of feeder tubes and fuel channel assemblies at OPG's reactor training and mock-up facility.
- Removal of Unit 2 feeder tubes and commencement of the fuel channel removal series.
- Completion of the Third Emergency Power Generator and Containment Filtered Venting System safety enhancement projects, which were originally scheduled to be placed in-service in 2016. Remediation measures are in progress and OPG expects both projects to be placed in-service by the second quarter of 2017. These delays will not impact the overall Darlington Refurbishment project schedule, as neither of the two projects is on the critical path.
- Completion of the Re-tube Waste Processing Building and the Heavy Water Storage and Drum Handling Facility.
- Commencement of the major turbine generator overhaul and fuel handling power track replacement.
- Continued execution of work to support the requirements set out in the CNSC-approved IIP for the Darlington GS.

In addition to the execution of refurbishment activities for Unit 2, OPG has commenced planning for the refurbishment of the second unit, Unit 3, and is entering into associated commitments to procure major components that require long-lead times. As of December 31, 2016, \$31 million has been invested in planning activities related to the refurbishment of the second unit. These planning activities are being undertaken in accordance with the refurbishment project schedule.

Peter Sutherland Sr. Hydroelectric GS

The project to construct the 28 MW Peter Sutherland Sr. hydroelectric GS is in the process of testing and commissioning the turbine and generator units, as well as operator training and document turnover. Work also continues on demobilization efforts, as well as site reclamation. Commissioning of the generating station began in February 2017 and the station is expected to be in service in the spring of 2017, well ahead of the originally planned schedule of the first half of 2018. The project's schedule was accelerated to take advantage of favourable weather conditions. The project is tracking within the approved budget of \$300 million.

Sir Adam Beck Pump GS Reservoir Refurbishment

The Sir Adam Beck Pump GS refurbishment construction began in April 2016 and the 300-hectare reservoir was returned to service in February 2017 upon completion of the reservoir commissioning program. The Sir Adam Beck Pump GS facility allows OPG to pump and store water diverted from the Sir Adam Beck generating complex during

periods of low electricity demand to be used to generate up to 600 MW of electricity during subsequent periods of high electricity demand. The work on the project included installation of a partial new liner and construction of a grout curtain in the bedrock foundation of the reservoir dyke. The refurbishment is expected to add approximately 50 more years to the reservoir's life. The project was completed ahead of the originally planned in-service date of April 2017 and below the approved budget of \$58 million.

Ranney Falls Hydroelectric GS

During 2016, OPG completed project design work for the construction of an additional 10 MW single-unit powerhouse on the existing Ranney Falls GS site. The new unit will replace an existing unit that reached its end of life in 2014. Capital expenditures for project definition work completed as of December 31, 2016 were \$3 million. OPG plans to commence construction work in 2017, with an expected in-service date in the fourth quarter of 2019 and a budget of \$77 million.

Nanticoke Solar Facility

The project to construct a 44 MW solar facility at OPG's Nanticoke GS site and adjacent lands is planned to commence in the first half of 2018. It is expected to be completed in the first quarter of 2019. Capital expenditures for project definition work completed as of December 31, 2016 were \$1 million. For further details on the project, refer to the section, *Highlights* under the heading, *Recent Developments*.

Deep Geologic Repository for Low and Intermediate Level Waste

OPG has proposed a deep geologic repository as the preferred solution for the safe long-term management of the L&ILW produced from the continued operation of OPG-owned nuclear generating stations. Agreement has been reached with local municipalities for OPG to develop the L&ILW Deep Geologic Repository (DGR) on lands adjacent to the WWMF in Kincardine, Ontario.

In 2012, the CNSC and the CEAA appointed a three-member Joint Review Panel (JRP) for OPG's proposed L&ILW DGR. The JRP examined the environmental effects of the proposed L&ILW DGR to meet the requirements of the *Canadian Environmental Assessment Act*. In May 2015, the JRP submitted its report and recommendations on the EA to the federal Minister of Environment. The report concluded that, given mitigation, there is unlikely to be significant environmental impact from the project and recommended that the Minister approve the EA. The report suggested that the project should be implemented expeditiously.

In August 2015, OPG responded to the CEAA's list of potential environmental conditions relating to the JRP report. In February 2016, the federal Minister of Environment and Climate Change requested additional information on certain aspects of the EA, including information related to alternate locations for the project and the impact on environmental effects if Canada's planned used fuel deep geologic repository being developed by the Nuclear Waste Management Organization (NWMO) were to be located in close proximity to OPG's proposed L&ILW DGR. OPG has completed the requested studies and submitted the requested information in December 2016, as planned. Following a review by the CEAA and a period of public comment, an EA Decision Statement by the Minister is expected by the fourth quarter of 2017. Based on the information submitted to the Minister, the L&ILW DGR Project at the WWMF site remains OPG's preferred solution for the safe long-term management of the L&ILW, based on a relative consideration of environmental effects, transportation risks, transportation and other project-related costs and uncertainties, and the absence of certainty of improved safety or environmental quality at an alternate location.

In 2013, OPG suspended design activities on the project pending receipt of a site preparation and construction licence. If the decision on the EA is positive, the licensing process will resume. Upon receipt of the site preparation and construction licence, OPG will complete detailed design and development of a project schedule and a budget. In parallel, OPG will continue its engagement with the Saugeen Ojibway Nations toward securing community support for the L&ILW DGR. The approval of OPG's Board of Directors also must be obtained in order to proceed with

construction. The in-service date of the L&ILW DGR is expected to be approximately six to seven years from the start of construction.

New Nuclear Units

The 2013 LTEP indicated that the Ontario Ministry of Energy would work with OPG to maintain the site preparation licence granted by the CNSC in relation to the potential construction of two new nuclear reactors at the Darlington site. As such, OPG has been undertaking activities required to support the CNSC Power Reactor Site Preparation Licence and the Darlington New Nuclear Project EA. The JRP Report on the EA concluded that the project was not likely to cause significant adverse environmental effects, given mitigation. In April 2016, the Supreme Court of Canada dismissed the application for leave to appeal filed by the parties that had challenged the Darlington New Nuclear Project EA through a judicial review, concluding the litigation on the matter. The CNSC site preparation licence expires in 2022.

Financial Strength

As a commercial enterprise, OPG's financial priority is to achieve a consistent level of strong financial performance that delivers an appropriate level of return on the Shareholder's investment and positions the Company for future growth. Inherent in this priority are three objectives:

- Increase revenue, reduce costs and achieve appropriate return
- Ensure availability of cost effective funding for operational needs, generation development projects and long-term obligations
- Pursue opportunities to expand the existing core business and capitalize on new growth paths.

Increase Revenue, Reduce Costs and Achieve Appropriate Return

In line with its commercial mandate, OPG is focused on increasing revenue and achieving an appropriate rate of return on the Shareholder's investment, while taking into account the impact on Ontario electricity customers.

In order to achieve the above objectives with respect to the regulated operations, OPG is focused on clearly demonstrating in its rate applications to the OEB that the costs required to operate and invest in the assets are reasonable and being prudently incurred, and should be fully recovered, and that the Shareholder's investment in these assets should earn an appropriate rate of return. OPG's existing base regulated prices, which came into effect in November 2014, are lower than requested by OPG based on its forecast costs. This has negatively affected OPG's ability to earn the OEB-prescribed rate of return on the Shareholder's investment in the regulated assets.

To improve the financial strength of the regulated operations going forward, OPG has been focused on providing appropriate, transparent evidence in support of its OEB rate requests, aligning organizational resources to support an effective rate application process, and continuing to identify opportunities for further efficiencies in the Company's cost structure. To date, OPG's focus on cost reduction and efficiency improvement initiatives has resulted in significant changes across the Company. This includes over \$1 billion in cumulative savings realized since the beginning of 2011 from reductions in ongoing operations regular headcount. OPG's cost and productivity improvement efforts are discussed further in the section, *Improving Efficiency and Reducing Costs* under the heading, *Operational Excellence*.

In the second quarter of 2016, OPG filed a 5-year application with the OEB for new base regulated prices for production from its regulated hydroelectric and nuclear facilities, with a proposed effective date of January 1, 2017. The OEB's decision on the application, including the effective date of approved new regulated prices, is expected in the second half of 2017. Consistent with the requirements of *Ontario Regulation 53/05*, OPG's application incorporates a nuclear rate smoothing proposal. The application seeks to ensure that nuclear regulated prices under the rate smoothing approach allow for sufficient cash flow to meet the Company's liquidity needs, support cost effective funding for the Darlington Refurbishment project and other expenditures, and maintain the Company's

investment grade credit rating, while taking into account both near-term and future impacts on customers. In addition, the application will further challenge and incentivize OPG to find additional cost reductions and efficiencies within its operations, as a result of greater de-coupling of regulated prices from costs and a longer rate-setting period under the OEB's incentive ratemaking framework. The application also seeks an increase in the deemed capital structure applied to the regulated rate base to 49 percent equity and 51 percent debt from 45 percent equity and 55 percent debt reflected in the existing regulated prices. If approved, this would improve OPG's return on Shareholder's investment. Further details on OPG's rate application can be found in the section, *Highlights* under the heading, *Recent Developments*.

For generation development projects that do not form a part of the assets regulated by the OEB, OPG's strategy has been to secure appropriate long-term revenue arrangements prior to proceeding with the project. In line with this strategy, most of OPG's non-regulated operating facilities and assets under construction are subject to ESAs or other long-term contracts with the IESO. Based on these agreements, OPG expects its non-regulated generation operations, reported under the Contracted Generation Portfolio segment, to continue to provide a generally stable level of earnings and cash flow going forward.

OPG's capital structure currently reflects lower levels of debt than the deemed capital structure reflected in the Company's existing or proposed regulated prices. OPG is evaluating strategies to enhance Shareholder returns by optimizing the Company's capital structure through better alignment with the deemed capital structure, taking into account the overall financial strength of the Company and the potential impact on the Company's investment grade credit rating.

Ensure Availability of Cost Effective Funding

OPG actively monitors its funding requirements and forecasts availability of funds to ensure that it can meet the Company's operational needs, project commitments and long-term obligations. OPG utilizes multiple sources of funds, including funds from operations, commercial paper, securitization of assets, letters of credit, credit facilities, long-term corporate debt, and private placement project financing. The Company's financing strategy leverages the strength of its balance sheet to obtain cost effective long-term corporate debt. OPG also accesses the capital markets for private placement project financing, secured by the assets of the project, where the characteristics of the project support such financing. Maintaining an investment grade credit rating is critical to OPG's ability to access cost effective financing.

In April 2016, DBRS Limited (DBRS) re-affirmed the long-term credit rating on OPG's debt at 'A (low)' and OPG's commercial paper rating at 'R-1 (low)'. All ratings from DBRS have a stable outlook. In July 2016, S&P Global Ratings (S&P) re-affirmed OPG's long-term credit rating at 'BBB+' with a stable outlook. S&P's commercial paper rating for OPG is 'A-1 (low)'.

OPG intends to continue to access the capital markets, where appropriate, to obtain cost effective financing for future generation development projects. The Company continues to evaluate arrangements that would appropriately support its financing needs and capital expenditure programs. OPG's liquidity and capital resources are discussed under the section, *Liquidity and Capital Resources*.

Pursue Business Growth Opportunities

OPG pursues commercially-based business growth opportunities through investments in its core generation portfolio, as well as emerging renewable energy project opportunities. OPG's growth strategy considers the Company's financial position and anticipated future changes in the generating fleet, including the eventual end of Pickering commercial operations. The growth strategy is also informed by industry, technological, environmental, social, and economic external factors. Growth opportunities are evaluated using financial and risk-based analyses as well as strategic considerations.

OPG's core business growth strategy focuses on the renewal and expansion of the Company's generation portfolio of nuclear, hydroelectric and thermal generating assets in Ontario, including the redevelopment and expansion of existing sites and potential new developments. The strategy leverages OPG's operating and project development expertise as well as the Company's existing diverse physical asset base. Acquisition opportunities are considered as they arise, taking into account operating synergies, strategic benefits, financial returns and risk profile. OPG's current major generation development projects and asset life extension initiatives are discussed in the section, *Core Business, Strategy, and Outlook* under the headings, *Operational Excellence* and *Project Excellence*.

OPG seeks to continue to expand beyond its core generation business through investments in innovation and emergent low-carbon technologies, including selective solar generation, energy storage, micro-grid, electric vehicle infrastructure and other development. OPG is also considering longer-term growth paths that include broader electricity sector opportunities, within and outside Ontario. Growth opportunities may be pursued in partnership with other commercial entities where appropriate synergies exist and are aligned with OPG's business objectives.

In March 2016, Nanticoke Solar LP was selected, through the first phase of the IESO's LRP program, to develop a 44 MW solar facility at OPG's Nanticoke GS site and adjacent lands. The partnership and the IESO executed a 20-year LRP contract in March 2016, which formalized the terms and conditions for the development and operation of the new solar facility. In September 2016, the Government of Ontario suspended the second phase of the LRP program, which does not impact the project.

From October 2016 to December 2016, the Government of Ontario conducted a consultation process to update its LTEP. OPG made a formal submission as part of the consultation as it relates to OPG's core generation business and growth opportunities. The Ontario Ministry of Energy has indicated that the development of the updated LTEP, scheduled to be published in 2017, will balance the principles of affordability, reliability, clean energy, community and Indigenous engagement, as well as conservation and demand management. OPG's business growth opportunities may be affected by the results of the 2017 LTEP.

Social Licence

As the largest electricity generator in Ontario with diverse operations across the province, OPG holds itself accountable to the public and its employees, and continues to focus on maintaining public trust. OPG is committed to maintaining high standards of public safety and corporate citizenship, including environmental stewardship, transparency, community engagement, and Indigenous relations. OPG's commitment to safety is discussed in the section, *Core Business, Strategy, and Outlook* under the heading, *Workplace and Public Safety*.

OPG is focused on building long-term, mutually beneficial working relationships with Indigenous communities, businesses and organizations across Ontario, and continues to support procurement, employment and educational opportunities with its Indigenous community partners. The Company seeks to establish these relationships based on a foundation of respect for the languages, customs, and political, social and cultural organizations of the Indigenous communities. OPG's commitment in this area includes pursuing generation-related development partnerships on the basis of long-term commercial arrangements, and other joint projects. Recent examples of such partnerships include the construction of the Peter Sutherland Sr. GS in partnership with the Taykwa Tagamou Nation, the development of the Nanticoke solar facility in partnership with the Six Nations of the Grand River, and two shoreline remediation projects completed in 2016. The Whitesand First Nation, working closely with OPG, completed a project to remediate nearly two kilometers of shoreline in 2016, while the Long Lake #58 First Nation undertook the management of a five-year shoreline remediation project. OPG also has been engaging proactively with Indigenous communities regarding the Company's nuclear operations, including both regularly scheduled meetings and an outreach effort in connection with OPG's proposed L&ILW DGR and the re-licensing of the PWWF and the WWMF. In November 2016, OPG was recognized for its ongoing commitment to engaging local Indigenous communities with the CEA's 2016 Sustainable Electricity award for Leadership in External Collaboration and Partnerships.

OPG is committed to being an open, transparent, and accountable company. With operations across Ontario, OPG works to maintain public trust with stakeholders by engaging site communities, sharing information, and being transparent about performance. In addition, OPG's operations are subject to extensive regulatory oversight, with public participation, by the CNSC, the OEB, and other bodies.

As part of its commitment to environmental sustainability, OPG works with community partners to support regional ecosystems and biodiversity. In 2016, OPG continued efforts to protect and restore habitat, promote biodiversity education and awareness, and help the recovery of species at risk. In addition, OPG contributes to the well-being of its host communities through the Company's Corporate Citizenship Program (CCP), which supports charitable and non-profit grassroots initiatives in the areas of environment, education, and community involvement, including support for Indigenous initiatives. In 2016, OPG's CCP provided support to over 850 initiatives, of which 87 were Indigenous.

Further details regarding OPG's commitment to sustainable development, including information regarding the Company's environmental, social and economic performance and initiatives, are provided in OPG's 2015 Sustainability Report available on the Company's website at www.opg.com.

Outlook

The financial performance of OPG's regulated operations is driven, in large part, by the outcome of applications for regulated prices to the OEB. The existing base regulated prices were established by the OEB effective November 1, 2014 based on a forecast of costs and production for the regulated facilities for the 2014 to 2015 period. The future outcome of OPG's current application for new base regulated prices, submitted to the OEB in May 2016, is expected to provide substantial price certainty for the regulated business for the 2017 to 2021 period.

In its May 2016 application, OPG has requested January 1, 2017 as the effective date for the new regulated prices. In December 2016, the OEB issued an order declaring the existing base regulated prices interim, which preserves the OEB's ability to make the new regulated prices effective as early as January 1, 2017. The OEB's decision on the application, including the effective date of the new regulated prices, is expected in the second half of 2017. Considering the timing of OPG's application and OPG's procedural adherence to date, the Company believes that the OEB could make the new regulated prices effective January 1, 2017.

Until the OEB's decision on OPG's application is issued, the continuation of existing regulated prices is expected to contribute to lower income, particularly from the Regulated – Nuclear Generation segment, and lower ROE Excluding AOCI during 2017, compared to 2016. In large part, this is due to the expected year-over-year reduction in nuclear electricity generation resulting from the Unit 2 refurbishment outage at the Darlington GS, given that the existing nuclear regulated prices were determined based on a production forecast that reflected the operation of all four units at the station. As such, the OEB's decision on the effective date of the new regulated prices, as well as the timing of the decision issuance, could have a significant impact on OPG's financial results during 2017. The application for new regulated prices is further discussed in the section, *Highlights* under the heading, *Recent Developments*.

Nuclear base regulated prices resulting from OPG's current application will be subject to a rate smoothing mechanism that defers collection of a portion of OEB-approved revenues. As expected, combined with the expiry of rate riders in effect to the end of 2016 and a year-over-year reduction in nuclear generation due to the Darlington Unit 2 refurbishment, this will result in lower cash flow from operations and a lower FFO Adjusted Interest Coverage ratio in 2017, compared to 2016. OPG expects to continue to have the necessary financial capacity and sufficient access to cost effective financing sources to continue to fund its capital requirements and other disbursements. In addition, lower nuclear generation due to the Darlington refurbishment outages will negatively impact the Enterprise TGC metric for the duration of the refurbishment project. Variability in sustaining capital investment expenditures, including major sustaining projects for the hydroelectric operations, also will impact the Enterprise TGC.

Several OEB-authorized regulatory variance and deferral accounts currently in place contribute to reducing the relative variability of the Company's income and ROE Excluding AOCI. Among others, these variance accounts

include those related to the revenue impact of variability in water flows and forgone production due to SBG conditions at the regulated hydroelectric stations. There is no variance or deferral account in place related to the impact of generation performance of the nuclear stations on revenue from base regulated prices. Considering the impact of the variance and deferral accounts, the Regulated – Hydroelectric segment generally is expected to produce overall more predictable earnings compared to the Regulated – Nuclear Generation segment. OPG continues to operate and maintain its nuclear facilities with a view to optimize their performance and availability, while focusing on improving the overall reliability and predictability of the fleet.

Electricity generated from most of OPG's non-regulated assets is subject to ESAs with the IESO. Based on these agreements, OPG expects the Contracted Generation Portfolio segment to continue to contribute a generally stable level of earnings and cash flow from operations going forward.

OPG's forecast capital expenditures for 2017 are approximately \$1.8 billion. This includes amounts for the Darlington Refurbishment project, hydroelectric development projects including the completion of the Peter Sutherland Sr. GS and the expansion of the Ranney Falls GS, and sustaining capital investments across the generating fleet. OPG's major development projects are discussed in the *Project Excellence* section.

In addition to the operating and financial performance of the electricity generation business, OPG's results are affected by the earnings on the Nuclear Segregated Funds, which are reported in the Regulated – Nuclear Waste Management segment. While the Nuclear Segregated Funds are managed to achieve, in the long term, the target rate of return based on the discount rate specified in the ONFA, the rates of return earned in a given period can be subject to various external factors including financial market conditions and changes in the Ontario CPI. In the short term, these factors can be volatile and cause fluctuations in the Company's income. This volatility has been partially mitigated by the impact of the Bruce Lease Net Revenues Variance Account. OPG's income remains exposed to rate of return risk for the portion of the Nuclear Segregated Funds related to the Pickering and Darlington nuclear generating stations under the current OEB-approved cost recovery methodology for the Nuclear Liabilities.

As OPG limits the amount of Nuclear Segregated Funds assets reported on the balance sheet to the present value of the life cycle funding liabilities per the most recently approved ONFA reference plan, the volatility of earnings on the Nuclear Segregated Funds reflected in net income is reduced when the Nuclear Segregated Funds are in a fully funded or overfunded position. As at December 31, 2016, the Decommissioning Segregated Fund was overfunded by 21 percent, and the Used Fuel Segregated Fund was marginally overfunded, by less than one percent, based on the 2017 ONFA Reference Plan. Variability in asset performance due to volatility inherent in financial markets and changes in Ontario CPI may result in either or both funds becoming underfunded in the future. The 2017 ONFA Reference Plan is discussed in the section, *Highlights* under the heading, *Recent Developments*. The accounting for the Nuclear Segregated Funds is discussed in the section, *Critical Accounting Policies and Estimates* under the heading, *Nuclear Fixed Asset Removal and Nuclear Waste Management Funds*.

KEY OPERATING AND FINANCIAL PERFORMANCE INDICATORS

OPG evaluates the performance of its generating stations using a number of key indicators. Key operating performance indicators aligned with corporate strategic imperatives are measures of production reliability, cost effectiveness, environmental performance, and safety performance. Certain of the measures used vary depending on the generating technology. The key financial performance indicators evaluate the Company's financial performance at the enterprise level.

In 2016, OPG adopted Enterprise TGC per MWh as an enterprise-wide measure of operational cost effectiveness. Concurrently, OPG adopted Hydroelectric TGC per MWh as a measure of cost performance of OPG's hydroelectric generating assets and no longer reports Hydroelectric OM&A expense per MWh. The new performance measures,

together with Nuclear TGC per MWh, provide the Company with a single, consistent method of evaluating cost effectiveness across the organization.

Enterprise TGC, Nuclear TGC, Hydroelectric TGC, ROE Excluding AOCI, and FFO Adjusted Interest Coverage ratio discussed below are not measurements in accordance with US GAAP. They should not be considered as alternative measures to net income or any other measure of performance under US GAAP. However, OPG believes that these non-GAAP financial measures are effective indicators of its performance and are consistent with the Company's strategic imperatives and related objectives. The definition and calculation of Enterprise TGC per MWh, Nuclear TGC per MWh, Hydroelectric TGC per MWh, ROE Excluding AOCI, and FFO Adjusted Interest Coverage are found in the section, *Supplementary Non-GAAP Financial Measures*.

Enterprise Total Generating Cost per MWh

Enterprise TGC per MWh is used to measure OPG's overall organizational cost performance. Enterprise TGC per MWh is defined as OM&A expenses (excluding the Darlington Refurbishment project and other generation development project costs, the impact of regulatory variance and deferral accounts, and expenses ancillary to OPG's electricity generation business), fuel expense for OPG-operated stations including hydroelectric gross revenue charge and water rental payments (excluding the impact of regulatory variance and deferral accounts), and capital expenditures (excluding the Darlington Refurbishment project and other generation development projects) incurred during the period, divided by total electricity generation from OPG-operated generating stations plus electricity generation forgone due to SBG conditions during the period.

Nuclear Total Generating Cost per MWh

Nuclear TGC per MWh is used to measure the cost performance of OPG's nuclear generating assets. Nuclear TGC per MWh is defined as OM&A expenses of the Regulated – Nuclear Generation segment (excluding the Darlington Refurbishment project costs, the impact of regulatory variance and deferral accounts, and expenses ancillary to OPG's nuclear electricity generation business), nuclear fuel expense for OPG-operated stations (excluding the impact of regulatory variance and deferral accounts), and capital expenditures of the Regulated – Nuclear Generation segment (excluding the Darlington Refurbishment project costs) incurred during the period, divided by nuclear electricity generation for the period.

Hydroelectric Total Generating Cost per MWh

Hydroelectric TGC per MWh is used to measure the cost performance of OPG's hydroelectric generating assets. Hydroelectric TGC per MWh is defined as OM&A expenses of the Regulated – Hydroelectric segment and the hydroelectric facilities included in the Contracted Generation Portfolio segments (excluding generation development project costs, the impact of regulatory variance and deferral accounts, and expenses ancillary to the hydroelectric electricity generation business), hydroelectric gross revenue charge and water rental payments (excluding the impact of regulatory variance and deferral accounts), and capital expenditures of the Regulated – Hydroelectric segment and the hydroelectric facilities included in the Contracted Generation Portfolio segment (excluding expenditures related to the Peter Sutherland Sr. GS project and other hydroelectric generation development projects) incurred during the period, divided by total hydroelectric electricity generation plus hydroelectric electricity generation forgone due to SBG conditions during the period. OPG reports hydroelectric gross revenue charge and water rental payments as fuel expense.

Nuclear Unit Capability Factor

OPG's nuclear stations are baseload facilities that are not designed for fluctuating production levels to meet peaking demand. The nuclear Unit Capability Factor is a key measure of nuclear station performance. It measures the amount of energy that the unit(s) generated over a period of time, adjusted for externally imposed constraints such as transmission or demand limitations, as a percentage of the amount of energy that would have been produced over the same period had the unit(s) produced maximum generation. Capability factors are primarily affected by planned

and unplanned outages. By industry definition, capability factors exclude production losses beyond plant management's control, such as grid-related unavailability. The nuclear Unit Capability Factor also excludes unit(s) during the period in which they are undergoing refurbishment. Accordingly, Unit 2 of the Darlington GS is excluded from the measure effective October 15, 2016, when the unit was taken offline as part of the Darlington Refurbishment project.

Hydroelectric Availability

OPG's hydroelectric stations operate as baseload, intermediate, or peaking stations. Hydroelectric Availability is a measure of the reliability of a hydroelectric generating unit. It represents the percentage of time the generating unit is capable of providing service, whether or not it is actually generating electricity, compared to the total time for the respective period.

Thermal Equivalent Forced Outage Rate

Equivalent Forced Outage Rate (EFOR) is an index of the reliability of a generating unit at OPG's thermal stations. It is measured by the ratio of time a generating unit is forced out of service by unplanned events, including any forced deratings, compared to the amount of time the generating unit was available to operate.

Return on Common Equity Excluding Accumulated Other Comprehensive Income

ROE Excluding AOCI is an indicator of OPG's performance consistent with its objective to deliver value to the Shareholder. ROE Excluding AOCI is defined as net income attributable to the Shareholder for the period divided by average equity attributable to the Shareholder excluding AOCI for that period, and is measured over a period of 12 months.

Funds from Operations Adjusted Interest Coverage

The FFO Adjusted Interest Coverage ratio is an indicator of OPG's ability to meet interest obligations from operating cash flow and is consistent with the Company's objective of ensuring availability of cost effective funding. The FFO Adjusted Interest Coverage ratio is defined as FFO before interest divided by adjusted interest expense, and is measured over a period of 12 months.

Other Key Indicators

In addition to production reliability, cost effectiveness, and financial performance indicators, OPG has identified certain environmental and safety performance measures. These measures are discussed under the section, *Core Business, Strategy, and Outlook*.

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 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 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 the 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 L&ILW, 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 Power lease arrangement and related agreements. Since the incremental costs increase the Nuclear Liabilities reported 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, all of which 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 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. Brighton Beach operates under an energy conversion agreement between Brighton Beach and Shell Energy North America (Canada) Inc., and the PEC station is operated under the terms of an Accelerated Clean Energy Supply contract with the IESO. OPG's share of the in-service generating capacity and generation volume from its interests in the PEC and Brighton Beach stations are reported in this segment.

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 trading 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 United States (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 decisions to decommission the stations, preservation costs related to the Lambton GS and Nanticoke GS sites.

DISCUSSION OF OPERATING RESULTS BY BUSINESS SEGMENT

Regulated – Nuclear Generation Segment

<i>(millions of dollars)</i>	2016	2015
Revenue	3,481	3,245
Fuel expense	315	301
Gross margin	3,166	2,944
Operations, maintenance and administration	2,210	2,196
Depreciation and amortization	925	717
Property taxes	26	26
Income before other losses, interest, and income taxes	5	5
Other losses	1	3
Income before interest and income taxes	4	2

Income before interest and income taxes from the segment increased to \$4 million in 2016, compared to \$2 million in 2015. The improvement in earnings of \$2 million was primarily due to higher electricity generation in 2016, compared to 2015, which increased revenue from the nuclear base regulated price by approximately \$65 million. The increase in revenue was largely offset by higher OM&A expenses, higher fuel expense, and higher depreciation and amortization expenses, excluding amortization expense related to regulatory account balances, in 2016, compared to 2015.

Higher nuclear production of 1.1 TWh in 2016, compared to 2015, was primarily due to the planned four-unit VBO in 2015 and a decrease in the number of unplanned outages at the Darlington GS in 2016. This was partially offset by

the impact of the increased number of unplanned outage days at the Pickering GS in 2016, and the removal from service of Unit 2 of the Darlington GS in October 2016 as part of the Darlington Refurbishment project.

The increase in OM&A expenses of \$14 million in 2016 reflected higher expenses related to materials and supplies obsolescence recognized in 2016. The increase in fuel expense of \$14 million reflected higher uranium prices and higher generation in 2016. Depreciation and amortization expenses, excluding amortization expense related to regulatory account balances, increased by \$12 million primarily due to new assets in service in 2016.

A decrease in non-electricity generation revenue of \$21 million in 2016, compared to 2015, also partially offset the increase in segment earnings. The lower non-electricity generation revenue was mainly attributable to lower detritiation services revenue and lower isotope sales in 2016 and an insurance recovery recognized in 2015.

An OEB-authorized rate rider of \$10.84/MWh effective from July 1, 2015 to the end of 2016 contributed to the increase in segment revenue in 2016, compared to 2015. In the first half of 2015, OPG received a rate rider of \$1.33/MWh. As rate riders allow for recovery of approved balances in OEB-authorized regulatory variance and deferral accounts, this increase in revenue was largely offset by an increase in amortization expense related to regulatory account balances.

The Unit Capability Factors for the Darlington GS and Pickering GS for 2016 and 2015 were as follows:

	2016	2015
Unit Capability Factor (%) ¹		
Darlington GS	89.5	76.9
Pickering GS	75.2	79.4

¹ The nuclear Unit Capability Factor excludes unit(s) during the period in which they are undergoing refurbishment. Accordingly, Unit 2 of the Darlington GS was excluded from the measure effective October 15, 2016, when the unit was taken offline for refurbishment.

The Unit Capability Factor at the Darlington GS increased in 2016, compared to 2015, primarily due to the four-unit VBO completed during 2015. A lower number of unplanned outage days at the Darlington GS during 2016, compared to 2015, also contributed to the improvement in the Unit Capability Factor.

The decrease in the Unit Capability Factor at the Pickering GS in 2016, compared to 2015, was primarily due to a higher number of unplanned outage days at the station in 2016, as a result of emergent discovery work during planned outages.

The definition of the nuclear Unit Capability Factor is found in the section, *Key Operating and Financial Performance Indicators*.

Regulated – Nuclear Waste Management Segment

	2016	2015
Revenue	138	122
Operations, maintenance and administration	146	132
Accretion on nuclear fixed asset removal and nuclear waste management liabilities	912	880
Earnings on nuclear fixed asset removal and nuclear waste management funds	(746)	(704)
Loss before interest and income taxes	(174)	(186)

Earnings from the segment improved by \$12 million in 2016 compared to 2015. The improvement was primarily due to higher earnings from the Nuclear Segregated Funds, partially offset by an increase in accretion expense on the Nuclear Liabilities.

Pursuant to the ONFA, the guaranteed annual rate of return for the initial 2.23 million used fuel bundles of the Used Fuel Segregated Fund is set at 3.25 percent plus the change in the Ontario CPI, as defined by the ONFA. The increase in Ontario CPI was the primary reason for the increase in the Used Fuel Segregated Fund earnings. The increase in Nuclear Segregated Funds earnings was partially offset by an accounting adjustment recognized in the fourth quarter of 2016 to limit the fund asset values recorded in OPG's consolidated financial statements to the lower underlying funding obligations reflected in the 2017 ONFA Reference Plan. The 2017 ONFA Reference Plan was approved by the Province in December 2016, and is discussed in the section, *Highlights* under the heading, *Recent Developments*. The accounting for the Nuclear Segregated Funds is discussed in the *Critical Accounting Policies and Estimates* section under the heading, *Nuclear Fixed Asset Removal and Nuclear Waste Management Funds*. The Nuclear Segregated Funds earnings are reported net of the impact of the Bruce Lease Net Revenue Variance Account.

The higher accretion expense on the Nuclear Liabilities during 2016, compared to 2015, reflected an upward adjustment in the liabilities recognized in December 2015 related to the revised accounting assumptions for the estimated useful lives of OPG's nuclear generating stations. The increased accretion expense was partially offset by the impact of the Bruce Lease Net Revenues Variance Account. The changes in the estimated useful lives of the nuclear stations and the related adjustment to the Nuclear Liabilities are discussed further in the section, *Balance Sheet Highlights* under the heading, *Impact Resulting from Changes in Station End-of-Life Dates Deferral Account*.

Regulated – Hydroelectric Segment

<i>(millions of dollars)</i>	2016	2015
Revenue ¹	1,527	1,619
Fuel expense	353	345
Gross margin	1,174	1,274
Operations, maintenance and administration	325	340
Depreciation and amortization	225	282
Property tax	1	1
Income before other (gains) losses, interest and income taxes	623	651
Other (gains) losses	(19)	3
Income before interest and income taxes	642	648

¹ During 2016 and 2015, the Regulated – Hydroelectric segment revenue included incentive payments of \$14 million and \$26 million, respectively, related 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 decrease in income before interest and income taxes of \$6 million in 2016, compared to 2015, was primarily due to lower hydroelectric incentive mechanism payments and the income impact of OEB-approved variance accounts. The lower payments under the hydroelectric incentive mechanism were primarily due to the reservoir refurbishment outage at the Sir Adam Beck Pump GS during 2016. The decrease in segment income was partially offset by a gain of \$22 million recognized during the first quarter of 2016 to reflect the OEB's January 2016 decision to reverse a portion of an earlier capital cost disallowance related to the Niagara Tunnel project expenditures, in response to OPG's December 2014 motion. The decrease in segment income also was partially offset by a year-over-year decrease in OM&A expenses, primarily due to higher costs incurred in 2015 for shoreline remediation work.

The decrease in segment revenues due to the lower OEB-authorized rate rider in 2016, compared to 2015, was largely offset by a corresponding decrease in amortization expense related to regulatory account balances.

The Hydroelectric Availability for the stations included in the Regulated – Hydroelectric segment was as follows:

	2016	2015
Hydroelectric Availability (%)	89.0	91.2

The Hydroelectric Availability decreased during 2016, compared to 2015, primarily due to the planned reservoir refurbishment project at the Sir Adam Beck Pump GS. The project was completed in February 2017, as discussed in the section, *Highlights* under the heading, *Recent Developments*.

The definition of Hydroelectric Availability is found in the section, *Key Operating and Financial Performance Indicators*.

Contracted Generation Portfolio Segment

(millions of dollars)	2016	2015
Revenue	573	535
Fuel expense	58	39
Gross margin	515	496
Operations, maintenance and administration	178	185
Depreciation and amortization	75	72
Accretion on fixed asset removal liabilities	9	8
Property taxes	7	7
Income from investments subject to significant influence	(37)	(39)
Income before other losses, interest, and income taxes	283	263
Other losses	1	1
Income before interest and income taxes	282	262

Income before interest and income taxes increased by \$20 million during 2016, compared to 2015. The increase primarily resulted from the higher gross margin due to increased revenues from the Lower Mattagami River generating stations, the Lennox GS, and the Atikokan GS. Higher revenue from the Lennox GS was primarily due to increased market demand. The increase in revenue from the Atikokan GS reflected the support provided to the electricity system in northwestern Ontario as a result of maintenance outage at a local transformer station from late July 2016 to early September 2016. The year-over-year increase in segment revenue also was due to a provision made in 2015 related to an IESO audit.

The Hydroelectric Availability and the Thermal EFOR for the Contracted Generation Portfolio segment were as follows:

	2016	2015
Hydroelectric Availability (%)	77.3	88.6
Thermal EFOR (%)	1.6	11.2

Lower Hydroelectric Availability during 2016, compared to 2015, was primarily due to a higher number of planned outage days at the Kipling and Harmon generating stations on the Lower Mattagami River. During 2016, headgate replacements were made at certain units of the Kipling GS and Harmon GS. In addition, a runner upgrade and rehabilitation work was completed at Unit 2 of the Harmon GS. The lower thermal EFOR in 2016, compared to 2015, was primarily due to an outage in 2015 to perform repair work at the Lennox GS.

The definitions of Hydroelectric Availability and Thermal EFOR are found in the section, *Key Operating and Financial Performance Indicators*.

Services, Trading, and Other Non-Generation Segment

<i>(millions of dollars)</i>	2016	2015
Revenue	68	73
Fuel expense	1	2
Gross margin	67	71
Operations, maintenance and administration	22	48
Depreciation and amortization	32	29
Accretion on fixed asset removal liabilities	8	7
Property taxes	12	11
Restructuring	6	6
Loss before other losses, interest, and income taxes	(13)	(30)
Other losses	-	7
Loss before interest and income taxes	(13)	(37)

Segment earnings improved by \$24 million in 2016 compared to 2015. The losses incurred by the segment in 2015 and 2016 largely reflected the costs associated with the Nanticoke and Lambton generating stations prior to OPG's decisions in 2015 and November 2016, respectively, to proceed with the stations' decommissioning. These losses were partially offset by revenues from OPG's electricity trading activities.

The improvement in earnings in 2016 primarily reflected higher OM&A expenses in 2015, including those incurred related to the Nanticoke GS prior to OPG's decision to proceed with the station's decommissioning, and a provision made in 2015 related to an IESO audit. The year-over-year decrease in OM&A expenses also reflected reduced work programs at the Lambton GS during 2016 due to lower staffing levels used to preserve the station. The preservation activities were discontinued after the announcement that the station will be decommissioned. Expenditures incurred in connection with decommissioning activities for the Nanticoke and Lambton generating stations are charged against a previously established decommissioning provision.

During each of 2016 and 2015, OPG recorded a charge against earnings to adjust the scrap value estimates for the Lambton GS. In 2016, this adjustment to other losses was offset by dividend income earned from OPG's investment in Hydro One shares, which contributed to the year-over-year improvement in earnings.

LIQUIDITY AND CAPITAL RESOURCES

OPG's primary sources of liquidity and capital are funds generated from operations, bank financing, credit facilities provided by the Ontario Electricity Financial Corporation (OEFC), long-term corporate debt, and capital market financing. These sources are used for multiple purposes including: to invest in plants and technologies; to undertake major projects; to fund long-term obligations such as contributions to the pension fund and the Nuclear Segregated Funds; to make payments under the OPEB plans; to fund expenditures on Nuclear Liabilities not eligible for reimbursement from the Nuclear Segregated Funds; and to service and repay long-term debt.

Changes in cash and cash equivalents for 2016 and 2015 were as follows:

<i>(millions of dollars)</i>	2016	2015
Cash and cash equivalents, beginning of period	464	610
Cash flow provided by operating activities	1,705	1,465
Cash flow used in investing activities	(1,807)	(1,553)
Cash flow used in financing activities	(176)	(58)
Net decrease	(278)	(146)
Cash and cash equivalents, end of period	186	464

For a discussion regarding cash flow provided by operating activities and the FFO Adjusted Interest Coverage ratio, refer to the details in the section, *Highlights* under the heading, *Overview of Results*.

Investing Activities

Electricity generation is a capital-intensive business. It requires continued investment in plants and technologies to maintain and improve operating performance including asset reliability, safety and environmental performance, to increase generating capacity of existing stations, and to invest in the development of new generating stations, emerging technologies and other business growth opportunities.

Cash flow used in investing activities in 2016 was \$1,807 million, compared to \$1,553 million in 2015. The increase was primarily due to higher expenditures on the Darlington Refurbishment project as it transitioned to execution phase, and the acquisition of nine million common shares of Hydro One in April 2016. The higher cash flow used in investing activities in 2016, compared to 2015, was partially offset by the investment of proceeds from a long-term debt issuance in support of the Peter Sutherland Sr. GS project into a structured deposit note in 2015 and the subsequent maturity of this investment on staggered dates throughout 2016. The final maturity date of the deposit note is in April 2017. The acquisition of the Hydro One shares is discussed in the section, *Highlights* under the heading, *Recent Developments*, as well as in Note 3 of the Company's 2016 audited consolidated financial statements.

Financing Activities

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 the expiry date of both tranches from May 2020 to May 2021. As at December 31, 2016, there were no outstanding borrowings under the bank credit facility.

As at December 31, 2016, OPG also maintained \$25 million of short-term, uncommitted overdraft facilities, and a further \$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, no borrowings were issued under this agreement and there were Letters of Credit outstanding under this agreement of \$150 million, which were issued in support of OPG's supplementary pension plans.

As at December 31, 2016, the Lower Mattagami Energy Limited Partnership (LME) maintained a \$500 million bank credit facility to support the funding requirements for the Lower Mattagami River project including support for 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. There were also no amounts outstanding under LME's bank credit facility as at December 31, 2016. In October 2016, 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 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 of December 31, 2016, there were outstanding long-term borrowings of \$100 million under this credit facility. 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.

As at December 31, 2016, OPG's long-term debt outstanding was \$5,534 million, including \$1,103 million due within one year.

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.

OPG continues to evaluate arrangements that would appropriately support the Company's financing needs and capital expenditure programs.

Contractual and Commercial Commitments

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

<i>(millions of dollars)</i>	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 Financial Services Commission of Ontario 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.

Other Commitments

Collective Agreements

As of December 31, 2016, OPG had approximately 9,270 regular employees. Most of OPG's regular employees are represented by two unions:

- **The PWU** – This union represents approximately 5,070 OPG employees or approximately 55 percent of OPG's regular workforce as at December 31, 2016. Union membership includes operators, technicians, skilled trades, clerical, and security personnel. The current collective agreement between OPG and the PWU has a three-year term, expiring on March 31, 2018.
- **The Society** – This union represents approximately 3,140 OPG employees or approximately 34 percent of OPG's regular workforce as at December 31, 2016. Union membership includes supervisors, professional engineers, scientists, and other professionals. The current collective agreement between OPG and The Society has a three-year term, expiring on December 31, 2018.

In addition to the regular workforce, construction work is performed through 19 craft unions with established bargaining rights at OPG facilities. These bargaining rights are established either through the Electrical Power Systems Construction Association (EPSCA) or directly with OPG. Collective agreements between the Company and its construction unions are negotiated either directly or through EPSCA. All of these collective agreements currently have multi-year terms, expiring on April 30, 2020.

BALANCE SHEET HIGHLIGHTS

The following section provides highlights of OPG's audited consolidated financial position using selected balance sheet data as at December 31:

<i>(millions of dollars)</i>	2016	2015
Property, plant and equipment – net	19,998	20,595
The decrease was primarily due to a reduction in asset retirement costs of approximately \$1,570 million in 2016 as a result of a reduction in the estimates for the Nuclear Liabilities to reflect the 2017 ONFA Reference Plan cost estimates. The decrease was partially offset by capital expenditures on the Darlington Refurbishment and other projects, net of depreciation expense.		
Nuclear fixed asset removal and nuclear waste management funds <i>(current and non-current portions)</i>	15,984	15,136
The increase was primarily due to earnings on the Nuclear Segregated Funds and contributions to the Used Fuel Segregated Fund, partially offset by an accounting adjustment recognized in the fourth quarter of 2016 to limit the fund asset values recorded to the lower funding obligations reflected in the 2017 ONFA Reference Plan, and reimbursements of eligible expenditures on nuclear fixed asset removal and nuclear waste management activities.		
Available-for-sale securities	212	-
The balance as at December 31, 2016 represents the fair value of the nine million Hydro One shares acquired in April 2016, as discussed in the section, <i>Highlights</i> under the heading, <i>Recent Developments</i> .		
Regulatory assets and liabilities – net <i>(current and non-current portions)</i>	5,545	5,808
The decrease was primarily due to the amortization of regulatory account balances recovered through rate riders in effect during 2016 and an increase in regulatory liabilities resulting from a change in the estimated useful lives of OPG's nuclear stations at the end of 2015, as discussed under the heading, <i>Impact Resulting from Changes in Station End-of-Life Dates Deferral Account</i> below. This was partially offset by amounts deferred in the regulatory assets for the Pension & OPEB Cash Versus Accrual Differential Deferral Account and other variance and deferral accounts during the year.		
Short-term debt	2	225
The decrease was due to the maturity of external commercial paper outstanding under LME's commercial paper program.		
Fixed asset removal and nuclear waste management liabilities	19,484	20,169
The decrease was primarily due to a reduction of approximately \$1,570 million in the estimates for the Nuclear Liabilities at the end of 2016 to reflect the 2017 ONFA Reference Plan cost estimates, partially offset by accretion expense during the year.		
Pension liabilities	3,012	2,597
The increase was primarily due to the re-measurement of the liabilities at the end of 2016 reflecting lower discount rates, as discussed in the section, <i>Critical Accounting Policies and Estimates</i> under the heading, <i>Pension and Other Post-Employment Benefits</i> .		

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 prescribed nuclear facilities of changes to the Nuclear Liabilities and depreciation expense arising from the changes 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.

Together with the Bruce Lease Net Revenues Variance Account, the Impact Resulting from Changes in Station End-of-Life Dates Deferral Account offset the decrease in depreciation expense in 2016, compared to 2015, as a result of the changes in the estimated useful lives of OPG's nuclear stations effective December 31, 2015.

The changes in the estimated useful lives were as follows:

- the average service lives of the Bruce A GS and Bruce B GS were extended from 2048 to 2052 and from 2019 to 2061, respectively, to reflect the estimated end-of-life dates reflected in the updated refurbishment agreement between the IESO and Bruce Power, which was announced in December 2015
- the average service life of the Darlington GS was extended by one year to 2052 to reflect the approval of the refurbishment schedule in 2015
- the average service life of the Pickering GS was extended by less than one year.

To reflect these changes in the useful lives, OPG recognized a total increase of \$2,330 million in the Nuclear Liabilities and a corresponding increase in the related asset retirement costs, effective December 31, 2015. These increases were primarily due to the changes in the estimated useful life of the Bruce B GS. The nuclear asset retirement obligation (ARO) associated with the Pickering GS and Darlington GS was impacted by the changes to the Bruce nuclear generating stations' useful lives because the costs of the fleet-wide waste management programs are shared by all of OPG's nuclear stations based on the relative used nuclear fuel and waste volumes.

Off-Balance Sheet Arrangements

In the normal course of operations, OPG engages in a variety of transactions that, under US GAAP, are either not recorded in the Company's consolidated financial statements or are recorded in the Company's consolidated financial statements using amounts that differ from the full contract amounts. Principal off-balance sheet activities for OPG include guarantees and long-term contracts.

Guarantees

As part of normal business, OPG and certain of its subsidiaries and joint ventures enter into various agreements to provide financial or performance assurance to third parties. Such agreements include guarantees, standby Letters of Credit and surety bonds. For more details on OPG's guarantees, refer to Note 15 of OPG's audited consolidated financial statements.

CRITICAL ACCOUNTING POLICIES AND ESTIMATES

OPG's significant accounting policies, including the impact of major recent accounting pronouncements, are outlined in Note 3 of the audited consolidated financial statements. Certain of these policies are recognized as critical accounting policies by virtue of the subjective and complex judgments and estimates required around matters that are inherently uncertain and could result in materially different amounts being reported under different conditions or assumptions. The critical accounting policies and estimates that affect OPG's US GAAP consolidated financial statements are highlighted below.

Exemptive Relief for Reporting under US GAAP

As required by *Ontario Regulation 395/11*, as amended, under the FAA, 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 OSC from the requirements of section 3.2 of National Instrument 52-107 *Acceptable Accounting Policies and Auditing Standards* (NI 52-107). The exemption allows OPG to file consolidated financial statements based on US GAAP, rather than International Financial Reporting Standards (IFRS), without becoming a U.S. 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 (IASB) for the mandatory application of a standard within IFRS specific to entities with rate-regulated activities.

As a result of OPG's 2011 decision to adopt US GAAP, as required by the FAA regulation, OPG's earlier plan to convert to IFRS, effective January 1, 2012, was discontinued. OPG had substantively completed its IFRS conversion project, which included separate diagnostic, development, and implementation phases, when it suspended the project. If a future transition to IFRS for the purposes of OPG's consolidated financial statements is required, conversion work can be effectively restarted with sufficient lead time to evaluate and conclude on changes that occurred subsequent to the decision to suspend the project. OPG continues to monitor the IASB's current standard-setting project related to entities with rate-regulated activities and is evaluating alternatives with respect to the Company's future financial reporting.

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. OPG's regulated prices for these facilities are determined by the 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 and 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*. 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 OEB's decision is issued.

In addition to regulatory assets and liabilities for variance and deferral accounts, OPG recognizes regulatory assets and liabilities for unamortized amounts recorded in 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.

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 for its pension and OPEB plans. It is the Company's position that this decision by the OEB did not constitute a change in the basis of OPG's rate recovery 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, as discussed below, 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. As discussed below, the generic proceeding is currently in progress. 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 variance or deferral account for future recovery, as they are recognized in benefit costs. Therefore, the Company continues to recognize a regulatory asset for these unamortized amounts.

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 Company has recognized the amount set aside in the deferral account as a regulatory asset. As at December 31, 2016, the regulatory asset balance was \$497 million, which represents the excess of pension and OPEB costs calculated using the accrual basis under US GAAP over the cash basis for the period from November 1, 2014 to December 31, 2016. 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 related to 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. OPG is participating in the consultation. In July 2016, OPG participated in a public stakeholder forum held by the OEB as part of the consultation. In September 2016, OPG made a written submission of its position on the cost recovery mechanisms to the OEB. If, as part of this consultation 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 AOCl and for the Pension & OPEB Cash Versus Accrual Differential Deferral Account. 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.

See Notes 3, 5, 8, 9, and 11 of OPG's 2016 audited consolidated financial statements for additional disclosures related to the OEB's decisions, regulatory assets and liabilities, and rate regulated accounting.

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 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 effectively 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 rate 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 in respect of 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 tax benefits as income tax expense.

The Company has recognized net deferred income tax liabilities of \$829 million as at December 31, 2016 (2015 – \$880 million).

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

Property, plant and equipment (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 OM&A expenses. Repairs and maintenance costs are also 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.

The accounting estimates related to end-of-life assumptions for PP&E and intangible assets require significant management judgment, including consideration of various operating, technological, and other factors. OPG reviews the estimated useful lives for its PP&E and intangible assets on a regular basis.

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.

Various assumptions and accounting estimates are required to determine whether an impairment loss should be recognized and, if so, the value of such loss. This includes factors such as short-term and long-term forecasts of prices for electricity generation under applicable revenue mechanisms, the demand for and supply of electricity, inflation, fuel prices, capital and operating expenditures, and estimated useful service lives of the assets.

The carrying value of investments accounted for under the equity method are reviewed 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.

Nuclear Fixed Asset Removal and Nuclear Waste Management Funds

In accordance with the ONFA, OPG sets aside and invests funds that are held in segregated custodian and trustee accounts specifically for discharging its obligation for nuclear facilities decommissioning and long-term nuclear waste management. The Decommissioning Segregated Fund was established to fund the future costs of nuclear fixed asset removal and long-term L&ILW management, and certain costs of used fuel storage incurred after the stations are shut down. The Used Fuel Segregated Fund was established to fund the future costs of long-term nuclear used fuel management and certain costs of used fuel storage incurred after the stations are shut down. OPG makes contributions to the Nuclear Segregated Funds based on approved ONFA reference plans. Costs for L&ILW management and used fuel storage incurred during station operation are not funded by the Nuclear Segregated Funds. They are funded through the Company's operating cash flow or other sources of liquidity.

Decommissioning Segregated Fund

Upon termination of the ONFA, the Province has the sole right to any excess funds in the Decommissioning Segregated Fund. Accordingly, when the Decommissioning Segregated Fund is overfunded, OPG limits the fund earnings it recognizes in the consolidated financial statements by recording an amount due to the Province, such that the fund asset recognized 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 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 or amended 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.

The amount due to the Province in respect of the Decommissioning Segregated Fund could be reduced in subsequent periods in the event that the fund earns less than its target rate of return, a new ONFA reference plan is approved with a higher underlying liability, or the amount of the underfunding in the Used Fuel Segregated Fund increases.

When the Decommissioning Segregated Fund is underfunded, the earnings on the fund reflect actual fund returns based on the market value of the assets.

Used Fuel Segregated Fund

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 in the 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's assets related to the first 2.23 million used fuel bundles is recorded as due to or due from the Province. This amount represents the amount OPG would pay to, or receive from, the Province if the committed return were to be settled as of the consolidated balance sheet date. Upon approval of a new or amended ONFA reference plan, the Province is obligated to make an additional contribution to the Used Fuel Segregated Fund in relation to the first 2.23 million used fuel bundles if the fund's assets earned a rate of return that is less than the guaranteed rate of return. If the return on the fund's assets exceeds the Province's guaranteed rate of return, the Province is entitled to withdraw any portion of the excess related to the 2.23 million used fuel bundles, upon approval of a new or amended ONFA reference plan. 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 attributed to the used 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 funding 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. Accordingly, when the Used Fuel Segregated Fund is overfunded, OPG limits the fund earnings it recognizes in the consolidated financial statements by recording an amount due to the Province, such that the balance of the fund is equal to the cost estimate of the liability based on the most recently approved ONFA reference plan. In accordance with the ONFA, neither OPG nor the Province has a right to direct any amounts from the Used Fuel Segregated Fund to the Decommissioning Segregated Fund.

Provincial Guarantee

In accordance with the *Nuclear Safety and Control Act* (Canada), the CNSC requires OPG to have sufficient funds available to discharge its existing nuclear waste management and nuclear decommissioning obligations. As required by the terms of the ONFA, the Province has provided a Provincial Guarantee to the CNSC, on behalf of OPG, for any shortfall between the CNSC financial guarantee requirement and the value of the Nuclear Segregated Funds. OPG pays the Province an annual guarantee fee equal to 0.5 percent of the amount of the Provincial Guarantee. The current value of the Provincial Guarantee 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 CNSC financial guarantee requirement is required to be updated every five years. OPG is currently updating the CNSC financial guarantee requirement for the 2018-2022 period and expects to file it with the CNSC in the first half of 2017.

Pension and Other Post-Employment Benefits

The determination of OPG's pension and OPEB costs and obligations is based on accounting policies and assumptions, as discussed below.

Accounting Policy

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 also are 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.

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) for each plan is amortized over the expected average remaining service life of the employees covered by the plan, 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 other comprehensive income (OCI), net of income taxes. These unamortized amounts in AOCI are subsequently reclassified and recognized as amortization components of pension and OPRB costs as described above.

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:

<i>(millions of dollars)</i>	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

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 reclassification of AOCI amounts 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.

Accounting 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.

The discount rates, which are representative of the 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. In 2016 and prior years, benefit costs were calculated using the same single weighted-average discount rates as reflected in the calculation of the benefit obligations. A lower discount rate

increases the benefit obligations and increases benefit costs. The weighted-average discount rate used to determine the projected pension and OPEB benefit obligations 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.

Starting in 2017, OPG expects to change the method used to estimate the current service and interest cost components of pension and OPEB costs. OPG expects to adopt a full yield curve approach in the estimation of these cost components, by applying the specific spot rates along the yield curve used in the determination of the projected benefit obligations to the relevant projected cash flows. This change will improve the correlation between projected benefit cash flows and the corresponding yield curve spot rates, and provide a more precise measurement of service and interest costs. This change does not affect the measurement of the total benefit obligations, as the change in the current service and interest cost components from the previous method will be offset by a corresponding change in the actuarial gain or loss recorded in AOCI. OPG will account for this change as a change in estimate, prospectively starting in 2017. With an upward sloping yield curve and the pattern of OPG's estimated future benefit cash flows, the adoption of the full yield curve approach is expected to materially lower OPG's current service and interest cost components, reducing the overall pension and OPEB costs in the initial years following adoption. The reduction in pension and OPEB cost is expected to be largely offset by the impact of OEB-authorized variance and deferral accounts or changes in regulated prices.

The expected rate of return on plan assets is determined 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.

A new actuarial valuation of the OPG registered pension plan was filed with the Financial Services Commission of Ontario 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 the section, *Liquidity and Capital Resources* under the heading, *Contractual and Commercial Commitments*. OPG 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 plans' demographic and other assumptions were reviewed and revised, as necessary, by independent actuaries.

The deficit for the registered pension plan, for accounting purposes, increased 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 reflected 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.

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:

<i>(millions of dollars)</i>	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.

Asset Retirement Obligation

OPG recognizes ARO for fixed asset removal and nuclear waste management liabilities, 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 ARO is comprised of expected costs to be incurred up to and beyond termination of operations and the closure of nuclear and thermal generating plant facilities and other facilities. Costs are expected to be incurred for activities such as preparation for safe storage and safe storage of 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 bundles and L&ILW material. The liabilities associated with the decommissioning of the nuclear generating stations and the long-term management of used nuclear fuel comprise the most significant amounts of the total obligation.

The nuclear decommissioning liability includes the estimated costs of closing the nuclear stations after the end of their service lives, which includes preparation and placement of the stations into a safe state condition followed by an assumed 30-year safe store period prior to station dismantlement and site restoration. Activities associated with the placement of stations into a safe state condition include de-fuelling and de-watering of the nuclear reactors. OPG is responsible for the nuclear waste management and nuclear decommissioning obligations associated with the Bruce nuclear generating stations and includes the associated costs in its ARO. Pursuant to the lease agreement, Bruce Power must return the two Bruce stations to OPG together, in a de-fuelled and de-watered state. As such, these de-watering and de-fuelling costs are not part of OPG's ARO.

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 obligation for these costs include an L&ILW DGR facility to be constructed and operated by OPG, as discussed in the section, *Core Business, Strategy, and Outlook* under the heading, *Project Excellence*. To estimate the liability for nuclear used fuel management, OPG has adopted an approach consistent with the Adaptive Phased Management concept approved by the Government of Canada,

which assumes a deep geologic repository for the long-term management of Canada's nuclear used fuel waste. The NWMO is responsible for the design and implementation of Canada's plan for the long-term management of used nuclear fuel.

The following costs are recognized as a liability on OPG's consolidated balance sheets:

- the present value of the costs of decommissioning the nuclear and thermal production facilities and other facilities after the end of their useful lives
- the present value of the fixed cost portion of nuclear waste management programs that are required based on the total volume of waste expected to be generated over the assumed lives of the stations
- the present value of the variable cost portion of nuclear waste management programs taking into account waste volumes generated to date.

The significant assumptions underlying operational and technical factors used in the calculation of the accrued liabilities are subject to periodic review. Changes to these assumptions, including changes to assumptions on the timing of the programs including construction of assumed waste disposal facilities, station end-of-life dates, waste disposal methods, financial indicators, decommissioning strategy, and the technology employed may result in significant changes to the value of the accrued liabilities. With programs of such long-term duration and the evolving technology to handle 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.

The estimates for the Nuclear Liabilities are reviewed on an ongoing basis as part of the overall nuclear waste management program. A comprehensive reassessment of all underlying assumptions and baseline cost estimates is performed periodically, at least once every five years, in line with the required ONFA reference plan update process. Changes in the Nuclear Liabilities resulting from changes in assumptions or estimates that impact the amount or timing of the estimated undiscounted future cash flows are recorded as an adjustment to the liabilities. Upward revisions in the Nuclear Liabilities represent the present value of a net increase 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 a net decrease in future undiscounted cash flows determined using the weighted average discount rate reflected in the existing liability. Resulting changes in the related asset retirement costs are capitalized as part of the carrying amount of nuclear fixed assets in service.

The most recent comprehensive update of the baseline cost estimates for the Nuclear Liabilities was completed in the fourth quarter of 2016 and is contained in the approved 2017 ONFA Reference Plan. The update resulted in a decrease of approximately \$1,570 million in the Nuclear Liabilities as at December 31, 2016, which was determined using a weighted average discount rate of 4.95 percent reflected in the existing liability. The overall reduction in OPG's nuclear waste management and nuclear decommissioning obligations was due mainly to a decrease in cost estimates to reflect a proposed new, more cost effective container design and engineered barrier concept to house used nuclear fuel for disposal, updated cost escalation rates, and a later expected in-service date for the NWMO's planned deep geologic repository for the long-term permanent disposal of used nuclear fuel. These decreases were partly offset by higher cost estimates related to decommissioning activities, primarily due to an improved definition of work required during the preparation for safe storage after station shutdown and a higher volume of waste expected to be generated during decommissioning. Cost escalation rates used to estimate future undiscounted cash flows reflected in the December 31, 2016 adjustment to the Nuclear Liabilities ranged from 2.0 percent to 3.4 percent.

The December 31, 2016 adjustment to the Nuclear Liabilities and associated asset retirement costs did not impact OPG's income for 2016. The estimated impact of this adjustment on 2017 expenses, before the impact of the Bruce Lease Net Revenues Variance Account and the Nuclear Liability Deferral Account, includes a decrease to depreciation expense of approximately \$8 million, a decrease to accretion expense of approximately \$78 million, and a decrease to used fuel and L&ILW variable expenses, charged to fuel expense and OM&A expenses, respectively, of approximately \$20 million. Under the current OEB-approved cost recovery methodology, these 2017 impacts are expected to be largely offset by the impact of the Nuclear Liability Deferral Account and the Bruce Lease Net

Revenues Variance Account or corresponding changes to OPG's nuclear regulated prices. Like the Bruce Lease Net Revenues Variance Account, the Nuclear Liability Deferral Account has been established by the OEB pursuant to *Ontario Regulation 53/05*. It records the revenue requirement impact associated with the changes in OPG's nuclear waste management and nuclear decommissioning liabilities arising from an approved ONFA reference plan, for the Pickering and Darlington nuclear generating stations.

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 liability for nuclear fixed asset removal and nuclear waste management on a present value basis as at December 31, 2016 was \$19,103 million (2015 – \$19,792 million). As at December 31, 2016, the undiscounted cash flows of expenditures for OPG's Nuclear Liabilities in 2016 dollars are as follows:

<i>(millions of dollars)</i>	2017	2018	2019	2020	2021	Thereafter	Total
Expenditures for nuclear fixed asset removal and nuclear waste management ¹	354	360	386	429	465	39,296	41,290

¹ The majority of the expenditures are expected to be reimbursed by the Nuclear Segregated Funds established by the ONFA. Any contributions required under the ONFA are not included in these undiscounted cash flows. Accounting for the Nuclear Segregated Funds is discussed in the section, *Critical Accounting Policies and Estimates* under the heading, *Nuclear Fixed Asset Removal and Nuclear Waste Management Funds*.

The liability for non-nuclear fixed asset removal was \$381 million as at December 31, 2016 (2015 – \$377 million). This liability primarily represents the present value of estimated costs of decommissioning OPG's thermal generating stations at the end of their service lives. The liability reflects 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 assumed to take place approximately over the next one to 15 years. The amount of undiscounted estimated future cash flows associated with the thermal liabilities is approximately \$500 million. With the decisions taken in 2015 and 2016 to decommission the Nanticoke and Lambton generating stations, respectively, OPG expects to review the decommissioning liability estimates for these sites in 2017. Any adjustments as a result of a change in the liability estimates for these shut down stations will be recorded in net income in the period of change.

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.

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.

The fair value of financial assets and liabilities for which quoted prices in an active market are available, including exchange traded derivatives and other financial instruments, are determined directly from those quoted market prices.

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 may 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 the valuation technique or model is not based on observable market data, specific valuation techniques are used, primarily based on recent comparable transactions, comparable benchmark information, bid/ask spread of similar transactions, and other relevant factors.

OPG's use of financial instruments exposes the Company to certain risks, including credit risk, foreign currency risk and interest rate risk. A discussion of how OPG manages these and other risks is found under the section, *Risk Management*.

Variable Interest Entities

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 Partnership) also was classified as a variable interest entity, 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. Refer to Note 3 of OPG's 2016 audited consolidated financial statements for further details.

Recent Accounting Pronouncements

The recent US GAAP accounting pronouncements related to revenue recognition, leases, and financial instruments are described below. Other recent accounting pronouncements applicable to OPG are outlined in Note 3 of the audited consolidated financial statements.

Revenue from Contracts with Customers

In May 2014, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update No. 2014-09, *Revenue from Contracts with Customers* (Topic 606) (ASU 2014-09), 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 available-for-sale (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 OCI. 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 share holdings are currently the Company's only AFS securities. As at December 31, 2016, these shares are valued on the consolidated balance sheet at \$212 million, of which a loss of \$1 million has been recorded in AOCI. OPG continues to evaluate whether the new standard will have any further impact on its consolidated financial statements.

RISK MANAGEMENT

Overview

OPG faces various risks that could significantly impact the achievement of its strategic imperatives. The objective of risk management is to identify and mitigate these risks, and to preserve and increase the value of the Shareholder's investment in the Company.

Risk Governance Structure

The Audit and Risk Committee of OPG's Board of Directors assists the Board of Directors in fulfilling its oversight responsibilities for matters relating to the identification and management of the Company's key business risks. An Executive Risk Committee (ERC), which is comprised of business unit leaders and the Chief Risk & Audit Executive (CRAE), assists the Audit and Risk Committee in fulfilling its governance and oversight responsibilities related to OPG's risk management activities.

Risk Management Activities

OPG faces a wide array of risks as a result of its business operations. OPG's Enterprise Risk Management (ERM) framework is designed to identify and evaluate risks on the basis of their potential impact on the Company's capacity to achieve specific strategic imperatives and business plan objectives.

A centralized ERM group led by the CRAE coordinates the quarterly risk management reporting activities. The activities begin with business units identifying, reviewing, and assessing risks that could prevent achievement of their objectives. The ERM group reviews, validates, and consolidates this information and prioritizes risks based on their potential to impact OPG's overall strategic imperatives. The ERM group also assesses external developments that may have implications on the corporate risk profile and facilitates the identification and assessment of emerging risks. The ERC then reviews and validates significant changes in the top risks that may impact OPG's ability to achieve its strategic imperatives, as well as any emerging risks that have been identified. The results of the ERC review and significant changes in the enterprise risk profile are reviewed by the Audit and Risk Committee of OPG's Board of Directors.

In order to maintain an appropriate balance between risk and return, senior management sets limits for the market risk, credit risk and energy trading activities of the Company. Senior management also establishes risk management policies and processes to ensure compliance with such limits.

The key risks to OPG's strategic imperatives are briefly described below.

Risks to Achieving Operational Excellence

OPG is exposed to variable output from its existing generating stations that could adversely impact its financial performance.

Operational risks are the risks inherent in the operation of electricity generating facilities. These risks can lead to interruptions in the operations of generating stations affecting future production. The operational risks of a station are generally a function of its age, human performance, and the technology used.

Nuclear Generating Stations

Operating an aging nuclear fleet exposes OPG to unique risks such as unplanned outages, an increase in operating costs, and risks associated with nuclear waste management operations.

Operating nuclear stations exposes OPG to unique risks, such as greater-than-anticipated deterioration of station components and systems, risks associated with the nuclear industry, supply chain and vendor quality, risks related to the handling, storage and disposal of nuclear waste, and the risk of a nuclear accident. The primary implications of these risks include additional safety requirements, potentially lower than expected generation and revenues, and potentially higher operating costs.

The uncertainty associated with electricity production by OPG's Canadian Deuterium Uranium nuclear generating units is primarily driven by the condition of station components and systems, which are all subject to the effects of aging. Fuel channels are expected to be the most life-limiting component affecting station end-of-life. Another significant factor identified to date includes degradation of primary heat transport pump motors at the Darlington GS. Additionally, there are fuel handling performance challenges at both the Darlington GS and Pickering GS. To respond to these risks, OPG continues to monitor performance, implement extensive inspection and maintenance programs, identify corrective actions, and undertake projects required to operate reliably and within design parameters.

Deterioration of station components may progress in an unexpected manner, resulting in the need to increase monitoring, conduct extensive repairs, or undertake additional remedial measures. To maintain a safe operating margin, a nuclear unit could be derated, resulting in reduced generation. When an unexpected condition first appears, a specific monitoring program is established. The primary impact of these conditions on OPG is an increase in the long-term cost of operations. The associated mitigation may create additional outage work, increasing the number of outages or extending the duration of planned outages.

Pickering Extended Operations to 2024

In January 2016, the Province of Ontario announced its approval of OPG's plan to pursue the continued safe and reliable operation of the Pickering GS to 2024. Under OPG's plan, all six operating units at the Pickering GS would operate until 2022, at which point two units would be shut down and the remaining four units would continue to operate until 2024. The current operating licence for the Pickering GS, which expires in August 2018, was issued in 2013 assuming that the station would shut down in 2020.

Inability to achieve Pickering extended operations as planned would result in a reduction of OPG's future generation revenue and cash flows and lead to the advancement of shutdown and station decommissioning expenditures.

Risk factors for continued operation of the Pickering units include the discovery of unexpected conditions, equipment failures, the state of critical plant components that are reaching end-of-life, and a requirement for significant plant modifications. To mitigate these risks, OPG continues to undertake a number of activities, including the following:

- work to confirm achievability of fuel channel life necessary to enable extended operations
- component condition assessments to identify the work required to support the extended operation of the station
- modification of the operating and maintenance strategy to support continued operation of the station.

Over the remaining lifespan of the station, risks such as performance of the fuel handling system, challenges with parts procurement, and a shortage of qualified human resources may challenge operational excellence at the Pickering GS. OPG is addressing these risks by taking appropriate actions, including undertaking fuel handling reliability improvements, equipment modifications and targeted investments in plant systems and components, supply chain initiatives, and developing workforce planning and resourcing strategies.

Nuclear Waste Management

The process of generating electricity by nuclear generating stations produces nuclear waste. As required by the CNSC, OPG is accountable for the management of used fuel and L&ILW, and decommissioning of its nuclear stations and waste management facilities, including the stations on lease to Bruce Power. Currently, there are no licenced facilities in Canada for the permanent disposal of nuclear used fuel or L&ILW. The risks to OPG's proposed L&ILW DGR for the safe long-term management of L&ILW are discussed below, in the section, *Risks to Achieving Project Excellence* under the heading, *Deep Geologic Repository for Low and Intermediate Level Waste*.

The NWMO has developed a process for moving forward with Adaptive Phased Management as the long-term solution for Canada's nuclear fuel waste. The Adaptive Phased Management plan contemplates the eventual long-term permanent disposal of radioactive nuclear fuel waste in a deep geologic repository. The NWMO is in the process of undertaking a multi-year site selection process for the used fuel deep geologic repository.

In the interim, OPG is storing and managing L&ILW at the WWMF site and used fuel at its nuclear generating station sites.

Nuclear Regulatory Requirements

The uncertainty associated with nuclear regulatory requirements is primarily driven by plant aging, changes to technical codes, and challenges raised by the public at regulatory hearings, particularly in the areas of safety, environment and emergency preparedness. Addressing these requirements could add to the cost of operations, and in some instances, may result in a reduction or elimination of the productive capacity of a station, earlier than planned replacement of a station component, or additional requirements for waste management. Additionally, the operations of nuclear stations are often directly impacted by circumstances or events that occur at other nuclear stations globally. These circumstances or events may lead to CNSC regulatory changes with a significant impact on the cost and future operation of OPG's nuclear fleet.

In December 2015, the CNSC granted the Darlington GS a 10-year operating licence, valid until November 30, 2025. The new licence spans most of the planned duration of the Darlington Refurbishment project, which provides greater regulatory stability and reduces regulatory risk. As discussed in the section, *Core Business, Strategy, and Outlook* under the heading, *Nuclear Operations*, the plan to extend Pickering operations to 2024 is subject to the CNSC's approval of the Pickering licence renewal application and other regulatory requirements as set out by the CNSC.

In January 2014, the federal government introduced Bill C-22 containing a new *Nuclear Liability and Compensation Act* (NLCA). This bill received Royal Assent in February 2015, and the NLCA came into effect on January 1, 2017. The NLCA requires all operators of nuclear generating stations in Canada to maintain specified amounts of nuclear liability insurance purchased from a federal government approved insurer or other equivalent forms of financial security approved by the federal government. The NLCA increased OPG's nuclear liability limit from \$75 million to an initial \$650 million, with successive annual increases to \$750 million, \$850 million, and \$1 billion. OPG has met this requirement for the \$650 million liability limit for 2017 and is assessing the availability and premium cost of coverage for the \$750 million liability limit required for 2018.

Hydroelectric Generating Stations

OPG's hydroelectric generation is exposed to risks associated with water flows, the age of plant and equipment, surplus baseload generation conditions, and dam safety requirements.

The extent to which OPG can operate its hydroelectric generation facilities depends upon the availability of water. Significant variability in weather, including impacts of climate change, could affect water flows. For OPG's regulated hydroelectric generation, the financial impact of variability in electricity production due to differences between the forecast water conditions underpinning the hydroelectric regulated prices and the actual water conditions are captured in an OEB-approved regulatory variance account.

OPG's hydroelectric generating stations have an average age of approximately 80 years, with the majority of the hydroelectric generating equipment being over 50 years old. The condition of the equipment and civil components resulting from the age of these components requires OPG to plan potentially significant work to mitigate risks to the reliability of some hydroelectric generating stations. OPG manages these risks by performing inspection and maintenance of critical components and by reviewing mitigating actions. In addition, OPG conducts detailed engineering reviews and station condition assessments on an ongoing basis. These reviews and assessments help to identify future work required to sustain and, as appropriate, upgrade a station.

SBG has, and will continue to be, an issue in Ontario when electricity supply exceeds demand. To manage SBG conditions, the IESO may require OPG to reduce hydroelectric generation and spill water. A regulatory variance account authorized by the OEB helps to mitigate the financial impact of spill due to SBG conditions for OPG's regulated hydroelectric generating stations. The Company anticipates a declining trend in SBG due to reduced nuclear availability resulting from the refurbishment of the Darlington GS, future refurbishment of the Bruce generating stations, and the eventual shutdown of the Pickering GS.

The hydroelectric business operates 238 dams across Ontario. Dam safety legislation does not currently exist in the province. Technical guidelines published by the MNRF represent the government standards for dam safety. In general, OPG's practices in the area of dam safety and public safety around dams exceed the minimum requirements outlined in the MNRF technical guidelines. In cooperation with the MNRF, OPG continues to develop a new risk-informed approach to prioritize the outcomes of dam safety assessments. OPG could eventually incur additional costs for certain dams that it operates in order to comply with any new requirements.

People and Culture

OPG's operations could be affected if skilled human resources are not available or aligned with its talent requirements.

The development of new leaders and retention of staff in critical roles across OPG is a key factor to OPG's success. Another success factor is related to the effective transfer of knowledge from those in critical positions throughout the organization to future leaders. The risk associated with the alignment and/or availability of skilled and experienced resources continues to exist for OPG in specific areas, including leadership and project management positions. To mitigate this risk, OPG continues to focus on succession planning, leadership development and knowledge management programs to improve the capability of its workforce. There is also a continued risk of a mismatch between attrition levels and the resource requirements to meet OPG's future business needs.

Electricity generation involves complex technologies that require highly skilled and trained workers. Many positions at OPG have significant educational prerequisites and rigorous requirements for continuous training and periodic requalification, which requires a long-term outlook to workforce planning.

To mitigate the above risks, OPG is developing an organization-wide workforce planning and resourcing strategies and has established ongoing monitoring processes to reassess risks, challenges and opportunities related to staffing on a regular basis. OPG expects to meet the human resource needs of the business by developing existing employees and hiring in specific areas, while continuing to leverage attrition through realignment of work and streamlining of processes, where appropriate.

As of December 31, 2016, approximately 90 percent of OPG's regular labour force was represented by a union. OPG's current collective agreements with the PWU and The Society expire on March 31, 2018 and December 31, 2018, respectively, while all 19 collective agreements with craft unions expire on April 30, 2020. As a result of these agreements, OPG considers the likelihood of a labour disruption in the near future to be significantly reduced.

Health and Safety

OPG's operations involve inherent occupational safety risks and hazards.

OPG's operations involve inherent occupational safety risks and hazards that could impact the achievement of the Company's health and safety goals. OPG is committed to continuous improvement and achievement of its ultimate goal of zero injuries through a formal enterprise-wide safety management system, integrated at the operating site level, and by continuing to foster a strong health and safety culture among its employees and contractors. The safety management system serves to focus the Company on proactively managing safety risks and hazard exposures to employees and contractors. In 2016, OPG launched the organization-wide "iCare Enough to Act" initiative aimed at renewing employees' commitments to their own and each other's safety and well-being.

Cyber Security

OPG's ability to operate effectively is, in part, dependent on the efficient operation and management of the Company's complex information technology and industrial control systems in a secure, vigilant, and resilient manner that minimizes cyber risks. Cyber security incidents may have an adverse impact on OPG's reputation, energy production, and public and employee safety.

Cyber security incidents have been on the rise for the past several years and this trend is expected to intensify as organizations' reliance on technology continues to increase. OPG has strategies in place to prepare for, respond to, and recover from cyber security incidents. OPG continuously monitors, assesses, and improves the effectiveness of its cyber security strategies and programs considering leading industry practices and remains proactive in information and intelligence sharing to learn and adapt to the changing cyber environment.

As a registered Ontario market participant, OPG is accountable to comply with all applicable reliability obligations. Within the context of the Ontario regulatory framework, OPG is a registered generator, and is responsible for complying with the associated reliability standards. These standards apply to the relevant Bulk Electric System elements specified by the North American Electric Reliability Corporation and the relevant Bulk Power System facilities as determined by the Northeast Power Coordinating Council. In addition, OPG's nuclear cyber assets are subject to CNSC licensing conditions and regulatory requirements. For other cyber assets not subject to applicable regulatory requirements, OPG has adopted a risk-based approach based on the National Institute of Standards and Technology Cybersecurity Framework to manage its cyber security.

To mitigate cyber risks, OPG's cyber security program focuses on educating employees, contractors, and vendors, improving processes, and upgrading technology infrastructure. In particular, OPG's program focuses on the following:

1. Complying with regulatory requirements and applicable laws
2. Improving its cyber security protection and detection capabilities to reduce known or potential exposures by engaging the services of external experts to evaluate the security of its information technology infrastructure and controls
3. Adopting industry leading practices to reduce third-party cyber security risks through enhanced vendor risk assessments, introducing cyber security requirements into commercial agreements, and enhanced governance
4. Improving and exercising its incident response and recovery capability, and business continuity plans to minimize the business impact of an incident
5. Increasing the cyber security awareness and training level of its workforce through mandatory annual cyber security awareness training, specialized training for cyber specialists, social engineering tests, and periodic company-wide communications on relevant cyber security topics.

The oversight responsibility of the Audit and Risk Committee of OPG's Board of Directors over the Company's risk management activities includes the review of a semi-annual update from management on the Company's cyber security position and programs.

Suppliers

Non-performance by strategic suppliers or an inability to diversify the supplier base could adversely impact operating and project performance, financial results and reputation of OPG.

OPG's ability to operate effectively is in part dependent upon timely access to equipment, materials, and service suppliers. Loss of key equipment, materials, and service suppliers, particularly for the nuclear business, could affect OPG's ability to operate effectively and/or to execute major development projects or other capital investment programs. OPG mitigates this risk, to the extent possible, through contract negotiations, contract terms, vendor monitoring, diversification of supplier base, and business continuity plans.

Business Continuity and Emergency Management

Natural, technological or human-caused hazards may impact OPG's business continuity.

OPG is exposed to potential or actual incidents or developments resulting from extreme temperatures, precipitation, wind conditions or other natural disasters, and technological or human-caused hazards; to significant events against which it is not fully insured or indemnified; or to parties that fail to meet their indemnification obligations. These incidents have the potential to disrupt operations resulting in decreased generation revenue or additional costs to repair damages and restore operations.

OPG's business continuity program provides a framework to build resilience into critical business processes by facilitating development of risk response plans and business continuity exercises. OPG's emergency management

program is designed to ensure that the Company can manage an emergency in a timely and effective manner. OPG's plans and implementation procedures identify immediate response actions to be taken to protect the health and safety of employees and the public, and to limit the impact of the crisis on site security, production capability, and the environment. The program elements are designed to meet legal and regulatory requirements.

Risks to Achieving Project Excellence

The risks associated with the cost, schedule, technical and contractor performance aspects of the major projects could adversely impact OPG's financial performance and corporate reputation.

OPG is undertaking several capital intensive projects with significant investments. There may be an adverse effect on the Company if it is unable to: obtain necessary approvals; raise the necessary funds; effectively manage the projects on time and on budget; or fully recover capital costs and earn an appropriate return on investment in a timely manner. These projects also may have a significant impact on OPG's borrowing capacity and credit rating. Some projects may be ultimately reassessed as being uneconomical. The risks associated with OPG's current major projects are described below.

Darlington Refurbishment

OPG is responsible for the management of the Darlington Refurbishment project, including the project's budget and schedule, and continues to systematically manage all of the risks associated with the project through robust risk management practices. There are financial and reputational risk exposures for OPG if actual costs exceed the budget or if OPG does not meet the project schedule. In addition, failure to achieve the objectives of the refurbishment project may result in future forced outages and more complex planned outages, potentially impacting the post-refurbishment performance or useful life of the station. Failure to carry out the refurbishment of the first unit as planned may result in a decision not to proceed with the refurbishment of the remaining units, which, together with the planned end of commercial operations at the Pickering GS, could result in most of OPG's nuclear units shutting down by the early to mid 2020s.

There are a number of specific risks that OPG is managing and mitigating in relation to the Darlington Refurbishment project, which include OPG and vendor performance risks, delay or productivity risks, financial risks related to escalation of costs, technical risks such as equipment conditions resulting in additional scope, and execution risks such as failure to manage foreign material exclusion from the heat transport system that could lead to post-refurbishment operational risks.

To mitigate the above risks and to build on major lessons learned from other nuclear refurbishments and large scale, complex projects, OPG engaged in an extensive five-year project planning phase in order to determine the project scope, rigorously estimate costs in keeping with best practices, and incorporate lessons learned from other nuclear refurbishments. In order to fully define the scope and material requirements for the project, the planning phase included the completion of detailed designs before proceeding with the execution of the unit refurbishments. Further risk mitigation has been implemented through the construction of a full scale model training reactor, which allows for simulations and training for unit refurbishment execution tasks.

A large portion of the costs for the Darlington Refurbishment project is being paid to contractors and suppliers, including vendors that will engineer, procure, and construct components of the project. There is a risk that, as the volume of work increases significantly, vendor capability, capacity, and performance shortfalls may impact project objectives and deliverables. OPG's risk management strategy aims to ensure that contractors are held accountable and appropriate off-ramps are in place. In mitigating its overall financial risk, OPG utilizes a contracting strategy that aims to share the risk with key vendors in a cost effective manner, where appropriate. There is also an increased risk of contractor initiated safety events, which may impact OPG's reputation. Mitigating actions include collaborative execution phase planning, an enhanced human performance program, active risk management, increased field presence by supervisory staff, and assisting vendors in removing barriers to work. OPG also is managing other

ongoing risks that could potentially impact the project, including those related to continuity of skilled leaders within OPG and its vendor partners, as well as the availability of technical resources to support the project through execution.

Independent, third-party oversight has been established for the execution phase of the project, for both the project executive team and OPG's Board of Directors. The Ontario Ministry of Energy also has retained an external advisor to provide oversight of the project, reporting to the Minister of Energy.

Deep Geologic Repository for Low and Intermediate Level Waste

OPG, with the support of Bruce County municipalities, is proposing to construct and operate a deep geologic repository as the preferred solution for the safe long-term management of L&ILW. While broad local community support for the proposed L&ILW DGR is stable, there are pockets of opposition. OPG is currently awaiting a decision on the EA for the project by the federal Minister of Environment and Climate Change, before the issuance of the site preparation and construction licence may proceed. There is a risk of delay to the EA approval and/or the issuance of the site preparation and construction licence from potential political or legal challenges. OPG will continue its engagement with the Saugeen Ojibway Nations toward securing community support for the L&ILW DGR.

Other Development Projects

Projects that are in the initial development stages are subject to schedule delays or possible cancellation due to unforeseen delays in receiving permits or approvals, or establishing sufficient certainty regarding project cost recovery through revenue mechanisms, which may involve various external stakeholders. OPG attempts to mitigate these risks through early involvement and regular communication with applicable government agencies, close consultation with external stakeholders, and ongoing monitoring of contractor compliance relative to permits. Projects in the execution phase are subject to inherent risks related to performance against approved budgets and schedules. Mitigating activities for these risks include performing detailed engineering designs before proceeding with execution, engaging qualified and experienced vendors, and effectively monitoring and controlling performance.

Development projects also could be faced with increasing costs for equipment and construction that could impact their economic viability. OPG continuously monitors such trends in costs in order to identify emerging issues and seeks to manage and limit cost increases through contracting strategies, where possible.

Risks to Maintaining Financial Strength

Risks related to rate regulation, financial markets, and long-term obligations could significantly impact OPG's financial performance. The Company also is exposed to risks such as weak electricity demand, displacement of generation by competitors, and financial risk associated with energy trading.

There is a risk that future regulated prices will not allow OPG to consistently achieve financial performance that is commensurate with that of a commercial enterprise. OPG is exposed to a number of other significant financial risks, many of which arise due to decreasing demand for electricity, competing energy sources, OPG's exposure to volatility in commodity and equity markets, and interest rate fluctuations. This includes risks related to the Company's pension and OPEB obligations and costs that are impacted by market and interest rate fluctuations. OPG manages this complex array of risks with a view to reduce the uncertainty and/or mitigate the potential unfavourable impact on the financial results.

Rate Regulation

Significant uncertainties remain regarding the outcome of rate and generic proceedings impacting OPG's rate regulated operations.

There is an inherent risk that regulated prices established by the OEB may not provide for the recovery of all actual costs that will be incurred by OPG's regulated operations or allow the regulated operations to earn an appropriate

rate of return. This could occur if, in setting regulated prices, the OEB makes adjustments to forecasts submitted by OPG, if actual production and costs significantly differ from the forecasts approved by the OEB, or if OPG is unable to achieve additional efficiencies to meet the OEB-approved stretch factors expected to be included in regulated prices under incentive ratemaking. Differences between OPG's actual and forecast production and costs could be due to factors such as outages or project execution risks. In providing evidence in support of its applications for regulated prices, OPG aims to clearly demonstrate to the OEB that the costs for the regulated operations are reasonable, being prudently incurred and should be fully recovered.

Certain differences between elements of OEB-approved revenue requirements and OPG's actual results are recorded in OEB-approved variance and deferral accounts for future review by the OEB, including a number of accounts that are subject to an OEB prudence review. There is inherent uncertainty associated with the outcomes of future proceedings for the disposition of these balances.

Proposed Incentive Regulation Ratemaking Methodologies

In May 2016, OPG submitted a 5-year application to the OEB for new regulated prices effective January 1, 2017, on the basis of an incentive regulation ratemaking methodology for the hydroelectric operations and a custom incentive regulation framework for the nuclear operations. If accepted by the OEB, both approaches would result in greater decoupling of OPG's revenues for the regulated operations from their costs, which would contribute to the risk that the regulated operations may not earn an appropriate return based on actual cost incurred. The OEB's decision on OPG's application is expected in the second half of 2017.

Effective Date of New Regulated Prices

There are inherent uncertainties regarding the effective date that the OEB will establish for the new regulated prices based on OPG's May 2016 application. OPG has requested January 1, 2017 as the effective date. The OEB's decision on the effective date and the timing of the decision issuance could have a significant impact on OPG's 2017 results. Until the OEB's decision is issued, the continuation of existing regulated prices is expected to contribute to lower income, particularly from the Regulated – Nuclear Generation segment, and lower ROE Excluding AOCI in 2017, compared to 2016. In December 2016, the OEB issued an order declaring the existing base regulated prices interim, which preserves the OEB's ability to make the new regulated prices effective as early as January 1, 2017.

Nuclear Rate Smoothing Proposal

Consistent with the requirements of *Ontario Regulation 53/05*, OPG's May 2016 application includes a nuclear rate smoothing proposal whereby a portion of the approved nuclear revenue requirements will be deferred for future collection. There is an inherent risk that the magnitude of the deferral ordered by the OEB will result in regulated prices that do not provide sufficient cash flow to the Company for meeting its financial objectives in an optimal manner, including ensuring sufficient liquidity, cost effectively funding the Darlington Refurbishment project and other expenditures, and maintaining the Company's investment grade credit rating. Maintaining adequate levels of credit metrics will support OPG's investment grade credit rating. As such, OPG has advanced credit metrics as a key criterion for the OEB to apply in determining the smoothed nuclear base regulated prices.

Recovery of Pension and OPEB Costs

The OEB is currently conducting a consultation in the gas and electricity sectors to develop standard principles to guide the OEB's review of pension and OPEB costs for rate-regulated utilities, including establishing appropriate regulatory mechanisms for cost recovery. The OEB's November 2014 decision establishing OPG's existing regulated prices indicated that a change in the recovery methodology for OPG's pension and OPEB costs from the accrual basis, if required, would be addressed in OPG's next rate proceeding, having been informed by the outcome of the OEB's generic proceeding on the regulatory treatment and recovery of pension and OPEB costs. The decision also stated that the future recovery, if any, of amounts recorded in the Pension & OPEB Cash Versus Accrual Differential Deferral Account authorized by that decision to record the difference between OPG's actual pension and OPEB costs

for the regulated business determined using the accrual method and OPG's actual cash expenditures for these plans also would be subject to the outcome of the generic proceeding. As such, the outcome of the current consultation could have a material impact on OPG's ability to recover the balance recorded in the deferral account, as well as the Company's ability to recover full pension and OPEB costs in the future. Inability to recover these amounts would have significant adverse implications on OPG's future financial results. OPG is participating in the OEB consultation and has advanced its position in support of the appropriateness of using the accrual basis for cost recovery purposes.

Nuclear Waste Management and Nuclear Decommissioning Obligations, and Nuclear Segregated Funds

Changes in cost estimates or strategies for nuclear waste management and nuclear facilities decommissioning obligations could impact OPG's future contributions to the Nuclear Segregated Funds to cover these obligations.

As required by the CNSC, OPG is responsible for the management of used nuclear fuel and L&ILW and the decommissioning of its nuclear stations and waste management facilities. The cost estimates for OPG's nuclear waste management and nuclear decommissioning obligations are based on multiple underlying assumptions and estimates that are inherently uncertain and may evolve over time. The assumptions include station end-of-life dates, waste volumes, waste disposal methods, the timing of construction of assumed waste disposal facilities, waste packaging systems, decommissioning strategy, and financial indicators. To address the inherent uncertainty, OPG undertakes to perform a comprehensive review of the underlying assumptions and baseline cost estimates at least once every five years, in line with the required ONFA Reference Plan update process. The most recent comprehensive update of the nuclear waste management and decommissioning obligations was performed as part of the 2017 ONFA Reference Plan, which was approved by the Province in December 2016. An approved ONFA Reference Plan determines OPG's contributions to the Nuclear Segregated Funds. The changes in contribution levels are impacted by changes in the values of the Nuclear Segregated Funds as well as changes in the associated nuclear waste management and nuclear facilities decommissioning funding obligations. Based on the 2017 ONFA Reference Plan, no contributions are currently required to the Nuclear Segregated Funds. Contributions may be required in the future should the Nuclear Segregated Funds be in an underfunded position relative to the funding requirement of a new approved ONFA reference plan.

Financial Markets

The market value of investments held by OPG's Nuclear Segregated Funds and registered pension plan could be significantly affected by changes in various market factors such as equity prices, interest rates, inflation, and commodity prices.

Nuclear Segregated Funds Market Risk

Investments in the Nuclear Segregated Funds are allocated to certain asset classes including fixed income securities, domestic and international equity securities, pooled funds, infrastructure, agriculture and real estate. These funds are managed to achieve, in the long term, the target rate of return based on the discount rate specified in the ONFA, in order to fund the expenditures associated with the long-term management of used fuel and L&ILW after station shutdown and the decommissioning of OPG's nuclear stations and waste management facilities. The rates of return earned on these segregated funds are subject to various factors including the current and future financial market conditions, which are inherently uncertain. The asset mix of the funds is determined jointly by OPG and the Province in accordance with the ONFA.

For the Used Fuel Segregated Fund, the Province guarantees the annual rate of return at 3.25 percent plus the change in the Ontario CPI, as defined by the ONFA, for the portion of the fund attributed to the first 2.23 million used fuel bundles. As such, a change in the portion of the fund's value attributed to the first 2.23 million bundles impacts OPG's earnings to the extent of changes in the Ontario CPI. OPG is subject to the market risk for the investment of funds set aside in the Used Fuel Segregated Fund for used fuel bundles in excess of the 2.23 million threshold. OPG also is subject to the market risk for the investment of funds set aside in the Decommissioning Segregated Fund.

In accordance with the cost recovery methodology established by the OEB, the performance of the portion of the Nuclear Segregated Funds attributed to the nuclear generating stations leased to Bruce Power has been subject to the Bruce Lease Net Revenues Variance Account. The variance account partially mitigates the income impact of the rate of return risk related to the Nuclear Segregated Funds, as it captures the differences between actual and forecast earnings from the Nuclear Segregated Funds related to these stations. Forecast earnings are those approved by the OEB in setting nuclear regulated prices. OPG's income is exposed to the rate of return risk related to the portion of the Nuclear Segregated Funds related to the Pickering and Darlington nuclear generating stations under the OEB-approved cost recovery methodology. The income statement impact of this rate of return risk is reduced when the Nuclear Segregated Funds are in a fully funded position. As at December 31, 2016, the Decommissioning Segregated Fund was 21 percent overfunded while the Used Fuel Segregated Fund was marginally overfunded, at less than one percent.

Post-Employment Benefit Obligations Risk

OPG's post-employment benefit obligations include pension, group life insurance, health care benefits, and LTD benefits. OPG's post-employment benefit obligations and costs, and pension plan contributions could be materially affected in the future by numerous factors, including: changes in discount rates, inflation rates, and other actuarial assumptions; future investment returns; experience gains and losses; the funded status of the pension plans; changes in benefits; changes in the regulatory environment including potential changes to the *Pension Benefits Act* (Ontario); changes in OPG's operations; and the measurement uncertainty incorporated into the actuarial valuation process.

The OPG registered pension plan, which covers most of OPG's employees and retirees, is a contributory defined benefit plan that is indexed to inflation. Contributions to the OPG registered pension plan are determined by actuarial valuations, which are filed with the appropriate regulatory authorities at least every three years. The most recent actuarial valuation of the OPG registered pension plan, covering the three-year period to the end of 2018, was completed as of January 1, 2016. There is an inherent risk that future actuarial valuations could increase OPG's funding requirements due to market and economic-related conditions. A significant decline in the financial markets could trigger an immediate requirement to update the actuarial valuation based on declines in the funded status. OPG continues to assess the requirements for contributions to the registered pension plan, including the timing of future actuarial valuations. The next actuarial valuation for funding purposes of the OPG registered plan must have an effective date no later than January 1, 2019. OPG's OPEB obligations are not funded and the associated employee benefits are paid from cash flow provided by operating activities or other sources of liquidity.

Commodity Markets

Changes in the market price of fuels used to produce electricity can adversely impact OPG's earnings and cash flow from operations.

To manage the risk of unpredictable increases in the price of fuels, the Company has fuel hedging programs, which include using fixed price and indexed contracts.

The percentages hedged of OPG's fuel requirements are shown in the following table. These amounts are based on yearly forecasts of generation and supply mix and, as such, are subject to change as these forecasts are updated.

	2017	2018	2019
Estimated fuel requirements hedged ¹	75%	76%	65%

¹ Represents the approximate portion of megawatt-hours of expected generation production (and year-end inventory targets) from each type of OPG-operated facility (nuclear, hydroelectric and thermal) for which the Company has entered into contractual arrangements or obligations in order to secure the price of fuel, or which is subject to regulation. In the case of hydroelectric generation, this represents the gross revenue charge and water rental charges. Excess fuel inventories (nuclear and thermal) in a given year are attributed to the next year for the purpose of measuring hedge ratios.

Foreign Exchange

OPG's earnings and cash flow can be affected by movements in the United States dollar relative to the Canadian dollar.

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 (USD). To manage this risk, OPG employs various financial instruments such as forwards and other derivative contracts, in accordance with approved risk management policies. As at December 31, 2016, OPG had total foreign exchange contracts outstanding with a notional value of USD \$9 million.

Trading

OPG's financial performance can be affected by its trading activities.

OPG's electricity trading operations are closely monitored, with total exposures measured and reported to senior management on a daily basis. The main metric used to measure the financial risk of trading activity is Value at Risk (VaR). VaR is defined as a probabilistic maximum potential future loss expressed in monetary terms for a portfolio based on normal market conditions over a set period of time. During each of 2016 and 2015, the VaR utilization ranged between nil and \$1.5 million.

Credit

Deterioration in counterparty credit and non-performance by suppliers and contractors can adversely impact OPG's earnings and cash flow from operations.

The Company's credit risk exposure is a function of its electricity sales, trading and hedging activities, treasury activities including investing, and commercial transactions with various suppliers of goods and services. OPG's credit risk exposure relating to electricity sales is considered low as the majority of sales are through the IESO-administered spot market. The IESO oversees the credit worthiness of all market participants. In accordance with the IESO's prudential support requirements, market participants are required to provide collateral to cover funds that they might owe to the market.

Other major components of OPG's credit risk exposure include those associated with vendors that are contracted to provide services or products. OPG manages its exposure to various suppliers or counterparties by evaluating their financial condition and ensuring that the Company holds appropriate collateral or other forms of security.

The following table summarizes OPG's credit exposure to all counterparties from electricity transactions and trading as at December 31, 2016:

Credit Rating ¹	Number of Counterparties ²	Potential Exposure ³ (millions of dollars)	Potential Exposure for Largest Counterparties	
			Number of Counterparties	Potential Exposure (millions of dollars)
Investment grade	11	11	5	9
IESO ⁴	1	421	1	422
Total	12	432	6	431

¹ Credit ratings are based on OPG's own analysis, taking into consideration external rating agency analysis where available, as well as recognizing explicit credit support provided through parental guarantees, Letters of Credit or other forms of security.

² OPG's counterparties are defined on the basis of individual master agreements.

³ Potential exposure is OPG's statistical assessment of maximum exposure over the life of each transaction at a 95 percent confidence interval.

⁴ Credit exposure is an estimate of the receivable amount arising from OPG's electricity sales into the IESO market. The credit exposure and associated receivable vary each month based on electricity sales. The monthly receivable from the IESO is typically paid to OPG in the subsequent month as per the IESO payment schedule.

Liquidity

Rising liquidity requirements can impact OPG's capital investment projects and ability to meet financial obligations.

OPG operates in a capital intensive business. Significant financial resources are required to fund major development and other capital improvement projects, including the Darlington Refurbishment project. In addition, the Company has other significant disbursement requirements including pension contributions and Nuclear Segregated Funds contributions, payments towards OPEB and other benefit plans, expenditures on Nuclear Liabilities not eligible for reimbursement from the Nuclear Segregated Funds, debt maturities with the OEFC, and investments in new generating capacity and other business growth opportunities. OPG must ensure that it has the financial capacity and sufficient access to cost effective financing sources to fund its capital requirements and other disbursements. In support of this objective, OPG utilizes multiple sources and forecasts availability of funds, actively monitors funding requirements, and is focused on maintaining its investment grade credit rating. A discussion of corporate liquidity is included under the section, *Liquidity and Capital Resources*.

Contracted Generation

OPG may incur costs if its contracted generating assets do not meet performance targets as specified in the ESAs with the IESO or other long-term contracts. There is also a risk that, upon expiry, subsequent ESAs may not be available.

The Company's generating stations operating under ESAs with the IESO or other long-term contracts are subject to availability and production targets specified in their respective contracts. OPG could incur charges and other costs if these facilities fail to operate at required capacity or production levels, as required. This risk is mitigated through the implementation of maintenance, capital investment and other programs, as appropriate.

OPG's owned and co-owned thermal generating stations operate under ESAs with the IESO or other long-term agreements. In December 2016, the Ontario and Quebec governments signed an electricity trade agreement that will allow Ontario to import up to 2 TWh of hydroelectric power from Quebec annually from 2017 to 2023. This is expected to replace some gas-fired generation in Ontario. While OPG expects that its thermal generating stations will continue to provide capacity to the market over the term of the respective agreements, there is a risk that, upon expiry of the current agreements, subsequent contracts for these stations may not be available or may not be available on financially viable terms.

Ontario Electricity Market

Ontario electricity market conditions could impact OPG's revenue and operations.

OPG's revenue can be impacted by external factors related to the electricity market including: the entrance of new participants into the Ontario market; the competitive actions of market participants; Ontario electricity demand; changes in the regulatory environment; and wholesale electricity prices in the interconnected markets.

The structure of the Ontario electricity market is subject to regulation and market rules, changes to which may affect OPG's revenue. The Province, the IESO, the OEB, or another entity or regulatory body may change or institute regulations or rules that can impact OPG's capability to generate revenue and recover appropriate costs and earn an appropriate return on the assets.

Ownership by the Province

OPG's commitment to maximize the return on the Shareholder's investment in the Company may compete with the obligation of the Shareholder to respond to a broad range of matters in its role as the Government of Ontario.

The Province owns all of OPG's issued and outstanding common shares. Accordingly, the Province, as represented by the Ontario Ministry of Energy, has the authority to make appointments to OPG's Board of Directors. OPG could be subject to Shareholder direction, under Section 108 of the OBCA, that can directly influence major decisions including those related to project development, timing and strategy of applications for regulated prices, asset divestitures, financing and capital structure, that could require OPG to undertake activities that result in increased expenditures, that reduce revenues or cash flows relative to the business activities or strategies that would have otherwise been undertaken, or that increase the Company's financial or reputational risk exposure. In addition, the obligation of OPG's Shareholder to respond to a broad range of matters in its role as the Government of Ontario may compete with OPG's commitment to maximize the return on the Shareholder's investment in the Company. This includes, but is not limited to, the Province's response to mitigate the impact of rising electricity prices on consumers.

Government Legislation and Regulation Change

OPG is subject to extensive federal and provincial legislation and regulations that have an impact on the Company's operations and financial position.

OPG's core business and strategy may be impacted by changes in federal and provincial legislation and regulations. Matters that are subject to regulation include, among others, rate regulation, electricity generating operations, nuclear waste management and nuclear decommissioning, and taxation. Regulatory bodies may change or enact regulations or rules, such as new nuclear fitness for duty requirements, that could increase OPG's costs, decrease OPG's revenue, or limit the Company's ability to recover appropriate costs or earn an appropriate return on the assets.

Since legal requirements are subject to change and to interpretation, OPG is unable to predict the impact of such changes on the Company and its operations. To mitigate legislative risks, OPG continues to monitor and actively engage with the federal and provincial governments in order to determine if future legislation will impact the Company.

Risks to Maintaining Social Licence

OPG is exposed to risks associated with its social licence and public profile due to changes in the opinions of various stakeholders, including local communities, Ontario customers, government agencies, and Indigenous communities. Additionally, inability to achieve operational excellence and project excellence safely and reliably and to maintain financial strength could impact OPG's social licence.

Maintaining public trust and meeting stakeholders and Indigenous communities' expectations are critical to OPG's success. OPG focuses on building and maintaining its social licence and corporate reputation through safe, reliable,

environmentally responsible operations, as well as corporate citizenship initiatives across the province. The inability to maintain safe, reliable operations could negatively impact OPG's reputation and result in a loss of public support.

OPG has transparent governance practices and works continuously towards effective communication and consultation with Indigenous communities and stakeholders. Efforts to reinforce OPG's social licence include media campaigns that highlight the Company's contribution as a clean power generator with a commitment to safety, environment and community partnerships. OPG undertakes various assurance and risk management activities to effectively manage the risks to its social licence and corporate reputation. Issue management and response plans are developed to address specific concerns as they arise.

Indigenous Communities

The quality of OPG's relationships and the outcome of negotiations with Indigenous communities may impact OPG's project and financial performance, as well as its social licence to operate.

OPG may be subject to claims by Indigenous communities. These claims stem from projects and generation development related to the operations of OPG and historic operations of OPG's predecessor company, Ontario Hydro, which may have impacted the Aboriginal and/or Treaty rights of Indigenous communities.

OPG has an Indigenous Relations Policy, which sets out the Company's commitment to proactively build and maintain positive relationships with Indigenous communities. OPG has been successful in resolving a number of past grievances by Indigenous communities. However, the outcome of ongoing and any future negotiations depends on a number of factors, including legislation, regulations and precedents created by court rulings, which are subject to change over time. OPG pursues generation-related developments in partnerships with Indigenous communities on the basis of long-term mutually beneficial commercial arrangements.

Environmental Risks

OPG may be subject to orders or charges if it is not in compliance with applicable environmental laws. Changes in environmental regulatory requirements can result in existing operations being in a state of non-compliance, a potential inability to comply, and potential costs and liabilities for OPG.

Changes to environmental laws could create compliance risks and result in potential liabilities that may be addressed by the installation of control technologies, development of new processes, allowances or offsets, or constraints on electricity production. A failure to comply with applicable environmental laws may result in enforcement actions, including the potential for orders or charges. In addition, some of OPG's activities have the potential to impair natural habitat, damage aquatic or terrestrial plant and wildlife, or cause contamination to land or water that may require remediation. There is also a risk that OPG may incur additional costs to meet heritage conservation program requirements under the *Ontario Heritage Act*.

Potential environmental regulatory changes being managed as risks by the Company include electricity production constraints and water flow management requirements to protect fish and fish habitat, expanded fish passage requirements, and lower drinking and ground water tritium concentration standards. These changes could impact plant operations and increase costs. OPG continues to monitor and address risks associated with changes to environmental laws and regulatory requirements. There were no significant changes to environmental legislation applicable to OPG during 2016.

OPG recognizes that efforts are required to plan for the effects of climate change and has identified climate change adaptation as a strategic issue for the company. OPG monitors developments in climate science, adaptation activities, and potential changes to policy and regulatory requirements. OPG continues to work with stakeholders to better define adaptation requirements through analysis and understanding of climate change impacts on watersheds and electricity supply and demand. Once adaptation requirements are better known, a risk-based analysis will help OPG determine the extent of efforts it will undertake to reduce the impact of climate change on its operations.

A carbon cap and trade program became effective in Ontario in January 2017. The program is not expected to have a material adverse economic impact on OPG due to the Company's low GHG emitting generating fleet. Further details can be found in the section, *Core Business, Strategy, and Outlook* under the heading, *Environmental Performance*.

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:

(millions of dollars)	2016		2015	
	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:

<i>(millions of dollars)</i>	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.

INTERNAL CONTROLS OVER FINANCIAL REPORTING AND DISCLOSURE CONTROLS

Management, including the President and Chief Executive Officer (President and CEO) and the Chief Financial Officer (CFO), are 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 financial statements in accordance with US GAAP.

There were no changes in OPG's ICOFR during the year ended December 31, 2016 that have materially affected or are reasonably likely to materially affect OPG's ICOFR.

Management, including the President and CEO and the CFO, concluded that, as of December 31, 2016, OPG's DC&P and ICOFR (as defined in National Instrument 52-109 – *Certification of Disclosure in Issuers' Annual and Interim Filings*) were effective.

FOURTH QUARTER

Discussion of Results

(millions of dollars) (unaudited)	Three Months Ended December 31	
	2016	2015
Revenue	1,388	1,312
Fuel expense	186	175
Gross margin	1,202	1,137
Operations, maintenance and administration	686	788
Depreciation and amortization	316	354
Accretion on fixed asset removal and nuclear waste management liabilities	233	223
Earnings on nuclear fixed asset removal and nuclear waste management funds	(126)	(169)
Income from investments subject to significant influence	(9)	(9)
Property taxes	11	11
Restructuring	6	5
Income (loss) before other losses, interest, and income taxes	85	(66)
Other losses	6	12
Income (loss) before interest and income taxes	79	(78)
Net interest expense	28	44
Income (loss) before income taxes	51	(122)
Income tax expense (recovery)	59	(22)
Net loss	(8)	(100)
Net loss attributable to the Shareholder	(13)	(101)
Net income attributable to non-controlling interest	5	1

Net loss attributable to the Shareholder for the fourth quarter was \$13 million, compared to a net loss of \$101 million for the same quarter in 2015.

Income before interest and income taxes was \$79 million during the fourth quarter of 2016, an increase of \$157 million compared to loss before interest and income taxes of \$78 million during the same period in 2015. The following summarizes the significant factors which contributed to the variance:

Significant factors that increased income before interest and income taxes:

- Lower number of outage days increased nuclear generation by 2.2 TWh during the fourth quarter in 2016, compared to the same period in 2015, primarily due to the four-unit Darlington VBO that was completed on October 30, 2015 and a lower number of unplanned outage days at the Darlington GS in 2016. The increase in nuclear generation resulted in an increase in revenue from the nuclear base regulated price of approximately \$130 million.
- Lower OM&A expenses of \$77 million in the Regulated – Nuclear Generation segment primarily due to increased outage activities in 2015, including the Darlington VBO.

Significant factors that decreased income before interest and income taxes:

- Decrease in earnings from the Nuclear Segregated Funds of \$43 million during the fourth quarter of 2016, compared to the same quarter in 2015, mainly due to an accounting adjustment recorded during the fourth quarter of 2016 to limit the funds asset values recognized on OPG's consolidated balance sheet to the lower underlying obligations per the 2017 ONFA Reference Plan.
- Higher accretion expense of \$10 million, reflecting the increase in the Nuclear Liabilities recognized in December 2015 in connection with the changes in the estimated useful life assumptions for OPG's nuclear stations, net of the impact of the Bruce Lease Net Revenues Variance Account.

The increase in income tax expense during the fourth quarter of 2016, compared to the same quarter in 2015, was primarily due to higher income before income taxes and a lower amount of tax expense deferred in regulatory assets in 2016.

Average Sales Prices

The average sales price for the Regulated – Nuclear Generation segment during the fourth quarter of 2016 was 6.9 ¢/kWh, compared to 7.0 ¢/kWh during the same quarter in 2015. The decrease in the average sales price was primarily due to the expiry, on December 31, 2015, of an OEB-authorized nuclear rate rider of \$1.33/MWh related to the recovery of variance and deferral account balances. The average sales price for the Regulated – Hydroelectric segment during the fourth quarter of 2016 was 4.5 ¢/kWh, compared to 4.8 ¢/kWh during the same quarter in 2015. The decrease in the average sales price was primarily due to the expiry, on December 31, 2015, of an OEB-authorized rate rider of \$6.04/MWh related to the recovery of variance and deferral account balances for the hydroelectric facilities prescribed for rate regulation prior to 2014.

The reduction in revenue from rate riders was largely offset by changes in amortization expense related to regulatory account balances. The reduction in amortization expense related to regulatory account balances was the primary reason for the lower depreciation and amortization expense during the fourth quarter of 2016, compared to 2015.

Electricity Generation

OPG's electricity generation for the three months ended December 31, 2016 and 2015 was as follows:

(TWh)	Three Months Ended December 31	
	2016	2015
Regulated – Nuclear Generation	11.0	8.8
Regulated – Hydroelectric	6.7	7.3
Contracted Generation Portfolio ¹	0.6	0.7
Total OPG electricity generation	18.3	16.8
Total electricity generation by all other generators in Ontario ²	18.9	19.6

¹ Includes OPG's share of generation volume from its 50 percent ownership interests in PEC and Brighton Beach.

² Non-OPG generation is calculated as the Ontario electricity demand plus net exports, as published by the IESO, minus OPG electricity generation.

The increase in OPG's electricity generation of 1.5 TWh during the fourth quarter of 2016, compared to the same quarter in 2015, was primarily due to higher electricity generation of 2.2 TWh from the Regulated – Nuclear Generation segment as a result of fewer outage days at the Darlington GS during the fourth quarter of 2016, primarily due to the Darlington VBO during the fourth quarter of 2015. The increase in generation was partially offset by reduced generation from the Regulated – Hydroelectric Segment of 0.6 TWh, primarily due to lower water flows in eastern Ontario during the fourth quarter of 2016.

Ontario's electricity demand as reported by the IESO was 33.2 TWh during the fourth quarter of 2016, compared to 32.7 TWh during the fourth quarter of 2015.

Liquidity and Capital Resources

Cash flow provided by operating activities during the three months ended December 31, 2016 was \$437 million, compared to \$111 million for the same period in 2015. The increase in cash flow was primarily due to higher generation revenue receipts, lower pension plan contributions and lower OM&A expenditures during the fourth quarter of 2016. Higher generation revenue receipts reflected higher nuclear generation in the fourth quarter of 2016.

Cash flow used in investing activities during the three months ended December 31, 2016 was \$497 million, compared to \$571 million during the same period in 2015. The decrease was primarily due to the partial maturity, in the fourth quarter of 2016, of a structured deposit note invested in the fourth quarter of 2015, partially offset by higher expenditures for the Darlington Refurbishment project. The deposit note invested proceeds from the long-term debt issued in support of the Peter Sutherland Sr. GS project in October 2015.

Cash flow used in financing activities during the three months ended December 31, 2016 was \$180 million, compared to cash flow provided by financing activities of \$356 million for the same period in 2015. The decrease in cash flow provided by financing activities was due to the net repayment of short-term notes and lower net issuance of long-term debt in the fourth quarter of 2016.

QUARTERLY FINANCIAL HIGHLIGHTS

The following tables set out selected annual financial information for the last three years and financial information for each of the eight most recently completed quarters. This information is derived from OPG's unaudited interim consolidated financial statements and the audited consolidated financial statements, and has been prepared in accordance with US GAAP.

Annual Financial Information

<i>(millions of dollars – except where noted)</i>	2016	2015	2014
Revenue	5,653	5,476	4,963
Income before extraordinary item attributable to the Shareholder	436	402	561
Net income attributable to the Shareholder	436	402	804
Net income per common share before extraordinary item <i>(dollars)</i>	\$1.70	\$1.57	\$2.19
Net income per common share <i>(dollars)</i>	\$1.70	\$1.57	\$3.14
Total assets	44,372	44,250	41,645
Total long-term liabilities	31,460	32,404	30,483
Common shares outstanding <i>(millions)</i>	256.3	256.3	256.3

Quarterly Financial Information

<i>(millions of dollars – except where noted) (unaudited)</i>	2016 Quarters Ended				
	December 31	September 30	June 30	March 31	Total
Revenue	1,388	1,400	1,387	1,478	5,653
Net (loss) income	(8)	198	135	128	453
Less: Net income attributable to non-controlling interest	5	4	3	5	17
Net (loss) income attributable to the Shareholder	(13)	194	132	123	436
Per common share, attributable to the Shareholder <i>(dollars)</i>	(\$0.05)	\$0.76	\$0.51	\$0.48	\$1.70

Quarterly Financial Information

(millions of dollars – except where noted) (unaudited)	2015 Quarters Ended				
	December 31	September 30	June 30	March 31	Total
Revenue	1,312	1,426	1,383	1,355	5,476
Net (loss) income	(100)	85	193	239	417
Less: Net income attributable to non-controlling interest	1	5	4	5	15
Net (loss) income attributable to the Shareholder	(101)	80	189	234	402
Per common share, attributable to the Shareholder (dollars)	(\$0.39)	\$0.31	\$0.74	\$0.91	\$1.57

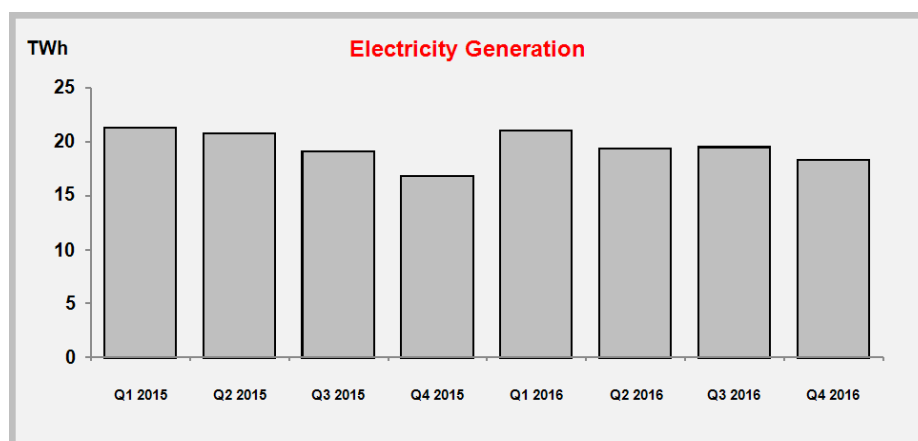
Trends

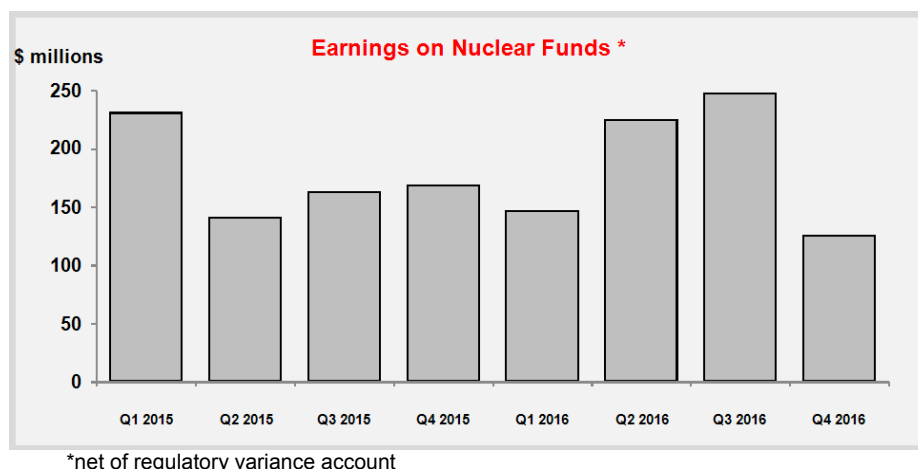
OPG's quarterly results are affected by changes in grid-supplied electricity demand, primarily resulting from variations in seasonal weather conditions, changes in economic conditions, the impact of small scale generation embedded in distribution networks, and the impact of conservation efforts in the province. Weather conditions affect water flows, electricity demand, and prevalence of SBG conditions. Historically, OPG's revenues have been higher in the first quarter of a fiscal year as a result of winter heating demands and in the third quarter due to air conditioning and cooling demands. The financial impact of forgone production due to SBG conditions at the regulated hydroelectric stations and the financial impact of differences between forecast water flows reflected in OEB-approved regulated prices and the actual water flows are offset by regulatory variance accounts authorized by the OEB.

The timing of planned outages at a nuclear generating station during the year can cause variability in year-over-year operating results for partial periods of a fiscal year, including the impact on revenue and OM&A expenses, but is not a significant driver of variability for full fiscal year results.

During the third and fourth quarters of 2015, OPG's electricity generation was reduced by the four-unit Darlington VBO, which lasted 47 days from September 14, 2015 to October 30, 2015. A VBO is currently required every 12 years at the Darlington GS.

OPG's financial results are also affected by the earnings on the Nuclear Segregated Funds, net of the impact of the Bruce Lease Net Revenues Variance Account.





*net of regulatory variance account

Additional items which affected net income (loss) in certain quarters above are described below:

- A gain of \$22 million recorded during the first quarter of 2016 reflecting the OEB's January 2016 decision to reverse a portion of an earlier capital cost disallowance related to Niagara Tunnel project expenditures.
- Lower earnings of \$16 million during the first quarter of 2015, compared to the same quarter in 2016, in the Contracted Generation Portfolio segment, primarily as a result of a provision made in that quarter related to an IESO audit.
- Higher OM&A expenses of \$105 million for the Regulated – Nuclear Generation segment during the first half of 2016, compared to the same period in 2015, primarily resulting from an increase in planned outage activities and the timing of planned outage activities during the year.
- Lower OM&A expenses of \$91 million for the Regulated – Nuclear Generation segment during the second half of 2016, compared to the same period in 2015, primarily as a result of the VBO at the Darlington GS in the third and fourth quarters of 2015.

Additional information about OPG, including its audited consolidated financial statements and notes thereto, can be found on SEDAR at www.sedar.com.

SUPPLEMENTARY NON-GAAP FINANCIAL MEASURES

In addition to providing net income and other financial information in accordance with US GAAP, certain non-GAAP financial measures are also presented in OPG's MD&A. These non-GAAP measures do not have any standardized meaning prescribed by US GAAP and, therefore, may not be comparable to similar measures presented by other issuers. OPG utilizes these measures to make operating decisions and assess performance. Readers of the MD&A would utilize these measures in assessing the Company's financial performance from ongoing operations. The Company believes that these indicators are important since they provide additional information about OPG's performance, facilitate comparison of results over different periods, and present measures consistent with the Company's strategies to provide value to the Shareholder, improve cost performance, and to ensure availability of cost effective funding. These non-GAAP financial measures have not been presented as an alternative to net income, cash flow provided by operating activities, or any other measure in accordance with US GAAP, but as indicators of operating performance.

The definitions of the non-GAAP financial measures are as follows:

(1) ROE Excluding AOCI is defined as net income attributable to the Shareholder divided by average equity attributable to the Shareholder excluding AOCI, for the period.

ROE Excluding AOCI is measured over a 12-month period and is calculated as follows for the period ended December 31:

<i>(millions of dollars – except where noted)</i>	2016	2015
ROE Excluding AOCI		
Net income attributable to the Shareholder	436	402
Divided by: Average equity attributable to the Shareholder, excluding AOCI	10,442	10,023
ROE Excluding AOCI (percent)	4.2	4.0

(2) FFO Adjusted Interest Coverage is defined as FFO before interest divided by adjusted interest expense. FFO before interest is defined as cash flow provided by operating activities adjusted for interest paid, interest capitalized to fixed and intangible assets, and changes to non-cash working capital balances for the period. Adjusted interest expense is calculated as net interest expense plus interest income, interest capitalized to fixed and intangible assets, interest related to regulatory assets and liabilities, and the excess of interest on pension and OPEB projected benefit obligations over expected return on pension plan assets, for the period.

FFO Adjusted Interest Coverage is measured over a 12-month period and is calculated as follows for the period ended December 31:

<i>(millions of dollars – except where noted)</i>	2016	2015
FFO before interest		
Cash flow provided by operating activities	1,705	1,465
Add: Interest paid	269	269
Less: Interest capitalized to fixed and intangible assets	(141)	(102)
Add: Changes to non-cash working capital balances	(68)	129
FFO before interest	1,765	1,761
Adjusted interest expense		
Net interest expense	120	180
Add: Interest income	7	9
Add: Interest capitalized to fixed and intangible assets	141	102
Add: Interest related to regulatory assets and liabilities	30	2
Add: Excess of interest on pension and OPEB projected benefit obligations over expected return on pension plan assets	45	53
Adjusted interest expense	343	346
FFO Adjusted Interest Coverage (times)	5.1	5.1

(3) Enterprise Total Generating Cost per MWh is used to measure OPG's overall organizational cost performance. Enterprise TGC per MWh is defined as OM&A expenses (excluding the Darlington Refurbishment project and other generation development project costs, the impact of regulatory variance and deferral accounts, and expenses ancillary to OPG's electricity generation business), fuel expense for OPG-operated stations including hydroelectric gross revenue charge and water rental payments (excluding the impact of regulatory variance and deferral accounts), and capital expenditures (excluding the Darlington Refurbishment project and other generation development projects) incurred during the period, divided by total electricity generation from OPG-operated generating stations plus electricity generation forgone due to SBG conditions during the period.

Enterprise TGC per MWh is calculated as follows for the 12-month period ended December 31:

<i>(millions of dollars – except where noted)</i>	2016	2015
Enterprise TGC		
Total OM&A expenses	2,747	2,783
Total fuel expense	727	687
Total capital expenditures	1,704	1,376
Less: Darlington Refurbishment capital and OM&A costs	(1,022)	(707)
Less: Other generation development project capital and OM&A costs	(163)	(201)
Add: OM&A and fuel expenses deferred in regulatory variance and deferral accounts	62	250
Less: Nuclear fuel expense for non OPG-operated stations	(67)	(55)
Add: Hydroelectric gross revenue charge and water rental payments for electricity generation forgone due to SBG conditions	49	34
Less: OM&A expenses ancillary to electricity generation business	(28)	(29)
Other adjustments	(19)	(40)
	3,990	4,098
Adjusted electricity generation (TWh)		
Total OPG electricity generation	78.2	78.0
Adjust for electricity generation forgone due to SBG conditions and OPG's share of electricity generation from its co-owned facilities	4.1	2.6
	82.3	80.6
Enterprise TGC per MWh (\$/MWh) ¹	48.45	50.84

¹ Amounts may not calculate due to rounding.

(4) Nuclear Total Generating Cost per MWh is used to measure the cost performance of OPG's nuclear generating assets. Nuclear TGC per MWh is defined as OM&A expenses of the Regulated – Nuclear Generation segment (excluding the Darlington Refurbishment project costs, the impact of regulatory variance and deferral accounts, and expenses ancillary to the nuclear electricity generation business), nuclear fuel expense for OPG-operated stations (excluding the impact of regulatory variance and deferral accounts), and capital expenditures of the Regulated – Nuclear Generation segment (excluding the Darlington Refurbishment project costs) incurred during the period, divided by nuclear electricity generation for the period.

Nuclear TGC per MWh is calculated as follows for the 12-month period ended December 31:

<i>(millions of dollars – except where noted)</i>	2016	2015
Nuclear TGC		
Regulated – Nuclear Generation OM&A expenses	2,210	2,196
Regulated – Nuclear Generation fuel expense	315	301
Regulated – Nuclear Generation capital expenditures	1,338	1,023
Less: Darlington Refurbishment capital and OM&A costs	(1,022)	(707)
Add: Regulated – Nuclear Generation OM&A and fuel expenses deferred in regulatory variance and deferral accounts	81	230
Less: Nuclear fuel expense for non OPG-operated stations	(67)	(62)
Less: Regulated – Nuclear Generation OM&A expenses ancillary to nuclear electricity generation business	(10)	(7)
Other adjustments	(4)	(27)
	2,841	2,947
Nuclear electricity generation (TWh)	45.6	44.5
Nuclear TGC per MWh (\$/MWh) ¹	62.30	66.22

¹ Amounts may not calculate due to rounding.

(5) Hydroelectric Total Generating Cost per MWh is used to measure the cost performance of OPG's hydroelectric generating assets. Hydroelectric TGC per MWh is defined as OM&A expenses of the Regulated – Hydroelectric segment and the hydroelectric facilities included in the Contracted Generation Portfolio segment (excluding generation development project costs, the impact of regulatory variance and deferral accounts, and expenses ancillary to the hydroelectric electricity generation business), hydroelectric gross revenue charge and water rental payments (excluding the impact of regulatory variance and deferral accounts), and capital expenditures of the Regulated – Hydroelectric segment and the hydroelectric facilities included in the Contracted Generation Portfolio segment (excluding expenditures related to the Peter Sutherland Sr. GS and other hydroelectric generation development projects) incurred during the period, divided by total hydroelectric electricity generation plus hydroelectric electricity generation forgone due to SBG conditions during the period. OPG reports hydroelectric gross revenue charge and water rental payments as fuel expense.

Hydroelectric TGC per MWh is calculated as follows for the 12-month period ended December 31:

<i>(millions of dollars – except where noted)</i>	2016	2015
Hydroelectric TGC		
Regulated – Hydroelectric Generation OM&A expenses	325	340
Regulated – Hydroelectric Generation fuel expense	353	345
Contracted Generation Portfolio OM&A expenses	178	185
Contracted Generation Portfolio fuel expense	58	39
Regulated – Hydroelectric Generation and Contracted Generation Portfolio capital expenditures	330	311
Less: Regulated – Hydroelectric Generation and Contracted Generation Portfolio generation development project capital and OM&A costs	(158)	(197)
Less: Thermal OM&A, fuel expenses, and capital expenditures in the Contracted Generation Portfolio	(177)	(163)
(Less) Add: Regulated – Hydroelectric Generation OM&A and fuel expenses deferred in regulatory variance and deferral accounts	(24)	18
Add: Hydroelectric gross revenue charge and water rental payments for electricity generation forgone due to SBG conditions	49	34
Other adjustments	(1)	-
	933	912
Adjusted hydroelectric electricity generation (TWh)		
Regulated – Hydroelectric Generation electricity generation	29.5	30.4
Contracted Generation Portfolio electricity generation	3.1	3.1
Adjust for hydroelectric electricity generation forgone due to SBG conditions and non-hydroelectric electricity generation of the Contracted Generation Portfolio	4.0	2.6
	36.6	36.1
Hydroelectric TGC per MWh (\$/MWh)¹	25.49	25.26

¹ Amounts may not calculate due to rounding.

(6) Gross margin is defined as revenue less fuel expense.

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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 <i>(millions of dollars except where noted)</i>	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 <i>(millions of dollars)</i>	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 <i>(millions of dollars)</i>	2016	2015
Operating activities		
Net income	453	417
Adjust for non-cash items:		
Depreciation and amortization <i>(Note 4)</i>	1,257	1,100
Accretion on fixed asset removal and nuclear waste management liabilities <i>(Note 8)</i>	929	895
Earnings on nuclear fixed asset removal and nuclear waste management funds <i>(Note 8)</i>	(746)	(704)
Pension and other post-employment benefit costs <i>(Note 11)</i>	464	483
Deferred income taxes <i>(Note 9)</i>	(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 <i>(Note 8)</i>	(150)	(143)
Expenditures on fixed asset removal and nuclear waste management <i>(Note 8)</i>	(275)	(218)
Reimbursement of eligible expenditures on nuclear fixed asset removal and nuclear waste management <i>(Note 8)</i>	70	76
Contributions to pension funds and expenditures on other post-employment benefits and supplementary pension plans <i>(Note 11)</i>	(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 <i>(Note 17)</i>	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 <i>(Note 6)</i>	-	(180)
Proceeds from deposit note <i>(Note 6)</i>	110	-
Net proceeds from sale of property, plant and equipment	-	3
Investment in property, plant and equipment and intangible assets <i>(Note 16)</i>	(1,704)	(1,376)
Cash flow used in investing activities	(1,807)	(1,553)
Financing activities		
Issuance of long-term debt <i>(Note 6)</i>	334	245
Repayment of long-term debt <i>(Note 6)</i>	(273)	(503)
Settlement of cash flow hedges	-	(9)
Distribution to non-controlling interest	(14)	(16)
Issuance of short-term notes <i>(Note 7)</i>	3,108	2,628
Repayment of short-term notes <i>(Note 7)</i>	(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 <i>(millions of dollars)</i>	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 <i>(millions of dollars)</i>	2016	2015
Liabilities		
Current liabilities		
Accounts payable and accrued charges <i>(Note 18)</i>	1,164	1,199
Short-term debt <i>(Note 7)</i>	2	225
Deferred revenue due within one year	12	12
Long-term debt due within one year <i>(Note 6)</i>	1,103	273
Income taxes payable	123	66
Regulatory liabilities <i>(Note 5)</i>	-	26
	2,404	1,801
Long-term debt <i>(Notes 6 and 18)</i>	4,417	5,186
Other liabilities		
Fixed asset removal and nuclear waste management liabilities <i>(Notes 8 and 16)</i>	19,484	20,169
Pension liabilities <i>(Note 11)</i>	3,012	2,597
Other post-employment benefit liabilities <i>(Note 11)</i>	2,897	3,085
Long-term accounts payable and accrued charges	213	207
Deferred revenue	298	246
Deferred income taxes <i>(Note 9)</i>	829	880
Regulatory liabilities <i>(Note 5)</i>	310	34
	27,043	27,218
Equity		
Common shares <i>(Note 14)</i> ¹	5,126	5,126
Retained earnings	5,534	5,098
Accumulated other comprehensive loss <i>(Note 10)</i>	(295)	(319)
Equity attributable to the Shareholder	10,365	9,905
Equity attributable to non-controlling interest <i>(Note 21)</i>	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 <i>(millions of dollars)</i>	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:

<i>(millions of dollars)</i>	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:

<i>(millions of dollars)</i>	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:

<i>(millions of dollars)</i>	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:

<i>(millions of dollars)</i>	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:

<i>(millions of dollars)</i>	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:

<i>(millions of dollars)</i>	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:

<i>(millions of dollars)</i>	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:

<i>(millions of dollars)</i>	2016	2015
Regulatory assets		
<i>Variance and deferral accounts authorized by the OEB</i>		
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		
<i>Variance and deferral accounts authorized by the OEB</i>		
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:

<i>(millions of dollars)</i>	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 Refurbishment Variance	Other Variance and Deferral (net)	Pension and OPEB Regulatory 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

<i>(millions of dollars)</i>	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:

<i>(millions of dollars)</i>	
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:

<i>(millions of dollars)</i>	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:

<i>(millions of dollars)</i>	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:

<i>(millions of dollars)</i>	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:

<i>(millions of dollars)</i>	Fair Value	
	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:

<i>(millions of dollars)</i>	Fair Value	
	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:

<i>(millions of dollars)</i>	2016		Total
	Decommissioning Segregated Fund	Used Fuel Segregated Fund	
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
Due to Province	8,317 (1,477)	11,082 (1,938)	19,399 (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

<i>(millions of dollars)</i>	2015		Total
	Decommissioning Segregated Fund	Used Fuel Segregated Fund	
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
Due to Province	7,834 (1,285)	10,290 (1,703)	18,124 (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:

<i>(millions of dollars)</i>	2016		Total
	Decommissioning Segregated Fund	Used Fuel Segregated Fund	
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

<i>(millions of dollars)</i>	2015		Total
	Decommissioning Segregated Fund	Used Fuel Segregated Fund	
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:

<i>(millions of dollars)</i>	Fair Value	
	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:

<i>(millions of dollars)</i>	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:

<i>(millions of dollars)</i>	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:

<i>(millions of dollars)</i>	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:

<i>(millions of dollars)</i>	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:

<i>(millions of dollars)</i>	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:

<i>(millions of dollars)</i>	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:

Asset Class	Target
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:

<i>(millions of dollars)</i>	December 31, 2016			
	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.

<i>(millions of dollars)</i>	December 31, 2015			
	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
<i>Weighted Average Assumptions – Benefit Obligations at Year-End</i>				
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
<i>Weighted Average Assumptions – Costs for the Year</i>				
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	
	2016	2015	2016	2015	2016	2015
<i>(millions of dollars)</i>						
<i>Components of Cost Recognized for the Year</i>						
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:

<i>(millions of dollars)</i>	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:

<i>(millions of dollars)</i>	Registered Pension Plans		Supplementary Pension Plans		Other Post-Employment Benefits	
	2016	2015	2016	2015	2016	2015
<i>Change in Plan Assets</i>						
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	-	-	-	-
<i>Change in Projected Benefit Obligations</i>						
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:

<i>(millions of dollars)</i>	Registered Pension Plans		Supplementary Pension Plans		Other Post-Employment Benefits	
	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:

<i>(millions of dollars)</i>	Registered Pension Plans		Supplementary Pension Plans		Other Post-Employment Benefits	
	2016	2015	2016	2015	2016	2015
<i>Changes in plan assets and benefit obligations recognized in OCI</i>						
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:

<i>(millions of dollars)</i>	Registered Pension Plans		Supplementary Pension Plans		Other Post-Employment Benefits	
	2016	2015	2016	2015	2016	2015
<i>Unamortized amounts recognized in AOCL</i>						
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:

<i>(millions of dollars)</i>	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:

<i>(millions of dollars)</i>	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:

<i>(millions of dollars)</i>	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:

<i>(millions of dollars)</i>	Fair Value		Carrying Value¹		Balance Sheet Line Item
	2016	2015	2016	2015	
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:

(millions of dollars)	December 31, 2016			Total
	Level 1	Level 2	Level 3	
Assets				
<i>Used Fuel Segregated Fund</i>				
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
<i>Decommissioning Segregated Fund</i>				
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.

(millions of dollars)	December 31, 2015			Total
	Level 1	Level 2	Level 3	
Assets				
<i>Used Fuel Segregated Fund</i>				
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
<i>Decommissioning Segregated Fund</i>				
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:

<i>(millions of dollars)</i>	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:

<i>(millions of dollars except where noted)</i>	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:

<i>(millions of dollars)</i>	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:

<i>(millions of dollars)</i>	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 Manage- ment	Hydro- electric	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	Contracted Generation Portfolio	Unregulated 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)	Regulated			Unregulated		Total
	Nuclear Generation	Nuclear Waste Manage- ment	Hydro- electric	Contracted Generation Portfolio	Services, Trading, and Other Non- Generation	
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	Regulated Nuclear Waste Manage- ment			Unregulated Services, Trading, and Other Non- Generation		
<i>(millions of dollars)</i>	Nuclear Generation	Hydro- electric	Contracted Generation Portfolio	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	Regulated			Unregulated Services, Trading, and Other Non- Generation		
<i>(millions of dollars)</i>	Nuclear Generation	Nuclear Waste Management	Hydro- electric	Contracted Generation Portfolio	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

<i>(millions of dollars)</i>	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:

<i>(millions of dollars)</i>	2016		2015	
	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:

<i>(millions of dollars)</i>	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:

<i>(millions of dollars)</i>	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.