



# **FINANCIAL HIGHLIGHTS**

(millions of dollars except where noted)	2015	2014
REVENUE		
Revenue	5,476	4,963
Fuel expense	687	641
Gross margin	4,789	4,322
EXPENSES		
Operations, maintenance and administration	2,783	2,615
Depreciation and amortization	1,100	754
Accretion on fixed asset removal and nuclear waste management liabilities	895	797
Earnings on nuclear fixed asset removal and nuclear waste management funds	(704)	(714)
Property Taxes	45	32
Restructuring	6	18
Other	(39)	36
	4,086	3,538
Income before other loss (income), interest, income taxes, and extraordinary item	703	784
Other loss (income)	14	(3)
Net interest expense	180	80
Income tax expense	92	139
Income before extraordinary item	417	568
Extraordinary item	-	243
NET INCOME	417	811
ELECTRICITY PRODUCTION (TWh)	78.0	82.2
CASH FLOW provided by operating activities	1,465	1,433

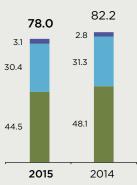


### **Revenue & Operating Highlights**

#### Legend

- Contracted Generation Portfolio\*
- Regulated Hydroelectric
- Regulated Nuclear Waste Management
- Regulated Nuclear Generation
- Other
- \* Includes OPG's thermal and hydroelectric generating stations that are under contracts, wind turbines, and OPG's share of the Portlands Energy Centre and Brighton Beach Generating Station.

# Electricity Production (TWh)

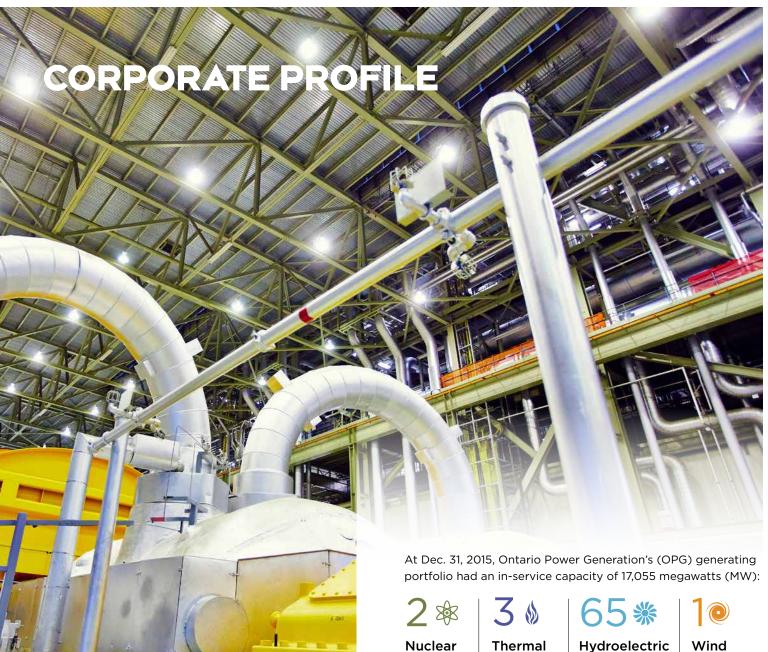


### **Revenue** (millions of dollars)



### In-Service Generating Capacity (MW) Dec. 31, 2015





Joint Message: Board Chair & President...........2 Achievement Highlights......6 Notes to the Consolidated Financial Statements ...120  generating

stations

generating stations

generating stations

power turbine

OPG's focus is on the efficient and reliable generation and sale of electricity from its generating assets, while operating in a safe, open and environmentally responsible manner. OPG was established under the Business Corporations Act (Ontario) and is wholly owned by the Province of Ontario.

The company's diversified generating portfolio consists of two nuclear generating stations, 65 hydroelectric generating stations, and three operating thermal generating stations, two of which are biomass.

OPG owns two other nuclear generating stations, which are leased on a long-term basis to Bruce Power L.P. In addition, the company is co-owner but not operator of the Brighton Beach gas-fired generating station with ATCO Power Canada Ltd., and the gas-fired Portlands Energy Centre with TransCanada Energy Ltd.

# A MESSAGE FROM THE BOARD CHAIR AND PRESIDENT

OPG's strives to generate safe, clean, reliable, low-cost power in a sustainable manner.

We produce approximately half of the electricity Ontarians rely on each day, at a cost that is about 40 per cent less than the rest of the market. From powering hospitals, schools and businesses to lighting up the scoreboard at hockey arenas, we're proud to be part of communities across Ontario.



Bernard Lord Board Chair



Jeff Lyash President and CEO

#### Our Performance

As stewards of more than \$44.3 billion in public assets, OPG works to maximize the value of these assets by ensuring they are safely and efficiently managed and maintained.

In 2015, OPG achieved solid results in many areas of the organization. While our net income and electricity production was lower compared to the previous year, asset reliability and performance was strong.

Darlington Chemistry Lab

Net income attributable to the Shareholder before extraordinary gain (one-time increase in income resulting from new regulated hydroelectric facilities) was \$402 million compared to \$561 million in 2014. The decreased earnings were mainly a result of the planned, four-unit Vacuum Building Outage (VBO) safely executed at the Darlington Nuclear Generating Station (GS) in preparation for the refurbishment project. This

complex outage resulted in lower nuclear generation and increased operations, maintenance and administration expenses.

Our Pickering Nuclear GS supplied about 14 per cent of Ontario's power last year while achieving its highest level of reliability. Since 2010, we have invested more than \$200 million in the station to ensure its safe and reliable operation.

In December, the Canadian Nuclear Safety Commission (CNSC) approved a ten-year operating licence for Darlington Nuclear — the longest operating licence granted in Canada. The new licence will span most of Darlington's refurbishment period.

The CNSC also awarded both the Darlington and Pickering Nuclear stations positive safety and control ratings, highlighting the strong performance and continuous improvements both stations have achieved.



Darlington once again received a top rating for its integrated safety assessment. This is the seventh consecutive year the station has been awarded this standing, which happens to be the strongest continuous performance by any Canadian nuclear power plant.

OPG's new Lower Mattagami River hydroelectric stations began supplying clean





Peter Sutherland Sr. GS worksite

energy to the province during the early months of 2015. Reliability and production across the fleet also remained strong throughout the year demonstrating how well maintained our heritage hydroelectric assets are.

#### Our Focus

OPG's strong performance allows us to proceed with confidence in refurbishing our nuclear plant at Darlington. In January 2016, Ontario's Energy Minister Bob Chiarelli announced the government's decision to proceed with refurbishing the first of four units at Darlington. The province also approved plans to pursue continued safe and reliable operation at the Pickering Nuclear GS beyond 2020, pending the necessary regulatory approvals.

The \$12.8 billion refurbishment investment will generate \$14.9 billion in economic benefits to Ontario, which includes thousands of construction jobs at Darlington and at some 60 Ontario companies supplying components for the job. It will also preserve about 3,000 jobs in the region as a

refurbished Darlington will provide 30-plus years of clean, reliable, base load power, at a cost lower than other alternatives considered. This in turn allows OPG to continue moderating electricity bills.

Operating Pickering to 2024 will help provide a reliable supply of electricity while units at Darlington and Bruce Power undergo refurbishment. It will also save electricity customers up to \$600 million, avoid eight million tonnes of greenhouse gas emissions and protect 4,500 jobs across the region.







Top: OPG Board Chair Bernard Lord joins Jeff Lyash, President & CEO, and Ontario Energy Minister Bob Chiarelli to discuss OPG's clean energy commitment.

Bottom: OPG's Tom Mitchell (retired), Jeff Lyash, President & CEO, and JP Gladu, OPG Board Member congratulate John Wesley Beaver award recipients (centre) Brittnee Sheridan and Jamie Monague.

#### **Our Priority**

The safety of our employees, neighbours and the environment takes priority over everything we do. Our drive towards achieving zero injuries will remain at the forefront of our business as we work to ensure our projects are delivered on time and on budget.

In 2015, OPG was recognized by the Canadian Electricity Association for our company-wide All Injury Rate and Accident Severity Rate performance. This is the second year in a row we have achieved top quartile performance among comparable utilities.

#### Our Projects

In 2015, we made substantial progress on a number of generation development and life extension projects. These projects support Ontario's long-term electricity supply requirements, and OPG's transition toward maintaining a generation portfolio that is essentially free of greenhouse gases and smog-causing emissions.

One such project, the Thunder Bay GS conversion to advanced biomass, was completed ahead of schedule and under budget early in 2015.



Darlington Nuclear GS

Preparations for the upcoming Darlington refurbishment continued. Having secured final budget and schedule approval and completed the design engineering, the project will now transition from the Planning Phase to the Execution Phase.

Also in 2015, OPG and our partner Coral Rapids Power, a wholly-owned company of the Taykwa Tagamou Nation, began construction on the Peter Sutherland Sr. GS, a 28 MW station on the Abitibi River. This \$300 million project is expected to employ 220 workers at peak and be operating in 2018.

#### Our People

We are proud of our 2015 accomplishments and grateful to our employees for their positive contributions.

It takes more than machines to make electricity — it takes people. Our employees are a diverse, highly dedicated, and professional group of individuals whose efforts keep our generating units operating 24 hours a day, 365 days a year. We thank them for their service and commitment to safely and reliably meeting the needs of the people of Ontario.

#### Our Future

Going forward, OPG will continue its focus on providing maximum value by generating safe, clean, reliable, low-cost power that benefits our customers, our communities and the province.

BERNARD LORD

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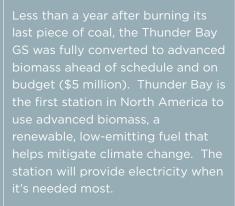
Board Chair

JEFF LYASH
President and CEO

# 2015 ACHIEVEMENT HIGHLIGHTS



# Construction Begins on Thunder Bay GS Complete Peter Sutherland Sr. GS Transformation to Biomass





#### Darlington Refurbishment Scope & Budget Approval

OPG secured Board approval for the final Darlington refurbishment budget and schedule and in January 2016, OPG welcomed the Ontario government's announcement the station's refurbishment would proceed. The province also approved plans to pursue continued safe and reliable operation of the Pickering Nuclear GS beyond 2020, pending the necessary regulatory approvals.



station will provide clean power for

up to 25,000 homes and will

## CEA Award for Employee Safety

OPG Board Chair, Bernard Lord accepted the Canadian Electricity Association's Silver Award of Excellence for Employee Safety from Energy Minister Bob Chiarelli, in recognition of our company-wide All Injury Rate and Accident Severity Rate performance in 2013 and 2014. Awards are presented to member organizations ranked at the top of the electricity industry for employee safety.



## Silver Designation for Indigenous Relations

The Canadian Council for
Aboriginal Business awarded OPG
with Silver level Progressive
Aboriginal Relations (PAR)
certification. PAR Silver recognizes
companies who have business
partnerships in place with
Aboriginal communities and
support sustainability through
investment in people and
communities. PAR is a premier
corporate social responsibility
program with an emphasis on
Indigenous relations.



#### Eugenia GS Celebrates 100 Years

Eugenia GS celebrated its 100th year of providing clean, renewable electricity for the province. Eugenia was just the second plant built under the Hydro Electric Commission of Ontario. It is one of 14 OPG hydro stations with over 100 years of reliable service.



## Darlington Vacuum Building Outage

OPG successfully completed the Darlington VBO safely, within budget and in line with the returnto-service date committed to the IESO. The massive project involved years of detailed planning and required the safe shutdown of all four Darlington reactors. Executing the VBO six years ahead of schedule ensures the station is available during the refurbishment

## CNSC Grants 10-year Licence to Darlington

The CNSC granted the Darlington Nuclear GS a 10-year licence, valid from Jan. 1, 2016, until Nov. 30, 2025. This is the longest licence ever granted to a Canadian nuclear power plant. Consistent with international practice, OPG requested a longer licence term to cover the time period of the refurbishment and the life extensior work at Darlington.

## Emergency Preparedness Planning

OPG worked with local municipalities and emergency planning teams to distribute potassium iodide (KI) pills to more than 200,000 Durham Region homes and businesses within 10 kms of the Pickering and Darlington nuclear stations. A requirement of the CNSC, the initiative was supported by a comprehensive public education campaign.



### Past Grievance Settlement with AZA First Nation

OPG reached a settlement with Animbigoo Zaaging Anishinaabek (AZA), also known as the Lake Nipigon Ojibway First Nation. The settlement was for historic grievances related to the impact of hydro projects on the AZA First Nation. This was the last of 23 agreements reached with communities impacted by Ontario Hydro and OPG's activities.



#### Darlington Earns CNSC Top Rating for Integrated Safety

In August, the CNSC awarded Darlington Nuclear its highest rating of "Fully Satisfactory" for the seventh year in a row. This is the strongest continuous performance by any Canadian nuclear power plant. Pickering Nuclear's "Satisfactory" rating is unchanged from the previous year, confirming the station is meeting all regulatory requirements.



### Pickering Nuclear Performance Improvement

Pickering Nuclear GS achieved its best operating reliability performance in the station's history This strong performance will be vital as OPG moves closer to the commencement of the Darlington refurbishment in 2016.

# FINANCIAL REPORTING



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### 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 vear ended December 31, 2015. 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. In 2014, the Ontario Securities Commission (OSC) approved an exemption which 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 heading, Exemptive Relief for Reporting under US GAAP, in the section Critical Accounting Policies and Estimates. This MD&A is dated March 4, 2016.

#### 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. 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 fuel costs and availability, generating station performance, cost of fixed asset removal and nuclear waste management, performance of investment funds, conversion of coal-fired generating stations, 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 the Ontario electricity industry, environmental and other regulatory requirements, health, safety and environmental developments, business continuity events, the weather, applications to the Ontario Energy Board (OEB) for regulatory prices, and the impact of regulatory decisions by the OEB. 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, 2015, OPG's electricity generation portfolio had an in-service capacity of 17,055 megawatts (MW). OPG operates two nuclear generating stations, three thermal generating stations, 65 hydroelectric 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 inservice 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 L.P. (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.

#### **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. This includes the following facilities (collectively, prescribed facilities or regulated facilities):

- Sir Adam Beck 1, 2 and Pump hydroelectric generating stations
- DeCew Falls 1 and 2 hydroelectric generating stations
- R.H. Saunders hydroelectric GS
- the 48 hydroelectric generating stations that were prescribed for rate regulation effective in 2014, under the amended Ontario Regulation 53/05
- 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)	2015	2014
Regulated – Nuclear Generation	6,606	6,606
Regulated – Hydroelectric	6,428	6,426
Contracted Generation Portfolio <sup>1</sup>	4,021	4,027
Total	17,055	17,059

<sup>1</sup> Includes OPG's share of in-service generating capacity of 275 MW for PEC and 280 MW for Brighton Beach.

The in-service capacity of the Regulated – Nuclear Generation and Regulated – Hydroelectric segments as of December 31, 2015 was largely consistent with the capacity as of December 31, 2014.

During the fourth quarter of 2015, the in-service capacity of the Contracted Generation Portfolio segment decreased by 6 MW. This change was largely due to an adjustment to the capacity for two of the original units at the Kipling GS from 78.5 MW per unit to 76 MW per unit to reflect turbine limit capability.

#### REVENUE MECHANISMS FOR REGULATED AND UNREGULATED GENERATION

#### **Regulated Generation**

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

	20	15	2014	
_(\$/MWh)	January 1 to June 30	July 1 to December 31	January 1 to October 31	November 1 to December 31
Regulated – Nuclear Generation				
Base regulated price	59.29	59.29	51.52	59.29
Rate riders	1.33	12.17 <sup>1</sup>	4.18	4.18
	60.62	71.46	55.70	63.47
Regulated – Hydroelectric				
Hydroelectric generating stations prescribed for rate regulation prior to 2014				
Base regulated price	40.20	40.20	35.78	40.20
Rate riders	6.04	9.23 <sup>1</sup>	2.02	2.02
	46.24	49.43	37.80	42.22
Hydroelectric generating stations prescribed for rate regulation effective in 2014				
Base regulated price	41.93	41.93	N/A	41.93
Rate rider	-	3.19 <sup>1</sup>	N/A	-
	41.93	45.12	N/A	41.93

The increase in the 2015 rate riders effective July 1, 2015 was implemented by the OEB effective October 1, 2015. As such, in addition to the 2015 rate riders shown in the table, 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 rate rider is \$2.17 per megawatt hour (MWh) and the regulated hydroelectric interim rate rider is \$0.64/MWh.

The base regulated prices effective November 1, 2014 were established by the OEB's November 2014 decision and December 2014 order on OPG's 2013 application for new regulated prices. Effective November 1, 2014, the OEB also established regulated prices for the 48 hydroelectric facilities that were prescribed for rate regulation effective in 2014. Prior to November 1, 2014, the generation revenue for these 48 hydroelectric facilities was based on the Ontario electricity spot market price. The base regulated prices are expected to remain in effect until superseded by a subsequent order of the OEB.

The above base regulated prices were established using a forecast cost-of-service methodology based on the OEBapproved revenue requirements, 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.

Rate riders for OPG are established to recover or repay approved balances in OEB-authorized regulatory variance and deferral accounts. The 2015 rate riders included the riders established by the OEB's December 2014 order, as well as the riders authorized by the OEB's October 2015 order on OPG's 2014 application to recover the December 31, 2014 variance and deferral account balances. The rate riders established by the December 2014 order were in effect from January 1, 2015 to December 31, 2015. The rate riders authorized by the October 2015 order are in effect from July 1, 2015 to December 31, 2016. The OEB's October 2015 order and related decisions are further discussed under the heading, Recent Developments.

#### **Unregulated Generation**

Electricity generated from most of OPG's unregulated 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 2015, 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
- 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:

- 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 under construction. Payments under this ESA will commence when the station achieves commercial operation. Further details on the Peter Sutherland Sr. GS project are found under the heading, Project Excellence.

#### **HIGHLIGHTS**

#### **Overview of Results**

This section provides an overview of OPG's operating results for 2015 and 2014.

5,476	4,963
687	641
4,789	4,322
2.783	2,615
1,100	754
895	797
(704)	(714)
-	77
(39)	(41)
45	32
6	18
4,086	3,538
703	784
14	(3)
690	787
~~~	80
100	- 00
509	707
92	139
417	568
417	243
	240
417	811
402	804
	7
15	1
78.0	82.2
1,465	1,433
	687 4,789 2,783 1,100 895 (704) - (39) 45 6 4,086 703 14 689 180 509 92 417 - 417 402 15 78.0

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.

<sup>&</sup>lt;sup>2</sup> 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 \$402 million for 2015, a decrease of \$402 million compared to 2014.

Income before interest, income taxes, and extraordinary item was \$689 million for 2015, a decrease of \$98 million compared to 2014. The following summarizes the significant factors which contributed to the variance:

Significant factors that reduced income before interest, income taxes, and extraordinary item:

- Fewer expenses deferred in regulatory accounts in 2015 resulting in higher depreciation, accretion, nuclear fuel, and operations, maintenance and administration (OM&A) expenses in 2015 of \$258 million. The higher deferrals in 2014 were primarily due to costs not included in the regulated prices in effect prior to November 1, 2014
- Lower nuclear gross margin of approximately \$190 million in 2015 as a result of a 3.6 terawatt hour (TWh)
  decrease in nuclear generation compared to 2014, primarily due to the four-unit Darlington Vacuum Building
  Outage (VBO)
- Increase in nuclear OM&A expenses, in addition to the impact of regulatory deferrals, of \$169 million primarily due to the execution of the Darlington VBO in 2015 and other outage activities in 2015, partly offset by savings in salary costs resulting from lower staff numbers
- Decrease in earnings from the Services, Trading, and Other Non-Generation segment of \$70 million, primarily due to higher trading margins during the first quarter of 2014 as a result of the unseasonably cold winter
- In addition to the impact of regulatory deferrals on accretion expense, decrease in earnings from the Regulated – Nuclear Waste Management segment of \$51 million primarily due to higher accretion expense due to the increase in the nuclear fixed asset removal and nuclear waste management liabilities (Nuclear Liabilities).

Significant factors that increased income before interest, income taxes, and extraordinary item:

- Increase in revenue of approximately \$290 million in the Regulated Nuclear Generation segment and \$85 million in the Regulated – Hydroelectric segment as a result of higher average sales prices due to new base regulated prices authorized by the OEB effective November 1, 2014 for all of OPG's regulated facilities, including the 48 hydroelectric stations prescribed for rate regulation effective in 2014
- Higher earnings of \$153 million from the Contracted Generation Portfolio segment primarily due to the new
  units of the Lower Mattagami River hydroelectric generating stations that were placed in service throughout
  2014, and the conversion to biomass fuels of units at the Atikokan GS and the Thunder Bay GS
- Increase in earnings in the Regulated Hydroelectric segment in 2015 due to the write-off of \$77 million recorded in 2014 as a result of a regulatory disallowance by the OEB related to the Niagara Tunnel project.

Net interest expense increased by \$100 million in 2015, compared to 2014, primarily due to the cessation of interest capitalization for the Lower Mattagami River project, and costs that are no longer being deferred in 2015 in the Capacity Refurbishment Variance Account in respect of the Niagara Tunnel project. Interest costs were being deferred in respect of the Niagara Tunnel project in 2014 because they were not reflected in the regulated prices in effect prior to November 1, 2014.

Income tax expense decreased by \$47 million in 2015, compared to 2014, largely as a result of the change in reserves from the resolution of uncertainties, and lower income before income taxes.

In the third quarter of 2014, OPG recognized an increase in regulatory assets related to deferred income taxes expected to be recovered from customers through future regulated prices in respect of the 48 hydroelectric facilities prescribed for rate regulation effective in 2014, resulting in an extraordinary gain of \$243 million in the consolidated statements of income in 2014.

#### **Segment Results**

The following table summarizes OPG's income before interest, income taxes, and extraordinary item by business segment. Significant factors which contributed to the lower income during 2015, compared to 2014, 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.

(millions of dollars)	2015	2014
Inimions of dollars)	2013	2017
(Loss) income before interest, income taxes, and extraordinary item		
Regulated – Nuclear Generation	(2)	217
Regulated – Hydroelectric	650	502
Contracted Generation Portfolio	264	111
Total electricity generation business segments	912	830
Regulated – Nuclear Waste Management	(186)	(76)
Services, Trading, and Other Non-Generation	(37)	`33 <sup>°</sup>
	689	787

#### **Electricity Generation**

Electricity generation for 2015 and 2014 was as follows:

(TWh)	2015	2014
[TWII]	2010	2017
Regulated – Nuclear Generation	44.5	48.1
Regulated – Hydroelectric		
Hydroelectric generating stations prescribed for rate regulation prior to 2014	19.4	19.2
Hydroelectric generating stations prescribed for rate regulation effective in 2014	11.0	12.1
Contracted Generation Portfolio <sup>1</sup>	3.1	2.8
Total OPG electricity generation	78.0	82.2
Total electricity generation by other generators in Ontario <sup>2</sup>	76.1	72.2

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

The decreased generation in 2015, compared to 2014, was primarily a result of:

- lower electricity generation from the Regulated Nuclear Generation segment mainly due to the VBO at the Darlington GS, which required the shutdown of all four units for the duration of the outage. The VBO started on September 14, 2015 and was completed safely on October 30, 2015. The decrease in generation was partially offset by higher generation at the Pickering GS primarily due to its improved operating performance compared to 2014, and
- lower generation from the hydroelectric generating stations prescribed for rate regulation effective in 2014 mainly due to lower water flows in eastern Ontario, partially offset by
- additional generation in the Contracted Generation Portfolio segment from the Lower Mattagami River hydroelectric generating stations, and
- an increase in generation from OPG's regulated hydroelectric generating stations prescribed for rate regulation prior to 2014 due to higher water flows on the Niagara River.

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

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

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 2015, compared to 139.8 TWh in 2014.

Baseload generation supply surplus to Ontario demand continued to be prevalent in 2015. The surplus to the Ontario market is managed by the IESO, mainly through generation reductions at hydroelectric and nuclear stations and grid-connected renewable resources. Reducing hydroelectric production, which often results in spilling of water, is the first measure that the IESO uses to manage surplus baseload generation (SBG) conditions. During each of 2015 and 2014, OPG lost 3.2 TWh of hydroelectric generation due to SBG conditions. The gross margin impact of production forgone at OPG's regulated hydroelectric stations in 2015 and 2014 due to SBG conditions was offset by a regulatory variance account authorized by the OEB. For hydroelectric stations prescribed for rate regulation effective in 2014, the regulatory variance account became effective on November 1, 2014. For the remaining regulated hydroelectric stations, the variance account has been in effect since prior to 2014.

#### **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 Unregulated Generation*.

The average sales price for the Regulated – Nuclear Generation segment during 2015 was 6.5 cents per kilowatt hour (¢/kWh), compared to 5.6 ¢/kWh during 2014. The average sales price for the Regulated – Hydroelectric segment was 4.7 ¢/kWh, compared to 4.0 ¢/kWh during 2014. The increase in the average sales prices for the Regulated – Nuclear Generation and the Regulated – Hydroelectric segments was a result of the new base regulated prices effective November 1, 2014 and new rate riders effective in 2015. The average price for the Regulated – Hydroelectric segment in 2014 reflected the impact of spot market prices received prior to November 1, 2014 for the generation from the 48 hydroelectric stations prescribed for rate regulation effective in 2014.

#### **Cash Flow from Operations**

Cash flow provided by operating activities for 2015 was \$1,465 million, compared to \$1,433 million for 2014. The increase in cash flow provided by operating activities in 2015 compared to 2014 was primarily due to the higher base regulated prices authorized effective November 1, 2014 for all of OPG's regulated facilities and the rate riders authorized in October 2015, and higher revenues from the Contracted Generation Portfolio segment. The increase was partially offset by higher OM&A expenditures during 2015.

#### **Funds from Operations Adjusted Interest Coverage**

Funds from Operations (FFO) Adjusted Interest Coverage is an indicator of OPG's ability to meet interest obligations from operating cash flows. The FFO Adjusted Interest Coverage was 5.0 times for 2015 compared to 2.8 times for 2014. The FFO Adjusted Interest Coverage in 2015 increased primarily due to a higher FFO reflecting higher regulated prices for OPG's nuclear and regulated hydroelectric generation, and a lower adjusted interest expense resulting from an increase in the expected return on pension plan assets in 2015. The increase in the expected return was mainly due to a higher pension plan assets value at the end of 2014 compared to 2013, as a result of the strong performance of the pension plan assets during 2014.

#### Return on Common Equity Excluding Accumulated Other Comprehensive Income

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 2015 was 4.0 percent, compared to 8.5 percent for 2014. ROE Excluding AOCI decreased for the year primarily due to lower net income attributable to the Shareholder, including the impact of the extraordinary gain of \$243 million recognized in 2014 related to the

48 hydroelectric stations prescribed for rate regulation effective in 2014. The Return on Common Equity Excluding Accumulated Other Comprehensive Income, excluding extraordinary gain, was 4.1 percent for 2015, compared to 6.0 percent for 2014.

OPG's ROE Excluding AOCI reflects the relatively higher equity component in its 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 a prescribed rate of return and a deemed capital structure. In its November 2014 decision, 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.

FFO Adjusted Interest Coverage and ROE Excluding AOCI are not measurements in accordance with US GAAP and should not be considered an alternative measure to net income, cash flows from operating activities, or any other performance measure under US GAAP. OPG believes that these non-GAAP financial measures are effective indicators of performance and are consistent with its corporate strategy to provide value to the Shareholder and to ensure availability of cost effective funds. The definition and calculation of FFO Adjusted Interest Coverage and ROE Excluding AOCI can be found under the heading, *Key Operating and Financial Performance Indicators* and *Supplementary Non-GAAP Financial Measures*, respectively.

#### **Recent Developments**

#### **Darlington Refurbishment**

On January 11, 2016, the Province announced that Ontario is moving forward with OPG's refurbishment of the four-unit Darlington GS at a total project budget of \$12.8 billion, with the refurbishment of the last unit scheduled to be completed by 2026. The Province's announcement followed the approval of the project budget and schedule by OPG's Board of Directors in November 2015. The budget of \$12.8 billion includes capitalized interest and escalation.

The Province has approved OPG to proceed with the execution of the refurbishment of the first of the four Darlington units, which is scheduled to commence in October 2016. OPG has begun the preparation for the first unit's refurbishment and, in January 2016, the Darlington Refurbishment project transitioned from the planning phase to the execution phase. OPG will be required to obtain the Province's approval prior to proceeding with each of the remaining unit refurbishments.

In January 2016, OPG awarded the Retube and Feeder Replacement (RFR) execution phase contract, which includes the removal and replacement of the fuel channel assemblies and the replacement of feeder pipes for each of the station's four reactors as part of unit refurbishments. The RFR is the largest sub-project of the Darlington Refurbishment project and represents a majority of the critical path schedule. The contract is valued at approximately \$2.75 billion for work to be executed on all four units and contains suspension and termination provisions. The RFR execution phase contract is the last major contract for the Darlington Refurbishment project that OPG expects to award as it moves forward with the first unit's refurbishment.

In December 2015, the Canadian Nuclear Safety Commission (CNSC) granted the Darlington GS a 10-year operating licence effective from January 1, 2016 to November 30, 2025. The term of the new licence spans most of the planned duration of the Darlington Refurbishment project.

The Darlington Refurbishment project is discussed further under the heading, *Project Excellence* in the *Core Business and Strategy* section. Further discussion of the operating licence renewal for the Darlington GS is found under the heading, *Operational Excellence* in the *Core Business and Strategy* section.

#### Pickering Extended Operations to 2024

On January 11, 2016, OPG announced that it plans to pursue continued safe and reliable operation of the Pickering GS beyond 2020. 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. On January 11, 2016, the Province announced its approval of OPG's plan to pursue continued operation of the Pickering GS beyond 2020 up to 2024. Extending operations at the Pickering GS is expected to provide Ontario with a clean, reliable source of baseload electricity during the Darlington GS and initial Bruce nuclear unit refurbishments.

As part of the plan to extend Pickering operations, OPG is conducting component condition assessments to identify the work required to support the continued operation of the station to 2024. OPG is also continuing fuel channel life management work to confirm that the Pickering pressure tubes will achieve the additional life predicted by the technical work carried out to date.

OPG's current operating licence for the Pickering GS expires on August 31, 2018. By June 30, 2017, OPG is required to confirm to the CNSC the end date of commercial operations of all operating Pickering units.

As at December 31, 2015, the end-of-life date for the operating units at the Pickering GS, for accounting purposes, was to the end of 2020. The end of life accounting assumptions will be reassessed when OPG's further technical work confirms that the longer fuel channel life necessary to extend Pickering operations will be achieved.

#### Bruce Power Refurbishment and Bruce Lease Agreement

On December 3, 2015, the Province announced that Ontario will proceed with Bruce Power's refurbishment of the six unrefurbished units of the Bruce nuclear generating stations. The Province also announced that the refurbishment agreement between the IESO and Bruce Power had been correspondingly updated.

Effective December 31, 2015, OPG revised its accounting assumptions for the estimated useful lives of the Bruce A GS and Bruce B GS by extending them to reflect the estimated unit end-of-life dates reflected in the updated refurbishment agreement between the IESO and Bruce Power. Under the terms of the existing lease agreement between Bruce Power and OPG (Bruce Lease) and as required by the CNSC, OPG is primarily responsible for the Nuclear Liabilities associated with the Bruce nuclear generating stations. As such, effective December 31, 2015, OPG recognized an increase in the Nuclear Liabilities and related asset retirement costs capitalized to property, plant, and equipment to reflect changes in the useful lives for the Bruce nuclear generating stations. These changes do not impact OPG's net income for 2015. These changes are also not expected to materially affect OPG's income in 2016, as the existing Bruce Lease Net Revenues Variance Account and a new deferral account proposed by OPG in its December 2015 application to the OEB are expected to largely offset the changes in expenses arising from the changes in the estimated useful lives and the Nuclear Liabilities. The changes to the estimated useful lives of OPG's nuclear stations and OPG's application for a new deferral account are further discussed under the heading, Changes in Accounting Policies and Estimates.

In connection with the Province's endorsement of Bruce Power's refurbishment plans, the Bruce Lease and related agreements were amended in December 2015 to extend Bruce Power's future options to renew the lease up to the end of 2064. To achieve better alignment with OPG's costs, the agreements were also amended to revise, starting in 2016, the approach for calculating nuclear waste management fees and supplemental rent payments payable to OPG for all Bruce units in addition to base rent, and to modify the fee structure for OPG's heavy water detritiation services starting in 2016. Amendments were also made to enable adjustments to future base rent and other fees for potential future changes in OPG's decommissioning and nuclear waste management cost estimates related to the Bruce facilities, and to remove a conditional supplemental rent rebate provision effective December 4, 2015. The impact of the removal of the supplemental rent rebate provision on the consolidated financial statements is discussed under the heading. Balance Sheet Highlights. The changes in revenues in 2016 resulting from the above amendments are expected to be offset by the impact of the Bruce Lease Net Revenues Variance Account.

#### Amendments to Ontario Regulation 53/05

In November 2015, the Province amended *Ontario Regulation 53/05* to establish a deferral account, effective January 1, 2017, that will record, for future recovery, a portion of the annual OEB-approved revenue requirement for OPG's nuclear facilities, with a view of making more stable year-over-year changes in OPG's nuclear regulated prices for the period from January 1, 2017 to the end of the Darlington Refurbishment project. The amended regulation requires the OEB to determine the revenue requirement for OPG's nuclear facilities on a five-year basis for the 10-year period beginning on January 1, 2017. The portion of the approved revenue requirement deferred in the new account each year will also be determined by the OEB on a five-year basis during this 10-year period. 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.

The regulation was also amended to require 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.

#### OEB Application to Recover Balances in Variance and Deferral Accounts

In December 2014, OPG filed an application with the OEB to recover approximately \$1.8 billion in December 31, 2014 balances in most of the Company's authorized variance and deferral accounts. A partial settlement agreement between OPG and intervenors providing for the recovery of approximately \$1.5 billion of the total amount sought by OPG (the Partial Settlement Agreement) was approved by the OEB in June 2015. In September 2015, the OEB issued its decision approving for recovery, without adjustments, the remaining balances of \$263 million requested in OPG's application, which were not covered by the Partial Settlement Agreement.

In October 2015, the OEB issued an order implementing its June 2015 and September 2015 decisions. The order established new rate riders for OPG's regulated generation effective July 1, 2015, authorizing OPG to recover \$933 million over the period from October 1, 2015 to December 31, 2016. The remaining approved balances will be subject to recovery after 2016. The additional revenue from the new riders in 2015 was largely offset by a corresponding increase in amortization expense related to regulatory balances. The rate riders in effect during 2015 are found under the section, *Revenue Mechanisms for Regulated and Unregulated Generation*.

A further discussion of OPG's variance and deferral account balances is included under the section, *Balance Sheet Highlights*.

#### 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 decision, the OEB reversed a portion of the original disallowance of the Niagara Tunnel project expenditures, and upheld the original tax loss 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. In the first quarter of 2016, OPG expects to record a gain of approximately \$21 million to recognize the expected future recovery from customers of the portion of the disallowance reversed by the OEB's motion decision. 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 will not impact OPG's 2016 financial results.

#### Supreme Court of Canada's Decision on 2011 OEB Ruling

In its March 2011 decision on OPG's application for regulated prices effective March 1, 2011, the OEB disallowed recovery of \$145 million of OPG's forecast nuclear compensation costs for the 2011 to 2012 period. The majority of these costs were based on previously negotiated collective bargaining agreements. OPG appealed this decision to the Divisional Court of Ontario in 2011 and, through subsequent appeals, the matter was heard by the Supreme Court of Canada (Supreme Court) in December 2014. In September 2015, the Supreme Court issued its decision upholding the disallowance.

As OPG's financial results have previously reflected the effect of the OEB's disallowance, the decision by the Supreme Court did not impact OPG's 2015 results.

#### Shareholder Declaration and Resolution to Sell the Company's Head Office

In December 2015, OPG received a Shareholder Declaration and Resolution that requires the Company to sell its head office premises in Toronto, Ontario. The Shareholder Resolution also requires OPG to transfer to the Province the portion of the proceeds from the sale equal to the after-tax accounting gain on sale, net of transaction costs.

#### Renewal of Collective Agreements

As at December 31, 2015, the Power Workers' Union (PWU) represented approximately 5,300 OPG regular employees or 57 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.

The Society of Energy Professionals (The Society) represented approximately 2,950 OPG employees or 32 percent of OPG's regular workforce as at December 31, 2015. The governing 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. 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 respective contract and eligibility to annually receive shares in Hydro One Inc. (Hydro One) for up to 15 years starting in the third year of the contract, as long as these employees continue to make contributions to the OPG pension plan. The contract terms of both agreements were conditional on the initial public offering of Hydro One shares, which occurred in November 2015.

#### **CORE BUSINESS AND STRATEGY**

OPG delivers value to Ontario electricity customers and its Shareholder, the Province of Ontario, by reliably and costeffectively producing electricity from its diversified portfolio of clean energy generating assets while operating in a safe, transparent, environmentally responsible and commercially sound manner. 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:

- 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. Workplace safety performance is measured using two primary indicators:

- All Injury Rate (AIR)
- Accident Severity Rate (ASR).

Overall, OPG's workplace safety performance is consistently one of the best amongst its comparator Canadian electrical utilities. In November 2015, OPG was recognized by the Canadian Electricity Association (CEA) for the third consecutive year for achieving top quartile performance amongst comparable utilities with its 2014 AIR and ASR results.

OPG's AIR and ASR results were as follows:

	2015	2014
AIR (injuries per 200,000 hours worked)	0.39	0.36
ASR (days lost per 200,000 hours)	0.50	1.31

OPG remains steadfast in its commitment to workplace safety excellence and continuous improvement in safety management systems. In 2015, OPG continued to focus on strengthening its integrated health and safety management system and operational risk control procedures across the company. These controls ensure continued enterprise-wide monitoring of health and safety performance and support continuous learning and improvement in these areas.

Contractors are required to conduct work safely at OPG sites. In support of this requirement, OPG utilizes a contractor pre-qualification process, applies contractor safety governance, and provides on-site safety support for many of OPG's major projects. In 2015, OPG reviewed contractors' health and safety programs and implemented additional oversight and field monitoring to ensure ongoing compliance. In the past seven years, OPG has consistently shown a better than average Construction Contractor AIR as compared to the Health and Safety Association Contractor AIR, which is 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 those individuals who live or work near the stations. The annual dose to the public resulting from operations of each nuclear facility is expressed in microsieverts ( $\mu$ Sv), which is an international unit of radiation dose measurement. For 2014, the annual public doses resulting from the Darlington GS operations and the Pickering GS operations were 0.6  $\mu$ Sv and 1.2  $\mu$ Sv, respectively, which is approximately 0.1 percent of the annual legal limit of 1,000  $\mu$ Sv. While the public doses from OPG's nuclear operations for the 2015 operating year will not be finalized until the second quarter of 2016, they are not expected to differ significantly from the 2014 levels.

OPG is 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. OPG continues to develop a new risk-informed approach on behalf of the Ontario Ministry of Natural Resources and Forestry (MNRF) to prioritize and manage risks identified through dam safety assessments. In 2015, OPG continued its water safety campaign with a series of public service announcements illustrating the danger of water near hydroelectric dams and 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 2015 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. During 2015, OPG participated in two World Association of Nuclear Operators (WANO) peer evaluations to compare against standards of excellence through an in-depth and objective review by an international panel of industry experts. In June 2015, OPG hosted a WANO peer evaluation for the Pickering GS, which focused on the safe and reliable operation of the station. The review confirmed that the Pickering GS continues to operate at high levels of safety. In November 2015, OPG hosted a corporate WANO peer evaluation for OPG's support functions, which focused on how these functions support the nuclear stations in their day-to-day operations. The results from this review identified areas of strength and areas for improvement.

OPG is continuing work on fuel channel life management with a view to increasing confidence for continued operation of the Pickering GS. OPG has completed the necessary work to demonstrate with sufficient confidence that the Pickering fuel channel life will allow all six operating units of the station to operate to the end of 2020. OPG's early technical work to date also shows that the Pickering GS can be operated safely beyond 2020. As such, OPG and the Province announced in January 2016 that OPG plans to pursue continued safe and reliable operation of the station to 2024. Under OPG's plan, all six operating units would operate to 2022, at which point two units would be shut down and the remaining four units would continue to operate to 2024. OPG is conducting component condition assessments to identify the work required to support the extended operation of the station to 2024 and is continuing fuel channel life management work to confirm that the station's pressure tubes will achieve the additional life predicted by the technical work undertaken to date.

OPG's current operating licence for the Pickering GS expires on August 31, 2018. 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 for the CNSC's approval in 2018.

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 through implementing equipment modifications and fuel handling reliability improvements, reducing equipment maintenance backlogs, and completing critical and high priority work. This has resulted in Pickering GS achieving the best ever reliability in the history of the station during 2015.

Darlington's generation performance for 2015 was below plan, primarily as a result of outages required to mitigate equipment performance challenges, including those related to heat transport pump motors and turbine auxiliaries.

Improvement plans to address life cycle issues associated with this equipment continue to be developed as part of the station's equipment reliability strategy and are in the process of being implemented. This includes procuring additional spare primary heat transport pump motors and accelerating the replacement and refurbishment of the existing motors.

Nuclear inspection and testing programs are largely driven by maintenance and regulatory requirements, and are designed to ensure that equipment is performing reliably and safely. 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. A station-wide VBO at the Darlington GS requiring the shutdown of all four units for the duration of the outage was carried out in 2015. The VBO included inspection and testing of common safety systems to ensure continued availability for the next 12 years. Station containment and vacuum building structure testing was also performed during the outage with favourable results. The outage commenced on September 14, 2015 and was completed safely on October 30, 2015, within budget and in line with the return-to-service date committed to the IESO. This was the last VBO prior to the execution of the Darlington Refurbishment project and, therefore, the successful execution of the VBO was a critical step in support of the project's success.

Work is in progress 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 to sustain safe and reliable station operations for the next three decades.

In December 2013, OPG submitted an application to the CNSC for the licence renewal for the Darlington GS spanning the planned duration of the Darlington Refurbishment project. The existing licence for the station expired on December 31, 2015. In December 2015, Darlington GS received a ten-year operating licence, which is the longest licence ever granted by the CNSC to a Canadian nuclear power plant. The new licence, which is effective from January 1, 2016 to November 30, 2025, will allow OPG to execute the refurbishment of the four Darlington units. The licence term reflects the strong performance of the Darlington station and the preparations OPG has made for the refurbishment of the station as part of its commitment to operational and project excellence.

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.

#### Hydroelectric Operations

The objectives of OPG's hydroelectric operations include operating and maintaining the generating facilities in an efficient and cost-effective manner, and enhancing asset 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. Over the next three years, OPG plans to increase the total capacity of its hydroelectric generating fleet by approximately 35 MW. OPG is also planning to repair, rehabilitate, or replace a number of aging civil structures. Where economic and practical, OPG pursues opportunities to expand or redevelop its existing hydroelectric stations.

As part of its commitment to operational excellence, OPG continues to make investments in its existing hydroelectric generating fleet. During 2015, OPG continued to execute a number of projects, including:

- completion of major equipment overhauls and rehabilitation work on Unit 1 of the Lower Notch GS, Unit 3 of the Des Joachims GS, the Manitou Falls GS, and the Otto Holden GS
- completion of the runner replacement and upgrade for Unit 2 of the Aguasabon GS
- continued work on the rehabilitation of Unit 5 of the Sir Adam Beck Pump GS, Unit 10 of the Sir Adam Beck 1 GS, Unit 2 of the Harmon GS, and concrete rehabilitation of the main dam at the Chats Falls GS.

During the first half of 2016, OPG will begin the execution of the capital project to refurbish the Sir Adam Beck Pump GS reservoir with a target completion date of April 2017. Project activities will include de-watering of the existing reservoir and performing reservoir floor repairs.

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 in regions where opportunities existed to more effectively utilize resources. This was successfully accomplished in both the Northwestern and Eastern Ontario regions. OPG will continue to evaluate potential opportunities for further regionalization of its hydroelectric and thermal fleet.

#### Thermal Operations

In April 2014, OPG ended coal-fired generation at the Thunder Bay GS, which marked the end of coal-fired generation in Ontario. Ontario is the first jurisdiction in North America to fully eliminate coal as a source of electricity generation.

OPG's thermal operations consist of biomass fuelled generating units at each of Atikokan GS and Thunder Bay GS, and an oil/gas fuelled generating station, the Lennox GS. OPG completed the conversion of one unit at the Thunder Bay GS to advanced biomass fuel and declared the unit in commercial operation in January 2015.

OPG's three thermal generating stations operate as peaking facilities, depending on electricity demand. This provides Ontario's electricity system with the flexibility to meet changing daily system demand and capacity requirements and enables 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 is expected to provide Ontario with over 2,000 MW of peaking generation.

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. OPG continues to preserve the option to convert the Lambton GS to natural gas in the future. There is currently no cost recovery mechanism in place for the costs incurred to preserve the site. The Company will revisit the decision to continue to incur preservation costs for the Lambton GS site in conjunction with Ontario's next LTEP. Continued preservation of the Lambton GS would provide Ontario with an option for approximately 900 MW of additional peaking capacity should repowering to natural gas be pursued. The costs incurred to preserve the station are charged to OM&A expenses.

In 2015, OPG announced that it would decommission the Nanticoke GS, as it could not commercially support further preservation costs without a corresponding recovery mechanism. OPG is currently developing a decommissioning plan for the Nanticoke GS, which will ensure that the station is closed safely, securely, and in an environmentally responsible manner. The costs of decommissioning the station are charged to a previously established decommissioning provision.

#### **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 continuous improvement
- manage its sites in a manner that strives to maintain, or enhance where it makes business sense, significant natural areas and associated species of concern.

In 2015, 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, water emissions, water flow and level changes, radioactive emissions, radioactive wastes, habitat enhancement, and fish impingement and entrainment. Further details regarding OPG's environmental risks can be found under the section, *Risk Management*.

Environmental performance targets are set as part of the annual business planning process. OPG met or outperformed its 2015 targets for spills, environmental infractions, production of low and intermediate level radioactive waste, volume of non-processible radioactive waste shipped, and carbon-14 emissions to air. Performance for tritium emissions to air and water remained less than one percent of the regulatory limit. There were no significant environmental events during 2015.

There were no significant changes to environmental legislation applicable to OPG in 2015. In the second quarter of 2015, the Province announced its intention to implement a cap-and-trade system to regulate greenhouse gas (GHG) emissions. The implementing regulation is expected to be issued in 2016, with the program commencing in 2017. With OPG's low GHG emitting fleet, the program is not expected to have a material adverse economic impact on the Company. OPG continues to monitor federal and provincial developments in the area of climate change.

OPG communicates its environmental performance internally to employees and to external stakeholders, including the Ontario Ministry of the Environment and Climate Change, Environment 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 2014 Sustainable Development Report, available on the Company's website at <a href="https://www.opg.com">www.opg.com</a>.

#### Improving Efficiency and Reducing Costs

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 realignment of work, streamlining of processes and, where appropriate, continuing to leverage attrition to achieve human resource targets aligned with business requirements. Cost reduction initiatives are 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 that was implemented as part of a multi-year Business Transformation initiative. Through the Business Transformation initiative, OPG has reduced its regular headcount from ongoing operations by approximately 2,700 since the beginning of 2011, and embedded continuous improvement into organizational values and expected behaviours. The reductions in headcount to date have surpassed internal targets. Going forward, OPG is focusing on ensuring that the right human resources are in place to meet business objectives and build on efficiency gains achieved to date.

OPG's support functions, including human resources, information technology, finance, and business services, are focused on delivering cost effective services and managing risks in support of the Company's strategic imperatives. Since the launch of Business Transformation, OPG's support functions have achieved improved efficiency through process re-engineering, technology enhancements, governance streamlining, optimization of service delivery models, and other initiatives.

OPG's recent efforts to improve efficiency and reduce costs include the Enterprise Systems Consolidation Project (ESCP), a large-scale initiative to streamline the Company's software systems and improve business processes through the implementation of a common enterprise software platform. In early 2015, OPG successfully completed the implementation of the ESCP, which integrated enterprise systems that support plant operations, purchasing, payments, and time reporting in order to increase efficiencies.

In addition, in October 2015, following a competitive bid process, OPG awarded a five-year information technology services outsourcing contract to its incumbent provider, effective February 2016. The new contract is expected to generate ongoing cost savings for OPG.

As part of its commitment to operational excellence, OPG will continue to identify further opportunities to work more efficiently, reduce costs, and enhance organizational agility.

#### People and Culture

A well trained and engaged workforce is fundamental to the achievement of OPG's strategic imperatives. OPG continues to communicate and implement the values and behaviours expected from its employees in order to embed a strong corporate culture focused 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 retention programs, and hiring in key areas. Securing the right talent mix will be supported through workforce planning and resourcing strategies, both to acquire external talent into the organization and to develop existing employees, in order to effectively meet the Company's immediate and longer term business needs. Resourcing strategies are being developed to the end of planned commercial operations of the Pickering GS through to the end of the station's planned post-operating stabilization period, during which the units are expected to be defueled and placed in a safe state condition. The goal of these strategies will be to ensure that the Company's workforce continues to have the right skill set and capability for the safe and effective operation of the generating facilities into the future.

As part of its 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. In 2015, OPG implemented a company-wide high potential leadership development program. This 18-month cross functional program is designed to identify and develop candidates for future leadership positions while they are still relatively early in their career. Approximately 120 employees are actively participating in the program with another 120 spaces planned for 2016.

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.

#### **Project Excellence**

OPG is pursuing a number of generation development and other 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's major projects include the refurbishment of the Darlington GS and the construction of the Peter Sutherland Sr. GS, a new hydroelectric generating station. Other projects include the Deep Geologic Repository (DGR) for the management of low and intermediate level waste (L&ILW). The status updates for OPG's major projects as of December 31, 2015 are outlined below.

Project		oital ditures	Approved budget	Planned in-service	
(millions of dollars)	Year-to-date	Life-to-date		date	
Darlington Refurbishment	706	2,166	12,800 <sup>1</sup>	2026 <sup>1</sup>	See update below.
DGR for L&ILW	<b>7</b> <sup>2</sup>	186²			See update below.
Peter Sutherland Sr. GS	83	95	300	First half of 2018	See update below.
Lower Mattagami River Project	115	2,484	2,600	June 2015	All six new units were placed in-service by December 2014 ahead of schedule and under budget. Project closure activities continued throughout 2015.

The total project budget of \$12.8 billion is for the refurbishment of the four units at the Darlington GS, with the last unit scheduled to be completed by 2026.

OPG's aim 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 involves, among other things, putting in place qualified project management teams, performing detailed engineering, optimizing contracting strategies, engaging qualified and experienced vendors, and effectively monitoring and controlling performance.

#### **Darlington Refurbishment**

The Darlington generating units are currently 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 Darlington GS by approximately 30 years. The Darlington Refurbishment project is a multi-phase program comprising the following five major sub-projects:

- Retube and Feeder Replacement, which includes 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-fueling and Fuel Handling**, which involves the de-fueling of the reactors and 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.

Project expenditures are funded by the nuclear fixed asset removal and nuclear waste management liabilities. Design activities on the project have been suspended pending receipt of the site preparation and construction licence.

On January 11, 2016, the Province announced that Ontario is moving forward with the four-unit refurbishment at the Darlington GS with the total project budget of \$12.8 billion. The total project budget of \$12.8 billion, which includes capitalized interest and escalation, was approved by OPG's Board of Directors in November 2015. The budget is consistent with the previous total project cost estimate of less than \$10 billion in 2013 dollars, excluding capitalized interest and escalation. The refurbishment of the last unit is scheduled to be completed by 2026.

In 2016, the Darlington Refurbishment project transitioned from the planning phase to the execution phase, as OPG began preparations for the refurbishment of the first unit, Unit 2, which is scheduled for October 2016.

In January 2016, OPG awarded the RFR execution phase contract. All major executed contracts for the Darlington Refurbishment project contain suspension and termination provisions.

The following is a summary of the 2015 activities and developments related to the project:

- In December 2015, OPG received a 10-year operating licence for the Darlington GS from the CNSC, which is effective from January 1, 2016 to November 30, 2025 and will span most of the refurbishment period
- As part of the Darlington operating licence renewal in December 2015, the CNSC approved the regulatory scope defined in the Integrated Implementation Plan (IIP). The IIP identifies activities that are required to be undertaken to meet updated codes, standards, and practices, and to ensure that the operation of the station continues to pose minimal risk to health, safety, security, and the environment
- An industrial contractor with significant field construction experience was engaged to assist in the active management and oversight of the project's field activities
- Testing of critical tools to be used in the RFR and De-fueling and Fuel Handling sub-projects, and detailed engineering design for the project were completed as planned
- A number of pre-requisite projects, including construction of facilities, infrastructure upgrades and installation
  of safety enhancements, are being completed in support of the execution phase of the project. A portion of
  these projects has been completed, with the remaining projects tracking to be completed in line with the
  execution plan for the first unit's refurbishment
- In November 2015, the Refurbishment Project Office (RPO) was completed. The facility will act as a secure entry point and provide supporting facilities for refurbishment personnel. The RPO is expected to streamline security access and other personnel logistics during the refurbishment period.

During 2016, milestones for the Darlington Refurbishment project include:

- Progression of pre-requisite work, including construction of the Re-tube Waste Processing Building
- Execution of pre-breaker open work to support the first unit's refurbishment and IIP commitments
- Project support activities including the establishment of the execution organization, development and review of work instructions, and conventional and radiation protection planning
- Procurement activities including the fabrication and delivery of reactor components for Unit 2
- Delivery of production tools for the RFR sub-project
- Removal of Unit 2 from service in October 2016
- Commencement of de-fueling of the Unit 2 reactor in support of the RFR activities.

#### Deep Geologic Repository for Low and Intermediate Level Waste

OPG has proposed a DGR for the long term management of the L&ILW produced from the continued operation of OPG-owned nuclear generating stations. Agreement has been previously reached with local municipalities for OPG to develop the DGR on lands adjacent to OPG's Western Waste Management Facility in Kincardine, Ontario.

In 2012, the CNSC and the Canadian Environmental Assessment Agency (CEAA) appointed a three-member Joint Review Panel (JRP) for OPG's proposed DGR for L&ILW. The JRP examined the environmental effects of the proposed DGR to meet the requirements of the *Canadian Environmental Assessment Act.* In May 2015, the JRP submitted its report and recommendations on the Environmental Assessment (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 further suggested that the project should be implemented expeditiously.

In June 2015, the CEAA announced that the public had until September 1, 2015 to provide comments on the potential environmental conditions relating to the JRP report. OPG responded to the CEAA's list of potential conditions in August 2015. In February 2016, the federal Minister requested additional information on certain aspects of the EA for the proposed L&ILW DGR, including information related to alternate locations for the project and the impact on environmental effects if the Nuclear Waste Management Organization's (NWMO) future used fuel repository were located in close proximity to the proposed L&ILW DGR. OPG is to inform the CEAA by April 18, 2016 when it anticipates to submit the requested information.

OPG has suspended design activities on the project pending receipt of the site preparation and construction licence from the JRP. Upon receipt of the licence, completion of the detailed design, development of a project schedule and a budget, consideration of consultation with the Saugeen Ojibway Nations community, and OPG Board of Directors' approval, OPG would proceed with construction. The in-service date of the DGR is expected to be approximately six to seven years from the start of construction.

#### Peter Sutherland Sr. GS (formerly the New Post Creek project)

In March 2015, OPG's Board of Directors approved a project to construct the Peter Sutherland Sr. GS, a new 28 MW hydroelectric station on the Abitibi River with a budget of \$300 million. The station will be constructed through PSS Generating Station LP, a partnership between OPG and Coral Rapids L.P., a wholly owned subsidiary of the Taykwa Tagamou Nation. Under the partnership agreement, Coral Rapids L.P. may acquire up to a 33 percent interest in the partnership. In May 2015, a hydroelectric ESA for the station was executed by the IESO and the partnership. The hydroelectric ESA formalized the long-term financial agreement with the IESO for the development of the station and the supply of electricity and related products to the Ontario market. Construction work commenced in the second quarter of 2015, with a planned in-service date in the first half of 2018. Project financing was completed in October 2015, as discussed under the heading, *Financing Activities* in the *Liquidity and Capital Resources* section.

Project milestones completed in 2015 include the construction of the main access road, establishment of the project camp, installation of temporary steel support walls, and the construction of spillway upstream and downstream cofferdams.

#### **New Nuclear Units**

The Government of Ontario's 2013 LTEP indicated that the Province would not proceed, at that time, with the construction of two new nuclear reactors at the Darlington site. The 2013 LTEP also 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.

In September 2015, the Federal Court of Appeal granted the appeal brought forward by OPG, the Attorney General of Canada, and the CNSC related to the May 2014 Federal Court (Canada) decision on the judicial review of the issuance of the CNSC Power Reactor Site Preparation Licence and the Darlington New Nuclear Project EA. The Federal Court of Appeal decision upheld the EA approval as well as the CNSC site preparation licence and awarded OPG its costs of the appeal.

On November 6, 2015, an application for leave to appeal was filed with the Supreme Court of Canada by the parties that brought forward the judicial review. OPG, the other respondents and the parties that brought the judicial review

filed their submissions in December 2015. The Supreme Court of Canada's decision on whether leave to appeal is granted is expected in the first half of 2016.

#### **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 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 current base regulated prices, which came into effect in November 2014, were 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 its regulated assets.

To improve the financial strength of the regulated operations going forward, OPG is focused on preparing appropriate evidence in support of its OEB rate requests, aligning organizational resources to support future OEB applications, 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 approximately \$920 million in cumulative savings realized to the end of 2015 from reducing ongoing operations headcount by approximately 2,700 regular employees since the beginning of 2011. OPG's cost reduction efforts and efficiency improvement initiatives are discussed further under the heading, Operational Excellence.

OPG's revenues from its regulated operations include recovery of amounts deferred in OEB-authorized regulatory variance and deferral accounts. In December 2014, OPG filed an application with the OEB to recover approximately \$1.8 billion in December 31, 2014 balances in most of the Company's authorized variance and deferral accounts. In 2015, through a partial settlement agreement with intervenors and the OEB decision on the aspects of the application not covered by the agreement, these balances were approved for recovery. In October 2015, the OEB issued an order authorizing OPG to recover \$933 million of the total approved amount through rate riders in effect from October 1, 2015 to December 31, 2016. Refer to the Highlights section for further details on the resolution of OPG's December 2014 deferral and variance account application.

In 2016, OPG plans to file a 5-year application with the OEB for new base regulated prices for production from its regulated hydroelectric and nuclear facilities, effective in 2017. The OEB has previously expressed an expectation that these prices would be determined on the basis of an incentive regulation ratemaking methodology for the hydroelectric operations, and a multi-year forecast cost of service ratemaking approach with incentive regulation features for the nuclear operations.

Consistent with the November 2015 amendment to Ontario Regulation 53/05, OPG plans to incorporate a nuclear rate smoothing proposal into its 2016 rate application, with a view of making more stable year-over-year changes in the nuclear base regulated prices during the Darlington Refurbishment period. Under rate smoothing, collection of a portion of the approved revenue requirement will be deferred into the future. According to Ontario Regulation 53/05,

the OEB must authorize recovery of the amounts deferred for future collection during the Darlington Refurbishment project over a period not to exceed 10 years from the end of the project.

OPG's planned rate application will seek to ensure that nuclear regulated prices under the rate smoothing approach provide 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.

For generation development projects that do not form a part of the assets regulated by the OEB, OPG's strategy is to secure appropriate long-term revenue arrangements prior to proceeding with the project. In line with this strategy, most of OPG's unregulated operating facilities have negotiated ESAs. In June 2015, a hydroelectric ESA was executed with the IESO for the new 28 MW Peter Sutherland Sr. GS located on the Abitibi River.

OPG's capital structure currently reflects lower levels of debt than the deemed capital structure used by the OEB to set the Company's regulated prices. OPG is evaluating strategies to enhance Shareholder returns by optimizing its 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 March 2015, DBRS Ltd. re-affirmed the long-term credit rating on OPG's debt at A (low), and the commercial paper rating at R-1 (low). All ratings from DBRS Ltd. have a stable outlook. On July 7, 2015, Standard & Poor's lowered OPG's long-term corporate credit rating from 'A-' to 'BBB+' with a stable outlook. Standard & Poor's rating action followed its July 6, 2015 downgrade to the Province of Ontario's rating from 'AA-' to 'A+'.

OPG intends to continue to access the capital markets, where appropriate, to obtain cost effective financing for future generation development projects. As OPG enters the execution phase of the Darlington Refurbishment project, it continues to evaluate options for cost effective financing. The refurbishment is currently being financed through general-purpose long-term corporate debt and funds generated from operations.

#### 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 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 technical expertise as an experienced major generation developer and operator, combined with its existing diverse physical asset base. OPG assesses acquisition opportunities 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 under the headings, Operational Excellence and Project Excellence in the Core Business and Strategy section.

OPG seeks to expand beyond its core generation business through emerging opportunities, including selective solar generation, energy storage and micro-grid development, and is 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 2015, the Shareholder authorized OPG to participate in energy-related procurement processes in Ontario. In September 2015, OPG submitted bids for both ground mounted solar and hydroelectric projects under the IESO's Large Renewable Procurement (LRP) program, which is a competitive bidding process for procuring large renewable energy projects in Ontario. The bids for ground mounted solar projects were submitted in partnership with a solar project developer, SunEdison. Contracts under the LRP program are expected be awarded to successful bidders by the end of March 2016.

#### **Social Licence**

As the largest, publicly-owned 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 First Nations and Métis relations. OPG's commitment to safety is discussed under the heading, Workplace and Public Safety in the Core Business and Strategy section.

OPG's operational and growth strategies support reductions in GHG emissions. In 2014, OPG stopped using coal to generate electricity. After safely ending coal-fired generation in the province, OPG has become Ontario's largest clean energy provider, producing and selling electricity that is over 99 percent free of GHG and smog-causing emissions. OPG has also implemented the use of biomass fuels at the Atikokan GS and Thunder Bay GS, which reduces GHG emissions. In June 2015, the CEA recognized OPG for the conversion of these units to biomass fuels with its 2015 Sustainable Electricity Award for Environmental Commitment.

As part of its commitment to environmental sustainability, OPG works with community partners to support regional ecosystems and biodiversity. In 2015, OPG continued efforts to protect and restore habitat, promote biodiversity education and awareness, and help the recovery of species that are at risk. In addition, OPG contributes to its site communities through the Company's Corporate Citizenship Program, which supports more than 900 charitable and non-profit initiatives annually in the areas of environment, education, and community partnership.

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 entities.

OPG is focused on continuing to build long-term, mutually beneficial working relationships with First Nations and Métis communities. The Company seeks to establish these relationships based on a foundation of respect for the languages, customs, and political, social and cultural institutions of these communities. OPG's commitment in this area includes pursuing generation-related development partnerships with First Nations and Métis communities on the basis of long-term, mutually beneficial commercial arrangements. An example of this is the construction of the new Peter Sutherland Sr. GS in partnership with the Taykwa Tagamou Nation.

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 2014 Sustainable Development Report available on the Company's website at www.opg.com.

#### **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 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 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 regulated 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, the management of the Used Fuel Segregated Fund (Used Fuel Fund) and the Decommissioning Segregated Fund (Decommissioning Fund) (together the Nuclear Funds) established pursuant to the Ontario Nuclear Funds Agreement (ONFA) with the Province, and related activities including the inspection and maintenance of the waste storage facilities. Accordingly, accretion expense, which is the increase in the carrying amount of the Nuclear Liabilities due to the passage of time, and earnings from the Nuclear 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 and earning revenue under the Bruce Power lease arrangement and related agreements. Since the incremental costs increase the Nuclear Liabilities in the Regulated – Nuclear Waste Management segment, OPG records an intersegment charge between the Regulated – Nuclear Generation and the Regulated – Nuclear Waste Management segments. The impact of the inter-segment charge is eliminated in OPG's consolidated statements of income and balance sheets.

The Regulated – Nuclear Waste Management segment is considered rate regulated because the costs associated with the Nuclear Liabilities are included by the OEB in the determination of regulated prices for production from OPG's Pickering and Darlington nuclear generating stations.

#### 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, the R.H. Saunders GS, and the 48 hydroelectric stations prescribed for rate regulation effective in 2014.

In addition, the business segment includes ancillary revenues 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 regulated 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 results of the generating stations that are not currently subject to a contract or rate regulation, but are available to generate electricity for sale, if required, are included in this segment.

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 is also included 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 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 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, other unregulated service revenues, and activities related to the Lambton GS and the Nanticoke GS that were shut down at the end of 2013.

#### **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 efficiency and 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.

### **Nuclear Unit Capability Factor**

OPG's nuclear stations are baseload facilities. They 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. Capability factors, by industry definition, exclude production losses beyond plant management's control, such as grid-related unavailability.

## **Nuclear Total Generating Cost per MWh**

Nuclear Total Generating Cost (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 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 Darlington Refurbishment project costs) incurred in the year, divided by nuclear electricity generation. In 2015, the Nuclear TGC per MWh indicator was amended for greater comparability across periods including the adjustment to exclude the impact of regulatory variance and deferral accounts. The change was also reflected in the comparative period. Further detail is included in the section, Supplementary Non-GAAP Financial Measures.

## **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 is represented by 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.

# Hydroelectric OM&A Expense per MWh

Hydroelectric OM&A Expense per MWh is used to measure the cost-effectiveness of OPG's hydroelectric generating stations. It is defined as total hydroelectric OM&A expenses divided by the hydroelectric electricity generation, for the respective business segments.

In 2015, the Hydroelectric OM&A Expense per MWh indicator was simplified to remove adjustments to the total hydroelectric OM&A expenses used in measuring performance. The change was also reflected in the comparative 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. ROE Excluding AOCI is measured over a 12-month period. Further details are found under the sections, Highlights and Supplementary Non-GAAP Financial Measures.

### **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 flows 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. The ratio is measured over a period of twelve months. More details are found under the sections, Highlights and Supplementary Non-GAAP Financial Measures.

Nuclear TGC per MWh, ROE Excluding AOCI, and the FFO Adjusted Interest Coverage ratio 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.

## **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 and Strategy.

#### DISCUSSION OF OPERATING RESULTS BY BUSINESS SEGMENT

#### Regulated - Nuclear Generation Segment

(millions of dollars)	2015	2014
Revenue	3,245	3,015
Fuel expense	301	258
Gross margin	2,944	2,757
Operations, maintenance and administration	2,200	1,983
Depreciation and amortization	717	529
Property taxes	26	28
Income before other loss, interest, and income taxes	1	217
Other loss	3	-
(Loss) income before interest and income taxes	(2)	217

Loss before interest and income taxes from the segment was \$2 million in 2015, compared to income before interest and income taxes of \$217 million in 2014. The decrease in earnings of \$219 million compared to 2014 was primarily a result of an increase in the number of outage days and outage activities during 2015, which reduced generation by 3.6 TWh and increased OM&A expenses. The planned Darlington VBO, which required the shutdown of all four units at the Darlington GS for 47 days, was the primary contributor to the decrease in generation and increase in OM&A expenses compared to 2014. Other outages at the Darlington GS during 2015 also reduced segment earnings.

Lower segment earnings in 2015, compared to 2014, also reflected additional depreciation expenses of \$111 million, additional OM&A expenses of \$48 million, and additional fuel expenses of \$52 million, due to higher amounts deferred in regulatory accounts in 2014. The higher deferrals in 2014 primarily related to costs that were not included in the regulated prices in effect prior to November 1, 2014. Higher average sales prices due to the higher base regulated price effective November 1, 2014 partially offset the decrease in segment earnings in 2015 by approximately \$290 million.

Generation revenue in 2015 reflected revenues from the new rate riders authorized by the OEB in October 2015 with an effective date of July 1, 2015. The resulting increase in revenue was largely offset by higher amortization expense related to the regulatory balances. The impact of the new rate riders is discussed further under the section, *Balance Sheet Highlights*.

Segment revenue in 2014 and 2015 reflected changes in the fair value of the liability for the derivative embedded in the Bruce Lease, as well as offsetting changes in the regulatory asset for the Bruce Lease Net Revenue Variance Account. As a result of the December 2015 amendments to the Bruce Lease, the derivative liability was reversed in 2015, resulting in an increase in revenue of \$299 million, compared to 2014, and an offsetting decrease in revenue related to the decrease in the regulatory asset for the Bruce Lease Net Revenues Variance Account. As such, there was no impact on revenue or net income from the changes in the fair value of the derivative liability and its derecognition. Refer to the section, *Balance Sheet Highlights*, for further discussion of the derecognition of the embedded derivative. The amendments to the Bruce Lease are discussed under the heading, *Recent Developments* in the *Highlights* section.

The Unit Capability Factors for the Darlington GS and Pickering GS and the Nuclear TGC per MWh for 2015 and 2014 were as follows:

	2015	2014
Unit Capability Factor (%)		
Darlington GS	76.9	92.1
Pickering GS	79.4	75.3
Nuclear TGC per MWh (\$/MWh)	66.29	57.84

Due to the four-unit VBO and an increase in other outage days, the Unit Capability Factor at the Darlington GS decreased in 2015 compared to 2014.

The increase in the Unit Capability Factor at the Pickering GS in 2015 compared to 2014 was primarily due to improved reliability as the number of unplanned outage days decreased, partially offset by an increase in planned outage days. Improvements in reliability at the Pickering GS were primarily associated with improved equipment reliability and human performance.

The increase in the Nuclear TGC per MWh in 2015 compared to 2014 primarily reflected lower generation at Darlington GS, and higher expenses relating to the Darlington VBO and other outages.

The definition and calculation of Nuclear TGC per MWh are found under the headings, *Key Operating and Financial Performance Indicators* and *Supplementary Non-GAAP Financial Measures*, respectively. The definition of the Nuclear Unit Capability Factor is also found under the heading, *Key Operating and Financial Performance Indicators*.

**Regulated – Nuclear Waste Management Segment** 

	2015	2014
Revenue Operations, maintenance and administration Accretion on nuclear fixed asset removal and nuclear waste management liabilities Earnings on nuclear fixed asset removal and nuclear waste management funds	122 132 880 (704)	121 129 782 (714)
Loss before interest and income taxes	(186)	(76)

Loss before interest and income taxes was \$186 million for 2015, compared to \$76 million for 2014. The decrease in earnings was primarily due to higher accretion expense resulting from higher amounts deferred in regulatory accounts in 2014 for costs not included in the regulated prices in effect prior to November 2014. The higher accretion

expense in 2015 also reflected the increase in the Nuclear Liabilities, compared to 2014, due to the increase in the present value of the underlying obligation to reflect the passage of time.

The decrease in segment earnings was also partly attributable to lower earnings on the Used Fuel Fund. A lower Ontario Consumer Price Index (CPI) in 2015, compared to 2014, resulted in a lower year-over-year return on the portion of the Used Fuel Fund guaranteed by the Province. The Province guarantees OPG's annual return for the Used Fuel Fund at 3.25 percent plus the change in the Ontario CPI for funding related to the first 2.23 million used fuel bundles (committed return), as discussed under the heading, Nuclear Fixed Asset Removal and Nuclear Waste Management Funds in the Critical Accounting Policies and Estimates section.

### Regulated - Hydroelectric Segment

(millions of dollars)	2015	2014
Revenue <sup>1</sup>	1,619	1,417
Fuel expense	345	343
Gross margin	1,274	1,074
Operations, maintenance and administration	338	325
Depreciation and amortization	282	167
Regulatory disallowance related to the Niagara Tunnel project	-	77
Property taxes	1	1
Income before other loss, interest, income taxes, and extraordinary item	653	504
Other loss	3	2
Income before interest, income taxes, and extraordinary item	650	502

During 2015 and 2014, the Regulated - Hydroelectric segment revenue included incentive payments of \$26 million and \$16 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 increase in income before interest, income taxes, and extraordinary item of \$148 million during 2015, compared to 2014, was largely due to the write-off of \$77 million recorded in 2014 as a result of a regulatory disallowance by the OEB related to the Niagara Tunnel project, and higher regulated prices in 2015. The higher base regulated prices came into effect on November 1, 2014, increasing revenue in 2015 by approximately \$85 million compared to 2014.

The revenue impact of higher rate riders in 2015, compared to 2014, was largely offset by a corresponding increase in amortization expense related to regulatory balances.

The Hydroelectric Availability and Hydroelectric OM&A Expense per MWh for 2015 and 2014 were as follows for the stations included in the Regulated – Hydroelectric segment:

	2015	2014
Hydroelectric Availability (%) Hydroelectric OM&A Expense per MWh (\$/MWh)	91.2 11.1	91.4 10.4

The Hydroelectric Availability during 2015 was comparable with the availability during 2014. The increase in the Hydroelectric OM&A Expense per MWh in 2015 compared to 2014 was primarily due to lower generation.

The definition of Hydroelectric Availability and Hydroelectric OM&A Expense per MWh is found under the heading, Key Operating and Financial Performance Indicators.

## **Contracted Generation Portfolio Segment**

(millions of dollars)	2015	204.4
(millions of dollars)	2015	2014
Revenue	535	329
Fuel expense	39	37
Gross margin	496	292
Operations, maintenance and administration	183	175
Depreciation and amortization	72	38
Accretion on fixed asset removal liabilities	8	8
Property taxes	7	(1)
Income from investments subject to significant influence	(39)	(41)
Restructuring	-	8
Income before other loss (income), interest, and income taxes	265	105
Other loss (income)	1	(6)
Income before interest and income taxes	264	111

Income before interest and income taxes increased by \$153 million during 2015, compared to 2014. The increase primarily resulted from higher revenues from the stations of the Lower Mattagami River project, due to all new units being in service since the end of 2014. Also contributing to the higher income in 2015 was higher revenue from the Atikokan GS and Thunder Bay GS units, which have been converted from coal to biomass fuels.

The increase in income was partially offset by higher depreciation expense primarily due to the new assets placed in service as part of the Lower Mattagami River and biomass conversion projects. The increase in income was also partially offset by lower revenue from the Lennox GS, primarily as a result of higher average sales prices during the first half of 2014. In addition, OPG recognized restructuring expenses in 2014 relating to staffing changes at the Thunder Bay GS prior to its conversion from coal to advanced biomass.

Hydroelectric Availability, Hydroelectric OM&A Expense per MWh, and the Thermal EFOR for the stations included in the Contracted Generation Portfolio segment for 2015 and 2014 were as follows:

	2015	2014
Hydroelectric Availability (%) Hydroelectric OM&A Expense per MWh (\$/MWh) Thermal EFOR (%)	88.6 24.0 11.2	90.2 23.8 8.9

Lower Hydroelectric Availability during 2015, compared to 2014, was primarily due to a higher number of planned outage days at the Kipling and Harmon generating stations on the Lower Mattagami River. The increase in Hydroelectric OM&A Expense per MWh during 2015, compared to 2014, was due to an increase in OM&A expenses related to the Lower Mattagami River stations. The higher Thermal EFOR in 2015, compared to 2014, was primarily due to an outage to perform repair work at the Lennox GS during the year. The extended duration of the outage reflected market conditions that made it more cost effective to carry out the repair work over a longer period.

The definition of Hydroelectric Availability, Hydroelectric OM&A Expense per MWh, and Thermal EFOR is found under the heading, *Key Operating and Financial Performance Indicators*.

## Services, Trading, and Other Non-Generation Segment

(millions of dollars)	2015	2014
Revenue	73	197
Fuel expense	2	3
Gross margin	71	194
Operations, maintenance and administration	48	119
Depreciation and amortization	29	20
Accretion on fixed asset removal liabilities	7	7
Property taxes	11	4
Restructuring	6	10
(Loss) income before other loss, interest, and income taxes	(30)	34
Other loss	7	1
(Loss) income before interest and income taxes	(37)	33

Income before interest and income taxes decreased by \$70 million during 2015 compared to 2014. The lower income was primarily due to lower trading margins for electricity sold to neighbouring energy markets, which was mainly a result of the unseasonably cold winter during the first quarter of 2014 that contributed to higher trading margins in 2014. The decrease in earnings was also due to the expiry of the cost recovery agreement for the Nanticoke GS and the Lambton GS at the end of 2014, and recoveries recognized during 2014 related to property tax reassessments. The impact on segment earnings of the expiry of the cost recovery agreement for the Nanticoke GS and the Lambton GS was largely offset by a reduction in OM&A expenses for these sites.

### 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 Funds; to make payments under the OPEB plans; and to service and repay long-term debt.

Changes in cash and cash equivalents for 2015 and 2014 are as follows:

(millions of dollars)	2015	2014
Cash and cash equivalents, beginning of period	610	562
Cash flow provided by operating activities Cash flow used in investing activities Cash flow (used in) provided by financing activities	1,465 (1,553) (58)	1,433 (1,545) 160
Net (decrease) increase	(146)	48
Cash and cash equivalents, end of period	464	610

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

# **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 and other business growth opportunities.

Cash flow used in investing activities in 2015 was \$1,553 million, compared to \$1,545 million in 2014. The increase was primarily due to the investment of proceeds from the 2015 long-term debt issuance in support of the Peter Sutherland Sr. GS project into a structured deposit note, with staggered maturity dates until April 2017. The increase was also due to higher capital expenditures related to the Peter Sutherland Sr. GS, which commenced construction in the second quarter of 2015. The increase in cash flow used in investing activities was largely offset by lower expenditures for the Lower Mattagami River and Atikokan biomass conversion projects, which were placed in service in 2014.

OPG's forecast capital expenditures for 2016 are approximately \$2 billion. This includes amounts for the Darlington Refurbishment project, hydroelectric development projects including the construction of the Peter Sutherland Sr. GS, and sustaining capital investments across the generating fleet.

### **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 2015, OPG renewed and extended both tranches to May 2020. As at December 31, 2015, there were no outstanding borrowings under the bank credit facility.

As at December 31, 2015, OPG maintained \$25 million of short-term, uncommitted overdraft facilities and \$456 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, 2015, a total of \$384 million of Letters of Credit had been issued under these facilities. This included \$345 million for the supplementary pension plans, \$38 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. The agreement expires on November 30, 2016. As at December 31, 2015 and December 31, 2014, 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, 2015, 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 originally consisted of two \$300 million multi-year tranches maturing in August 2019 and August 2015, respectively. In the third quarter of 2015, the maturity of the first tranche was extended to August 2020, while the second tranche was reduced to \$200 million and extended to August 2016. As at December 31, 2015, there was external commercial paper of \$225 million outstanding under LME's commercial paper program (2014 – nil). There were no amounts outstanding under LME's bank credit facility as at December 31, 2015 and 2014.

OPG maintains a \$700 million credit facility with the OEFC in support of the Lower Mattagami River project. As at December 31, 2015, there were no outstanding borrowings under this credit facility. The credit facility expires in June 2016.

Since December 2014, OPG has maintained an \$800 million general corporate credit facility with the OEFC in support of its financing requirements for 2015 and 2016. As of December 31, 2015 and 2014, there were no outstanding borrowings under this credit facility. The credit facility expires on December 31, 2016.

In October 2015, PSS Generating Station LP, a subsidiary of OPG, issued long-term debt totaling \$245 million maturing in October 2067 to support the construction of the Peter Sutherland Sr. GS. The effective interest rate for

the debt was 4.9 percent and the coupon interest rate was 4.8 percent. The debt is secured by the assets of the project.

As at December 31, 2015, OPG's long-term debt outstanding was \$5,472 million, including \$273 million due within one year. OPG is evaluating its debt refinancing alternatives.

#### **Contractual and Commercial Commitments**

OPG's contractual obligations as at December 31, 2015, were as follows:

(millions of dollars)	2016	2017	2018	2019	2020	Thereafter	Total
Fuel supply agreements	175	173	163	97	65	110	783
Contributions under the ONFA <sup>1</sup>	150	163	193	288	133	2,285	3,212
Contributions to the OPG registered pension plan <sup>2</sup>	357	-	-	-	-	-	357
Long-term debt repayment	273	1,103	398	368	663	2,667	5,472
Interest on long-term debt	261	242	186	167	145	2,275	3,276
Short-term debt repayment	225	-	-	-	-	-	225
Commitments related to Darlington Refurbishment project <sup>3</sup>	284	-	-	-	-	-	284
Commitments related to Peter Sutherland Sr. GS	128	38	-	-	-	-	166
Operating licence	41	43	37	23	24	142	310
Operating lease obligations	16	17	17	14	14	47	125
Unconditional purchase obligations	68	61	58	57	55	5	304
Accounts payable and accrued charges	1,031	4	7	-	-	19	1,061
Other	89	39	29	26	2	69	254
Total	3,098	1,883	1,088	1,040	1,101	7,619	15,829

Contributions under the ONFA are based on the 2012 ONFA Reference Plan contribution schedule approved in 2012. The updated ONFA Reference Plan is expected to be effective January 1, 2017.

### Other Commitments

## Collective Agreements

As of December 31, 2015, OPG had approximately 9,250 full-time employees and approximately 1,250 seasonal, casual construction, contract, and non-regular staff. Most of OPG's full-time employees are represented by two unions:

The PWU - This union represents approximately 5,300 OPG employees or approximately 57 percent of OPG's regular workforce as at December 31, 2015. Union membership includes operators, technicians, skilled trades, clerical, and security personnel. 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. Further details are discussed under the heading, Recent Developments in the Highlights section.

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, 2014. The next actuarial valuation of the OPG registered pension plan must have an effective date no later than January 1, 2017. 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 2016 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.

Estimated currently committed costs to close the project, including demobilization of project staff and cancellation of existing contracts and material orders.

• The Society – This union represents approximately 2,950 OPG employees or approximately 32 percent of OPG's regular workforce as at December 31, 2015. Union membership includes supervisors, professional engineers, scientists, and other professionals. The Company's governing collective agreement with the Society, which was established through an arbitration award, 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. Further details are discussed under the heading, Recent Developments in the Highlights section.

In addition to the regular workforce, construction work is performed through 19 craft unions with established bargaining rights on 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. Thirteen of these collective agreements expired on April 30, 2015. Agreements of five-year terms have been completed with all trade unions.

### Information Technology Services Contract

OPG conducted a competitive bid process for outsourced information technology services over the 2014 and 2015 period, issuing a Request For Proposal to a number of qualified suppliers. In October 2015, following the competitive bid process, a five-year agreement was awarded to the incumbent effective February 2016. The estimated value of the new outsourcing contract is approximately \$300 million over the five-year period.

# **BALANCE SHEET HIGHLIGHTS**

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

(millions of dollars)	2015	2014
Property, plant and equipment - net	20,595	17,593
The change was primarily due to the increase in asset retirement costs of \$2,330 million in 2015 related to the change in the estimate for the Nuclear Liabilities, which is discussed in the section <i>Changes in Accounting Policies and Estimates</i> , and capital expenditures on the Darlington Refurbishment and Peter Sutherland Sr. GS projects and sustaining capital programs. The increase was partially offset by depreciation expense during the year.		
Nuclear fixed asset removal and nuclear waste management funds (current and non-current portions)	15,136	14,379
The increase was primarily due to earnings on the Nuclear Funds and contributions to the Used Fuel Fund, partially offset by reimbursements of eligible expenditures on nuclear fixed asset removal and nuclear waste management activities.		
Regulatory assets (current and non-current portions)	5,907	7,191
The decrease was primarily due to the re-measurement of the pension and OPEB liabilities at the end of 2015, amortization of regulatory balances related to the rate riders in effect during 2015, and derecognition of the derivative embedded in the Bruce Lease, which is discussed under the heading, <i>Derecognition of the Derivative Embedded in the Bruce Lease</i> below.		
Long-term debt (including debt due within one year)	5,472	5,730
The decrease was a result of debt repayment of \$503 million in 2015, partially offset by debt issuance of \$245 million for the Peter Sutherland Sr. GS project in 2015.		
Fixed asset removal and nuclear waste management liabilities	20,169	17,028
The increase was primarily a result of the increase in the estimate for the nuclear asset retirement obligation of \$2,330 million in 2015, which is discussed in the section, <i>Changes in Accounting and Estimates</i> , and accretion expense during the year representing the increase in the liabilities due to the passage of time.		
Pension liabilities	2,597	3,570
Pension liabilities decreased primarily due to the earnings on the pension fund assets during 2015, re-measurement of the liabilities at the end of the year reflecting higher discount rates, and employer contributions to the pension fund during the year, partially offset by the current service and interest costs for the year.		
Long-term accounts payable and accrued charges	007	500
The decrease is primarily due to the derecognition of the liability embedded in the Bruce Lease following the amendments to the Bruce Lease, as discussed under the heading, <i>Derecognition of the Derivative Embedded in the Bruce Lease</i> below.	207	529

### Impact of New Rate Riders for Recovery of OEB-authorized Variance and Deferral Account Balances

The OEB's decisions in June 2015 and September 2015 approved the recovery of OPG's December 31, 2014 deferral and variance balances of approximately \$1.8 billion. The approval included recovery of \$714 million recorded in the Pension and OPEB Cost Variance Account during 2013 and 2014 over six years starting on July 1, 2015, and \$225 million recorded in this variance account prior to 2013 that will continue to be recovered until December 31, 2024 as previously authorized by the OEB. The majority of the approved balances of \$809 million in the other accounts were approved for recovery over a period of 18 months starting on July 1, 2015.

As a result of the OEB's decisions and October 2015 order, OPG recorded \$301 million in amortization expense for regulatory balances in 2015 related to the period from July 1, 2015 to December 31, 2015, which was offset by corresponding revenue recognized during the period. As at December 31, 2015, net regulatory assets of \$602 million were classified as current on OPG's balance sheet to reflect the expected recovery of regulatory balances over the next 12 months based on the OEB's October 2015 order.

The OEB's 2015 decisions and order on OPG's application to recover the December 31, 2014 deferral and variance account balances are discussed under the heading, *Recent Developments* in the *Highlights* section.

# **Derecognition of the Derivative Embedded in the Bruce Lease**

Effective December 4, 2015, the Bruce Lease was amended to remove a provision that provided for conditional reductions to OPG's revenue under the lease. Prior to the amendments, supplemental rent payments under the lease were reduced through a rent rebate for each calendar year where the arithmetic average of the hourly Ontario energy price fell below \$30/MWh and certain other conditions were met. This conditional reduction to revenue in the future was recognized as a derivative liability on OPG's consolidated balance sheets. The changes in the fair value of the derivative liability were recorded in the revenue of the Regulated – Nuclear Generation segment, with offsetting changes in the regulatory asset for the Bruce Lease Net Revenues Variance Account. Following the amendments to the Bruce Lease, OPG reversed the embedded derivative liability of \$299 million in December 2015, with an offsetting reduction in the regulatory asset for the Bruce Lease Net Revenues Variance Account. As such, the derecognition of the derivative did not affect net income in 2015. The conditional reduction in revenue remained in effect for the period from January 1, 2015 to December 3, 2015 on a pro-rated basis.

# **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**

During 2014, OPG received exemptive relief from the OSC 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 without becoming a US Securities and Exchange Commission registrant, or issuing public debt. The exemption 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 International Financial Reporting Standards (IFRS) specific to entities with rateregulated 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.

## **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 generating stations, the DeCew Falls 1 and 2 generating stations, the R.H. Saunders 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 Minister 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*. These 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 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 the regulated facilities.

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 that are recognized in AOCI generally have not been reflected in the regulated prices until they are 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 a future generic OEB proceeding related to the regulatory treatment and recovery of pension and OPEB costs. Accordingly, 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 an OEB-authorized deferral or variance account as they are recognized in benefit costs. Therefore, the Company has continued 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 on an accrual basis under US GAAP 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, 2015, the regulatory asset balance was \$315 million, which represents the excess of pension and OPEB costs calculated using the accrual basis over the cash basis for the period from November 1, 2014 to December 31, 2015. 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 generic OEB 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. OPG is participating in the consultation process, which is ongoing.

If, in a future proceeding, the OEB decides that the recovery basis for OPG's pension and OPEB amounts should be changed, 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 3, 5, 8, 9, and 11 of OPG's 2015 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 what would be 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 and some of them possibly disallowed, resulting in a potential significant change in OPG's tax provision upon reassessment.

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 \$890 million as at December 31, 2015 (2014 – \$828 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. Any 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 and transport and work equipment, which are mostly 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, inservice dates of generating stations, inflation, fuel prices, capital expenditures and station useful lives.

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 decommissioning and long-term nuclear waste management. The Decommissioning Fund was established to fund the future costs of nuclear fixed asset removal, long-term L&ILW management, and certain costs for used fuel storage incurred after the stations are shut down. The Used Fuel Fund was established to fund future costs of long-term nuclear used fuel management. OPG makes contributions to the Nuclear Funds based on the approved ONFA Reference Plans.

## **Decommissioning Fund**

Upon termination of the ONFA, the Province has a right to any excess funds in the Decommissioning Fund. Accordingly, when the Decommissioning Fund is overfunded, OPG limits the earnings it recognizes in its consolidated financial statements by recording a payable to the Province, such that the balance of the Decommissioning Fund is equal to the cost estimate of the liability based on the most recently approved ONFA Reference Plan plus the portion of the surplus, if any, that OPG may direct to be treated as a contribution to the Used Fuel Fund. The payable to the Province could be reduced in subsequent periods in the event that the Decommissioning Fund earns less than its target rate of return or in the event that a new ONFA Reference Plan is approved with a higher estimated decommissioning liability.

Under the ONFA, if there is a surplus in the Decommissioning Fund such that the liabilities, as defined by the most recently approved ONFA Reference Plan, are at least 120 percent funded, OPG may direct up to 50 percent of the surplus over 120 percent to be treated as a contribution to the Used Fuel Fund, with the OEFC entitled to a distribution of an equal amount. Therefore, when the Decommissioning Fund is at least 120 percent funded, OPG

recognizes 50 percent of the excess greater than 120 percent in income. When the Decommissioning Fund is underfunded, the earnings on the fund reflect actual fund returns based on the market value of the assets.

#### Used Fuel Fund

Under the ONFA, the Province guarantees OPG's annual return in the Used Fuel Fund at 3.25 percent plus the change in the Ontario CPI for funding related to the first 2.23 million used fuel bundles. OPG recognizes the committed return on the Used Fuel Fund and includes it in the earnings on the nuclear fixed asset removal and nuclear waste management funds. The difference between the committed return on the Used Fuel Fund 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. The amount due to or due from the Province 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.

Under the ONFA, the Province is entitled to any surplus in the Used Fuel Fund, subject to a threshold funded ratio of 110 percent compared to the value of the associated liabilities based on the most recently approved ONFA Reference Plan. Upon termination of the ONFA, the Province is entitled to any surplus above the 100 percent funded threshold.

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 Fund.

The *Nuclear Safety and Control Act* (Canada) requires OPG to have sufficient funds available to discharge the current nuclear decommissioning and nuclear waste management liabilities. 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 consolidated financial guarantee requirement and the value of the Nuclear 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 2014 and 2015.

# **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 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.

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 on its consolidated balance sheets the funded status of its defined benefit plans. 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.

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 costs. 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. 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, as well as the

expected return considering long-term historical risks and returns associated with each asset class within the plan portfolio. A lower expected rate of return on plan assets increases pension cost.

## **Asset Retirement Obligation**

As at December 31, 2015, OPG's asset retirement obligation (ARO) was \$20,169 million (2014 – \$17,028 million). The obligation consists of fixed asset removal and nuclear waste management liabilities. 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 will be incurred for activities such as preparation for safe storage, safe storage, 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 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 represents 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 the stations into a safe state condition include de-fueling and de-watering of the nuclear reactors. Under the terms of the lease agreement with Bruce Power, OPG continues to be responsible for the Nuclear Liabilities associated with the Bruce nuclear generating stations. Under the lease agreement, Bruce Power must return the Bruce stations to OPG together, in a de-fueled and de-watered state. These de-watering and de-fueling 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 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 DGR as part of the long-term management of 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 this 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 long-term 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 for the Nuclear Liabilities is performed periodically. The most recent comprehensive update of the baseline cost estimates for the Nuclear Liabilities is contained in the approved 2012 ONFA Reference Plan. Changes in the Nuclear Liabilities resulting from changes in assumptions or estimates that impact the amount or timing of the originally estimated undiscounted cash

flows are recorded as an adjustment to the liabilities. Any resulting changes in the related asset retirement costs are capitalized as part of the carrying amount of nuclear fixed assets.

For the purposes of calculating OPG's Nuclear Liabilities, as at December 31, 2015, consistent with the current accounting end-of-life assumptions, nuclear station decommissioning is projected to occur over approximately the next 50 years.

The liability for nuclear fixed asset removal and nuclear waste management on a present value basis as at December 31, 2015 was \$19,792 million (2014 – \$16,663 million). As at December 31, 2015, the undiscounted cash flows of expenditures for OPG's Nuclear Liabilities in 2015 dollars are as follows:

(millions of dollars)	2016	2017	2018	2019	2020	Thereafter	Total
Expenditures for nuclear fixed asset removal and nuclear waste management <sup>1</sup>	309	311	328	359	400	36,565	38,272

The majority of the expenditures are expected to be reimbursed by OPG's Nuclear Funds as established by the ONFA. The contributions required under the ONFA are not included in these undiscounted cash flows but are reflected in the table under the heading, Contractual and Commercial Commitments. The Nuclear Funds are discussed in the Critical Accounting Policies and Estimates section under the heading, Nuclear Fixed Asset Removal and Nuclear Waste Management Funds.

The liability for non-nuclear fixed asset removal was \$377 million as at December 31, 2015 (2014 – \$365 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. For the purpose of measuring the liability, asset removal activities are assumed to take place over approximately the next 15 years. The amount of undiscounted estimated future cash flows associated with the non-nuclear liabilities is approximately \$500 million.

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. Refer to Note 3 of OPG's 2015 audited consolidated financial statements for further details.

#### **CHANGES IN ACCOUNTING POLICIES AND ESTIMATES**

### **Useful Lives of Nuclear Long-Lived Assets**

The accounting assumptions related to the estimated end-of-life dates for long-lived assets require significant management judgment, including consideration of various operational, technological and other factors. The station end-of-life assumptions also impact the measurement of OPG's ARO and impact other related accounting assumptions. OPG reviews the useful life assumptions for its generating stations on a regular basis.

In December 2015, OPG revised its accounting assumptions for the estimated useful lives of its nuclear generating stations. Effective December 31, 2015:

- 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 the technical confidence that all six operating units of the station will operate to the end of 2020.

To reflect the above 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. These increases were primarily due to the changes in the estimated useful life of the Bruce B GS. The nuclear 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 used nuclear fuel and waste volumes. Consistent with the changes in the end-of-life dates for the Bruce nuclear generating stations and the December 2015 amendments to the Bruce Lease, the term of the Bruce Lease was also extended, for accounting purposes, in line with the refurbishment plans for these stations.

The above changes in station end-of-life assumptions are expected to decrease total depreciation expense by approximately \$35 million in 2016, and to increase accretion expense by approximately \$75 million in 2016. The existing Bruce Lease Net Revenues Variance Account and a new deferral account proposed in OPG's December 2015 application to the OEB, discussed below, are expected to largely offset these impacts. The Bruce Lease Net Revenues Variance Account captures differences between OPG's revenues and costs related to the Bruce nuclear generating stations and the corresponding forecasts included in OEB-approved nuclear regulated prices.

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, effective January 1, 2016, the revenue requirement impact on the prescribed nuclear facilities of changes to the Nuclear Liabilities and depreciation expense arising from the changes in the nuclear station end-of-life dates effective December 31, 2015. In January 2016, the OEB issued an order establishing the requested account on an interim basis to allow OPG to begin recording amounts into the account effective in January 2016. The OEB's final decision on the account is expected later in 2016.

## **Pension and Other Post-Employment Benefits**

The weighted average discount rate used to determine the projected pension benefit obligations and the projected benefit obligations for OPEB as at December 31, 2015 was 4.1 percent. This represents an increase, compared to the 4.0 percent discount rate that was used to determine the obligations as at December 31, 2014.

The deficit for the registered pension plans decreased, for accounting purposes, from \$3,262 million as at December 31, 2014 to \$2,315 million as at December 31, 2015, largely as a result of the return on pension fund assets in 2015, the increase in discount rates at the 2015 year-end, and employer contributions to the pension fund during the year, partially offset by the current service and interest costs for the year.

The projected benefit obligations for OPEB increased slightly from \$3,143 million as at December 31, 2014 to \$3,188 million as at December 31, 2015.

As at December 31, 2015, the unamortized net actuarial loss and unamortized past service costs for the pension and OPEB plans totalled \$3,646 million (2014 – \$4,869 million). Details of the unamortized net actuarial loss and unamortized past service costs as at December 31, 2015 and 2014 are as follows:

	Registered Pension Plans		Supplementary Pension Plans		Other Post- Employment Benefits	
(millions of dollars)	2015	2014	2015	2014	2015	2014
Net actuarial gain not yet subject to amortization due to use of market-related values	(809)	(878)	-	-	-	-
Net actuarial loss not subject to amortization due to use of the corridor	1,544	1,568	30	32	293	288
Net actuarial loss subject to amortization	2,288	3,443	47	65	247	350
Unamortized net actuarial loss	3,023	4,133	77	97	540	638
Unamortized past service costs	-	_	-	-	6	1

A change in the following assumptions holding all other assumptions constant, would increase (decrease) pension and OPEB costs for the year ended December 31, 2015, as follows:

(millions of dollars)	Registered Pension Plans <sup>1</sup>	Supplementary Pension Plans <sup>1</sup>	Other Post- Employment Benefits <sup>1</sup>
Expected long-term rate of return			
0.25% increase	(28)	n/a	n/a
0.25% decrease	28	n/a	n/a
0.20 /0 00010000	20	11/4	11/4
Discount rate			
0.25% increase	(62)	(1)	(13)
0.25% decrease	65	1	14
la flation			
Inflation	400	0	4
0.25% increase	106	2	1
0.25% decrease	(99)	(1)	(1)
Salary increases			
0.25% increase	24	3	1
0.25% decrease	(24)	(2)	(1)
	,	( )	,
Health care cost trend rate			
1% increase	n/a	n/a	84
1% decrease	n/a	n/a	(60)

n/a - change in assumption not applicable.

## **Recent Accounting Pronouncements**

The recent US GAAP accounting pronouncements related to revenue recognition and lease accounting 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 (ASU 2014-09), which supersedes nearly all existing revenue recognition guidance, including industry-specific guidance, under US GAAP. The core principle of ASU 2014-09 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. In July 2015, the FASB approved the deferral of the effective date of the new revenue standard by one year from 2017 to 2018, for public entities reporting under US GAAP. As such, the standard is expected to be applicable to OPG for its 2018 fiscal year, including interim periods. OPG is currently assessing the impact of the new standard on its consolidated financial statements.

#### Lease Accounting

In February 2016, the FASB issued the accounting update for ASC Topic 840, Leases. The update includes comprehensive changes to existing guidance for lease accounting, particularly for lessees. The standard is expected to be effective for OPG's 2019 fiscal year, including interim periods. Early adoption is permitted. OPG is currently assessing the impact of the new standard on its consolidated financial statements.

Excludes the impact of regulatory variance and deferral accounts.

#### **RISK MANAGEMENT**

#### Overview

OPG faces various risks that could significantly impact the achievement of its strategic, operational, financial, environmental, and health and safety goals. 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**

During the first quarter of 2016, OPG's Board of Directors implemented a revised committee structure by streamlining its current standing committees from six to four. The changes include the merger of the former Audit and Finance Committee and the former Risk Oversight Committee to form the Audit and Risk Committee (ARC) of the Board of Directors. One of the ARC's responsibilities is to assist 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 Officer (CRO), assists the ARC 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 and business plan objectives.

The quarterly risk management reporting activities are coordinated by a centralized ERM group led by the CRO. The activities begin with business units identifying, reviewing, and assessing risks that could prevent achievement of their business plan objectives. The ERM group reviews, validates, and consolidates this information and prioritizes risks based on their potential to impact OPG's overall business objectives. 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 the prioritized risks to determine the top risks to the Company. OPG's ERM process facilitates the monitoring of risk management activities for identified key risks. This allows the ERM group to report significant developments to the ERC and the ARC on a quarterly basis.

Senior management sets risk limits for the financing, procurement, and trading activities of the Company. Senior management also ensures that effective risk management policies and processes are in place to ensure compliance with such limits in order to maintain an appropriate balance between risk and return.

For the purpose of disclosure in this MD&A, a number of key risks are presented in five main categories, namely operational, financial, regulatory and legislative, enterprise-wide, and environmental. For each category, the key risks are briefly described below.

## **Operational Risks**

## Risks Associated with Existing Generating Stations

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

Operational risks are the risks normally inherent in the operation of electricity generating facilities. These risks can lead to interruptions in the operations of generating stations or uncertainty in future production. The operational risks of a station are generally a function of its age 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 production by OPG's Canadian Deuterium Uranium (CANDU) 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 planned outages.

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 NWMO has developed a process for moving forward with Adaptive Phased Management as the long-term solution for Canada's nuclear fuel waste. In the interim, OPG is storing and managing used fuel at its nuclear generating station sites.

Deep Geologic Repository for Low and Intermediate Level Waste

OPG, with the support of Bruce County municipalities, is proposing to construct and operate a DGR to address the need for the long-term management of L&ILW from OPG-owned nuclear generating stations. While broad local community support for the proposed L&ILW DGR is stable, there are pockets of opposition to the project which exist in the local communities as well as in Sarnia, Michigan, and Illinois. Special interest group opposition to deep geologic disposal of L&ILW may require OPG to respond accordingly in order to satisfy major stakeholders.

In May 2015, the JRP submitted its report and recommendations on the EA for OPG's proposed L&ILW DGR 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. In February 2016, the federal Minister requested additional information on certain aspects of the EA for the proposed L&ILW DGR, including information related to alternate locations for the project and the impact on environmental effects if the NWMO's future used fuel repository were located in close proximity to the proposed L&ILW DGR. OPG is to inform the CEAA by April 18, 2016 when it anticipates to submit the requested information.

There is a risk of further delays to the EA approval and/or the issuance of the site preparation and construction licence from potential additional regulatory, political, legal or other requirements. Other factors impacting the residual risk associated with the L&ILW DGR project include support for its construction from the Saugeen Ojibway Nations, and reductions in political and social support for the project.

## 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.

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 which include the following:

- work on fuel channel life cycle management
- 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. In 2015, this has resulted in the Pickering GS achieving the best ever reliability in the history of the station.

## Darlington Operations

OPG is managing risks related to the Darlington GS operations by addressing ongoing technical challenges related to the obsolescence and aging of station components, including fuel handling equipment and fuel channels. There is also a significant risk associated with the degradation of the primary heat transport pump motors. The Darlington GS has already replaced certain high priority pump motors, and there is a plan in place to replace the remaining degraded pump motors.

### Hydroelectric Generating Stations

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

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. OPG manages this risk by using production forecasting models that incorporate water availability conditions, unit efficiency characteristics and outage plans. Inputs to the models are assessed, monitored and adjusted on an ongoing basis. For OPG's regulated hydroelectric generation, the financial impacts 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 the OEB-approved Hydroelectric Water Conditions Variance Account.

OPG's hydroelectric generating stations vary in age and the majority of the hydroelectric generating equipment is over 50 years old. The age of the equipment and civil components creates 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.

The hydroelectric facilities operate 240 dams across Ontario. Dam safety legislation does not currently exist in the province. In August 2011, the Ministry of Natural Resources (now the MNRF) published a set of technical guidelines following a period of public consultation. These technical guidelines, which are not a regulation, 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 addition, OPG is developing a new risk-informed approach on behalf of the MNRF 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.

### Thermal Generating Stations

Preserving the option for Lambton GS units to run on alternate fuels requires OPG to incur additional operating costs that may not be recovered.

The Lambton GS ceased generating electricity in 2013. OPG has placed generating units of the Lambton GS in a reserve status and is currently preserving the option of converting the units to natural gas in the future, should they be required. Maintaining the units in the preserved state requires OPG to incur operating costs, and there is no mechanism currently in place to recover these costs. In 2015, OPG decided that it would revisit the decision to continue to preserve the Lambton GS in conjunction with Ontario's next LTEP.

Any future decision to convert the Lambton GS units to alternate fuels would be dependent upon obtaining appropriate energy supply agreements or other revenue contracts.

## Risks Associated with Major Development Projects

The risks associated with the cost, schedule, and technical aspects of the major development projects could adversely impact OPG's financial performance and its 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; or fully recover capital costs and earn an appropriate return on investment in a timely manner. These projects may also have a significant impact on OPG's borrowing capacity and credit rating. Some projects may be ultimately reassessed as being uneconomic. Major development projects currently include the Darlington Refurbishment project, the construction of the Peter Sutherland Sr. GS, and other hydroelectric projects.

### Darlington Refurbishment

In November 2015, OPG's Board of Directors approved the four-unit budget and schedule to refurbish the Darlington GS and, in January 2016, the Province announced that Ontario is moving forward with the refurbishment of the station. The Province approved the execution of refurbishment for the first unit, Unit 2, which is scheduled to commence in October 2016. OPG is required to seek the Province's approval prior to refurbishing each remaining unit. Independent, third-party oversight is being 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 has retained an external advisor to provide oversight of the project, reporting to the Minister of Energy.

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 the Province not proceeding with OPG's refurbishment of the remaining units, which, together with the 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.

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 and rigorously estimate costs in keeping with best practices. 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 of unit refurbishment tasks that will be carried out during the execution phase of the project.

A large portion of the costs for the Darlington Refurbishment project is 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 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, active risk management, increased field presence by supervisory staff and assisting vendors in removing barriers to work. OPG is also managing other ongoing risks, such as 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.

## 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 the risks include performing detailed engineering designs before proceeding with execution, engaging qualified and experienced vendors, and effectively monitoring and controlling performance.

Development projects could also 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.

#### **Financial Risks**

OPG is exposed to a number of discrete market-related risks that could adversely impact its financial and operating performance.

OPG is exposed to a number of financial risks, many of which arise due to OPG's exposure to volatility in commodity and equity markets, and interest rate fluctuations. This includes 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 Company's financial results.

## 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.

	2016	2017	2018
Estimated fuel requirements hedged <sup>1</sup>	75%	69%	66%

Represents the approximate portion of MWh of expected generation production and year-end inventory targets from each type of facility (nuclear and thermal) for which OPG has entered into contractual arrangements or obligations in order to secure the price of fuel. Excess fuel inventories in a given year are attributed to the next year for the purpose of measuring hedge ratios.

### Financial Markets

The market value of investments held by OPG's Nuclear 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 Funds Market Risk

Investments in the Nuclear Funds are allocated to certain asset classes including fixed income securities, domestic and international equity securities, pooled funds, infrastructure, agriculture and Canadian 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 Fund, the Province guarantees the annual rate of return at 3.25 percent plus the change in the Ontario CPI for the portion of the fund attributed to the first 2.23 million nuclear 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 assumes the market risk for the investment of funds set aside in the Used Fuel Fund for incremental bundles in excess of 2.23 million.

The performance of the portion of the Nuclear Funds attributed to the nuclear generating stations leased to Bruce Power is subject to the OEB-authorized Bruce Lease Net Revenues Variance Account. The variance account partially mitigates market risk related to the Nuclear Funds as it captures the differences between actual and forecast earnings from the Nuclear Funds related to the stations leased to Bruce Power. Forecast earnings are those approved by the OEB in setting regulated nuclear prices.

Residual risk to OPG's financial results continues to exist due to volatility in the financial and commodity markets, particularly with respect to the performance of the Nuclear Funds.

### 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 OPG's 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 2016, was completed as of January 1, 2014. 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 actuarial valuations. The next actuarial valuation of the OPG registered plan must have an actuarial valuation date no later than January 1, 2017. OPG's OPEB obligations are not funded and the associated employee benefits are paid from cash flow provided by operating activities.

### Foreign Exchange

OPG's earnings and cash flows 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, 2015, OPG had total foreign exchange contracts outstanding with a notional value of USD \$3 million.

## **Trading**

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

OPG's 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 2015, the VaR utilization ranged between nil and \$1.5 million, compared to between nil and \$4.2 million in 2014.

### Credit

Deterioration in counterparty credit and non-performance by suppliers and contractors can adversely impact OPG's earnings and cash flows 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. The Company manages its exposure to various suppliers or counterparties by evaluating their financial condition and ensuring that appropriate collateral or other forms of security are held by OPG.

The following table summarizes OPG's credit exposure to all counterparties from electricity transactions and trading as at December 31, 2015:

			Potential Exposure for Largest Counterparties		
Credit Rating <sup>1</sup>	Number of Counterparties <sup>2</sup>	Potential Exposure <sup>3</sup> (million of dollars)	Number of Counterparties	Counterparty Exposure (million of dollars)	
Investment grade	10 1	26 378	5 1	25 378	
Total	11	404	6	403	

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.

<sup>2</sup> OPG's counterparties are defined on the basis of individual master agreements.

## 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 funding obligations under the ONFA, pension contributions, payments towards OPEB and other benefit plans, 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*.

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

The cost estimates for nuclear waste management and decommissioning obligations are based on assumptions that evolve over time and could impact OPG's future contributions to the Nuclear 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, including the stations on lease to Bruce Power. OPG is required by various rules and regulations to provide cost estimates associated with its nuclear waste management and decommissioning obligations, including for updating ONFA Reference Plans. OPG's contributions to the Nuclear Funds are determined by approved ONFA Reference Plans, which are required to be updated at least every five years.

The cost estimates for nuclear waste management and decommissioning obligations are based on numerous underlying assumptions and estimates that are inherently uncertain. 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

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

Credit exposure is an estimate of the receivable amount arising from OPG's electricity sales into the IESO market. This excludes all items pertaining to contracts with the IESO. 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.

undertakes to perform a comprehensive review of the underlying assumptions and baseline cost estimates at least once every five years, in line with the ONFA Reference Plan update process. Certain underlying assumptions, such as station end-of-life dates, are reviewed annually, with resulting changes assessed for their impact to the liability. Changing business decisions, such as premature unit closures and refurbishment decisions, are reviewed as they occur, with the existing baseline cost information used to estimate the impacts to the obligations. Should changing circumstances be assessed as material or significant, an early re-assessment of baseline costs could be performed before the five-year period is completed.

OPG is currently reviewing its estimates for the nuclear waste management and decommissioning obligations. A comprehensive reassessment of the underlying assumptions and lifecycle baseline cost estimates is expected to be completed and results submitted to the Province for review and approval in 2016 as part of the ONFA Reference Plan update process. The updated ONFA Reference Plan is expected to be effective January 1, 2017.

An adjustment to OPG's ARO for nuclear waste management and decommissioning, with a corresponding increase in capitalized asset retirement costs, was recorded on December 31, 2015 as a result of changes in accounting assumptions for the useful lives of the Bruce nuclear generating stations. The stations' useful lives were extended to reflect the Province's endorsement of Bruce Power's refurbishment plans for the unrefurbished units and the updated refurbishment contract between Bruce Power and IESO, as discussed further under the heading, *Changes in Accounting Policies and Estimates*. The impact of this change will be reflected in the next ONFA Reference Plan.

The changes in contribution levels based on approved ONFA Reference Plans are determined based on changes in the values of the Nuclear Funds as well as changes in the associated nuclear waste management and decommissioning obligations. An increase in the obligations, including from an increase in baseline cost estimates or changes in the decommissioning strategy, or a decrease in the value of the Nuclear Funds could increase OPG's future required contributions under the ONFA.

### Acquisition of Hydro One Shares

As part of the renewed collective bargaining agreements with the PWU and The Society, OPG will need to acquire shares of Hydro One to award to qualifying employees during the 15-year periods commencing on April 1, 2017 and January 1, 2018, respectively. The number of shares to be awarded to each qualifying employee during these periods is fixed by the terms of the collective bargaining agreements. There is a financial risk associated with these future transactions as the value of future awards will be dependent on the market price of the shares at the time of the award. OPG is currently evaluating strategies to mitigate this risk.

### **Regulatory and Legislative Risks**

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

OPG is subject to regulation by various entities including the OEB and the CNSC. The risks that arise from being a regulated entity include: the potential inability to receive full recovery of capital and operating costs; reductions in earnings; and increases in operating costs. Where possible, these unfavourable impacts are mitigated by maintaining ongoing communication with regulators and other authoritative bodies to ensure early identification and discussion of issues.

# Rate Regulation

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

The prices for electricity generated from OPG's prescribed facilities are generally determined by the OEB using forecast information. In 2016, OPG plans to file a 5-year rate application with the OEB for new regulated prices for production from its regulated hydroelectric and nuclear facilities, effective in 2017. The OEB has previously

expressed an expectation that these prices would be determined on the basis of an incentive regulation ratemaking methodology for the hydroelectric operations, and a multi-year forecast cost of service ratemaking approach with incentive regulation features for the nuclear operations. There is an inherent risk that the new prices established by the OEB on the above basis may not provide for recovery of all actual costs incurred by OPG's regulated operations, or may not allow the regulated operations to earn an appropriate rate of return based on actual results. OPG's objectives with respect to its regulated operations are to clearly demonstrate to the OEB that the costs for the regulated operations are being prudently incurred and should be fully recovered, and to earn an appropriate return on the investment in the regulated assets.

Consistent with the November 2015 amendment to Ontario Regulation 53/05, OPG plans to incorporate a rate smoothing proposal into its 2016 application for nuclear regulated prices, with a view of making more stable yearover-year changes in the nuclear base regulated prices during the Darlington Refurbishment project period. Under rate smoothing, the collection of a portion of the approved revenue requirement is deferred into the future. According to Ontario Regulation 53/05, the deferred portion will be determined by the OEB. 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 the 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.

In September 2015, the Supreme Court upheld the OEB's disallowance of a portion of OPG's forecast nuclear compensation costs for the 2011-2012 period that were based on previously negotiated collective agreements. The decision underscores that OPG must continue to establish the reasonableness of both committed and future costs as part of the rate-setting process, in support of requested rates required to operate and invest into the business and to deliver expected returns to the Province. For further details on the Supreme Court's decision, refer to the disclosure under the heading, Recent Developments.

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 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 in the Pension & OPEB Cash Versus Accrual Differential Deferral Account, as well as the ability to recover full pension and OPEB costs in the future. The outcome of the consultation and future OEB proceedings can have significant adverse implications on OPG's future financial results, including adjustments to the regulatory assets for the Pension & OPEB Cash Versus Accrual Differential Deferral Account and unamortized pension and OPEB amounts recorded in AOCI.

# Legislative Risks

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. 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.

## **Nuclear Regulatory Requirements**

An aging nuclear fleet or changes in technical codes, regulations or laws may increase the risk of additional 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 area of 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, or in an earlier than planned replacement of a station component. 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.

The generating units of the Darlington GS are approaching their originally designed end-of-life. In December 2015, the CNSC granted the station 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.

In January 2014, the federal government introduced Bill C-22 which contains a new *Nuclear Liability and Compensation Act* (NLCA). This bill received Royal Assent in February 2015, and the act is expected to come into effect by the end of 2016. The NLCA will increase 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 is assessing the impact of the increased liability limit on the insurance limits and premiums available to Canadian nuclear operators.

### **Enterprise-Wide Risks**

OPG's business prospects could be adversely affected by various enterprise-wide risks such as those related to electricity demand and supply, human resources, health and safety, and corporate reputation. Significant risks that could have a potential enterprise-wide impact on OPG's business, reputation, financial condition, operating results and prospects are discussed below.

## Ontario Electricity Market

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

OPG's revenue is impacted by many external factors 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.

SBG has, and will continue to be, an issue in Ontario when electricity supply exceeds demand. For OPG, SBG can cause spilling of water at hydroelectric stations and reductions in generation from nuclear facilities, and add to the wear and tear of station equipment due to increased dispatch. To manage SBG conditions, the IESO may require OPG to reduce hydroelectric generation and spill water. Curtailment of OPG's nuclear production is also possible. The Hydroelectric Surplus Baseload Generation Variance Account authorized by the OEB helps to mitigate the financial impact of hydroelectric spill due to SBG conditions for OPG's regulated hydroelectric generating stations. At this time, SBG is not expected to affect OPG's nuclear production, and there is currently no similar variance account for the nuclear facilities.

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 or ability to recover appropriate costs and earn a return on the assets.

## People and Culture

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

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 retention 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 has embarked upon an organization-wide workforce planning and resourcing effort 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, 2015, approximately 90 percent of OPG's regular labour force was represented by a union. During 2015, OPG reached agreements to renew both the PWU and The Society collective agreements for threeyear terms, expiring March 31, 2018 and December 31, 2018, respectively. In addition, 13 of 19 collective agreements for the craft unions with established bargaining rights on OPG facilities expired on April 30, 2015. Agreements of five-year terms have been completed with all trade unions. As a result of the above 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.

### **Corporate Reputation**

OPG is exposed to reputational risk associated with changes in the opinion of various stakeholders regarding its public profile.

As a wholly Province-owned provider of a large portion of Ontario's electricity requirements, maintaining a positive corporate reputation and public trust is critical to OPG's success. OPG focuses on building and maintaining its reputation through various best practices, including appropriate and transparent governance practices, effective and transparent communication with stakeholders, community support, and other corporate citizenship initiatives across the province. Efforts to reinforce OPG's reputation also include various media campaigns highlighting OPG's contribution as a clean power generator with a commitment to safety and community partnerships. In addition, OPG undertakes continuous improvement initiatives in various assurance and risk management activities. Issue management and response plans are developed to address specific reputational considerations as they arise.

### 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 determines the composition of OPG's Board of Directors and 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. OPG could be subject to Shareholder direction that requires OPG to undertake activities that result in increased expenditures, or that reduce revenues earnings, or cash flows relative to the business activities or strategies that would have otherwise been undertaken. In addition, OPG's corporate interests and the wider interests of the Province may compete as a result of the obligation of the Province to respond to a broad range of matters affecting OPG's business environment.

## Information Technology

OPG's ability to operate effectively is in part dependent on effectively managing its Information Technology (IT) requirements. IT system failures may have an adverse impact on OPG.

OPG's ability to operate effectively is in part dependent upon developing or subcontracting and managing a complex IT systems infrastructure. Failure to meet IT requirements, effectively deal with cyber security threats, or manage system changes and conversions could result in future system failures, and/or an inability to align IT systems with business needs. In addition, OPG could be exposed to operational risks, reputational damage and/or financial losses in the event of IT security breaches. To mitigate these risks, OPG closely monitors its IT systems as well as changes in the operating environment, and is proactively implementing appropriate safeguards against IT-related risks. In particular, OPG is committed to operating its information technology and industrial control systems in a secure, vigilant, and resilient manner that minimizes cyber risks to the Company's information assets and generation facilities. In 2015, a multi-point cyber security improvement program was progressed to continue improving defenses against evolving threats and to maintain compliance with legal and regulatory requirements.

## **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 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 effective contract negotiations, contract terms, vendor monitoring, and diversification of its supplier base.

## **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 natural, technological, or humancaused hazards; to significant events against which it is not fully insured or indemnified; or to a party that fails to meet its indemnification obligations.

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 ensures 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.

#### First Nations and Métis Communities

OPG is exposed to risks associated with its relationships with First Nations and Métis communities. The quality of OPG's relationships and the outcome of negotiations with First Nations and Métis communities may impact OPG's project and financial performance, as well as its corporate reputation.

OPG may be subject to claims by First Nations and Métis 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 title and rights of First Nations and Métis communities.

OPG has a First Nations and Métis Relations Policy, which sets out the Company's commitment to build and maintain positive relationships with the First Nations and Métis communities. OPG has been successful in resolving a number of past grievances by First Nations. However, the outcome of the ongoing and any future negotiations depends on a number of factors, including legislation and regulations, and precedents created by court rulings, which are subject to change over time. OPG also pursues generation-related developments in partnerships with First Nations and Métis 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 by constraining 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 costs to meet heritage conservation program requirements under the Ontario Heritage Act.

Potential 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 2015.

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.

In the second quarter of 2015, the Province announced its intention to implement a cap-and-trade system to GHG emissions. The implementing regulation is expected to be issued in 2016, with the program commencing in 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.

### **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 including Hydro One, the IESO, and the OEFC, and jointly controlled entities. 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.

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

	2	2015		014
(millions of dollars)	Revenue	Expense	Revenue	Expense
Hydro One				
Electricity sales	12	<u>_</u>	23	_
Services	1	6	1	13
Services	•	· ·	'	13
Province of Ontario				
Decommissioning Fund excess funding	-	185	-	476
Used Fuel Fund rate of return guarantee	-	274	-	439
Gross revenue charges	-	121	-	123
ONFA guarantee fee	-	8	-	8
Pension benefits guarantee fee	-	-	-	2
OEFC				
Gross revenue charges	-	207	_	209
Interest expense on long-term notes	-	177	_	187
Income taxes, net of investment tax credits	-	80	_	136
Contingency support agreement	8	-	83	-
IESO				
Electricity related revenue	4,903	65	4,305	75
	4,924	1,123	4,412	1,668

The receivable and payable balances, as at December 31, between OPG and its related parties are summarized below:

(millions of dollars)	2015	2014
Pagainables from related parties		
Receivables from related parties	4	4
Hydro One	504	100
IESO	531	468
OEFC	9	10
PEC	3	3
Province of Ontario	1	-
Accounts payable and accrued charges		
Hydro One	1	8
OEFC	51	63
Province of Ontario	20	3
IESO	18	-

#### 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.

Effective January 1, 2015, OPG completed the implementation of ESCP, which integrated enterprise systems that support plant operations, purchasing, payments, and time reporting in order to simplify use, increase efficiencies, and streamline business processes across the organization. Changes to OPG's ICOFR resulting from the ESCP implementation have been documented and considered in the evaluation of design effectiveness of ICOFR as of December 31, 2015. There were no other changes in OPG's ICOFR during the year ended December 31, 2015 that have materially affected or are reasonably likely to materially affect OPG's ICOFR.

Management, including the President and CEO and the interim CFO, concluded that, as of December 31, 2015, 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**

	Three Months Ended December 31	
(millions of dollars) (unaudited)	2015	2014
Revenue	1,312	1,318
Fuel expense	175	177
Gross margin	1,137	1,141
Operations, maintenance and administration	788	684
Depreciation and amortization	354	208
Accretion on fixed asset removal and nuclear waste management liabilities	223	211
Earnings on nuclear fixed asset removal and nuclear waste management funds	(169)	(176)
Regulatory disallowance related to the Niagara Tunnel project	-	77
Income from investments subject to significant influence	(9)	(9)
Property taxes	11	10
Restructuring	5	3
(Loss) income before other loss (income), interest, and income taxes	(66)	133
Other loss (income)	`12 <sup>′</sup>	(5)
(Loss) income before interest and income taxes	(78)	138
Net interest expense	`44	42
(Loss) income before income taxes	(122)	96
Încome tax (recovery) expense	(22)	6
Net (loss) income	(100)	90
Not (loss) income attributable to the Sharahelder	(101)	06
Net (loss) income attributable to the Shareholder	(101)	86
Net income attributable to non-controlling interest		4

Net loss attributable to the Shareholder for the fourth quarter was \$101 million, compared to net income of \$86 million for the same quarter in 2014.

Loss before interest and income taxes was \$78 million during the fourth quarter of 2015, a decrease of \$216 million compared to income before interest and income taxes of \$138 million during the same period in 2014. The following summarizes the significant factors which caused the variance:

Significant factors that reduced income before interest and income taxes:

- Increased number of outage days reduced nuclear generation by 3.9 TWh during the fourth quarter in 2015, compared to same period in 2014, partly due to the four-unit Darlington VBO which was completed on October 30, 2015. The reduction in nuclear generation decreased gross margin by approximately \$215 million
- Higher OM&A expenses of \$97 million in the Regulated Nuclear Generation segment primarily due to an increase in outage activities in 2015, including the Darlington VBO.

Significant factors that increased income before interest and income taxes:

- The write-off of \$77 million recorded during the fourth quarter of 2014 as a result of a regulatory disallowance by the OEB related to the Niagara Tunnel project
- Increase in revenue of approximately \$44 million in the Regulated Nuclear Generation and the Regulated Hydroelectric segments as a result of higher average sales prices due to new base regulated prices authorized by the OEB effective November 1, 2014.

The reduction in income tax expense during the fourth quarter of 2015, compared to the same quarter in 2014, was primarily due to lower income before taxes in 2015.

## **Average Sales Prices**

The average sales price for the Regulated – Nuclear Generation segment during the fourth quarter of 2015 was 7.0 ¢/kWh, compared to 6.0 ¢/kWh during the same quarter in 2014. The average sales price for the Regulated – Hydroelectric segment during the fourth quarter of 2015 was 4.8 ¢/kWh, compared to 3.9 ¢/kWh during the same quarter in 2014. The increase in the average sales prices for OPG's regulated segments during the fourth quarter of 2015 was a result of higher base regulated prices effective November 1, 2014 and new rate riders authorized by the OEB in 2015 for recovery of deferral and variance account balances. The revenue increase associated with the new rate riders during the three months ended December 31, 2015 was largely offset by a corresponding increase in amortization expense related to regulatory balances.

### **Electricity Generation**

OPG's electricity generation for the three months ended December 31, 2015 and 2014 was as follows:

	Three Months Ended December 31		
(TWh)	2015	2014	
Regulated – Nuclear Generation Regulated – Hydroelectric	8.8	12.7	
Hydroelectric generating stations prescribed for rate regulation prior to 2014 Hydroelectric generating stations prescribed for rate regulation effective in 2014	4.8 2.5	4.6 3.0	
Contracted Generation Portfolio <sup>1</sup>	0.7	0.6	
Total OPG electricity generation	16.8	20.9	
Total electricity generation by all other generators in Ontario <sup>2</sup>	19.6	18.5	

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

The decrease in OPG's electricity generation of 4.1 TWh during the fourth quarter of 2015, compared to the same quarter in 2014, was primarily due to lower electricity generation from the Regulated – Nuclear Generation segment as a result of an increased number of outage days at the Darlington GS, including the VBO. The decrease in generation was also due to reduced generation from OPG's hydroelectric generating stations prescribed for rate regulation effective in 2014, primarily due to lower water flows in eastern Ontario.

Ontario's electricity demand as reported by the IESO was 32.7 TWh during the fourth quarter of 2015, compared to 34.5 TWh during the fourth quarter of 2014.

### **Liquidity and Capital Resources**

Cash flow provided by operating activities during the three months ended December 31, 2015 was \$111 million, compared to \$440 million for the same period in 2014. The decrease in cash flow was primarily due to lower generation revenue and higher OM&A expenditures during fourth quarter of 2015.

Cash flow used in investing activities during the three months ended December 31, 2015 was \$571 million, compared to \$463 million during the same period in 2014. The increase was primarily due to the investment of proceeds from the 2015 long-term debt issuance in support of the Peter Sutherland Sr. GS project into a structured deposit note. The increase was partly offset by lower expenditures for the Lower Mattagami River project as all new units were declared in service by the end of 2014.

<sup>&</sup>lt;sup>2</sup> Non-OPG generation is calculated as the Ontario electricity demand plus net exports, as published by the IESO, minus OPG electricity generation.

Cash flow provided by financing activities during the three months ended December 31, 2015 was \$356 million, compared to cash flow used in financing activities of \$4 million for the same period in 2014. The increase in cash flow provided by financing activities was due to the long-term debt issuance during the fourth quarter of 2015 in support of the Peter Sutherland Sr. GS project and the net issuance of short-term notes under the LME's commercial paper program.

# **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**

(millions of dollars – except where noted)	2015	2014	2013
Revenue	5,476	4.963	4,863
Income before extraordinary item attributable to the Shareholder	402	561	135
Net income attributable to the Shareholder	402	804	135
Net income per common share before extraordinary item (dollars)	\$1.57	\$2.19	\$0.53
Net income per common share (dollars)	\$1.57	\$3.14	\$0.53
Total assets	44,302	41,645	38,091
Total long-term liabilities	32,427	30,483	28,652
Common shares outstanding (millions)	256.3	256.3	256.3

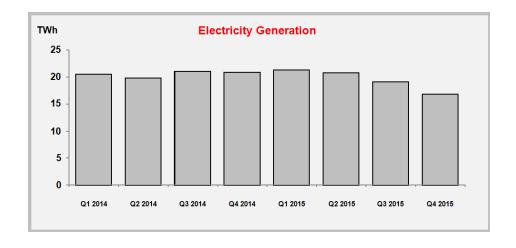
# **Quarterly Financial Information**

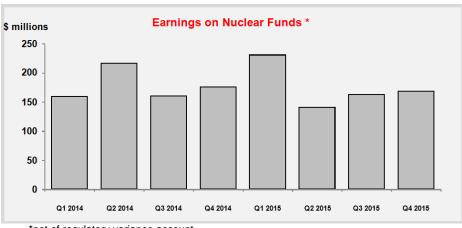
(millions of dollars – except	2015 Quarters Ended				
where noted) (unaudited)	December 31	September 30	June 30	March 31	Total
Revenue	1,312	1,426	1,383	1,355	5,476
Net (loss) income attributable to the Shareholder	(101)	80	189	234	402
Net income attributable to non-controlling interest	1	5	4	5	15
Net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

(millions of dollars – except		2014 Quarters Ended			
where noted) (unaudited)	December 31	September 30	June 30	March 31	Total
Revenue	1,318	1,160	1,098	1,387	4,963
Income before extraordinary item attributable to the Shareholder	86	118	115	242	561
Income before extraordinary item attributable to non-controlling interest	4	1	1	1	7
Income before extraordinary item	90	119	116	243	568
Net income attributable to the Shareholder	86	361	115	242	804
Net income attributable to non-controlling interest	4	1	1	1	7
Net income	90	362	116	243	811
Per common share, attributable to the Shareholder (dollars)					
Income before extraordinary item	\$0.34	\$0.46	\$0.45	\$0.94	\$2.19
Net income	\$0.34	\$1.41	\$0.45	\$0.94	\$3.14

## **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. Historically, OPG's revenues are 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. OPG's financial results are also affected by the earnings on the Nuclear Funds.





\*net of regulatory variance account

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

- Higher revenue in each of the quarters of 2015, compared to the same quarters in 2014, resulting from higher average sales prices due to new base regulated prices authorized by the OEB effective November 1, 2014 for all of OPG's regulated facilities. The increase was partially offset by higher expenses in 2015 resulting from lower deferrals in regulatory accounts, compared to 2014, for costs that were not reflected in the regulated prices in effect prior to November 2014
- Higher earnings from the Contracted Generation Portfolio segment in each of the quarters of 2015, compared to the same quarters in 2014, primarily due to the new units of the Lower Mattagami River generating stations that were placed in service throughout 2014, and the conversion to biomass fuels of units at the Atikokan GS and the Thunder Bay GS
- Higher revenue during the first guarter of 2014, compared to the same guarter in 2015, primarily due to higher electricity spot market prices for the production from the 48 hydroelectric facilities prescribed for rate regulation effective in 2014 and higher trading revenue from electricity sold to neighbouring markets, both primarily as result of the unseasonably cold winter.

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 and to ensure availability of cost effective funding. These non-GAAP financial measures have not been presented as an alternative to net income or other measures in accordance with US GAAP, but as an indicator 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:

(millions of dollars – except where noted)	2015	2014
ROE Excluding AOCI		
Net income attributable to the Shareholder	402	804
Divided by: Average equity attributable to the Shareholder, excluding AOCI	10,023	9,420
ROE Excluding AOCI (percent)	4.0	8.5

ROE Excluding AOCI is presented below for the period ended December 31 excluding the impact of the extraordinary gain of \$243 million recognized in 2014 related to the 48 hydroelectric stations prescribed for rate regulation effective in 2014.

(millions of dollars – except where noted)	2015	2014
ROE Excluding AOCI, excluding extraordinary gain		
Net income attributable to the Shareholder	402	804
Less: Extraordinary gain	-	243
Net income, excluding extraordinary gain, attributable to the Shareholder	402	561
Divided by: Average equity attributable to the Shareholder, excluding AOCI	9,780	9,299
and extraordinary gain		
ROE Excluding AOCI, excluding extraordinary gain (percent)	4.1	6.0

(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 interest on pension and OPEB projected benefit obligations less 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:

(millions of dollars – except where noted)	2015	2014
FFO before interest		
Cash flow provided by operating activities	1,465	1,433
Add: Interest paid	269	273
Less: Interest capitalized to fixed and intangible assets	(102)	(135)
Add: Changes to non-cash working capital balances	100	(212)
FFO before interest	1,732	1,359
Adjusted interest expense		
Net interest expense	180	80
Add: Interest income	9	10
Add: Interest capitalized to fixed and intangible assets	102	135
Add: Interest related to regulatory assets and liabilities	2	75
Add: Interest on pension and OPEB projected benefit obligations	53	179
less expected return on pension plan assets		
Adjusted interest expense	346	479
FFO Adjusted Interest Coverage (times)	5.0	2.8

(3) 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 the total of OM&A expenses of the Regulated - Nuclear Generation segment (excluding 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 Darlington Refurbishment project costs) incurred in the year, divided by OPG's nuclear electricity generation.

(millions of dollars – except where noted)	2015	2014
Nuclear TGC per MWh		
Regulated – Nuclear Generation OM&A expenses	2,200	1,983
Regulated – Nuclear Generation fuel expense	301	258
Regulated – Nuclear Generation capital expenditures	1,023	991
Less: Darlington Refurbishment capital and non-capital costs	(708)	(702)
Add: Regulated – Nuclear Generation OM&A and fuel expenses deferred in regulatory variance and deferral accounts	230	330
Less: Nuclear fuel expense for non OPG-operated stations	(62)	(59)
Less: Other adjustments	(34)	(19)
·	2,950	2,782
Nuclear electricity generation (TWh)	44.5	48.1
Nuclear TGC per MWh (\$/MWh)	66.29	57.84

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

#### **CORPORATE GOVERNANCE**

National Instrument 58-101, Disclosure of Corporate Governance Practices, has been implemented by Canadian securities regulatory authorities to provide greater transparency for the marketplace regarding issuers' corporate governance practices. OPG's corporate governance practices align with National Instrument 58-101 and National Policy 58-201, Corporate Governance Guidelines. In addition, OPG has reviewed its governance practices against the principles discussed in the 2014 Report on Building High Performance Boards issued by the Canadian Coalition for Good Governance and concluded that OPG compares favourably to those principles that apply to OPG. Information with respect to OPG's Board of Directors (Board) is as follows:

#### **Board of Directors**

OPG's Board of Directors is made up of 15 individuals with the following capabilities:

- managing large businesses
- managing and operating nuclear stations
- managing capital intensive companies
- overseeing regulatory, government and public relations
- human resources management
- financial, legal and corporate governance expertise
- knowledge of First Nations and Métis communities
- stakeholder management.

The Board exercises its independent supervision over management as follows: the majority of members of the Board of Directors are independent of the Company; meetings of the Board of Directors are held at least five times a year; a formal Charter for the Board of Directors, and for each Board Committee, has been adopted and the charters are reviewed annually; the Board and each Board Committee is chaired by an independent Director; and a portion of each Board and Committee meeting is reserved for independent Directors to meet without management present.

OPG has a written position description for the Chief Executive Officer (CEO). This position is accountable to the Board of Directors for: ensuring a culture of integrity and ethical conduct; increasing Shareholder value; defining and executing a strategy, including a sustainable business model that will service the long-term power generation needs of the province; and providing a standard of leadership that will achieve operational excellence with respect to matters of safety, stakeholder relationships, financial performance, asset reliability, health, and environmental management and regulatory compliance. In addition, the Board delineates the President and CEO role and responsibilities through the By-laws, the Board Charter, the Board policies, and the corporate and CEO annual goals and objectives. The Board sets and monitors performance against annual CEO and OPG targets and objectives.

### Director Independence

On an annual basis, the Compensation, Leadership and Governance Committee reviews the disclosures made by Directors in the annual Director Questionnaire and reviews each disclosed affiliation's relationship with OPG in order to determine whether the Director is (or remains) independent. The Compensation, Leadership and Governance Committee reports on its review to the Board of Directors.

Based on the meaning of Independence in Section 1.4 of National Instrument 52-110 Audit Committees (NI 52-110) and a review of the applicable factual circumstances against this standard, the Board's Compensation, Leadership and Governance Committee has determined that all Directors listed are independent, except for Jeffrey Lyash, who is considered to have a material relationship with OPG by virtue of his position as President and CEO of OPG.

The OPG Board has a Board of Directors Conflict of Interest Policy and Procedure that governs the disclosure and mitigation of Director conflicts or potential conflicts of interest and has adopted an annual process of written disclosure by Directors in order to:

- (i) identify potential conflicts of interest for the purposes of complying with the Board of Directors Conflict of Interest Policy and the OBCA;
- (ii) validate their independence and financial literacy for the purposes of complying with securities regulations related to Boards and audit committees; and
- (iii) satisfy other disclosures and filings.

To further minimize potential conflicts of interest, the Board of Directors has a policy on interlocking directorships. The Board's policy on interlocking directorships states that no more than two OPG Directors may sit on a Board of another reporting issuer at the same time. Directors must confirm that they are in compliance with OPG's policy on interlocking directorships when disclosing to the Board Chair appointments to other Boards.

## Strategic Planning

OPG delivers value to Ontario electricity customers and its Shareholder, the Province of Ontario, by reliably and cost-effectively producing electricity from its diversified portfolio of clean energy generating assets while operating in a safe, transparent, environmentally responsible and commercially sound manner. 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 key strategic imperatives are discussed under the heading, *Core Business and Strategy* section.

OPG's Board holds an annual strategy session and devotes a significant portion of each regular Board meeting to discussion of strategic matters. Management is responsible for developing the strategy and presenting it to the Board for discussion.

In 2015, the Board received reports on key strategic issues, risks, competitive developments, and corporate opportunities facing the Company. Management ensures that the key strategic elements are incorporated into OPG's annual budget and business plan, which is reviewed and approved by the Board. The Board also periodically receives briefings from external advisors on broad energy industry developments and/or special strategic matters.

## Overseeing the Management of Risk

OPG's Board oversees OPG's approach of identifying, reporting, and mitigating the risks that could significantly impact OPG's capacity to achieve its long-term strategic objectives, as well as specific business plan objectives. To fulfill its risk oversight responsibilities, the Board has established a Corporate Risk Management Policy and an Audit and Risk Committee of the Board, comprised of independent Directors. The Committee's mandate includes oversight of the ERM framework that Management uses to manage OPG's risk profile. The ERM framework assists the Board in understanding how the risks may affect the Company and how they are being addressed by Management. The Audit and Risk Committee receives quarterly reports from OPG's CRO on enterprise-wide risks.

Through the Compensation, Leadership and Governance Committee, the Board also monitors the risks associated with the executive compensation program to preclude the Company's decision-makers from taking excessive risk in order to achieve incentives under the compensation plans. The CRO and the Senior Vice President, People, Culture & Communications jointly review the executive compensation framework on an annual basis to identify any potential for unintended risk-taking. The CRO and the Senior Vice President, People, Culture & Communications provide an annual joint report to the Compensation, Leadership and Governance Committee of the Board on the results of their review.

#### **Directors**

The following tables set forth the name, municipality of residence, position with the Company and principal occupation of each of the Directors of the Company as of March 4, 2016. For discussions regarding the Board Committee structure, including the changes effective February 11, 2016, refer to the heading, Committees of the Board of Directors.



**Bernard Lord** Age: 50 Moncton, New Brunswick, Canada

Bernard Lord was appointed Board Chair for Ontario Power Generation on April 1, 2014. Mr. Lord is President and CEO of the Canadian Wireless Telecommunication Association and the Chairman of the Mobile Giving Foundation Canada. He serves as a corporate director for Médavie Blue Cross.

Mr. Lord earned a bachelor's degree with a major in economics as well as a bachelor's degree in common law from l'Université de Moncton. He has also received honorary doctorate degrees from University of New Brunswick, l'Université de Moncton and Saint Thomas University. He was admitted to the New Brunswick Bar in 1993 and was appointed as Queen's Counsel in 2011.

In 1999, Mr. Lord became one of Canada's youngest Premiers at the age of 33. His majority government was re-elected in 2003 and he served as Premier of New Brunswick until October 2006. He was elected four times as a Member of the New Brunswick Legislative Assembly.

His government introduced several new initiatives to support the development of natural resources while also protecting the environment, including a new energy policy that lead to the restructuring of NB Power and the refurbishment of the Point Lepreau nuclear generating station.

During Mr. Lord's terms as Premier, New Brunswick saw the lowest unemployment rate in 30 years and tax cuts each year, combined with balanced budgets and debt reduction. His government made record investments in health care and education while strengthening local democracy and modernizing the Official Languages Act.

Board/Committee Membership:	2015 Attend	dance:
Board (since November 2013)	10 of 10	100%
Ad Hoc Committee (since April 2014)	1 of 1	100%
Executive Talent Committee (since April 2014)	4 of 4	100%
The Board Chair is not a member of any standing Committee. The Board Chair attends all other	24 of 24	100%
Committee meetings.		

Principal Occupation: President and CEO of Canadian Wireless Telecommunications Association

Board Memberships for other Reporting Issuers: None

Independence from OPG: Independent



Jeffrey Lyash Age: 54 Toronto, Ontario, Canada

Jeff Lyash is the President and CEO of OPG. Mr. Lyash was formerly the president of CB&I Power where he was responsible for a full range of engineering, procurement and construction of multi-billion dollar electrical generation projects in both domestic and international markets. He also provided operating plant services for nuclear, coal, gas, oil and renewable generation.

Prior to joining CB&I in 2013, Mr. Lyash served as Executive Vice President of Energy Supply for Duke Energy. He led engineering, maintenance and operations of the company's 42,000-megawatt generation fleet, fuel procurement, power trading, major projects and construction, environmental programs, and health and safety programs.

Before the merger of Progress Energy and Duke Energy, Mr. Lyash served as Executive Vice President of Energy Supply for Progress Energy. In this role, he oversaw Progress Energy's diverse 22,000megawatt fleet of generating resources including nuclear, coal, oil, natural gas and hydroelectric stations. In addition, he was responsible for generating fleet fuel procurement and power trading operations.

Mr. Lyash began his career in the utility industry in 1981, joining Progress Energy in 1993, Before assuming the role of Executive Vice President of Energy Supply, he served as Executive Vice President of Corporate Development, President and Chief Executive Officer of Progress Energy Florida, Senior Vice President of Energy Delivery Florida, and Vice President of Transmission. He also held a wide range of management and executive roles in Progress Energy's nuclear program, including Operations Manager, Engineering Manager, Plant Manager, and Director of Site Operations.

Before joining Progress Energy, Mr. Lyash worked for the U.S. Nuclear Regulatory Commission (NRC) in a number of senior technical and management positions throughout the northeast United States and in Washington, D.C, receiving the NRC Meritorious Service Award in 1987.

Mr. Lyash earned a Bachelor's Degree in Mechanical Engineering from Drexel University, and was honored with the Drexel University Distinguished Alumnus Award in 2009. He has held a Senior Reactor Operator License from the NRC, and is a graduate of the U.S. Office of Personnel Management Executive Training Program and the Duke Fugua School of Business Advanced Management Program.

# **Board/Committee Membership:**

Board (since August 2015) The President and CEO attends all Committee meetings, excluding independent Director in-camera meetings/sessions.

Principal Occupation: President & Chief Executive Officer, Ontario Power Generation Inc.

Board Memberships for other Reporting Issuers: None

Independence from OPG: Not Independent

Interlocking Directorships on Boards of other Reporting Issuers: None

2015 Attendance: 4 of 4

6 of 6

100%

100%



**Nicole Boivin** Age: 57 Toronto, Ontario, Canada

Nicole Boivin is a business executive and director with more than 30 years experience in financial services, public and not for profit enterprises. She brings deep expertise and experience in human resources, branding and communications.

Ms. Boivin is a national board member of Pathways to Education and serves on the human resource committee and is a former provincial appointee to the board of the Harbourfront Centre in Toronto where she was part of the executive committee and chaired the development committee.

Ms. Boivin recently obtained her ICD.D designation from the ICD-Rotman, Directors Education Program.

In her 14 year career at Manulife, Ms. Boivin had progressive leadership roles in human resources, branding, marketing and communications and was a trusted advisor to the senior executives and board of directors of Manulife.

Ms. Boivin was the Chief Branding and Communications officer for Manulife until 2014 and before that, the head of Human Resources for the Canadian Division. Of note, she led the creation of the global cobranding strategy following Manulife's acquisition of John Hancock in the US. Following the financial crisis, she also built and led the global branding and communications function focused on managing reputational risk and rebuilding overall brand presence. As a human resource executive, Ms. Boivin developed and delivered the successful first series of the Global Executive Development Program which has become a core function at Manulife.

Ms. Boivin has deep experience in talent management including succession planning, leadership development, and aligning executive compensation with performance. She also has specific expertise in global brand strategy, corporate social responsibility, reputational management, and issue and crisis management and communications.

Prior to joining Manulife, Ms. Boivin held many roles spanning the public and not for profit sector. In the early 1990's she was the executive director of the Sudbury United Way, followed by her role as the Assistant to the President at Laurentian University and prior to joining Manulife, she was a director at BCE Media/Bell Canada.

2015 Attendance:

100%

100%

100%

10 of 10

4 of 4

4 of 4

Ms. Boivin holds an MBA from Laurentian University and is fluently bilingual in French and English.

Board/Committee Membership:
Board (since April 2014)
Companyation and Human Resources Committee (since April 2014)

Compensation and Human Resources Committee (since April 2014) Governance and Nominating Committee (since April 2014)

Principal Occupation: Corporate Director

Board Memberships for other Reporting Issuers: None

Independence from OPG: Independent



# William Coley

Age: 72

Charlotte, North Carolina, U.S.A.
Bill Coley served as Chief Executive of British Energy from 2005 to 2009 when he retired following the successful combination of British Energy and EDF Energy. He was President of Duke Power from 1997 until his retirement in February 2003, holding various officer level positions in engineering, operations and senior management during his 37-year career with the company.

Mr. Coley is a director of Peabody Energy and E.R. Jahna Industries and a member of the International Technical Advisory Committee of Nuclear Electric Insurance Limited. He also served on the WANO Fukushima Commission.

pard/Committee Membership:		2015 Attendance	
Board (since January 2013)	10 of 10	100%	
Nuclear Oversight Committee (since February 2013)	5 of 5	100%	
Governance and Nominating Committee * (since April 2014)	4 of 4	100%	
Darlington Refurbishment Committee (since May 2015)	2 of 2	100%	
Executive Talent Committee (since April 2014)	4 of 4	100%	
Ad Hoc Committee (since April 2014)	1 of 1	100%	

\* Chair of Committee

Principal Occupation: Retired Chief Executive of British Energy

Board Memberships for other Reporting Issuers: Peabody Energy

Independence from OPG: Independent



Elisabeth (Lisa) DeMarco Age: 48 Toronto, Ontario Canada

Lisa DeMarco is a senior partner at DeMarco Allan LLP with over two decades of experience in law, regulation, policy, and advocacy relating to energy and climate change. She represents several governments and leading energy clients in a wide variety of natural gas, electricity and energy storage matters before various regulatory agencies, including the OEB and the National Energy Board. She has been an adjunct professor at Osgoode Hall Law School and lectures regularly.

Ms. DeMarco also assists leading Canadian energy companies on domestic and overseas power project development, renewable power projects, alternative fuel projects, cleantech development and finance, energy storage, carbon capture and storage, corporate social responsibility, environmental disclosure, clean energy finance, and sustainable business strategy.

She is ranked by Chambers Global as one of the world's leading climate change lawyers and regularly attends and advises on related United Nations negotiations. She is ranked and repeatedly recommended by LEXpert, Expert Guide, International Who's Who, and Chambers Canada as a leading energy (oil and gas) and environment lawyer. Ms. DeMarco has worked for multilateral development banks and energy companies on deals and projects in India, Brazil, Sri Lanka, Thailand, Argentina, Chile, Ireland, Africa, Mexico, China, Russia, California, Alberta, Ontario, and Quebec. She plays an ongoing and active role in the development and drafting of energy and greenhouse gas emissions policy, regulation, and law throughout Canada, and in various countries around the world. She was appointed to the Premier of Ontario's now completed Climate Change Advisory Panel and continues to serve as an appointed member of Ontario's Clean Energy Task Force.

Ms. DeMarco is a member of the board of directors of the Ontario Energy Association and a member of the Toronto Atmospheric Fund Investment Committee. She is a graduate of the University of Western Ontario (BSc Hon. - 1990), the University of Toronto (MSc. - 1992), Osgoode Hall Law School, York University (LLB – 1995) and the Vermont Law School (MSEL, summa cum laude – 1995).

Board/Committee Membership:	2015 Atter	2015 Attendance	
Board (since April 2014)	10 of 10	100%	
Audit and Finance Committee (since April 2014)	5 of 5	100%	
Risk Oversight Committee (April 2014 - May 2015)	2 of 2	100%	
Nuclear Oversight Committee (since May 2015)	2 of 2	100%	

**Principal Occupation:** Lawyer

Board Memberships for other Reporting Issuers: None

Independence from OPG: Independent



Peggy Gilmour Age: 56 Toronto, Ontario, Canada

Peggy Gilmour was previously Senior Vice President, Wholesale and Brokerage Operations at CIBC and has more than 30 years experience in the banking and financial services industry. At CIBC, Ms. Gilmour was responsible for oversight of the global back office functions for CIBC Wholesale Banking and the CIBC Wood Gundy Brokerage Operations. Prior to joining CIBC, Ms. Gilmour was a Managing Director at RBC Capital Markets where she developed and led a global shared services organization that provided governance and control over all trade reconciliation processes worldwide. Ms. Gilmour has extensive experience in corporate finance, enterprise risk management, corporate strategy, and procurement and strategic sourcing.

Ms. Gilmour holds a Bachelor of Commerce degree from the University of Toronto and is a Chartered Professional Accountant. She also has a Certification in Risk Management Assurance and an ICD.D designation from the Institute of Corporate Directors.

Ms. Gilmour currently serves on the Vogogo board of directors, where she is chair of the audit committee. Ms. Gilmour was most recently a director and audit committee chair of the Ontario Pension Board. She has also served on the boards of Interac, Canada's debit card association, as well as the Institute of Internal Auditors.

Board/Committee Membership:2015 Attendance:Board (since October 2015)2 of 2100%Audit and Finance Committee (since October 2015)1 of 1100%Risk Oversight Committee (since October 2015)1 of 1100%

Principal Occupation: Chartered Professional Accountant

Board Memberships for other Reporting Issuers: Vogogo Inc.

Independence from OPG: Independent



Jean Paul (JP) Gladu Age: 42 Toronto, Ontario, Canada

JP Gladu is currently the President and CEO of the Canadian Council for Aboriginal Business based in Toronto. Anishinaabe from Thunder Bay, Mr. Gladu is a member of Bingwi Neyaashi Anishinaabek located on the eastern shores of Lake Nipigon. Mr. Gladu has over two decades of experience in the natural resource sector including work with Aboriginal communities and organizations, environmental non-government organizations, industry and governments from across Canada. He has produced a number of publications related to Aboriginal issues including: forest certification, Native values collection, biofuel opportunities, First Nation community land use plans, criteria and indicators for sustainable forestry, and cedar product development.

Mr. Gladu holds a Forest Technician Diploma from the Sault College of Applied Arts and Technology, a Bachelor of Science degree in forestry from Northern Arizona University, and an Executive MBA from Queens University in Kingston. In 2014, he was a recipient of the Community Service Award -Transformation Awards from Diversity Magazine. Mr. Gladu was nominated for the 2013 Premier's Award for Outstanding Ontario College Graduates, was recognized as one of five Northern Leaders in 2012 by Northern Ontario Business and was elected Class President of the 2012 Queens Executive Masters of Business Administration.

Mr. Gladu serves on the Colleges and Institutes Canada (previously the Association of Canadian Community Colleges), the Northern Policy Institute, and the Canadian Foundation for Economic Education boards of directors, is an advisory member to the Canadian Association of Petroleum Producers Renewable Clean Energy Committee, and is a committee member of the Provincial Forest Policy Committee. In the past, he has served as a director of the Centre for Research and Innovation in the Bio-Economy, a director of the Papasay Management Corporation, and a board member of the Canadian Bioenergy Association.

Board/Committee Membership:	2015 Attendance:	
Board (since November 2015)	1 of 1	100%
Governance and Nominating Committee (since November 2015)	1 of 1	100%
Risk Oversight Committee (since November 2015)	1 of 1	100%

**Principal Occupation:** Executive

Board Memberships for other Reporting Issuers: None

Independence from OPG: Independent



**Brendan Hawley**Age: 63
Ottawa, Ontario, Canada

Brendan Hawley is the Principal of Brendan Hawley & Associates – a bilingual consultancy specializing in advocacy communications that focuses on working with clients in both the public and private sectors.

An Ottawa native and honours graduate in history and journalism from St. Patrick's College and Carleton University in Ottawa, Mr. Hawley worked for a decade in the federal government, and then in the private sector prior to establishing his firm in 2000. He held senior positions in communications, marketing, and public affairs at several major public and private sector organizations, including the Canadian Council of Professional Engineers, Export Development Corporation, and the Canadian Petroleum Products Institute.

Mr. Hawley has extensive experience in helping clients identify organizational goals in tandem with operational business plans. He also has significant experience in managing education strategies and programs on matters of Canadian energy. He initiated an Energy Summer School for federal Members of Parliament to facilitate a greater understanding of the economics of energy, and as part of a broader mandate dealing with federal and provincial issues related to energy pricing, facilities, and products. He also authored a popular guide to conducting advocacy at the federal level.

Mr. Hawley has an ICD.D designation from the Institute of Corporate Directors.

Mr. Hawley is affiliated with a number of business and philanthropic organizations but has recently focused more time on Ottawa's Canadian Museum of Nature, Museum of Science and Technology, and the Canadian Museum of History.

Board/Committee Membership:2015 AttendanceBoard (since April 2014)9 of 1090%Compensation and Human Resources Committee (since April 2014)4 of 4100%Nuclear Oversight Committee (since April 2014)5 of 5100%

Principal Occupation: Management Consultant

Board Memberships for other Reporting Issuers: None

Independence from OPG: Independent



John Herron Age: 62 Punta Gorda, Florida, U.S.A.

John Herron retired from Entergy where he was the President, CEO and Chief Nuclear Officer of Entergy Nuclear, with responsibility for Entergy's nuclear plants located in New York, Massachusetts, Vermont, Michigan, Louisiana, Mississippi and Arkansas as well as the company's management service to the Cooper Nuclear Station for the state of Nebraska.

He previously served as Entergy's Senior Vice President for Nuclear Operations handling the operational side of fleet management. Mr. Herron joined Entergy in February 2001 as Vice President, Operations at the Waterford 3 Nuclear Station in Killona, Louisiana. He then moved to New York as the Senior Vice President of the Indian Point Energy Center in February 2002.

Mr. Herron began his career in nuclear operations in 1979 at Vermont Yankee Nuclear Power Corporation. His positions there included technical services superintendent, operations manager, technical programs manager, shift supervisor, and supervisory control room operator. In 1994, he moved to Brownville, Nebraska to become plant manager at Nebraska Public Power District's Cooper Nuclear Station.

Mr. Herron then joined the Tennessee Valley Authority as plant manager at Seguovah Nuclear Plant in Soddy-Daisy, Tennessee, from October 1996 through July 1999. From July 1999 to February 2001, Mr. Herron served as site Vice President at TVA's Browns Ferry Nuclear Plant.

Prior to his career in utilities, Mr. Herron served in the U.S. Navy from 1972 to 1978. He was attached to the USS Tullibee and the S1C NPTU Windsor, where he was an instructor at the Nuclear Submarine Prototype School.

Mr. Herron holds a bachelor's degree in Business Management from Franklin Pierce College in Rindge, New Hampshire. He also attended the Advanced Management Program at the Harvard Business School in May 2005.

Mr. Herron currently serves on the board of directors for Duke Energy. He also served on the board of directors for the Institute of Nuclear Power Operations and on the nuclear strategic issues advisory committee of the Nuclear Energy Institute. In the aftermath of Japan's 2011 earthquake, he was named to the WANO Fukushima Commission and the U.S. nuclear industry's Fukushima response steering committee.

Board/Committee Membership:	2015 Attendance	
Board (since November 2013)	9 of 10	90%
Nuclear Oversight Committee * (since December 2013)	5 of 5	100%
Compensation and Human Resources Committee (since December 2013)	4 of 4	100%
Executive Talent Committee (since April 2014)	4 of 4	100%
Risk Oversight Committee (since August 2014)	4 of 4	100%
Ad Hoc Committee (since November 2014)	1 of 1	100%
Darlington Refurbishment Committee * (since May 2015)	2 of 2	100%
* Chair of Committee		

Principal Occupation: Retired President, Chief Executive Officer and Chief Nuclear Officer, Entergy Nuclear

Board Memberships for other Reporting Issuers: Duke Energy (NYSE)

Independence from OPG: Independent



**Ira Kagan** Age: 53 Toronto, Ontario, Canada

Ira T. Kagan is a founding partner of Kagan Shastri LLP (Lawyers). He received a B.Sc. degree from the University of Toronto in 1985 and a Juris Doctor from the University of Toronto in 1988. He was called to the Ontario Bar in 1990 and since then has focused on municipal and land use planning law on behalf of both the private (including many of the leading developers in the Greater Toronto Area) and public sector (including conservation authorities, local and regional municipalities).

Mr. Kagan regularly appears before the Ontario Municipal Board and many municipal councils and committees throughout the Greater Toronto Area. His practice includes all aspects of land use planning, including development applications, negotiations and mediations, appeals (both at the Ontario Municipal Board and the courts) and strategic decisions throughout. He is a regular presenter at industry and continuing legal education seminars, and has been involved in many of the leading land use planning cases in the Greater Toronto Area.

In 2005-2006, Kagan Shastri LLP was named the top municipal law firm in the Greater Toronto Area by Nova Res Urbis and since then has consistently ranked in one of the top spots.

 Board/Committee Membership:
 2015 Attendance

 Board (since April 2014)
 10 of 10
 100%

 Audit and Finance Committee (since April 2014)
 5 of 5
 100%

 Risk Oversight Committee (since April 2014)
 4 of 4
 100%

**Principal Occupation:** Lawyer

Board Memberships for other Reporting Issuers: None

Independence from OPG: Independent



M. George Lewis Age: 55 Toronto, Ontario, Canada

From February 2007 until November 1, 2015, Mr. Lewis was a member of RBC's Group Executive, one of eight executives responsible for setting the overall strategic direction for Royal Bank of Canada, the parent of the RBC companies. In that capacity, he served as Group Head of RBC Wealth Management from 2007 and RBC Insurance from 2012. As Group Head, Wealth Management, Mr. Lewis led the RBC businesses that serve the wealth management needs of affluent clients globally, and units that provide asset management and trust products. He was also Chairman of RBC Global Asset Management Inc. where he continues to serve as a Senior Portfolio Manager.

From July 2000 to May 2008, Mr. Lewis was Chief Executive Officer of RBC Global Asset Management, which under his leadership became Canada's largest single mutual-fund family (RBC Funds) and one of Canada's largest asset management firms. He previously served as Head of Wealth Management for the Canadian Personal and Business segment and, from 2003 to 2006, was Head of all banking and investment products for RBC's Canadian Business.

From 1998 to 2000, Mr. Lewis was Managing Director, Head of Institutional Equity with RBC Capital Markets, responsible for global institutional-equity sales, trading and research. He was previously a toprated equity analyst and Director of Research. He began his career with RBC in 1986, in the investment banking division of RBC Capital Markets.

Mr. Lewis has extensive experience in the investment industry, has a Master of Business Administration degree with distinction from Harvard University and a Bachelor of Commerce degree with high distinction from Trinity College at the University of Toronto. He is also a Chartered Financial Analyst and an FCA/FCPA and has been certified by the Institute of Corporate Directors.

Mr. Lewis serves on the board of directors of the Canadian Film Centre and the Anglican Diocese of Toronto Foundation. He is a current member and past chair of the Bishop's Company of the Anglican Diocese of Toronto, as well as a patron and member of the Cabinet of the United Way of Toronto and York Region. Mr. Lewis also serves as the Honorary Colonel Commandant of the Royal Canadian Chaplain Service of the Canadian Armed Forces.

Board/Committee Membership:	2015 Attendance:	
Board (since February 2005)	10 of 10	100%
Audit and Finance Committee* (since May 2010)	5 of 5	100%
Governance and Nominating Committee (since May 2010)	4 of 4	100%
Ad Hoc Committee (since September 2012)	1 of 1	100%
Executive Talent Committee (since December 2013)	4 of 4	100%
* Chair of Committee		

Principal Occupation: Financial Services Professional

Board Memberships for other Reporting Issuers: None

Independence from OPG: Independent



**Peggy Mulligan** Age: 57 Mississauga, Ontario, Canada

Peggy Mulligan was the Executive Vice President and Chief Financial Officer, Valeant Pharmaceuticals International, Inc. until December 2010. Prior to this, she was a Principal at Priiva Consulting, and before that she served as Executive Vice President and Chief Financial Officer of Linamar Corporation. Prior to Linamar, Mrs. Mulligan was with the Bank of Nova Scotia for eleven years as Executive Vice President, Systems and Operations and Senior Vice President, Audit and Chief Inspector. Before joining Scotiabank, she was an Audit Partner with PricewaterhouseCoopers in Toronto. She holds a B. Math (Honours) from the University of Waterloo and was named a Fellow of the Chartered Professional Accountants of Ontario in 2003.

Board/Committee Membership:	2015 Attendance:	
Board (since December 2005)	9 of 10	90%
Compensation and Human Resources Committee* (since March 2012)	4 of 4	100%
Ad Hoc Committee (since September 2012)	1 of 1	100%
Executive Talent Committee (since December 2013)	4 of 4	100%
Audit and Finance Committee (since April 2014)	4 of 5	80%
Darlington Refurbishment Committee (since May 2015)	2 of 2	100%
* Chair of Committee		

Principal Occupation: Corporate Director

Board Memberships for other Reporting Issuers: Capital Power Corporation, Tuckamore Capital

Independence from OPG: Independent



Yezdi Pavri Age: 66 North York, Ontario, Canada

Yezdi Pavri retired as Vice Chairman of Deloitte Canada in June 2012 after a career of more than 30 years. Prior to being named Vice Chairman, Mr. Pavri was a member of the firm's national Management Committee for over ten years and was the Managing Partner of the Toronto practice since June 2004. He founded Deloitte's national Enterprise Risk Services practice in 1990 and led it for 15 years. He was a founding member of the global firm's India Steering Committee and co-chaired the firm's first Diversity and Inclusion Committee.

Mr. Pavri holds a Bachelor's degree in Aeronautical Engineering from the Indian Institute of Technology in Bombay and a Master's degree in Thermal Power Engineering from Imperial College in London. He is a Fellow of the Chartered Professional Accountants of Ontario.

Mr. Pavri currently serves on the boards of ICICI Bank of Canada, Enterra Holdings Limited (the global parent of Golder Associates) and MD Financial Services, and is a past member of the board of directors of Hydro One. Mr. Pavri is also the immediate past chairman of the board of trustees of United Way Toronto.

**Board/Committee Membership:** 2015 Attendance: Board (since September 2015) 4 of 4 100% Compensation and Human Resources Committee (since September 2015) 1 of 1 100% Risk Oversight Committee (since September 2015) 1 of 1 100%

**Principal Occupation:** Corporate Director

Board Memberships for other Reporting Issuers: None

Independence from OPG: Independent



**Gerry Phillips**Age: 75
Ajax, Ontario, Canada

Gerry Phillips was the Member of Provincial Parliament in the Legislative Assembly of Ontario for the east Toronto riding of Scarborough-Agincourt from 1987 to 2011. He served in six cabinet portfolios, including twice as Ontario Minister of Energy, where he was OPG's Shareholder from 2007 to 2008 and again on an interim basis from November 2009 to January 2010. He was also the Chair of the Management Board of Cabinet and Minister responsible for Securities Regulation in Ontario.

Before entering public life, Mr. Phillips graduated from the University of Western Ontario's School of Business and worked in the marketing department of Procter and Gamble. In 1970 he joined the consulting firm of Canadian Marketing Associates and became President in 1977. He later founded two successful spin-off companies - the Sales Development Group in 1979 and the Retail Resource Group in 1982. By 1987, he was Chair of all three companies, with a combined workforce of approximately 300.

Mr. Phillips has an Honours B.A. from the Western School of Business.

 Board/Committee Membership:
 2015 Attendance:

 Board (since January 2013)
 10 of 10
 100%

 Risk Oversight Committee (since February 2013)
 4 of 4
 100%

 Nuclear Oversight Committee (April 2014 – May 2015)
 3 of 3
 100%

 Darlington Refurbishment Committee (since May 2015)
 2 of 2
 100%

Principal Occupation: Retired

Board Memberships for other Reporting Issuers: None

Independence from OPG: Independent



Jim Reinsch Age: 72 Frederick, Maryland, U.S.A.

Jim Reinsch recently retired from the Bechtel Group where he was Senior Vice President and Partner, and past President of Bechtel Nuclear. In this role, he was responsible for the global profit/loss, customer relations, operations, project management, marketing and business development of Bechtel's three nuclear business segments: nuclear operating plant services, steam generator replacement, and operations of Bechtel's global nuclear activities. During his 40 years with Bechtel, he also presided over Bechtel Canada, and managed large regions in the United States and Asia. He served as the President of the American Nuclear Society, and was a member of the Nuclear Energy Institute as well as a member of their Executive Committee. Mr. Reinsch is also a member of several international nuclear energy organizations, including the WANO and the World Nuclear Association.

Mr. Reinsch holds a Bachelor of Science degree from the University of Maryland.

Mr. Reinsch currently serves on the board of directors for Frederick Memorial Hospital and the Hood College Board of Trustees, and is a past board member of Duke Energy and the Smithsonian National Portrait Gallery. Additionally, he serves on the Emirate Nuclear Energy Corporation's committee on nuclear power which reports to the board of directors, and is a member of the international advisory board of Terrestrial Power.

**Board/Committee Membership:** 2015 Attendance: Board (since August 2015) 5 of 5 100% Darlington Refurbishment Committee (since August 2015) 2 of 2 100% Nuclear Oversight Committee (since August 2015) 100% 2 of 2

Principal Occupation: Corporate Director

Board Memberships for other Reporting Issuers: None

Independence from OPG: Independent

All of the Directors of the Company have been engaged for more than five years in their current principal occupations, except as set out below:

Ms. Boivin was Senior Vice President, Human Resources and Communications at Manulife Financial from June 2007 to December 2011 and Chief Branding & Communications Officer from January 2012 to May 2014 at Manulife Financial.

Ms. DeMarco was Partner at Macleod Dixon LLP from March 2002 to January 2012, Partner at Norton Rose Canada LLP from January 2012 to June 2013 and Partner at Norton Rose Fulbright LLP from June 2013 to December 2014.

Mr. Herron was President, CEO and Chief Nuclear Officer at Entergy Corporation from December 2009 to April 2013.

Ms. Gilmour was Managing Director, RBC Capital Markets from November 2010 to July 2013, and SVP Wholesale/Brokerage Operations at CIBC from February 2014 to September 2014.

Mr. Gladu was involved in the business development for Bingwi Neyaashi Anishinaabek Nation from March 2009 to September 2012.

Mr. Lyash was President at CB&I Power from July 2013 to July 2015 and Executive Vice President at Duke Energy from May 2008 to January 2012.

Mr. Pavri was Vice Chairman and Partner at Deloitte LLP from January 2011 to May 2012.

Mr. Phillips was the Minister without portfolio from June 2008 to October 2011, Ontario Minister of Energy and Infrastructure from November 2009 to January 2010, Chair of the Management Board of Cabinet from June 2008 to October 2011, and Chair of the Select Committee on the TMX Transaction from February 2011 to April 2011.

### **Orientation and Continuing Education**

The Compensation, Leadership and Governance Committee is responsible for reviewing and recommending appropriate orientation programs. New Directors are provided relevant documentation relating to OPG's governance practices and policies and to its business. Directors attend plant tours of OPG generating facilities, where they also receive comprehensive introductory briefings from OPG senior executives on OPG's operations and business activities.

The Board supports and sponsors the continuing education of OPG Directors, both in the business of OPG and in their duties as Directors. Annual plant tours of OPG's major facilities, site visits to projects with OPG's First Nations and Métis business partners, and special presentations by internal and external experts are made to the Board or Committees on topical business-related issues or on specific aspects of OPG's operations. In 2015, topics included: strategy, energy industry trends, First Nations relations, nuclear safety culture, reputation management, cyber security, and corporate governance. Directors are provided with articles and publications on current topics of interest. Board members have full access to all Board and Committee materials and records. OPG has developed a Director Governance Handbook which provides Directors with information necessary to fulfill their roles as Directors, including director duties and obligations under the OBCA, and relevant corporate policies and procedures. OPG also sponsors Director attendance at the Institute of Corporate Directors' Director Education Program, or equivalent, and sponsors attendance at the Goizueta Director program for members of Committees with oversight of nuclear operations.

### **Ethical Business Conduct**

The Board has adopted a policy for ethical business behaviour and a Code of Business Conduct. The mandate of the Audit and Risk Committee requires that it receive regular reports through the year on the Code of Business Conduct in order to satisfy itself that appropriate codes of conduct and compliance programs are in place, are being enforced, and remedial action is being taken. The Audit and Risk Committee receives quarterly reports by Management on the Code of Business Conduct (including reports on substantiated cases of fraud) and the

disposition of cases including disciplinary action, as well as an annual report on the Code of Business Conduct and a report on the annual review of the Board policy. A copy of OPG's Code of Business Conduct is available on www.opg.com and has been filed on SEDAR (www.sedar.com). The Audit and Risk Committee has procedures for the receipt, retention and treatment of complaints received pertaining to accounting, internal accounting controls or auditing matters, and the confidential anonymous submission by employees concerning such matters.

#### **Nomination of Directors**

The Compensation, Leadership and Governance Committee, which is comprised entirely of independent Directors within the meaning of NI 52-110, is responsible for conducting an annual review of the OPG Board's principles and systems of governance, and oversight of annual Board, Committee, and Director evaluations. The Compensation, Leadership and Governance Committee recommends nominees to the Board. The Board may submit recommended candidates to the Shareholder. Nominations of Directors by the Shareholder may also be considered by the Compensation, Leadership and Governance Committee. When considering a potential candidate, the Compensation, Leadership and Governance Committee considers the qualities, experience, and skills that the Board, as a whole, should have in light of the business opportunities and risks facing OPG. The attributes the Compensation, Leadership and Governance Committee consider in a candidate include integrity, business judgment and experience, diversity, professional expertise, independence from management, financial literacy, and communication skills, as well as sufficient time available to fulfill his or her obligations as a Board member. The Board's policy on diversity is to consider a diverse candidate for every vacancy on the Board. OPG defines diversity to include: women, aboriginal peoples, people with disabilities, and visible minorities. These four enumerated groups mirror the four enumerated groups in the definition of "designated groups" in the federal Employment Equity Act.

From time to time, the Compensation, Leadership and Governance Committee may engage outside advisors to assist in identifying potential candidates.

### **Director Tenure/Board Renewal**

The OPG Board Charter guideline for board tenure is 10 to 15 years. When considering board renewal, the Compensation, Leadership and Governance Committee regularly reviews the OPG Board skills profile. The Board maintains an "evergreen list" of potential Board candidates. From time to time, the Committee makes recommendations to add skills to the Board that reflect OPG's business opportunities and risks.

# Cease trade orders, bankruptcies, penalties or sanctions

To the knowledge of OPG, no director or executive officer of OPG, or a shareholder holding a sufficient number of securities of OPG to affect materially the control of OPG (a) is, as at the date of the MD&A, or has been within the 10 years before the date of the MD&A, a director or executive officer of any company (including OPG) that, while that person was acting in that capacity, or within a year of that person ceasing to act in that capacity, became bankrupt, made a proposal under any legislation relating to bankruptcy or insolvency or was subject to or instituted any proceedings, arrangement or compromise with creditors or had a receiver, receiver manager or trustee appointed to hold its assets; or (b) has, within the 10 years before the date of the MD&A, become bankrupt, made a proposal under any legislation relating to bankruptcy or insolvency, or become subject to or instituted any proceedings, arrangement or compromise with creditors, or had a receiver, receiver manager or trustee appointed to hold the assets of the director, executive officer or shareholder, except for:

Bernard Lord was a director of AEA Technology from the fall of 2010 until the fall of 2012 when it became insolvent.

### Representation of Women

### **Board of Directors**

As noted under the heading, *Nomination of Directors*, the Compensation, Leadership and Governance Committee will consider a diverse candidate for every vacancy on the Board. OPG defines diversity as: women, aboriginal peoples, people with disabilities, and visible minorities. The Board has signed on to the Catalyst Accord, and has set a target for "diverse" representation on the Board of 33 percent. In 2015, four members were added to the Board, three of whom meet the diversity definition. As of the date of the MD&A, six of the 15 members of the Board, 40 percent, meet the diversity definition. Representation of women on the Board is 27 percent as of the date of the MD&A.

### Senior Management

OPG strives to create a workforce that reflects diverse populations of the communities in which it operates. As of December 31, 2015 women filled 17 percent of Corporate Officer roles and 23 percent of senior management (senior managers and above) positions. OPG tracks and monitors diversity succession planning metrics and strives to have a diverse candidates list for senior management positions. A target of 25 percent for representation in senior management roles has been established.

### Compensation

#### **Director Compensation**

The OPG Director compensation structure was established in 2005. The Compensation, Leadership and Governance Committee is responsible for monitoring and reviewing the level and nature of compensation of OPG Directors. Pursuant to the recommendations of the 2007 Report of the Agency Review Panel, OPG benchmarks the Board's compensation against the 50<sup>th</sup> percentile of compensation levels for a combined private and public sector comparator group. The last review occurred in May 2012 when the Governance and Nominating Committee benchmarked OPG's Director Compensation against comparable public and private companies and concluded that OPG Director Compensation was at the 38<sup>th</sup> percentile of comparator companies. However, the Committee recommended that no change be made to the compensation of Directors at that time in view of legislative constraints on compensation of OPG Management.

From March 25, 2010 to March 31, 2012, the *Public Sector Compensation Restraint to Protect Public Services Act, 2010,* froze the compensation structures for Members of Provincial Parliament, and non-represented political staff and employees across the Ontario Public Service and Broader Public Sector, including non-represented employees and Directors of OPG. In March 2012, the government introduced Bill 55, the *Strong Action for Ontario Act (Budget Measures),* which included measures to extend controls over executive compensation. This act impacts OPG's executive employees and is in effect until the Province of Ontario ceases to have a budget deficit or an executive compensation framework is approved by the Treasury Board of Ontario under Bill 8, *Public Sector and MPP Accountability and Transparency Act.* Bill 55 applies to the Vice President level and up as well as full-time members of the Board of Directors.

In fiscal 2015, OPG's Director compensation framework provided each Director who was not an employee of OPG with an annual retainer of \$25,000. Directors also received a \$3,000 annual retainer to chair Committees and for each Committee of which they are a member. In 2006, the retainer for the Audit and Finance Committee chair was set at \$8,000 in recognition of increased duties and responsibilities. In 2010, in recognition of the increased duties and responsibilities placed upon the chair of the Compensation and Human Resources Committee, the annual retainer was set at \$5,000.

In addition to the above, Directors are compensated for each meeting that they attend and receive a fee of \$1,500 or \$750, as determined by the Board Chair or respective Committee chair.

In order to retain national and international expertise, non-resident Directors are compensated in U.S. dollars and Directors who travel over certain distances receive a travel fee to cover travel time related to Board and Committee meetings they attend.

Since 2004, the Chair of the Board, in his role as non-executive Chair, receives an all-inclusive annual fee of \$150,000 and is reimbursed for out-of-pocket expenses including travel and other expenses.

## **CEO Compensation**

The Compensation, Leadership and Governance Committee of the Board consists of six members, all of which are independent of OPG within the meaning of NI 52-110. The Committee oversees, on behalf of the Board, the setting of the CEO's annual goals and objectives and the annual review of CEO performance, and makes recommendations to the Board with respect to CEO compensation. The Compensation, Leadership and Governance Committee may seek input from an independent advisor with regard to monitoring and benchmarking compensation trends.

In August 2015, when the current CEO was appointed, the compensation terms were established based on the benchmarks recommended in the 2007 Report of the Agency Review Panel on Phase 1 of its Review of Ontario's Provincially Owned Electricity Agencies. The CEO compensation adheres to the executive compensation restraint measures outlined in Bill 55.

### **Committees of the Board of Directors**

Effective February 11, 2016, the OPG Board restructured and streamlined its standing Committees from six to four, and appointed Directors to each Committee. The following Committees were the standing Board Committees prior to the restructuring:

- Audit and Finance Committee
- Compensation and Human Resources Committee
- Darlington Refurbishment Committee (established May 2015)
- Governance and Nominating Committee
- Nuclear Oversight Committee
- Risk Oversight Committee

For details, refer to the heading, *Committees of the Board of Directors*, in the Company's MD&A for the year ended December 31, 2014 for a description and membership of the Committees.

The following are the current Board Committees as of March 4, 2016:



## Audit and Risk Committee

This Committee is responsible for the integrity, quality, and transparency of OPG's financial information, the adequacy of the financial reporting process, the systems of internal controls, and OPG's related principles, policies, and procedures which Management has established. The Committee is responsible for the oversight of the Company's regulatory filings, financial statements, MD&A, and press releases, prior to their disclosures to the public, including approval of quarterly financial statements and recommending approval of the annual financial statements

and various other annual disclosures of OPG Inc. to the Board. The Committee is also responsible for the appointment, compensation, and oversight of the external auditor. The Committee provides oversight of OPG's corporate financing strategies including:

- policies related to financial exposure management
- processes for identifying major financial risks
- performance of the OPG Pension Fund, the Used Fuel Fund, and the Decommissioning Fund
- review and approval of the audited financial statements of the Nuclear Funds and the statements of investment policies and procedures for the OPG Pension Fund, the Used Fuel Fund, and the Decommissioning Fund.

The Committee is also responsible for the oversight of risk and associated risk management activities, including the review of Management's assessment of significant risks to achieving OPG's business plan objectives. The Committee is also responsible for ensuring that an effective Code of Business Conduct is in place at OPG and monitors compliance with this code.

As of the date of this MD&A, the Audit and Risk Committee consists of George Lewis (Chair), Elisabeth (Lisa) DeMarco, Peggy Gilmour, Brendan Hawley, Ira Kagan, Yezdi Pavri, and Gerry Phillips.

### Compensation, Leadership and Governance Committee

This Committee provides oversight of OPG's human resources and compensation policies and practices, including CEO objectives and compensation, disclosure on compensation and human resources matters, leadership talent review, succession planning, and labour negotiations. The Committee also provides oversight of the design of OPG's benefit and pension plans.

The Committee also oversees the Board's governance program and practices that are consistent with high standards of corporate governance, including annually reviewing and assessing the Board's system of corporate governance with a view to maintaining these high standards. The Committee is also responsible for overseeing OPG's reputation management plan. The Committee identifies and recommends to the Board candidates for nomination to the Shareholder. Finally, the Committee oversees OPG's processes for Board, Committee, and Director assessments, as well as Director compensation and new Director orientation.

As of the date hereof, the Compensation, Leadership and Governance Committee consists of Peggy Mulligan (Chair), Nicole Boivin, Bill Coley, JP Gladu, George Lewis and Yezdi Pavri.

# **Darlington Refurbishment Committee**

The Darlington Refurbishment Committee is responsible for the oversight of the execution of the Darlington Refurbishment project. The Committee is responsible for retaining external independent oversight advisors, and for making a recommendation to the Board of a final budget and schedule for the Darlington Refurbishment project, which was approved by the Board of Directors in November 2015. The Committee will monitor and report on the progress of the refurbishment project against the approved budget and schedule. The Committee will also make a recommendation to the Board with respect to refurbishment of subsequent units, and other recommendations for approvals related to the refurbishment project as may be required from time to time.

As of the date hereof, the Darlington Refurbishment Committee consists of Jim Reinsch (Chair), Nicole Boivin, Bill Coley, Brendan Hawley, John Herron, Peggy Mulligan and Gerry Phillips.

# **Generation Oversight Committee**

This Committee is responsible for the oversight of safe, secure and efficient operations of OPG's generating facilities. Additionally, the Committee is responsible for the development, risk management, financing, and execution of major generation projects. The Committee is also responsible for the oversight of OPG's environment and dam safety management systems and OPG's First Nation and Métis relations. The Committee review reports of external

advisors/assessors of OPG's generation operations and Management's response and implementation of the results and major findings from such internal and external assessments. The Committee ensures that OPG's generating facilities are in compliance with nuclear safety, industrial and occupational health and safety, and environmental laws and regulations.

As of the date hereof, the Generation Oversight Committee consists of John Herron (Chair), Bill Coley, Elisabeth (Lisa) DeMarco, Peggy Gilmour, JP Gladu, Ira Kagan and Jim Reinsch.

#### **Assessments**

The Compensation, Leadership and Governance Committee is responsible for the annual process for evaluating the performance of the Board, its Committees, and its individual Directors. The Board and Committee evaluations are based upon the completion of confidential questionnaires regarding assessment of performance and compliance with the Board and Committee Charters. Director evaluations are based on self-assessment guestionnaires, which are submitted in confidence to the Board Chair and the Chair of the Compensation, Leadership and Governance Committee. In addition, the process includes a follow-up one-on-one meeting between each Director and the Board Chair. The Compensation, Leadership and Governance Committee reports the results of the evaluations and makes recommendations to the Board for enhancing the Board's governance and effectiveness.

#### **Further Information on OPG Governance**

OPG provides additional information on OPG's governance on its website (www.opg.com) including:

- Memorandum of Agreement with the Shareholder
- **Shareholder Directives**
- List of Corporate Officers
- **Board and Committee Charters**
- Board and Committee Chair Position Descriptions
- Board of Directors Conflict of Interest Policy
- First Nation and Métis Relations Policy
- Code of Business Conduct
- Disclosure Policy
- **Environmental Policy**
- **Employee Health and Safety Policy**
- **Nuclear Safety Policy**
- Safe Operations Policy
- Cyber Security Policy

#### **AUDIT AND RISK COMMITTEE INFORMATION**

NI 52-110 has been implemented by Canadian securities regulatory authorities to encourage reporting issuers to establish and maintain strong, effective, and independent audit committees, to enhance the quality of financial disclosure, and to foster increased investor confidence in Canada's capital markets. Information on OPG's Audit and Risk Committee, including the Audit and Risk Committee Charter, is as follows:

### **Audit and Risk Committee Charter**

### Purpose

The function and purpose of the Audit and Risk Committee is to assist the Board of Directors in their responsibility for oversight of matters relating to:

- The integrity of OPG's financial statements and reporting
- · The integrity and adequacy of internal controls and standards of Codes of Conduct and ethics
- The performance of OPG's internal audit function
- The performance and independence of OPG's external auditors
- Business and financial planning
- The performance of OPG's pension, nuclear decommissioning, and used fuel investment funds
- OPG's Enterprise Risk Management
- Assessment of committee performance and board policies.

Management is responsible for the preparation, presentation and integrity of OPG's interim and annual financial statements and related disclosure documents. Management is responsible for maintaining appropriate accounting and financial reporting principles and policies and systems of internal and disclosure controls and procedures to comply with accounting standards and applicable laws and regulations which provide reasonable assurance that the assets of the Company are safeguarded and transactions are authorized, executed, recorded and properly reported.

Management is also responsible for the identification, assessment, monitoring, and management of the risks to achieving OPG's strategic and business plan objectives and the development and implementation of policies and procedures to respond to such risks.

The Committee's role is to provide oversight that ensures the Company's assets are protected and safeguarded within reasonable business limits and report such to the Board.

### Committee Responsibilities and Duties

The Committee shall perform the duties set out in this Charter and shall perform such other duties as may be necessary or appropriate under applicable law or securities rules, or as may be delegated to the Committee by the Board from time to time.

1. The integrity of OPG's financial statements and reporting

The Committee reviews and makes recommendations to the Board with respect to:

- a) appointment or replacement of the Chief Financial Officer.
- b) OPG's annual financial statements and external audit report, including financial statements, Management's Discussion and Analysis (MD&A), related footnotes and any documentation required by the Securities Act to be prepared and filed by OPG or that OPG otherwise files with the Ontario Securities Commission.
- c) OPG's Annual Information Form, if required, prior to filing with securities regulators.

The Committee reviews and approves:

d) OPG's quarterly financial statements and interim financial information and disclosures in the MD&A and earnings press release, prior to filing.

In carrying out its responsibilities for oversight of the integrity of OPG's financial statements and reporting the Committee will include in its review:

- e) Adequacy of procedures in place for the review of OPG's public disclosure of financial information extracted or derived from OPG's financial statements.
- f) significant accounting principles and reporting issues and impact on the financial statements, including complex or unusual transactions, highly judgmental areas, major issues regarding or changes to OPG's selection/application of accounting principles, financial presentations, the effect of regulatory and accounting initiatives, as well as off-balance sheet arrangements on OPG's financial statements.
- g) analysis prepared by Management and/or the external auditor detailing financial reporting issues and judgments made in connection with the preparation of financial information, including analysis of the effects of alternative generally accepted accounting principles methods.
- whether any other matters related to conduct have come to the Committee's attention that causes it to believe that the financial statements contain an untrue statement of material fact or omit to state a necessary material fact.
- 2. Integrity and adequacy of Internal Controls and standards of Codes of Conduct and ethics

In carrying out its responsibilities for the integrity and adequacy of internal controls, including compliance with legal and regulatory requirements and standards of codes of conduct and ethics, the Committee reviews:

- a) legal, tax, or regulatory matters that may have a material impact on OPG's operations and the financial statements, including, but not limited to, violations of securities law or breaches of fiduciary duty.
- b) the scope of review of internal control over financial reporting, significant findings, recommendations and Management's responses for implementation of actions to correct weaknesses in internal controls.
- c) disclosures made by the Chief Executive Officer and Chief Financial Officer during the certification process regarding significant deficiencies in the design or operation of internal controls or any fraud that involves Management or other employees who have a significant role in OPG's internal controls.
- d) procedures for the receipt, recording and treatment of complaints received by OPG regarding accounting, internal accounting controls, or auditing matters, and procedures for the confidential and anonymous submission by OPG employees of concerns regarding accounting or auditing matters.
- e) expenses of the Board Chair, Board of Directors, President/CEO and the President/CEO's direct reports on an annual basis, and of any other senior officers and employees the Committee considers appropriate.
- f) reports from the Chief Audit Executive and the Chief Ethics Officer on independent reviews and investigations of fraud allegations, matters that may involve fraud and/or Codes of Conduct violations and compliance.

## 3. Performance of OPG's internal audit function

The Committee reviews and makes recommendations to the Board with respect to:

a) Appointment or replacement of the Chief Audit Executive.

The Committee reviews and approves:

- b) The annual internal audit plan and all major changes to the plan, including the organizational structure, budget and the adequacy of resources.
- c) the charter of the internal audit function annually.

In carrying out its responsibilities for the performance of OPG's internal audit function the Committee reviews:

- d) results of Internal audit reports, including: significant findings, the adequacy of the control processes, Management's response and the timetable for implementation of Management actions to correct weaknesses, any difficulties encountered in the course of their work (such as restrictions on the scope of their work or access to information).
- e) Internal Audit's confirmation of organizational independence and disclosure of any conflict of interest.
- f) Internal Audit performance relative to the annual internal audit plan.

### 4. Performance and Independence of External Auditor

The Committee reviews and makes recommendations to the Board with respect to:

 a) the external auditor to be appointed on behalf of the Shareholder, and related compensation, including results of a cyclical performance review, and a comprehensive review of the external audit firm at least once every five years.

The Committee reviews and approves:

b) pre-approval of all services provided by the external auditors. The Committee may delegate such pre-approval authority to the Committee Chair up to a limit of \$250,000. Any decisions of the Committee Chair to whom pre-approval authority is delegated must be presented to the full Audit and Risk Committee at its next scheduled meeting.

In carrying out its responsibilities for the performance and independence of OPG's external audit function the Committee reviews:

- c) the work and report of the external auditor engaged for the purpose of preparing or issuing an auditor's report or performing other audit, review or attest services for OPG, including the resolution of disagreements between Management and the external auditor regarding financial reporting.
- d) the independence and qualifications of the external auditor.
- e) the annual report by the external auditor describing the auditing firm's internal quality control procedures, any material issues raised by the most recent internal quality-control review or peer review of the auditing firm or by any inquiry or investigation by governmental or professional authorities within the preceding five years respecting one or more independent audits carried out by the external auditor and any steps taken to deal with any such issues and all relationships between the external auditors and OPG.
- f) scope and approach of the annual audit plan with the external auditors.
- g) quality and acceptability of OPG's accounting principles including all critical accounting policies and practices used, any alternative treatments that have been discussed with Management as well as any other material communications with Management.
- h) external auditor's process for identifying and responding to key audit and internal control risks.
- rotation of the lead audit partner and other audit partners every seven years, and consider regular rotation of the audit firm.
- i) all related-party transactions.
- k) OPG's hiring policies regarding partners, employees and former partners and employees of the present and former external auditor of OPG.

# 5. Business and Financial Planning

The Committee reviews and makes recommendations to the Board on:

a) OPG's business plan, including overall financing plan in support of the Company's capital expenditures and medium – long term forecast.

- b) OPG's rate applications to the Ontario Energy Board, including proposed payment amounts and any agreement arising from a Settlement Conference with intervenors.
- c) corporate financing vehicles, credit facilities, including any plans to access capital debt markets and other related financing activities. The Board may delegate to an officer of the company authority to enter into such financing activities in such a manner as the Board shall determine at the time of such delegation. Any decisions of the officer to whom authority is delegated must be presented to the full Audit and Risk Committee at its next scheduled meeting.
- 6. Pension, Nuclear Decommissioning and Used Fuel Investment Funds

The Committee reviews and makes recommendations to the Board on:

- a) the appointment or replacement of the Chief Investment Officer.
- b) The appointment of the auditor for the OPG Pension Fund and the Used Fuel Segregated Fund and Decommissioning Segregated Fund.
- c) The broad objectives, governance frameworks and risk posture for the OPG Pension Fund and the Used Fuel Segregated Fund and Decommissioning Segregated Fund and annual status report on these Funds.
- d) The tri-ennial valuation of the Pension Fund and annual valuation of the Supplementary Employee Retirement Pension Plans. (*The Committee provides advice to the Compensation, Leadership and Governance Committee on the affordability of proposed pension benefit changes.*)

The Committee reviews and approves:

- e) the appointment of the members of OPG's Pension Committee. In addition, the Committee may, at any time, remove or replace any member of the Pension Committee or fill a vacancy on the Pension Committee. The Pension Committee Chair may temporarily appoint a senior management employee to fill a vacancy on the Pension Committee until the next regularly scheduled Audit and Risk Committee meeting.
- f) the annual audited financial statements for the OPG Pension Fund, the Used Fuel Segregated Fund and the Decommissioning Segregated Fund.
- g) the investment policies and procedures, including the design of modifications, for the OPG Pension Fund, as required by the *Ontario Pension Benefits Act* and its regulations, and for the Decommissioning Segregated Funds, as required by the Ontario Nuclear Funds Agreement.
- h) the appointment of the Pension Plan actuary.

In carrying out its responsibilities for the oversight of financial planning and investment funds the Committee reviews:

- i) reports on a quarterly, annual or by exception basis, on compliance with and appropriateness of the asset mix policy; total fund and asset class returns relative to benchmarks; material compliance with breaches of policies or procedures; and work conducted by the plan actuary.
- j) periodic reports on the calculation of OPG's nuclear waste liability.

### 7. OPG's Enterprise Risk Management

The Committee reviews and makes recommendations to the Board on:

- a) the appointment or replacement of the Chief Risk Officer.
- b) the Company's enterprise risk policy, framework, overall risk appetite and targets.

In carrying out its responsibilities for oversight of OPG's Enterprise Risk Management the Committee reviews:

c) the processes employed by Management for identifying and assessing the Company's principal risks.

- d) quarterly reports on Management's assessment of the principal risks to achieving the Company's strategic and business plan objectives, and the strategies for monitoring, managing and responding to those risks.
- e) periodic reports on significant emerging and evolving risks and relevant external events that could potentially impact OPG's risk profile.
- f) compliance metrics related to OPG's commercial operations trading, treasury, and fuels management.
- g) regular reports on OPG's cyber security position and programs.
- h) periodic reports on OPG's Insurance Program.
- 8. Assessment of committee performance and board policies

In carrying out its responsibilities for assessment of committee performance and board policies the Committee shall:

- a) Review and assess Committee performance, including a review of the adequacy of and its compliance with this Charter, in accordance with the evaluation process approved by the Board and taking into account all legislative and regulatory requirements applicable to the Committee as well as any best practice guidelines recommended by regulators with whom OPG has a reporting relationship.
- b) Provide oversight of the implementation of the following Board of Directors' policies, as well as the development of any new policies deemed necessary by the Committee, and reviewing these policies annually to ensure their continuing adequacy:
  - i. Delegation and Exercise of Authority Policy
  - ii. Disclosure Policy
  - iii. Code of Business Conduct and Supplier Code of Conduct
  - iv. Corporate Risk Management Policy
  - v. Cyber Security Policy

# **Organization**

#### Members

The Audit and Risk Committee shall consist of three or more Directors as determined by the Board of Directors. All members of the Committee shall be independent as defined by the Ontario Securities Commission, and not "affiliated" with OPG.

The Board shall appoint the members of the Committee and the Chair of the Committee annually. The Board may appoint a member to fill a vacancy which occurs in the Committee between annual elections of Directors. Any member of the Committee may be removed or replaced at any time by the Board.

If a member of the Committee becomes "affiliated" with OPG, the member may continue as a member of the Committee with the approval of the Board Chair, in consultation with the Corporate Secretary.

As a "venture issuer", OPG is exempt from the statutory requirements of National Instrument 52-110 requiring members of Audit Committees be independent and financially literate. However, OPG considers such independence and financial literacy to be "best practice" and therefore each of the members of the Audit and Risk Committee shall satisfy the applicable independence and financial literacy requirements of the laws and regulations governing Audit Committees.

The Board of Directors shall confirm that each member of the Audit and Risk Committee is financially literate; as such qualification is interpreted by the Board of Directors in its business judgment, and in compliance with National Instrument 52-110 and its Companion Policy.

### Meetings

The Committee shall meet as frequently as it determines but not less than quarterly. During quarterly meetings, the Committee will hold separate in camera sessions with the external auditors, the Chief Internal Audit Executive, the Chief Risk Officer and Management to discuss any matters that the Committee believes should be discussed and to provide a forum for any relevant issues to be raised.

Notice of the time and place of each meeting of the Committee must be given to each member of the Committee not less than 48 hours before the time of the meeting.

A quorum of the Committee shall be a majority of its members, but not less than two. The powers of the Committee may be exercised at a meeting at which a quorum of the Committee is present in person or by telephone or other electronic means, or by a resolution signed by all members entitled to vote on that resolution at a meeting of the Committee. Each member is entitled to one vote in Committee proceedings.

The Chair shall preside at all meetings of the Committee at which he or she is present (or if not able to be present designate another member of the Committee to chair the meeting) and shall develop the agenda for each Committee meeting. The agenda for each meeting of the committee shall be delivered to each member of the Committee at least 48 hours prior to any meeting of the Committee, together with such other materials as the chair determines necessary.

Minutes shall be kept of all meetings of the Committee and shall be maintained by OPG's Corporate Secretary. The procedure at meetings is to be determined by the Committee unless otherwise determined by the by-laws of OPG, by a resolution of the Board or by this Charter.

The Committee may meet in camera (without management present) at any time during the-meeting consistent with the Board guideline on the conduct of in camera sessions and the keeping of minutes from in camera sessions.

The Committee may invite any Director, officer or employee of OPG or OPG's counsel or any other person to attend meetings of the Committee to assist in the discussion and examination of the matters under consideration by the Committee.

#### Reports

The Committee will report its activities and actions to the Board of Directors with recommendations, as the Committee deems appropriate.

The Committee will provide for inclusion in OPG's financial information or regulatory filings any report from the Audit and Risk Committee required by applicable laws and regulations and stating among other things whether the Committee has:

- (i) Reviewed and discussed the audited financial statements with Management.
- (ii) Discussed pertinent matters with the internal and external auditors.
- (iii) Received disclosures from the external auditors regarding the auditors' independence and discussed with the auditors their independence.
- (iv) Recommended to the Board of Directors that the audited financial statements be included in OPG's Annual Report.

#### **Authority**

The Audit and Risk Committee shall have the authority to:

- a) conduct or authorize investigations into any matters within the Committee's scope of responsibilities.
- b) set and pay the compensation for any advisors employed by the Committee.

c) to communicate directly with the internal and external auditors.

While the Audit and Risk Committee has the responsibilities and powers set forth in this Charter, it is not the duty of the Audit and Risk Committee to plan or conduct audits or risk assessments, or to determine that OPG's financial statements and disclosures are complete and accurate and are in accordance with generally accepted accounting principles and applicable rules and regulations. These are the responsibility of Management and, as appropriate, the external auditor.

#### Delegation of Authority

The Committee may not delegate its oversight responsibilities. The Committee may delegate to a sub-committee, the Chief Executive Officer or any employee of OPG the authority to exercise any right, power or responsibility that the Committee may have on such terms and conditions and within such limits as the Committee deems appropriate provided that the sub-committee, Chief Executive Officer or employee subsequently advises the Committee of any right, power or responsibility so exercised.

Access to Management and Outside Advisors

The Audit and Risk Committee shall have unrestricted access to members of Management and relevant information.

The Audit and Risk Committee has the authority to retain legal counsel, accountants or other advisors to assist it in the conduct of any investigation, as it determines necessary to carry out its duties.

#### **Composition of the Audit and Risk Committee**

As at March 4, 2016, the members of the Audit and Risk Committee were George Lewis (Chair), Elisabeth (Lisa) DeMarco, Peggy Gilmour, Brendan Hawley, Ira Kagan, Yezdi Pavri and Gerry Phillips. All members are independent with experience in business and financial matters. Each member has an understanding of internal controls and procedures for financial reporting. As part of OPG's Continuing Education Program for Directors, Audit and Risk Committee members are provided with access to both internal and external educational resources, including seminars and courses, in order to maintain or enhance their financial literacy.

#### **Activities of the Audit and Finance Committee in 2015**

The Chartered Professional Accountants of Canada (CPA Canada) and the Canadian Public Accountability Board have recommended that audit committees perform a comprehensive review of the external audit firm at least once every five years. CPA Canada issued guidelines in early 2014 to help audit committees implement these recommendations. The Audit and Finance Committee conducted its first comprehensive review of the Company's external auditor, Ernst & Young (E&Y) in 2014, for the period from 2009 to 2013, using the guidelines and format recommended by CPA Canada. E&Y has been OPG's external auditor since OPG's inception in 1999. E&Y provides audit and audit related services to OPG, including the audit of OPG's annual consolidated financial statements, reviews of OPG's quarterly financial statements as well as audits of the financial statements of OPG's consolidated subsidiaries and other financial information.

In conducting the 2015 annual review of E&Y, the Committee considered input from management, E&Y, and OPG's internal audit function. The Committee performed this review taking into consideration the information submitted by these parties, as well as their individual experiences, to evaluate the auditor's performance. The result of the 2015 annual review was discussed during the August 2015 Audit and Finance Committee meeting. During the review, the Committee considered factors such as the auditors' independence, engagement team quality including the Committee's involvement in the selection of E&Y's lead engagement partner, and communication effectiveness between E&Y and the Company. Upon completion of the review, the Committee was satisfied with the performance of E&Y and concluded that their reappointment was in the best interest of OPG. Therefore, the Committee recommended in November 2015 that the Board of Directors reappoint E&Y as the Company's auditors for the 2016 fiscal year.

# **External Auditor Service Fees**

The following Ernst & Young LLP fees were incurred by OPG:

(thousands of dollars)	2015	2014
Audit fees	1,967	2,259
Audit-related fees	615	205
All other fees <sup>1</sup>	30	15

<sup>&</sup>lt;sup>1</sup> Comprised of fees related to the subscription of an online accounting research tool and training.

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# 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, 2015. 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

President and Chief Executive Officer

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Carlo Crozzoli

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Interim Senior Vice President, Finance, Strategy, Risk and Chief Financial Officer

March 4, 2016

# 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, 2015 and 2014, 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, 2015 and 2014 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 4, 2016

Ernst & Young LLP

Chartered Professional Accountants, Licensed Public Accountants

Ernst + young LLP

# **CONSOLIDATED STATEMENTS OF INCOME**

Years Ended December 31		
(millions of dollars except where noted)	2015	2014
Revenue (Note 16)	5,476	4,963
Fuel expense (Note 16)	687	641
Gross margin (Note 16)	4,789	4,322
Expenses (Note 16)		
Operations, maintenance and administration	2,783	2,615
Depreciation and amortization (Note 4)	1,100	754
Accretion on fixed asset removal and nuclear waste management	895	797
liabilities (Note 8)	000	101
Earnings on nuclear fixed asset removal and nuclear waste management funds (Note 8)	(704)	(714)
Regulatory disallowance related to the Niagara Tunnel project (Note 3)	_	77
ncome from investments subject to significant influence	(39)	(41)
Property taxes	45	32
Restructuring	6	18
Nestructuring	4,086	3,538
	7,000	3,330
ncome before other loss (income), interest, income taxes, and extraordinary item	703	784
Other loss (income) (Note 16)	14	(3)
ncome before interest, income taxes, and extraordinary item	689	787
Net interest expense (Note 7)	180	80
ncome before income taxes and extraordinary item	509	707
ncome tax expense (Note 9)	92	139
Income before extraordinary item	417	568
Extraordinary item <sup>1</sup> (Note 3)	-	243
Net income	417	811
Net income attributable to the Shareholder	402	804
Net income attributable to non-controlling interest	15	7
Basic and diluted net income per common share	1.57	2.19
before extraordinary item (dollars)	1.07	2.10
Extraordinary item per common share (dollars)	_	0.95
Basic and diluted net income per common share (dollars)	1.57	3.14
Jacob and andred net moonie per comment share (donars)	1.07	5.17
Common shares outstanding (millions)	256.3	256.3

<sup>&</sup>lt;sup>1</sup> Wholly attributable to the Shareholder.

# **CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME**

Years Ended December 31		
(millions of dollars)	2015	2014
Net income	417	811
Other comprehensive income, net of income taxes (Note 10)		
Recognition of initial pension and other post-employment benefits regulatory asset related to facilities prescribed for rate regulation beginning in 2014 <sup>1</sup>	-	184
Actuarial gain (loss) and past service costs on re-measurement of liabilities for pension and other post-employment benefits <sup>2</sup>	148	(35)
Reclassification to income of amounts related to pension and other post-employment benefits <sup>3</sup>	18	27
Net loss on derivatives designated as cash flow hedges 4	(5)	(2)
Reclassification to income of losses on derivatives designated as cash flow hedges <sup>5</sup>	16	14
Other comprehensive income	177	188
Comprehensive income	594	999
Comprehensive income attributable to the Shareholder	579	992
Comprehensive income attributable to the shareholder	379 15	7

Net of income tax expenses of nil and \$61 million for 2015 and 2014, respectively.

<sup>&</sup>lt;sup>2</sup> Net of income tax expenses of \$49 million and income tax recoveries of \$12 million for 2015 and 2014, respectively.

 $<sup>^{3}</sup>$  Net of income tax expenses of \$7 million and \$10 million for 2015 and 2014, respectively.

<sup>&</sup>lt;sup>4</sup> Net of income tax recoveries of \$2 million and \$1 million for 2015 and 2014, respectively.

 $<sup>^{\</sup>rm 5}$  Net of income tax expenses of \$2 million for each of 2015 and 2014.

# **CONSOLIDATED STATEMENTS OF CASH FLOWS**

Years Ended December 31		
(millions of dollars)	2015	2014
Operating activities		
Net income	417	811
Adjust for non-cash items:		
Depreciation and amortization (Note 4)	1,100	754
Accretion on fixed asset removal and nuclear waste management	895	797
liabilities (Note 8)	(704)	(74.4)
Earnings on nuclear fixed asset removal and nuclear waste management funds (Note 8)	(704)	(714)
Pension and other post-employment benefit costs (Note 11)	483	460
Extraordinary item (Note 3)	-	(243)
Deferred income taxes and other accrued charges	23	56
Mark-to-market on derivative instruments	(218)	(52)
Provision for used nuclear fuel and low and intermediate level waste Regulatory assets and liabilities	117 141	57 (45)
Provision for materials and supplies	28	38
Regulatory disallowance related to the Niagara Tunnel project (Note 3)		77
Other	19	(2)
	2,301	1,994
Contributions to nuclear fixed asset removal and nuclear waste	(143)	(139)
management funds (Note 8)		
Expenditures on fixed asset removal and nuclear waste	(218)	(212)
management (Note 8) Reimbursement of expenditures on nuclear fixed asset removal and	76	77
nuclear waste management (Note 8)	70	''
Contributions to pension funds and expenditures on other	(480)	(473)
post-employment benefits and supplementary pension plans (Note 11)	` '	,
Expenditures on restructuring	(16)	(35)
Net changes to other long-term assets and liabilities	45	9
Net changes to non-cash working capital balances (Note 17)  Cash flow provided by operating activities	(100) 1,465	1,433
Cash now provided by operating activities	1,403	1,433
Investing activities		
Investment in deposit note (Note 6)	(180)	-
Net proceeds from sale of property, plant and equipment	3	- (4 E 4 E )
Investment in property, plant and equipment and intangible assets (Note 16)  Cash flow used in investing activities	(1,376) (1,553)	(1,545) (1,545)
Cash now used in investing activities	(1,333)	(1,545)
Financing activities		
Issuance of long-term debt (Note 6)	245	200
Repayment of long-term debt (Note 6) Settlement of cash flow hedges	(503)	(3)
Distribution paid to non-controlling interest	(9) (16)	(5)
Issuance of short-term notes (Note 7)	2,628	3,332
Repayment of short-term notes (Note 7)	(2,403)	(3,364)
Cash flow (used in) provided by financing activities	(58)	160
Not (decrease) increase in each and each equivalents	(1.46)	48
Net (decrease) increase in cash and cash equivalents  Cash and cash equivalents, beginning of year	(146) 610	48 562
Cash and cash equivalents, end of year	464	610

# **CONSOLIDATED BALANCE SHEETS**

As at December 31		
(millions of dollars)	2015	2014
Assets		
Current assets		
Cash and cash equivalents	464	610
Receivables from related parties (Note 18)	545	482
Other current assets (Note 6)	298	136
Nuclear fixed asset removal and nuclear waste management funds (Notes 8 and 16)	15	25
Fuel inventory (Note 16)	344	334
Materials and supplies (Note 16)	96	94
Regulatory assets (Note 5)	628	167
	2,390	1,848
<b>5</b>		05.050
Property, plant and equipment (Notes 4, 15, and 16)	29,469	25,859
Less: accumulated depreciation	8,874	8,266
	20,595	17,593
Intangible assets (Notes 4 and 16)	476	432
Less: accumulated amortization	378	356
	98	76
Other assets		
Nuclear fixed asset removal and nuclear waste management	15,121	14,354
funds (Notes 8 and 16)	10,121	1 1,00 1
Long-term materials and supplies (Note 16)	337	338
Regulatory assets (Note 5)	5,279	7,024
Investments subject to significant influence (Note 19)	336	348
Other long-term assets (Note 6)	146	64
	21,219	22,128
	44,302	41,645

# **CONSOLIDATED BALANCE SHEETS**

Liabilities         Current liabilities           Accounts payable and accrued charges (Note 18)         1,228         1,151           Short-term debt (Note 7)         225         -           Deferred revenue due within one year         12         12           Long-term debt due within one year (Note 6)         273         503           Income taxes payable         66         24           Regulatory liabilities (Note 5)         26         5           Equilatory liabilities (Note 6)         5,199         5,227           Other liabilities         20,169         17,028           Isabilities (Note 8 and 16)         18         18           Pension liabilities (Note 11)         2,597         3,570           Other post-employment benefit liabilities (Note 11)         3,085         3,050           Long-term accounts payable and accrued charges         207         529           Deferred revenue         246         212           Deferred income taxes (Note 9)         890         828           Regulatory liabilities (Note 5)         34         39           Regulatory liabilities (Note 5)         5,126         5,126           Common shares (Note 14) 1         5,126         5,126           Retained earnings         5,098 <th>As at December 31</th> <th>2045</th> <th>204.4</th>	As at December 31	2045	204.4
Current liabilities         Accounts payable and accrued charges (Note 18)         1,228         1,151           Short-term debt (Note 7)         225         -           Deferred revenue due within one year         12         12           Long-term debt due within one year (Note 6)         273         503           Income taxes payable         66         24           Regulatory liabilities (Note 5)         26         5           Equity         5,199         5,227           Other liabilities         20,169         17,028           liabilities (Notes 8 and 16)         2,597         3,570           Pension liabilities (Note 11)         3,085         3,050           Long-term accounts payable and accrued charges         207         529           Deferred revenue         246         212           Deferred income taxes (Note 9)         890         828           Regulatory liabilities (Note 5)         34         39           Equity         5,126         5,126           Common shares (Note 14) 1         5,126         5,126           Retained earnings         5,098         4,696           Accumulated other comprehensive loss (Note 10)         2,995         9,326           Equity attributable to the Shareholder </th <th>(millions of dollars)</th> <th>2015</th> <th>2014</th>	(millions of dollars)	2015	2014
Accounts payable and accrued charges (Note 18)  Short-term debt (Note 7)  Deferred revenue due within one year  Long-term debt due within one year  Long-term debt due within one year (Note 6)  Income taxes payable  Regulatory liabilities (Note 5)  Cong-term debt (Note 6)  Long-term debt (Note 6)  Long-term debt (Note 6)  Long-term debt (Note 6)  Long-term debt (Note 6)  Cong-term debt (Note 6)  Cong-term debt (Note 8)  Trived asset removal and nuclear waste management (Note 8)  Ilabilities (Notes 8 and 16)  Pension liabilities (Note 11)  Cother post-employment benefit liabilities (Note 11)  Long-term accounts payable and accrued charges  Deferred revenue  Deferred revenue  Deferred income taxes (Note 9)  Regulatory liabilities (Note 5)  Regulatory liabilities (Note 5)  Square (Note 14)  Common shares (Note 14)	Liabilities		
Short-term debt (Note 7)         225         -           Deferred revenue due within one year         12         12           Long-term debt due within one year (Note 6)         273         503           Income taxes payable         66         24           Regulatory liabilities (Note 5)         26         5           Eugliatory liabilities (Note 6)         5,199         5,227           Other liabilities           Fixed asset removal and nuclear waste management liabilities (Notes 8 and 16)         20,169         17,028           Pension liabilities (Notes 8 and 16)         2,597         3,570           Pension liabilities (Note 11)         2,597         3,570           Other post-employment benefit liabilities (Note 11)         3,085         3,050           Long-term accounts payable and accrued charges         207         529           Deferred revenue         246         212           Deferred income taxes (Note 9)         890         828           Regulatory liabilities (Note 5)         34         39           Equity         5,126         5,126           Equity         5,098         4,696           Retained earnings         5,098         4,696           Accumulated other comprehensive loss (Note 10)         <	Current liabilities		
Deferred revenue due within one year         12         12           Long-term debt due within one year (Note 6)         273         503           Income taxes payable         66         24           Regulatory liabilities (Note 5)         26         5           Long-term debt (Note 6)         5,199         5,227           Other liabilities           Fixed asset removal and nuclear waste management liabilities (Notes 8 and 16)         20,169         17,028           Pension liabilities (Note 11)         2,597         3,570           Other post-employment benefit liabilities (Note 11)         3,085         3,050           Long-term accounts payable and accrued charges         207         529           Deferred revenue         246         212           Deferred income taxes (Note 9)         890         828           Regulatory liabilities (Note 5)         34         39           Retained earnings         5,098         4,696           Accumulated other comprehensive loss (Note 10)         (319)         (496)           Equity attributable to the Shareholder         9,905         9,326           Equity attributable to non-controlling interest (Note 21)         140         141           Total equity         10,045         9,467 <td></td> <td>1,228</td> <td>1,151</td>		1,228	1,151
Long-term debt due within one year (Note 6)         273         503           Income taxes payable         66         24           Regulatory liabilities (Note 5)         26         5           Long-term debt (Note 6)         1,830         1,695           Long-term debt (Note 6)         5,199         5,227           Other liabilities           Fixed asset removal and nuclear waste management liabilities (Notes 8 and 16)         20,169         17,028           Pension liabilities (Note 11)         2,597         3,570           Other post-employment benefit liabilities (Note 11)         3,085         3,050           Long-term accounts payable and accrued charges         207         529           Deferred revenue         246         212           Deferred income taxes (Note 9)         890         828           Regulatory liabilities (Note 5)         34         39           Regulatory liabilities (Note 5)         5,126         5,126           Equity         5,098         4,696           Accumulated other comprehensive loss (Note 10)         (319)         (496)           Equity attributable to the Shareholder         9,905         9,326           Equity attributable to non-controlling interest (Note 21)         140         141 <t< td=""><td></td><td></td><td>-</td></t<>			-
Income taxes payable         66         24           Regulatory liabilities (Note 5)         26         5           Long-term debt (Note 6)         5,199         5,227           Other liabilities         5,199         5,227           Other liabilities (Note 8 and 16)         20,169         17,028           Pension liabilities (Note 11)         2,597         3,570           Other post-employment benefit liabilities (Note 11)         3,085         3,050           Long-term accounts payable and accrued charges         207         529           Deferred revenue         246         212           Deferred income taxes (Note 9)         890         828           Regulatory liabilities (Note 5)         34         39           Regulatory liabilities (Note 5)         34         39           Equity         5,126         5,126           Common shares (Note 14) 1         5,126         5,126           Retained earnings         5,098         4,696           Accumulated other comprehensive loss (Note 10)         (319)         (496)           Equity attributable to the Shareholder         9,905         9,326           Equity attributable to non-controlling interest (Note 21)         140         141           Total equity			
Regulatory liabilities (Note 5)         26         5           Long-term debt (Note 6)         5,199         5,227           Other liabilities         Fixed asset removal and nuclear waste management liabilities (Note 8 and 16)         20,169         17,028           Pension liabilities (Note 11)         2,597         3,570           Other post-employment benefit liabilities (Note 11)         3,085         3,050           Long-term accounts payable and accrued charges         207         529           Deferred revenue         246         212           Deferred income taxes (Note 9)         890         828           Regulatory liabilities (Note 5)         34         39           Regulatory liabilities (Note 5)         34         39           Equity         5,126         5,126           Common shares (Note 14) 1         5,126         5,126           Retained earnings         5,098         4,696           Accumulated other comprehensive loss (Note 10)         (319)         (496)           Equity attributable to the Shareholder         9,905         9,326           Equity attributable to non-controlling interest (Note 21)         140         141           Total equity         10,045         9,467		<del></del>	
Long-term debt (Note 6)         1,830         1,695           Long-term debt (Note 6)         5,199         5,227           Other liabilities			
Long-term debt (Note 6)         5,199         5,227           Other liabilities         Fixed asset removal and nuclear waste management liabilities (Notes 8 and 16)         20,169         17,028           Pension liabilities (Note 11)         2,597         3,570           Other post-employment benefit liabilities (Note 11)         3,085         3,050           Long-term accounts payable and accrued charges         207         529           Deferred revenue         246         212           Deferred income taxes (Note 9)         890         828           Regulatory liabilities (Note 5)         34         39           Regulatory liabilities (Note 5)         5,126         5,126           Equity         5,098         4,696           Accumulated other comprehensive loss (Note 10)         (319)         (496)           Equity attributable to the Shareholder         9,905         9,326           Equity attributable to non-controlling interest (Note 21)         140         141           Total equity         10,045         9,467	Regulatory liabilities (Note 5)		
Other liabilities         20,169         17,028           Fixed asset removal and nuclear waste management liabilities (Notes 8 and 16)         2,597         3,570           Pension liabilities (Note 11)         2,597         3,570           Other post-employment benefit liabilities (Note 11)         3,085         3,050           Long-term accounts payable and accrued charges         207         529           Deferred revenue         246         212           Deferred income taxes (Note 9)         890         828           Regulatory liabilities (Note 5)         34         39           Regulatory liabilities (Note 14)         5,126         5,126           Retained earnings         5,098         4,696           Accumulated other comprehensive loss (Note 10)         (319)         (496)           Equity attributable to the Shareholder         9,905         9,326           Equity attributable to non-controlling interest (Note 21)         140         141           Total equity         10,045         9,467		1,830	1,695
Other liabilities         20,169         17,028           Fixed asset removal and nuclear waste management liabilities (Notes 8 and 16)         2,597         3,570           Pension liabilities (Note 11)         2,597         3,570           Other post-employment benefit liabilities (Note 11)         3,085         3,050           Long-term accounts payable and accrued charges         207         529           Deferred revenue         246         212           Deferred income taxes (Note 9)         890         828           Regulatory liabilities (Note 5)         34         39           Regulatory liabilities (Note 14)         5,126         5,126           Retained earnings         5,098         4,696           Accumulated other comprehensive loss (Note 10)         (319)         (496)           Equity attributable to the Shareholder         9,905         9,326           Equity attributable to non-controlling interest (Note 21)         140         141           Total equity         10,045         9,467	Long-term debt (Note 6)	5.199	5.227
Fixed asset removal and nuclear waste management liabilities (Notes 8 and 16)       20,169       17,028         Pension liabilities (Note 11)       2,597       3,570         Other post-employment benefit liabilities (Note 11)       3,085       3,050         Long-term accounts payable and accrued charges       207       529         Deferred revenue       246       212         Deferred income taxes (Note 9)       890       828         Regulatory liabilities (Note 5)       34       39         Equity       27,228       25,256         Equity       5,126       5,126         Retained earnings       5,098       4,696         Accumulated other comprehensive loss (Note 10)       (319)       (496)         Equity attributable to the Shareholder       9,905       9,326         Equity attributable to non-controlling interest (Note 21)       140       141         Total equity       10,045       9,467	<u></u>		0,22.
Iliabilities (Notes 8 and 16)       2,597       3,570         Pension liabilities (Note 11)       3,085       3,050         Comp-term accounts payable and accrued charges       207       529         Deferred revenue       246       212         Deferred income taxes (Note 9)       890       828         Regulatory liabilities (Note 5)       34       39         Equity       27,228       25,256         Equity       5,126       5,126         Retained earnings       5,098       4,696         Accumulated other comprehensive loss (Note 10)       (319)       (496)         Equity attributable to the Shareholder       9,905       9,326         Equity attributable to non-controlling interest (Note 21)       140       141         Total equity       10,045       9,467	Other liabilities		
Pension liabilities (Note 11)       2,597       3,570         Other post-employment benefit liabilities (Note 11)       3,085       3,050         Long-term accounts payable and accrued charges       207       529         Deferred revenue       246       212         Deferred income taxes (Note 9)       890       828         Regulatory liabilities (Note 5)       34       39         Equity       27,228       25,256         Equity       5,126       5,126         Retained earnings       5,098       4,696         Accumulated other comprehensive loss (Note 10)       (319)       (496)         Equity attributable to the Shareholder       9,905       9,326         Equity attributable to non-controlling interest (Note 21)       140       141         Total equity       10,045       9,467	Fixed asset removal and nuclear waste management	20,169	17,028
Other post-employment benefit liabilities (Note 11)       3,085       3,050         Long-term accounts payable and accrued charges       207       529         Deferred revenue       246       212         Deferred income taxes (Note 9)       890       828         Regulatory liabilities (Note 5)       34       39         Equity       27,228       25,256         Equity       5,126       5,126         Retained earnings       5,098       4,696         Accumulated other comprehensive loss (Note 10)       (319)       (496)         Equity attributable to the Shareholder       9,905       9,326         Equity attributable to non-controlling interest (Note 21)       140       141         Total equity       10,045       9,467	liabilities (Notes 8 and 16)		
Long-term accounts payable and accrued charges       207       529         Deferred revenue       246       212         Deferred income taxes (Note 9)       890       828         Regulatory liabilities (Note 5)       34       39         Equity       27,228       25,256         Equity       5,126       5,126         Retained earnings       5,098       4,696         Accumulated other comprehensive loss (Note 10)       (319)       (496)         Equity attributable to the Shareholder       9,905       9,326         Equity attributable to non-controlling interest (Note 21)       140       141         Total equity       10,045       9,467	Pension liabilities (Note 11)	2,597	3,570
Deferred revenue         246         212           Deferred income taxes (Note 9)         890         828           Regulatory liabilities (Note 5)         34         39           Equity         27,228         25,256           Equity         5,126         5,126           Retained earnings         5,098         4,696           Accumulated other comprehensive loss (Note 10)         (319)         (496)           Equity attributable to the Shareholder         9,905         9,326           Equity attributable to non-controlling interest (Note 21)         140         141           Total equity         10,045         9,467	Other post-employment benefit liabilities (Note 11)	3,085	3,050
Deferred income taxes (Note 9)       890       828         Regulatory liabilities (Note 5)       34       39         27,228       25,256         Equity       Common shares (Note 14) 1       5,126       5,126         Retained earnings       5,098       4,696         Accumulated other comprehensive loss (Note 10)       (319)       (496)         Equity attributable to the Shareholder       9,905       9,326         Equity attributable to non-controlling interest (Note 21)       140       141         Total equity       10,045       9,467	Long-term accounts payable and accrued charges	207	529
Regulatory liabilities (Note 5)         34         39           27,228         25,256           Equity         5,126         5,126           Common shares (Note 14) 1         5,126         5,126           Retained earnings         5,098         4,696           Accumulated other comprehensive loss (Note 10)         (319)         (496)           Equity attributable to the Shareholder         9,905         9,326           Equity attributable to non-controlling interest (Note 21)         140         141           Total equity         10,045         9,467	Deferred revenue	246	212
Equity       5,126       5,126       5,126         Retained earnings       5,098       4,696         Accumulated other comprehensive loss (Note 10)       (319)       (496)         Equity attributable to the Shareholder       9,905       9,326         Equity attributable to non-controlling interest (Note 21)       140       141         Total equity       10,045       9,467	Deferred income taxes (Note 9)	890	828
Equity Common shares (Note 14) 1 Retained earnings Accumulated other comprehensive loss (Note 10) Equity attributable to the Shareholder Equity attributable to non-controlling interest (Note 21) Total equity  5,126 5,126 5,126 6,696 4,696 (319) (496)  Equity attributable to the Shareholder 9,905 9,326	Regulatory liabilities (Note 5)	34	39
Common shares (Note 14) 1       5,126       5,126         Retained earnings       5,098       4,696         Accumulated other comprehensive loss (Note 10)       (319)       (496)         Equity attributable to the Shareholder       9,905       9,326         Equity attributable to non-controlling interest (Note 21)       140       141         Total equity       10,045       9,467		27,228	25,256
Common shares (Note 14) 1       5,126       5,126         Retained earnings       5,098       4,696         Accumulated other comprehensive loss (Note 10)       (319)       (496)         Equity attributable to the Shareholder       9,905       9,326         Equity attributable to non-controlling interest (Note 21)       140       141         Total equity       10,045       9,467	F. W		
Retained earnings5,0984,696Accumulated other comprehensive loss (Note 10)(319)(496)Equity attributable to the Shareholder9,9059,326Equity attributable to non-controlling interest (Note 21)140141Total equity10,0459,467		E 126	E 126
Accumulated other comprehensive loss (Note 10) (319) (496)  Equity attributable to the Shareholder 9,905 9,326  Equity attributable to non-controlling interest (Note 21) 140 141  Total equity 10,045 9,467		•	
Equity attributable to the Shareholder9,9059,326Equity attributable to non-controlling interest (Note 21)140141Total equity10,0459,467		,	,
Equity attributable to non-controlling interest (Note 21)  Total equity  140  141  10,045  9,467		, ,	\/
<b>Total equity</b> 10,045 9,467	Equity attributable to the Shareholder	9,905	9,320
<b>Total equity</b> 10,045 9,467	Equity attributable to non-controlling interest (Note 21)	140	141
44 202 44 645	Total equity	10,045	9,467
		44,302	41,645

<sup>&</sup>lt;sup>1</sup> 256,300,010 common shares outstanding at a stated value of \$5,126 million as at December 31, 2015 and 2014.

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** Board Chair M. George Lewis
Director

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# **CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDER'S EQUITY**

Years Ended December 31		
(millions of dollars)	2015	2014
Common charge (Note 14)	E 126	E 106
Common shares (Note 14)	5,126	5,126
Retained earnings		
Balance at beginning of year	4,696	3,892
Net income attributable to the Shareholder	402	804
Balance, end of year	5,098	4,696
Accumulated other comprehensive loss, net of income taxes (Note 10)		
Balance at beginning of year	(496)	(684)
Other comprehensive income	177	188
Balance, end of year	(319)	(496)
Equity attributable to the Shareholder	9,905	9,326
Equity attributable to non-controlling interest (Note 21)		
Balance at beginning of year	141	_
Capital contribution from non-controlling interest	-	141
Distribution to non-controlling interest	(16)	(7)
Net income attributable to non-controlling interest	15	7
Balance, end of year	140	141
Total equity	10,045	9,467

# NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

For the years ended December 31, 2015 and 2014

#### 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, a regulation under the Financial Administration Act (Ontario), effective January 1, 2012.

During the first quarter of 2014, OPG received exemptive relief from the Ontario Securities Commission 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 without becoming a US Securities and Exchange Commission registrant, or issuing public debt. The exemption 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 International Financial Reporting Standards specific to entities with rate-regulated activities.

All dollar amounts are presented in Canadian dollars, except in tabular format where noted. Certain of the 2014 comparative amounts have been reclassified from financial statements previously presented to conform to the 2015 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 a variable interest entity (VIE) 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 generating station (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 the Nuclear Waste Management Organization (NWMO) in accordance with the Nuclear Fuel Waste Act (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 addition to the above mandate, the NWMO 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 other nuclear lifecycle 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. 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.

### **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), 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

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. Any 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 are also expensed when incurred.

PP&E are depreciated on a straight-line basis except for computers and transport and work equipment, which are mostly 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, 2015, the amortization periods of property, plant and equipment and intangible assets are as follows:

Nuclear generating stations and major components 15 to 74 years <sup>1</sup> 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, and transport and work equipment assets – declining balance 12% to 40% per year Major application software 5 years Service equipment 5 to 10 years

# **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

#### **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 generating stations, the DeCew Falls 1 and 2 generating stations, the R.H. Saunders 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 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 Minister 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

As at December 31, 2015, the end of station life for depreciation purposes for the Darlington, Pickering, and Bruce A and 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.

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*. These 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 OEB's 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 attributed to the regulated facilities.

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 that are recognized in AOCI generally have not been reflected in the regulated prices until they are 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, 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 a future generic OEB proceeding related to the regulatory treatment and recovery of pension and OPEB costs. Accordingly, 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 an OEB-authorized deferral or variance account as they are recognized in benefit costs. Therefore, the Company has continued 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, which records the difference between OPG's actual pension and OPEB costs for the regulated business determined on an accrual basis and the corresponding actual expenditures for these plans. 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 process, which is ongoing.

If, in a future proceeding, the OEB decides that the recovery basis for OPG's pension and OPEB amounts should be changed, 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 to these consolidated financial statements 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 currently include a base regulated price and rate riders for the recovery or repayment of approved variance and deferral account balances.

The base regulated prices in effect during 2015 and 2014 were determined by the OEB using a two-year forecast cost of service methodology based on revenue requirements, taking into account a forecast of production and operating costs for the regulated facilities 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 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 in 2015 based on OPG's application to recover the December 31, 2014 balances in most of the authorized regulatory variance and deferral accounts. The rate riders in effect during 2014 were established by the OEB in 2013 based on OPG's application to recover balances in most of the authorized variance and deferral accounts as at December 31, 2012. The OEB-authorized variance and deferral accounts are discussed in Note 5 to these consolidated financial statements.

# Revenue Recognition - Unregulated Generation and Other Revenue

The electricity generation from OPG's unregulated 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, 2015, most of OPG's operating unregulated 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 in 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 \$75 million were netted against revenue in 2015 (2014 – \$131 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 the Bruce stations and related agreements, including a portion of heavy water sales, are credited to customers and have therefore 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 low and intermediate level nuclear waste 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 any changes in the estimated amount or timing of the underlying future cash flows, with any resulting changes in the related asset retirement costs capitalized as part of the carrying amount of the related fixed assets. 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 cash flows are recorded as an adjustment to the liabilities. Any resulting changes in the related asset retirement costs are capitalized as part of the carrying amount of nuclear fixed assets. 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. 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 established a Used Fuel Segregated Fund (Used Fuel Fund) and a Decommissioning Segregated Fund (Decommissioning Fund) (together the Nuclear Funds). The Used Fuel Fund is intended to fund expenditures associated with the long-term management of radioactive used nuclear fuel bundles, while the Decommissioning Fund was established to fund the future costs of nuclear fixed asset removal, long-term L&ILW management, and certain costs for used fuel storage incurred after the nuclear stations are shut down. OPG maintains the Nuclear Funds in third-party custodial and trust accounts that are segregated from the rest of OPG's assets.

OPG's investments in the Nuclear Funds and the corresponding amounts payable to/receivable from the Province are classified as held-for-trading. The Nuclear 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 to these consolidated financial statements, 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.

# **Research and Development**

Research and development costs are expensed as incurred. Research and development costs incurred to discharge long-term obligations, such as the Nuclear Liabilities, for which specific provisions have already been made, 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 and changes in salary levels are three critical assumptions in the determination of benefit costs and obligations. In addition, the expected return on plan assets is a critical assumption in the determination of registered pension plan costs. 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. 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 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, as well as the expected return considering long-term historical 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 on the consolidated balance sheets the funded status of its defined benefit plans. 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 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 effectively paying taxes similar to what would be 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 and some of them possibly disallowed, resulting in a potential significant change in OPG's tax provision upon reassessment.

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 tax benefits as income tax expense.

# **Changes in Accounting Policies and Estimates**

#### Useful Lives of Nuclear Long-Lived Assets

The accounting assumptions related to the estimated end-of-life dates for long-lived assets require significant management judgment, including consideration of various technological and other factors. The station end-of-life assumptions also impact the measurement of OPG's ARO and other related accounting assumptions. OPG reviews the useful life assumptions for its generating stations on a regular basis.

In December 2015, OPG revised its accounting assumptions for the estimated useful lives of its nuclear generating stations. Effective December 31, 2015:

- 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 the technical confidence that all six operating units of the station will operate to the end of 2020.

To reflect the above 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. These increases were primarily due to the changes in the estimated lives for the Bruce nuclear generating stations. The nuclear ARO associated with the Pickering GS and Darlington GS was impacted by the changes to the Bruce station service lives because the costs of the fleet-wide waste management programs are shared by all of OPG's nuclear stations based on used nuclear fuel and waste volumes. Consistent with the changes in the end-of-life dates for the Bruce nuclear generating stations and the December 2015 amendments to the lease agreement between OPG and Bruce Power (Bruce Lease), the term of the lease was also extended for accounting purposes, in line with the refurbishment plans for the stations.

The above changes in station end-of-life assumptions are expected to decrease total depreciation expense by approximately \$35 million in 2016, and to increase accretion expense by approximately \$75 million in 2016. The existing Bruce Lease Net Revenues Variance Account and a new deferral account proposed in OPG's December 2015 application to the OEB, discussed below, are expected to largely offset these impacts. The Bruce Lease Net Revenues Variance Account captures differences between OPG's revenues and costs related to the Bruce nuclear generating stations and the corresponding forecasts included in OEB-approved nuclear regulated prices.

In December 2015, as required by the OEB's previous decisions and orders, OPG applied to the OEB for an accounting order establishing a new deferral account to record, effective January 1, 2016, the revenue requirement impact on the prescribed nuclear facilities of changes to the Nuclear Liabilities and depreciation expense arising from the changes in the nuclear station end-of-life dates effective December 31, 2015. In January 2016, the OEB issued an order establishing the requested account on an interim basis to allow OPG to begin booking entries into the account effective in January 2016. The OEB's final decision on the account is expected later in 2016.

# Impacts of Regulation of the Newly Regulated Hydroelectric Facilities and the OEB's Decisions

As a result of the rate regulation of 48 previously unregulated hydroelectric facilities effective in 2014, OPG recognized regulatory assets related to deferred income taxes, and unamortized amounts recorded in AOCI in respect of pension and OPEB obligations. The increase in the regulatory asset related to deferred income taxes resulted in an extraordinary gain of \$243 million in the consolidated statement of income for 2014. The recognition of

the initial regulatory assets related to pension and OPEB obligations resulted in an increase of \$184 million in OCI, net of \$61 million in income taxes.

The OEB's decision on OPG's September 2013 application for new regulated prices was issued in November 2014, followed by the OEB's order in December 2014 establishing new regulated prices for these facilities effective November 1, 2014. The OEB's decision and order also approved a \$1,365 million addition to regulated rate base due to the completion and in-service addition of the Niagara Tunnel project in March 2013. The approved rate base amount was lower than the cost of the asset which resulted in a write-off of costs of \$77 million in 2014. In January 2016, the OEB issued its decision on OPG's December 2014 motion asking the OEB to review and vary parts of its November 2014 decision, including the disallowed Niagara Tunnel expenditures. In its January 2016 decision, the OEB reversed a portion of the original disallowance of the Niagara Tunnel expenditures. As a result, OPG expects to record a gain of approximately \$21 million in the first quarter of 2016 to recognize the expected future recovery from customers of the portion of the disallowance reversed by the OEB's motion decision.

#### Pension and Other Post-Employment Benefits

The weighted average discount rate used to determine the projected pension benefit obligations and the projected benefit obligations for OPEB as at December 31, 2015 was 4.1 percent. This represents an increase, compared to the 4.0 percent discount rate that was used to determine the obligations as at December 31, 2014.

The deficit for the registered pension plans decreased, for accounting purposes, from \$3,262 million as at December 31, 2014 to \$2,315 million as at December 31, 2015, largely as a result of the return on pension fund assets in 2015, the increase in discount rates at the 2015 year-end, and employer contributions to the pension fund during the year, partially offset by the current service and interest costs for the year.

The projected benefit obligations for OPEB increased slightly from \$3,143 million as at December 31, 2014 to \$3,188 million as at December 31, 2015.

As at December 31, 2015, the unamortized net actuarial loss and unamortized past service costs for the pension and OPEB plans totalled \$3,646 million (2014 - \$4,869 million). Details of the unamortized net actuarial loss and unamortized past service costs as at December 31, 2015 and 2014 are as follows:

	-	Registered Supplementary Pension Plans Pension Plans				yment
(millions of dollars)	2015	2014	2015	2014	2015	2014
Net actuarial gain not yet subject to amortization due to use of market-related values	(809)	(878)	-	-	-	-
Net actuarial loss not subject to amortization due to use of the corridor	1,544	1,568	30	32	293	288
Net actuarial loss subject to amortization	2,288	3,443	47	65	247	350
Unamortized net actuarial loss	3,023	4,133	77	97	540	638
Unamortized past service costs	-	-	-	-	6	1

A change in the following assumptions, holding all other assumptions constant, would increase (decrease) pension and OPEB costs for the year ended December 31, 2015 as follows:

(millions of dollars)	Registered Pension Plans <sup>1</sup>	Supplementary Pension Plans <sup>1</sup>	Other Post- Employment Benefits <sup>1</sup>
Expected long-term rate of return			
0.25% increase	(28)	n/a	n/a
0.25% decrease	28	n/a	n/a
0.25% decrease	20	n/a	n/a
Discount rate			
0.25% increase	(62)	(1)	(13)
0.25% decrease	`65 <sup>´</sup>	1	`14 <sup>′</sup>
Inflation 0.25% increase 0.25% decrease	106 (99)	2 (1)	1 (1)
Salary increases			
0.25% increase	24	3	1
0.25% decrease	(24)	(2)	(1)
Health care cost trend rate			
1% increase	n/a	n/a	84
1% decrease	n/a	n/a	(60)

n/a - change in assumption not applicable.

# Recent Accounting Pronouncements

### 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 (ASU 2014-09), which supersedes nearly all existing revenue recognition guidance, including industry-specific guidance, under US GAAP. The core principle of ASU 2014-09 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. In July 2015, the FASB approved the deferral of the effective date of the new revenue standard by one year for public entities reporting under US GAAP from 2017 to 2018. As such, the standard is expected to be applicable to OPG for its 2018 fiscal year, including interim periods. OPG is currently assessing the impact of this new standard on its consolidated financial statements.

#### Balance Sheet Classification of Deferred Income Taxes

In November 2015, the FASB issued Accounting Standards Update No. 2015-17, Income Taxes (Topic 740): Balance Sheet Classification of Deferred Taxes (ASU 2015-17), which will require entities to present deferred income tax assets and deferred income tax liabilities as noncurrent in a classified balance sheet. ASU 2015-17 simplifies the existing guidance, which requires entities to separately present deferred income tax assets and deferred income tax liabilities as current and non-current in a classified balance sheet. As permitted by the standard, OPG early adopted the updates to ASC 740, Income Taxes for the fiscal year ended December 31, 2015 on a retrospective basis. Other than the change in the balance sheet presentation of deferred income tax assets and deferred income tax liabilities, the amended standard does not impact OPG's consolidated financial statements.

Excludes the impact of regulatory variance and deferral accounts.

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

In May 2015, the FASB issued Accounting Standards Update 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, 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 currently exists with respect to the categorization of these investments. The only criterion for categorizing investments in the fair value hierarchy will be the observability of the inputs. The amendments will be effective for OPG's 2016 fiscal year, including interim periods. As the amendments pertain to disclosures, OPG does not expect the updated standard to result in adjustments in balances reported on the consolidated financial statements.

# Lease Accounting

In February 2016, the FASB issued the accounting update for ASC Topic 840, Leases. The update includes comprehensive changes to existing guidance for lease accounting, particularly for lessees. The standard is expected to be effective for OPG's 2019 fiscal year, including interim periods. Early adoption is permitted. OPG is currently assessing the impact of the new standard on its consolidated financial statements.

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

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

(millions of dollars)	2015	2014
Depreciation Amortization of intangible assets Amounts recognized in regulatory variance and deferral accounts Amortization of regulatory assets and liabilities (Note 5)	617 20 (1) 464	574 13 (123) 290
	1,100	754

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

(millions of dollars)	2015	2014
Nuclear generating stations	11,999	9,313
Regulated hydroelectric generating stations	9,351	9,287
Contracted generation portfolio generating stations	3,713	3,600
Other property, plant and equipment	1,839	1,833
Construction in progress	2,567	1,826
	29,469	25,859
Less: accumulated depreciation		
Generating stations	7,359	6,771
Other property, plant and equipment	1,515	1,495
	8,874	8,266
	20,595	17,593

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

1,868	1,309
95	12
604	505
	<sup>'</sup> 95

Interest capitalized to construction and development in progress at an average rate of five percent during 2015 (2014 - five percent) was \$102 million (2014 - \$135 million).

Intangible assets as at December 31 consist of the following:

(millions of dollars)	2015	2014
Nuclear generating stations	118	116
Regulated hydroelectric generating stations	4	4
Contracted generation portfolio generating stations	5	5
Computer software and other intangible assets	321	261
Development in progress	28	46
	476	432
Less: accumulated amortization		
Generating stations	115	109
Computer software and other intangible assets	263	247
<u> </u>	378	356
	98	76

The estimated aggregate amortization expense for each of the five succeeding years for intangible assets in service as at December 31, 2015 is as follows:

(millions of dollars)	2016	2017	2018	2019	2020
Amortization expense	21	17	14	12	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. A partial settlement agreement between OPG and intervenors providing for the recovery of approximately \$1.5 billion of the total amount sought by OPG was approved by the OEB in June 2015 (the Partial Settlement Agreement). On September 10, 2015, the OEB issued its decision approving for recovery, without adjustments, the remaining balances totalling \$263 million requested in OPG's application, which were not covered by the Partial Settlement Agreement.

These approvals include recovery of \$714 million in the Pension and OPEB Cost Variance Account, recorded during 2013 and 2014, over six years starting on July 1, 2015 and \$225 million recorded in this variance account prior to 2013 that will continue to be recovered until December 31, 2024 as previously authorized by the OEB. The remaining approved balances of \$809 million include the \$154 million portion of the Bruce Lease Net Revenues Variance Account related to the impact of the derivative liability embedded in the Bruce Lease as of December 31, 2014, which would continue to be recovered on the basis of OPG's expected payments to Bruce Power and associated income tax impacts, and other account balances, the majority of which were approved for recovery over a period of

18 months from July 1, 2015 to December 31, 2016. The OEB's October 2015 order also approved the continuation of previously authorized variance and deferral accounts, including those authorized pursuant to Ontario Regulation 53/05.

On October 8, 2015, the OEB issued an order implementing its June 2015 and September 2015 decisions on OPG's application. The order authorized OPG to recover \$933 million over the period from October 1, 2015 to December 31, 2016 through new rate riders for generation from all of OPG's regulated nuclear and regulated hydroelectric facilities during this period, as shown below. The remaining approved balances will be subject to recovery after 2016.

(\$/Megawatt hour)	Nuclear	Hydroelectric
2015/2016 rate riders	10.84	3.19
2015/2016 interim period rate riders <sup>1</sup>	2.17	0.64
Rate riders for the period from October 1, 2015 to December 31, 2016	13.01	3.83

The new riders were made effective July 1, 2015 and implemented effective October 1, 2015 by the OEB. The interim period rate riders were authorized by the OEB to allow for the recovery of the new riders for the period from July 1, 2015 to September 30, 2015. The revenue for the new riders for the July 1, 2015 to September 30, 2015 period was accrued in 2015. The income impact of the revenue accrual was largely offset by a corresponding increase in amortization expense related to regulatory assets and liabilities for deferral and variance accounts.

The new rate riders are in addition to those authorized by the OEB in its December 2014 order for production from OPG's nuclear and hydroelectric generating stations prescribed for rate regulation prior to 2014, for the period from January 1, 2015 to December 31, 2015. Those rate riders provided for the net recovery of the balances in certain variance accounts as at December 31, 2013, totaling \$189 million, over the 12-month period in 2015 as approved by the OEB.

Any shortfall or over-recovery of the approved balances due to differences between actual and forecast production are 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.

In 2015, OPG recorded amortization of the regulatory assets and liabilities for the deferral and variance account balances approved for disposition on a straight-line basis, based on recovery or repayment periods authorized by the OEB's December 2014 and October 2015 orders. In 2014, OPG recorded such amortization on a straight-line basis based on balances and recovery or repayment periods authorized by the OEB's approval, in 2013, of a settlement agreement between OPG and intervenors on OPG's application to dispose of the December 31, 2012 balances in the deferral and variance accounts.

During the period from November 1, 2014 to December 31, 2015, OPG recorded additions to the variance and deferral accounts as authorized by the OEB's December 2014 and October 2015 orders, relative to the forecast amounts reflected in the cost of service regulated prices in effect during this period, where applicable. During the period from January 1, 2014 to October 31, 2014, additions to the variance and deferral accounts were recorded as authorized by the OEB's 2013 decision and order.

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 1.47 percent per annum for the period from January 1, 2015 to March 31, 2015 and 1.10 percent per annum for the period from April 1, 2015 to December 31, 2015.

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

(millions of dollars)	2015	2014
Dogulatory agests		
Regulatory assets		
Variance and deferral accounts authorized by the OEB  Pension and OPEB Cost Variance Account	865	939
Pension and OPEB Cost Variance Account  Pension and OPEB Cash Versus Accrual Differential Deferral Account (Note 11)	315	36
Nuclear Liability Deferral Account	190	286
Hydroelectric Surplus Baseload Generation Variance Account	114	67
Bruce Lease Net Revenues Variance Account	95	315
Nuclear Deferral and Variance Over/Under Recovery Variance Account	82	56
Other variance and deferral accounts	92	268
Other variance and deferral accounts	1,753	1,967
	1,733	1,907
Pension and OPEB regulatory asset (Note 11)	3,362	4,363
Deferred income tax liability (Note 9)	792	861
Dolottod moothle tax hability (Note by		001
Total regulatory assets	5,907	7,191
Less: current portion	628	167
Non-current regulatory assets	5,279	7,024
Regulatory liabilities		
Variance and deferral accounts authorized by the OEB		
Other variance and deferral accounts	60	44
Total regulatory liabilities	60	44
Less: current portion	26	5
Non-current regulatory liabilities	34	39

The changes in the regulatory assets and liabilities during 2015 and 2014 are as follows:

(millions of dollars)	Pension and OPEB Cost Variance	Pension & OPEB Cash vs Accrual Differential Deferral	Nuclear Liability Deferral	Hydro- electric Surplus Baseload Generation Variance	Bruce Lease Net Revenues Variance	Nuclear Deferral & Variance Over/Under Recovery Variance	Other Variance and Deferral (net)	Pension and OPEB Regula- tory Asset	Deferred Income Taxes
Net regulatory assets January 1, 2014	667	-	254	19	353	43	323	3,158	559
Increase	312	36	82	48	4	15	51	1,205	302
Interest	-	-	-	-	-	1	5	-	-
Amortization	(40)	-	(50)	-	(42)	(3)	(155)	-	-
Net regulatory assets December 31, 2014	939	36	286	67	315	56	224	4,363	861
Increase (decrease)	-	279	-	82	(149)	44	(26)	(1,001)	(69)
Interest	-	-	-	-	`	1	` 3	-	` _
Amortization	(74)	-	(96)	(35)	(71)	(19)	(169)	-	
Net regulatory assets December 31, 2015	865	315	190	114	95	82	32	3,362	792

#### **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 new regulated prices 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.

#### 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, 2015 represents the excess of costs calculated using the accrual basis over the cash basis for the period from November 1, 2014 to December 31, 2015. 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 generic OEB 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 ongoing.

# **Nuclear Liability Deferral Account**

In accordance with *Ontario Regulation 53/05*, the OEB has authorized the Nuclear Liability Deferral Account (NLDA) 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. During 2012, the Province approved the 2012 ONFA Reference Plan covering the period from 2012 to 2016, with an effective date of January 1, 2012. As the regulated prices in effect prior to November 1, 2014 did not reflect the impact of the 2012 ONFA Reference Plan, OPG recorded an increase to the regulatory asset for the NLDA during the period from January 1, 2012 to October 31, 2014. Components of the change in the regulatory asset for the NLDA for the year ended December 31, 2014 is summarized below. There were no additions to the account in 2015.

(millions of dollars)	2014
Fuel expense	23
Low and intermediate level waste management variable expenses <sup>1</sup>	1
Depreciation expense	43
Income taxes	15
	82

<sup>&</sup>lt;sup>1</sup> Amount was recorded as a reduction to OM&A expenses.

In its October 2015 order, the OEB approved the recovery of the account balance as at December 31, 2014 over an 18-month period from July 1, 2015 to December 31, 2016.

#### **Hydroelectric Surplus Baseload Generation Variance Account**

The Hydroelectric Surplus Baseload Generation Variance Account records the impact of foregone production at OPG's regulated hydroelectric facilities due to surplus baseload generation conditions. The variance account was authorized by the OEB effective March 1, 2011 for the regulated hydroelectric facilities prescribed for rate regulation prior to 2014, and effective November 1, 2014 for the applicable regulated hydroelectric facilities prescribed for rate regulation effective in 2014.

In its November 2014 decision and December 2014 order, the OEB approved the recovery of the account balance as at December 31, 2013 over a 12-month period beginning on January 1, 2015. 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.

#### **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 its ownership of the two nuclear stations on lease to Bruce Power in the determination of the regulated prices for production from OPG's regulated nuclear facilities. The OEB established a variance account that captures differences between OPG's revenues and costs related to the Bruce nuclear generating stations and the corresponding forecasts included in approved nuclear regulated prices.

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 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. 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 this account. Amounts collected from customers for the derivative liability for periods after its reversal are subject to refund in the future and 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. The non-derivative portion of amounts recorded in the account in 2013 and 2014 was approved for recovery over an 18-month period from July 1, 2015 to December 31, 2016 by the OEB's October 2015 order.

#### **Other Variance Accounts**

#### Regulatory assets

As at December 31, 2015 and 2014, regulatory assets for other variance and deferral accounts included amounts for the Capacity Refurbishment Variance Account, the Pension & OPEB Cash Payment Variance Account, the Hydroelectric Deferral and Variance Over/Under Recovery Variance Account, the Pickering Life Extension Depreciation Variance Account, and the Nuclear Development Variance Account.

Pursuant to *Ontario Regulation 53/05*, the Capacity Refurbishment Variance Account captures variances from forecasts reflected in the regulated prices for capital and non-capital costs incurred to increase the output of, refurbish, or add operating capacity to the regulated facilities. This includes variances related to the refurbishment of the Darlington nuclear generating station, life extension initiatives at the Pickering nuclear generating station, and other projects.

The Pension & OPEB Cash Payment Variance 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.

The Pickering Life Extension Depreciation Variance Account balance was recorded wholly during the period from November 1, 2014 to December 31, 2014. This balance represents an offset to the customer credit for the reduction in depreciation expense for the Pickering nuclear generating station that was reflected both as a reduction to the base regulated prices effective November 1, 2014 and the nuclear rate rider in effect during 2014.

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.

#### Regulatory liabilities

As at December 31, 2015 and 2014, 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 was 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.

In its November 2014 decision and December 2014 order, the OEB approved the recovery or repayment of certain of the account balances of the other variance accounts as at December 31, 2013 over a 12-month period beginning on January 1, 2015. 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. Refer to Note 3 for a detailed discussion of the rate recovery methodology for pension and OPEB costs 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 recognize deferred income taxes associated with its rate regulated operations, including deferred income taxes on temporary differences related to the regulatory assets and liabilities recognized for accounting

purposes. In addition, OPG is required to recognize a regulatory asset or liability for the amount of deferred income taxes expected to be included in future regulated prices and recovered from, or paid to, customers. Income taxes are discussed in Note 9.

#### 6. LONG-TERM DEBT

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

(millions of dollars)	2015	2014
Notes payable to the OEFC		
Senior Notes <sup>2</sup>		
3.43% due 2015	_	500
4.91% due 2016	270	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
5.07% due 2041	300	300
4.36% due 2042	200	200
UMH Energy Partnership <sup>3</sup>		
Senior Notes		
7.86% due to 2041	187	190
PSS Generating Station Limited Partnership <sup>4</sup>		
Senior Notes		
4.90% due to 2067	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
5.26% due 2041	250	250
5.05% due 2043	200	200
4.26% due 2046	275	275
4.26% due 2052	225	225
	5,472	5,730
Less: due within one year	273	503
Long-term debt	5,199	5,227

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

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 (LME) senior notes.

<sup>&</sup>lt;sup>3</sup> These notes are secured by the assets of the Upper Mattagami and Hound Chute project. Principal repayments of approximately \$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.

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

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.

Since December 2014, OPG has maintained an \$800 million general corporate credit facility with the OEFC in support of its financing requirements up to the end of 2016. As at December 31, 2015 and 2014, there were no amounts outstanding under this facility. The credit facility expires on December 31, 2016.

Interest paid in 2015 was \$269 million (2014 - \$273 million), of which \$261 million (2014 - \$264 million) relates to interest paid on long-term debt.

The book value of the pledged assets as at December 31, 2015 was \$3,520 million (2014 – \$3,271 million).

In the fourth quarter of 2015, PSS Generating Station LP, 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. Of the total amount invested as at December 31, 2015, \$110 million is reported as Other current assets, and the remaining \$70 million as Other long-term assets on the consolidated balance sheets, based on the terms of the deposit note.

A summary of the contractual maturities of all long-term borrowings outstanding as at December 31, 2015, by year, is as follows:

(millions of dollars)	
(minoria di donara)	
2016	273
2017	1,103
2018	398
2019	368
2020	663
Thereafter	2,667
	5,472

# 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 2015, OPG renewed and extended both tranches by one year to May 2020. As at December 31, 2015 and 2014, there were no outstanding borrowings under the bank credit facility.

As at December 31, 2015, 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 originally consisted of two \$300 million multi-year tranches. The first and second tranches were to mature in August 2019 and August 2015, respectively. In the third quarter of 2015, OPG extended the maturity of the first tranche to August 2020. During the same period, the second tranche was reduced to \$200 million and extended to August 2016. As at December 31, 2015, there was external commercial paper of \$225 million outstanding under LME's commercial paper program (2014 - nil). There were no amounts outstanding under LME's bank credit facility as at December 31, 2015 and 2014. OPG also maintains a \$700 million credit facility with the OEFC in support of the Lower Mattagami River project. As at December 31, 2015, there were no outstanding borrowings under this credit facility. This credit facility expires in June 2016.

As at December 31, 2015, OPG maintained \$25 million of short-term, uncommitted overdraft facilities and \$456 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, 2015, a total of \$384 million of Letters of Credit had been issued under these facilities. This included \$345 million for the supplementary pension plans, \$38 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. The agreement expires November 30, 2016. As at December 31, 2015, there were Letters of Credit outstanding under this agreement of \$150 million (2014 – \$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, 2015, total Letters of Credit of \$14 million had been issued under these facilities.

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

(millions of dollars)	2015	2014
Interest on long-term debt	285	291
Interest on short-term debt	8	9
Interest income	(9)	(10)
Interest capitalized to property, plant and equipment and intangible assets	(102)	(135)
Interest related to regulatory assets and liabilities <sup>1</sup>	(2)	(75)
Net interest expense	180	80

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 Capacity Refurbishment Variance Account and the Bruce Lease Net Revenues Variance Account.

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

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

(millions of dollars)	2015	2014
Liability for nuclear used fuel management Liability for nuclear decommissioning and L&ILW waste management Liability for non-nuclear fixed asset removal	12,793 6,999 377	10,459 6,204 365
Fixed asset removal and nuclear waste management liabilities	20,169	17,028

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

(millions of dollars)	2015	2014
	4= 000	
Liabilities, beginning of year	17,028	16,257
Increase in liabilities due to accretion <sup>1</sup>	906	867
Increase in liabilities reflecting changes to the estimated useful lives of nuclear generating stations (Note 3)	2,330	-
Increase in liabilities due to nuclear used fuel and nuclear waste management expenses and other expenses <sup>1</sup>	123	116
Liabilities settled by expenditures on fixed asset removal and nuclear waste management	(218)	(212)
Liabilities, end of year	20,169	17,028

<sup>&</sup>lt;sup>1</sup> 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, dismantling, 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 decommissioning and nuclear waste management liabilities is contained in the approved 2012 ONFA Reference Plan. The next ONFA Reference Plan is expected to be completed in 2016 and will cover the 2017-2021 period.

As discussed in Note 3, effective December 31, 2015, OPG recognized an increase in the Nuclear Liabilities of \$2,330 million and a corresponding increase in asset retirement costs capitalized to PP&E to reflect changes in the estimated useful lives of the Company's nuclear generating stations. The increase in the liabilities recorded on December 31, 2015 was determined by discounting the net incremental cash flows at 3.21 percent.

For the purposes of calculating OPG's Nuclear Liabilities, as at December 31, 2015, consistent with the current accounting end-of-life assumptions, nuclear station decommissioning is projected to occur over approximately the next 50 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 2078 for placement of used fuel into the longterm 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 duration and the evolving technology to handle the nuclear waste, there is a significant degree of uncertainty surrounding the measurement of the costs for these long-term 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. 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 2035 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 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. 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. 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 after 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 15 years. As at December 31, 2015, the liability for non-nuclear fixed asset removal was \$377 million (2014 – \$365 million).

#### **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 obligation for nuclear decommissioning and long-term nuclear waste management. The Decommissioning Fund was established to fund the future costs of nuclear fixed asset removal, long-term L&ILW management, and certain costs for used fuel storage incurred after the stations are shut down. The Used Fuel Fund was established to fund future costs of long-term nuclear used fuel management. OPG makes contributions to the Nuclear Funds based on the approved ONFA Reference Plan in effect.

OPG makes quarterly payments to the Used Fuel Fund over the life of its nuclear generating stations, as specified in the ONFA, including contributions to the NFWA Trust (the Trust). The Trust forms part of the Used Fuel Fund, and contributions to the Trust, as required by the NFWA, may be applied towards OPG's ONFA payment obligations. Required funding for 2015 under the ONFA was \$143 million (2014 – \$139 million). Based on the approved 2012 ONFA Reference Plan, OPG is required to contribute annual amounts to the Used Fuel Fund, ranging from \$150 million to \$288 million over the years 2016 to 2019. Contributions are not currently required to the Decommissioning Fund based on the approved 2012 ONFA Reference Plan. Since OPG is responsible for the risks associated with liability cost increases and investment returns in the Decommissioning Fund, future contributions to the Decommissioning Fund may be required should the fund be in an underfunded position at the time of the next ONFA Reference Plan review. The required future ONFA contributions are disclosed in Note 15.

The *Nuclear Safety and Control Act* (Canada) requires OPG to have sufficient funds available to discharge the current nuclear decommissioning and waste management liabilities. 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 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 2014 and 2015.

The investments in the Nuclear 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 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 Funds remains the primary goal. OPG jointly oversees the investment management of the Nuclear Funds with the Province.

# **Decommissioning Fund**

OPG bears the risk and liability for cost estimate changes and fund earnings in the Decommissioning Fund. As at December 31, 2015, the Decommissioning Fund was in an overfunded position.

Upon termination of the ONFA, the Province has a right to any excess funds in the Decommissioning Fund, which is the excess of the fair market value of the Decommissioning Fund assets over the estimated completion costs, as per the most recently approved ONFA Reference Plan. When the Decommissioning Fund is overfunded, OPG limits the earnings recognized in its consolidated financial statements by recording a payable to the Province, such that the balance of the Decommissioning Fund is equal the cost estimate of the liability based on the most recently approved ONFA Reference Plan plus the portion of the surplus, if any, that OPG may direct to be treated as a contribution to the Used Fuel Fund. The payable to the Province may be reduced in subsequent periods in the event that the Decommissioning Fund earns less than its target rate of return or in the event that a new ONFA Reference Plan is approved with a higher estimated decommissioning liability. When the Decommissioning Fund is underfunded, the earnings on the Decommissioning Fund reflect actual fund returns based on the market value of the assets.

The Province's right to any excess funding in the Decommissioning Fund upon termination of the ONFA results in OPG capping its annual earnings 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 liability for the estimated completion cost, as long as the Decommissioning Fund is in an overfunded status of less than 120 percent.

Under the ONFA, if there is a surplus in the Decommissioning Fund such that the liabilities, as defined by the most recently approved ONFA Reference Plan, are at least 120 percent funded, OPG may direct up to 50 percent of the surplus over 120 percent to be treated as a contribution to the Used Fuel Fund, with the OEFC entitled to a distribution of an equal amount. Therefore, when the Decommissioning Fund is at least 120 percent funded, OPG recognizes 50 percent of the excess greater than 120 percent in income.

#### **Used Fuel Fund**

OPG is responsible for the risk and liability of cost increases for used fuel waste management under the ONFA, subject to specified graduated liability thresholds, which limit OPG's total financial exposure for the first 2.23 million nuclear used fuel bundles at approximately \$14.2 billion in present value dollars as at December 31, 2015. The graduated liability thresholds do not apply to incremental used fuel bundles beyond 2.23 million.

Under the ONFA, the Province guarantees OPG's annual return in the Used Fuel Fund at 3.25 percent plus the change in the Ontario CPI for funding related to the first 2.23 million used fuel bundles (committed return). OPG recognizes the committed return on the Used Fuel Fund as earnings on the nuclear fixed asset removal and nuclear waste management 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. The amount due to or due from the Province 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. 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 Fund.

Under the ONFA, the Province is entitled to any surplus in the Used Fuel Fund, subject to a threshold funded ratio of 110 percent compared to the value of the associated liabilities based on the most recently approved ONFA Reference Plan. Upon termination of the Used Fuel Fund, the Province is entitled to any surplus above the 100 percent funded threshold.

# **Nuclear Funds**

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

	Fair	Value
(millions of dollars)	2015	2014
Decommissioning Fund	7,834	7,346
Due to Province – Decommissioning Fund	(1,285)	(1,100)
	6,549	6,246
Used Fuel Fund <sup>1</sup> Due to Province – Used Fuel Fund	10,290 (1,703)	9,562 (1,429)
	8,587	8,133
Total Nuclear Funds Less: current portion	15,136 15	14,379 25
Non-current Nuclear Funds	15,121	14,354

<sup>&</sup>lt;sup>1</sup> The Ontario NFWA Trust represented \$3,409 million as at December 31, 2015 (2014 – \$3,114 million) of the Used Fuel Fund on a fair value basis.

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

	Fair Value	
(millions of dollars)	2015	2014
Cook and cook as it aloute and short town in restments	242	404
Cash and cash equivalents and short-term investments	343	464
Alternative investments	1,620	1,003
Pooled funds	1,311	1,293
Marketable equity securities	8,621	8,176
Fixed income securities	6,219	5,969
Net receivables/payables	10	3
	18,124	16,908
Due to Province	(2,988)	(2,529)
	15,136	14,379

The historical cost, gross unrealized aggregate appreciation and depreciation of investment, gross unrealized foreign exchange gains, and fair value of the Nuclear Funds as at December 31, 2015 and 2014 are summarized as follows:

	Decommissioning	2015 Used Fuel	
(millions of dollars)	Fund	Fund	Total
Historical cost Gross unrealized gains (losses)	6,608	8,819	15,427
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 Less: current portion	6,549 5	8,587 10	15,136 15
Non-current fair value	6,544	8,577	15,121

	Docommissioning	2014 Used Fuel	
(millions of dollars)	Decommissioning Fund	Fund	Total
Historical cost	6,188	8,163	14,351
Gross unrealized gains (losses) Aggregate appreciation	1.218	1.441	2,659
Aggregate depreciation	(150)	(174)	(324)
Foreign exchange	90	`132 <sup>′</sup>	222
	7,346	9,562	16,908
Due to Province	(1,100)	(1,429)	(2,529)
Fair value	6,246	8,133	14,379
Less: current portion	7	18	25
Non-current fair value	6,239	8,115	14,354

Net realized and unrealized gains or losses from investments for the years ended December 31, 2015 and 2014 are summarized as follows:

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

	2014		
(millions of dollars)	Decommissioning Fund	Used Fuel Fund	Total
Net realized gains			
Realized gains	401	545	946
Realized foreign exchange gains	36	36	72
Net realized gains	437	581	1,018
Net unrealized gains			
Unrealized gains	75	38	113
Unrealized foreign exchange gains	63	82	145
Net unrealized gains	138	120	258

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

	Fair Value	
(millions of dollars)	2015	2014
Decommissioning Fund, beginning of year	6,246	5,967
ncrease in fund due to return on investments	507	782
Decrease in fund due to reimbursement of eligible expenditures	(19)	(27)
Increase in due to Province	(185)	(476)
		, ,
Decommissioning Fund, end of year	6,549	6,246
Jsed Fuel Fund, beginning of year	8,133	7,529
ncrease in fund due to contributions made	143	139
ncrease in fund due to return on investments	642	954
Decrease in fund due to reimbursement of eligible expenditures	(57)	(50)
ncrease in due to Province	(274)	(439)
Jsed Fuel Fund, end of year	8,587	8,133

The earnings from the Nuclear Funds during 2015 and 2014 were impacted by the Bruce Lease Net Revenues Variance Account authorized by the OEB. The earnings on the Nuclear Funds for the years ended December 31 are as follows:

(millions of dollars)	2015	2014
Decommissioning Fund	322	306
Used Fuel Fund	368	515
Bruce Lease Net Revenues Variance Account	14	(107)
Total earnings	704	714

# 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.

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

(millions of dollars)	2015	2014
Current income tax expense (recovery):		
Current payable	137	123
Change in income tax positions	(10)	(15)
Income tax components of regulatory variance and deferral accounts	(1)	(10)
Scientific Research and Experimental Development investment tax credits	( <del>S</del> S)	(29)
Other	(12)	14
	59	83
Deferred income tax expense (recovery):		
Change in temporary differences	3	100
Income tax components of regulatory variance and deferral accounts	(43)	(69)
Regulatory asset for deferred income taxes	`73 <sup>′</sup>	25
•	33	56
Income tax expense	92	139

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

(millions of dollars)	2015	2014
Income before income taxes and extraordinary item	509	707
Combined Canadian federal and provincial statutory enacted		
income tax rates	26.5%	26.5%
Statutory income tax rates applied to accounting income	135	187
(Decrease) increase in income taxes resulting from:		
Income tax components of regulatory variance and deferral accounts	(44)	(79)
Non-taxable income items	(8)	(6)
Regulatory asset for deferred income taxes	73	25
Scientific Research and Experimental Development investment tax credits, net of income tax	(43)	(16)
Other	(21)	28
	(43)	(48)
Income tax expense	92	139
Effective rate of income taxes	18.1%	19.7%

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

(millions of dollars)	2015	2014
Deferred income tax assets:		
Fixed asset removal and nuclear waste management liabilities	5,032	4.247
Other liabilities and assets	1,689	1,984
	6,721	6,231
Deferred income tax liabilities: Property, plant and equipment and intangible assets	(2,119)	(1,478)
Nuclear fixed asset removal and nuclear waste management funds	(3,784)	(3,595)
Other liabilities and assets	(1,708)	(1,986)
	(7,611)	(7,059)
Net deferred income tax liabilities	(890)	(828)

During 2015, OPG recorded a decrease 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 \$69 million (2014 - \$22 million). Since these deferred income taxes are expected to be refunded through future regulated prices, OPG recorded a corresponding decrease to the regulatory asset for deferred income taxes. As a result, the deferred income tax expense for 2015 and 2014 was not impacted.

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

(millions of dollars)	2015	2014
I		
January 1:		440
Deferred income tax liabilities on temporary differences related to	644	418
regulated operations		
Deferred income tax liabilities resulting from the regulatory asset for	217	141
deferred income taxes		
	861	559
Impact of rate regulation of hydroelectric facilities in 2014:		
Deferred income tax liabilities on temporary differences as of June 30, 2014	-	243
related to the facilities prescribed for regulation effective July 1, 2014		
Deferred income tax liabilities resulting from the regulatory asset for	-	81
deferred income taxes related to the regulation of facilities		
effective July 1, 2014		
	861	883
Changes during the year:		
Decrease in deferred income tax liabilities on temporary differences	(52)	(17)
related to regulated operations, including facilities prescribed for regulation	<b>(</b> - )	,
effective in 2014		
Decrease in deferred income tax liabilities resulting from the regulatory	(17)	(5)
asset for deferred income taxes, including for facilities prescribed for	` ,	(-)
regulation effective in 2014		
109000000 01100110 111 2011		
Balance as at December 31	792	861
Balance de de Becomber e i	102	301

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

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

(millions of dollars)	2015	2014
Unrecognized tax benefits, beginning of year Additions based on tax positions related to the current year Additions for tax positions of prior years Reductions for tax positions of prior years Other	79 16 7 (14) (16)	91 11 12 (35)
Unrecognized tax benefits, end of year	72	79

As at December 31, 2015, OPG's unrecognized tax benefits were \$72 million (2014 - \$79 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, 2015, OPG had recorded interest on unrecognized tax benefits of \$7 million (2014 – \$6 million). OPG considers its significant tax jurisdiction to be Canada. OPG remains subject to income tax examination for years after 2011.

OPG paid \$47 million in income taxes (net of tax refunds) during 2015. The amount of tax refunds received net of income taxes paid during 2014 was \$29 million.

# 10. ACCUMULATED OTHER COMPREHENSIVE LOSS

The changes in the balance of each component of accumulated other comprehensive loss (AOCL), net of taxes, during the years ended December 31, 2015 and 2014 are as follows:

(millions of dollars)	Unrealized Gains and Losses on Cash Flow Hedges <sup>1</sup>	2015 Pension and Other Post- Employment Benefits <sup>1</sup>	Total <sup>1</sup>
AOCL, beginning of year Net loss on cash flow hedges	(117) (5)	(379) -	(496) (5)
Actuarial gain on re-measurement of liabilities for pension and other post-employment benefits	-	148	148
Amounts reclassified from AOCL	16	18	34
OCI for the year	11	166	177
AOCL, end of year	(106)	(213)	(319)

<sup>&</sup>lt;sup>1</sup> All amounts are net of income taxes.

		2014			
(millions of dollars)	Unrealized Gains and Losses on Cash Flow Hedges <sup>1</sup>	Pension and Other Post-Employment Benefits <sup>1</sup>	Total <sup>1</sup>		
AOCL, beginning of year	(129)	(555)	(684)		
Net gain on cash flow hedges	` (2)	· -	` (2)		
Recognition of initial pension and OPEB Regulatory Asset for amounts recorded prior to regulation of facilities, effective July 1, 2014 (Note 3)	-	184	184		
Actuarial loss on re-measurement of liabilities for pension and other post-employment benefits	-	(35)	(35)		
Amounts reclassified from AOCL	14	27	41		
OCI for the year	12	176	188		
AOCL, end of year	(117)	(379)	(496)		

<sup>&</sup>lt;sup>1</sup> 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, 2015 and 2014 are as follows:

	Amount Reclass	sified from A	OCL
(millions of dollars)	2015	2014	Statement of Income Line Item
Amortization of losses from cash flow hedges			
Losses	18	16	Net interest expense
Income tax recovery	(2)	(2)	Income tax expense
·	16	14	·
Amortization of amounts related to pension and other post-employment benefits			
Actuarial losses and past service costs	25	37	See (1) below
Income tax recovery	(7)	(10)	Income tax expense
	18	27	·
Total reclassifications for the year	34	41	

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 three 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 return diversifying strategies, which are intended to improve the overall return of the pension fund while mitigating the downside market risk.

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

	Target
Asset Class	
Liability Hedging Assets	54%
Return Enhancing Assets	33%
Return on Diversifying Assets	13%

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 non-North American stocks. There are also real estate, infrastructure, and agriculture portfolios that represent approximately nine percent of the total pension fund assets as at December 31, 2015. 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 historical risks and returns associated with each asset class within the plan portfolio. The asset management decisions consider the economic liabilities of the plan.

# **Fair Value Measurements**

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

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

		December 31, 2015				
(millions of dollars)	Level 1	Level 2	Level 3	Total		
Cash and cash equivalents	374	-	-	374		
Short-term investments	-	1	-	1		
Fixed income						
Corporate debt securities	-	392	-	392		
Government bonds	-	3,794	-	3,794		
Equities				·		
Canadian	1,547	-	-	1,547		
US	1,786	-	-	1,786		
Non-North American	1,992	-	-	1,992		
Pooled funds	21	147	1,878	2,046		
Infrastructure	-	-	702	702		
Real estate	-	-	402	402		
Agriculture	-	-	107	107		
Other	1	-	6	7		
	F 704	4.004	0.005	40.450.1		
	5,721	4,334	3,095	13,150 <sup>1</sup>		

<sup>&</sup>lt;sup>1</sup> The table above excludes pension fund receivables and payables.

		Decembe	r 31, 2014	•
(millions of dollars)	Level 1	Level 2	Level 3	Total
Cash and cash equivalents	251	-		251
Short-term investments	-	3	-	3
Fixed income				
Corporate debt securities	-	349	-	349
Government bonds	-	1,704	-	1,704
Equities				
Canadian	1,955	-	-	1,955
US	2,016	-	-	2,016
Non-North American	2,147	-	-	2,147
Pooled funds	12	2,450	866	3,328
Infrastructure	-	-	338	338
Real estate	-	-	243	243
Agriculture	-	-	57	57
Other	-	-	5	5
	6,381	4,506	1,509	12,396

The table above excludes pension fund receivables and payables.

The following table presents the changes in the fair value of financial instruments classified in Level 3:

(millions of dollars)	Pooled Funds	Infrastructure	Real Estate	Agriculture	Other	Total
Opening balance, January 1, 2014	11	208	210	57	2	488
Total realized and unrealized gains	69	37	19	-	-	125
Purchases, sales, and settlements	786	93	14	-	3	896
Closing balance, December 31, 2014	866	338	243	57	5	1,509
Total realized and unrealized gains	247	91	58	-	-	396
Purchases, sales, and settlements	765	273	101	50	1	1,190
Closing balance, December 31, 2015	1,878	702	402	107	6	3,095

During the years ended December 31, 2015 and 2014, 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-Employm Benefits	
	2015	2014	2015	2014
Weighted Average Assumptions – Benefit Obligations at Year-End				
Rate used to discount future benefits	4.10%	4.00%	4.13%	4.03%
Salary schedule escalation rate - first six years	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%

	Registered and Supplementary Pension Plans			Employment efits
	2015	2014	2015	2014
Weighted Average Assumptions – Costs for the Year				
Expected return on plan assets, net of expenses	6.25%	6.25%	n/a	n/a
Rate used to discount future benefits	4.00%	4.90%	4.03%	4.91%
Salary schedule escalation rate - first six years	2.00%	2.50%	2.00%	2.50%
- 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	6.09%	6.19%
Ultimate health care trend rate	n/a	n/a	4.33%	4.34%
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	12	12	13	13
(years)				

	• • • • • • • • • • • • • • • • • • • •				,		
(millions of dollars)	2015	2014	2015	2014	2015	2014	
Components of Cost Recognized							
Current service costs	320	238	7	8	71	64	
Interest on projected benefit obligation	630	658	13	14	127	135	
Expected return on plan assets, net of expenses	(717)	(628)	-	-	-	-	
Amortization of net actuarial loss 1	292	260	6	4	27	6	
Recognition of LTD net actuarial loss (gain)	-	-	-	-	7	(3)	
Costs recognized <sup>2</sup>	525	528	26	26	232	202	

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.

<sup>&</sup>lt;sup>2</sup> Excludes the impact of regulatory variance and deferral accounts discussed in Note 5.

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

(millions of dollars)	2015	2014
Registered pension plans	525	528
Supplementary pension plans	26	26
Other post-employment benefits	232	202
Pension and OPEB Cost Variance Account (Note 5)	-	(254)
Pension & OPEB Cash Payment Variance Account (Note 5)	(21)	(6)
Pension & OPEB Cash Versus Accrual Differential Deferral Account (Note 5)	(2 <b>7</b> 9)	(36)
Pension and other post-employment benefit costs	483	460

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

	Registered Pension Plans		Supplementary Pension Plans		Other Post- Employment Benefits	
(millions of dollars)	2015	2014	2015	2014	2015	2014
Change in Plan Assets Fair value of plan assets at beginning of year Contributions by employer Contributions by employees Actual return on plan assets, net of expenses	12,407 362 72 1,151	10,961 364 70 1,677	- 24 -	- 16 -	- 94 - -	- 93 - -
Benefit payments	(832)	(665)	(24)	(16)	(94)	(93)
Fair value of plan assets at end of year	13,160	12,407	-	-	-	
Change in Projected Benefit Obligations Projected benefit obligations at beginning of year Employer current service costs Contributions by employees Interest on projected benefit obligation Benefit payments Past service costs Net actuarial (gain) loss	15,669 320 72 630 (832) - (384)	13,422 238 70 658 (665) - 1,946	317 7 - 13 (24) - (14)	289 8 - 14 (16) - 22	3,143 71 - 127 (94) 5 (64)	2,719 64 - 135 (93) - 318
Projected benefit obligations at end of year	15,475	15,669	299	317	3,188	3,143
Funded status – deficit at end of year	(2,315)	(3,262)	(299)	(317)	(3,188)	(3,143)

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

	•	Registered Pension Plans		Supplementary Pension Plans		Post- yment efits
(millions of dollars)	2015	2014	2015	2014	2015	2014
Current liabilities Non-current liabilities	- (2,315)	- (3,262)	(17) (282)	(9) (308)	(103) (3,085)	(93) (3,050)
Total liabilities	(2,315)	(3,262)	(299)	(317)	(3,188)	(3,143)

The accumulated benefit obligations for the registered pension plans and supplementary pension plans as at December 31, 2015 are \$14,327 million and \$267 million, respectively (2014 - \$14,333 million and \$274 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 as discussed in Note 5 for the years ended December 31, on a pre-tax basis:

	Registered Supplementary Pension Plans Pension Plans		-	Other Post- Employment Benefits		
(millions of dollars)	2015	2014	2015	2014	2015	2014
Changes in plan assets and benefit obligations recognized in OCI						
Current year net actuarial (gain) loss	(818)	897	(14)	22	(71)	321
Current year past service costs	-	-	-	-	5	-
Amortization of net actuarial loss	(292)	(260)	(6)	(4)	(27)	(6)
Total (increase) decrease in OCI	(1,110)	637	(20)	18	(93)	315
Less: (decrease) increase in Pension and OPEB Regulatory Asset, excluding initial regulatory asset related to facilities prescribed for rate regulation beginning in 2014 (Note 5)	(916)	652	(15)	19	(70)	289
Less: Recognition of initial Pension and OPEB Regulatory Asset related to facilities prescribed for rate regulation beginning in 2014 (Note 3)	-	219	-	5	-	21
Net (increase) decrease in OCI (pre-tax)	(194)	(234)	(5)	(6)	(23)	5

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:

	Registered Pension Plans		Supplementary Pension Plans		Other Post- Employment Benefits	
(millions of dollars)	2015	2014	2015	2014	2015	2014
Unamortized amounts recognized in AOCL Past service costs	-	<u>-</u>		<u>-</u>	6	1
Net actuarial loss	3,023	4,133	77	97	540	638
Total recognized in AOCL Less: Pension and OPEB Regulatory Asset (Note 5)	3,023 2,786	4,133 3,702	77 73	97 88	546 503	639 573
Net recognized in AOCL (pre-tax)	237	431	4	9	43	66

The following table provides the components of OPG's AOCI 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 2016, on a pre-tax basis:

(millions of dollars)	Registered Pension Plans	Supplementary Pension Plans	Other Post- Employment Benefits
Past service costs	-	-	1
Net actuarial loss	192	4	19
Total increase in AOCI	192	4	20
Less: Estimated decrease in Pension and OPEB Regulatory Asset	177	4	18
Net increase in AOCI (pre-tax)	15	-	2

Based on the most recently filed actuarial valuation, for funding purposes, of the OPG registered pension plan, as at January 1, 2014, there was an unfunded liability on a going-concern basis of \$1,143 million and a deficiency on a wind-up basis of \$7,034 million. The funded status to be determined in the next filed funding valuation, which must have an effective date no later than January 1, 2017, could be significantly different. For 2016, OPG's required contribution to its registered pension plan is expected to be \$357 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 \$345 million as at December 31, 2015 (2014 – \$310 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, 2015 are as follows:

(millions of dollars)	Registered Pension Plans	Supplementary Pension Plans	Other Post- Employment Benefits
2016	661	18	103
2017	664	19	107
2018	750	19	111
2019	726	19	115
2020	764	20	121
2021 through 2025	4,099	105	676

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 2015 OPEB costs of \$45 million (2014 – \$42 million) or a decrease in the service and interest components of the 2015 OPEB costs of \$33 million (2014 – \$31 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, 2015 of \$584 million (2014 – \$567 million) or a decrease in the projected OPEB obligation as at December 31, 2015 of \$446 million (2014 – \$432 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 its 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, 2015 was less than \$1 million.

OPG's fair value derivatives totalled a net liability of \$2 million as at December 31, 2015 (2014 – \$291 million). As at December 31, 2014, the fair value derivatives included a liability of \$302 million for the derivative embedded in the Bruce Lease related to the conditional reduction in OPG's lease revenue in the future, and net assets of \$11 million comprising other derivative instruments. The liability for the derivative embedded in the Bruce Lease was presented on the balance sheet under long-term accounts payable and accrued charges. Amendments to the Bruce Lease in December 2015 removed the provision of the agreement giving rise to the embedded derivative, which resulted in the

reversal of the derivative liability of approximately \$299 million in December 2015, with a corresponding reduction in the regulatory asset for the Bruce Lease Net Revenues Variance Account. The December 2015 amendments to the Bruce Lease are also discussed in Note 3 under the heading, Changes in Accounting Policies and Estimates.

The following table shows the amount related to derivatives recorded in AOCL and income for the years ended December 31:

(millions of dollars)	2015	2014
Cash flow hedges (recorded in AOCL)		
Losses in OCI	(7)	(3)
Reclassification of losses to net interest expense	20	19
Reclassification of gains to fuel expense	(2)	(3)
Commodity derivatives (recorded in income)	, ,	, ,
Realized losses in revenue	(16)	(11)
Unrealized (losses) gains in revenue	(7)	9
Embedded derivative (recorded in income)	, ,	
Unrealized gains in revenue 1	225	44

<sup>&</sup>lt;sup>1</sup> Excludes the impact of the Bruce Lease Net Revenues Variance Account.

Existing net losses of \$21 million deferred in AOCL as at December 31, 2015 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:

	= -	air Iue	Carı Val	rying ue <sup>1</sup>	
(millions of dollars)	2015	2014	2015	2014	Balance Sheet Line Item
Nuclear fixed asset removal and nuclear waste management funds (includes current portion)	15,136	14,379	15,136	14,379	Nuclear fixed asset removal and nuclear waste management funds
Payable related to cash flow hedges	(56)	(63)	(56)	(63)	Long-term accounts payable and accrued charges
Derivative embedded in the Bruce Lease	-	(302)	-	(302)	Long-term accounts payable and accrued charges
Long-term debt (includes current portion)	(5,978)	(6,326)	(5,472)	(5,730)	Long-term debt
Other financial instruments	6	19	6	19	Various

The carrying values of other financial instruments included in cash and cash equivalents, receivables from related parties, other short-term 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 assets and liabilities measured at fair value in accordance with the fair value hierarchy:

	December 31, 2015					
(millions of dollars)	Level 1	Level 2	Level 3	Total		
Assets						
Decommissioning Fund	3,200	2,733	616	6,549		
Used Fuel Fund	<sup>´</sup> 681	7,787	119	8,587		
Other financial instruments	14	<b>4</b>	16	34		
Total	3,895	10,524	751	15,170		
Liabilities						
Other financial instruments	(18)	(8)	(2)	(28)		
Total	(18)	(8)	(2)	(28)		
Net assets	3,877	10,516	749	15,142		

	December 31, 2014					
(millions of dollars)	Level 1	Level 2	Level 3	Total		
Assets						
Decommissioning Fund	3,069	2,787	390	6,246		
Used Fuel Fund	617	7,444	72	8,133		
Other financial instruments	4	5	16	25		
Total	3,690	10,236	478	14,404		
Liabilities						
Derivative embedded in the Bruce Lease	-	-	(302)	(302)		
Other financial instruments	(3)	(3)	-	` (6)		
Total	(3)	(3)	(302)	(308)		
Net assets	3,687	10,233	176	14,096		

During the year ended December 31, 2015, 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 assets and liabilities measured at fair value based on Level 3:

(millions of dollars)	Decom- missioning Fund	Used Fuel Fund	Derivative Embedded in the Bruce Lease <sup>1</sup>	Other Financial Instruments
Opening balance, January 1, 2014	247	42	(346)	12
Unrealized gains included in earnings on nuclear fixed asset removal and nuclear waste management funds <sup>2</sup>	20	4	-	·
Unrealized gains included in revenue	-	-	44	2
Realized gains (losses) included in revenue	1	-	-	(11)
Purchases	148	28	-	13
Sales	(12)	(2)	-	-
Settlements	(14)	<u> </u>	-	-
Closing balance, December 31, 2014	390	72	(302)	16
Unrealized gains included in earnings on nuclear fixed asset removal and nuclear waste management funds <sup>2</sup>	58	10	<u>-</u>	-
Unrealized gains (losses) included in revenue	-	-	225	(4)
Realized gains (losses) included in revenue	2	1	-	(16)
Purchases	191	36	-	18
Sales	(12)	(3)	-	-
Settlements	(13)	3	77	-
Closing balance, December 31, 2015	616	119		14

As a result of the December 2015 amendment to the Bruce Lease, discussed under the heading, Changes in Accounting Policies and Estimates, the term of the agreement specifying the conditional reductions to lease revenue in the future was removed. Accordingly, the derivative liability embedded in the Bruce Lease was reversed in 2015.

# **Decommissioning Fund and Used Fuel Fund**

Nuclear Funds investments classified as Level 3 consist of infrastructure, real estate, and agriculture investments within the alternative investment portfolio. The fair value of the investments within the Nuclear Funds' alternative investment portfolio is determined using acceptable industry valuation methods, such as recent arm's length market transactions, reference to comparable securities of issuers with similar credit ratings, discounted cash flow analyses,

Total gains (losses) exclude the impact of the Bruce Lease Net Revenues Variance Account.

third-party independent appraisals, valuation multiples, or other valuation methods. Any control, size, liquidity or other discounts or premiums on the investments are considered in the determination of fair value.

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 the 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 Funds that are reported on the basis of net asset value as at December 31, 2015:

(millions of dollars except where noted)	Fair Value	Unfunded Commitments	Redemption Frequency	Redemption Notice
Infrastructure	979	385	n/a	n/a
Real Estate	600	226	n/a	n/a
Agriculture	41	160	n/a	n/a
Pooled Funds				
Short-term Investments	5	n/a	Daily	1 - 5 Days
Fixed Income	609	n/a	Daily	1 - 5 Days
Equity	698	n/a	Daily	1 - 5 Days
Total	2,932	771		

The fair value of the above investments is classified as either Level 2 or Level 3.

#### 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 the Nuclear 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 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 investment in institutional-grade real estate property located in Canada. 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 the net asset value of the Nuclear Funds' ownership interest in these investments. The partnership investments are not redeemable. However, the Nuclear Funds may transfer any of their partnership interests to another party, as stipulated in the partnership agreement, with prior written consent of the other limited partners. 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 the net asset value of the Nuclear Funds' ownership interest in these

investments. The investments are not redeemable. However, the Nuclear Funds may transfer any of their interests to another party, as stipulated in the shareholders' agreement, with prior written consent of the other shareholders.

#### 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 the net asset value per share of the investments. There are no significant restrictions on the ability to sell investments in this class.

#### 14. COMMON SHARES

As at December 31, 2015 and 2014, 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".

Various other legal proceedings are pending against OPG or its subsidiaries covering a wide range of matters that arise in the ordinary course of its 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, 2015, the total amount of guarantees OPG provided to these entities was \$81 million (2014 – \$78 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, 2015, 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 as at December 31, 2015, are as follows:

(millions of dollars)	2016	2017	2018	2019	2020	Thereafter	Total
Fuel supply agreements	175	173	163	97	65	110	783
Contributions under the ONFA <sup>1</sup>	150	163	193	288	133	2,285	3,212
Contributions to the OPG registered pension plan <sup>2</sup>	357	-	-	-	-	-	357
Long-term debt repayment	273	1,103	398	368	663	2,667	5,472
Interest on long-term debt	261	242	186	167	145	2,275	3,276
Short-term debt repayment	225	-	-	-	-	-	225
Commitments related to Darlington Refurbishment project <sup>3</sup>	284	-	-	-	-	-	284
Commitments related to Peter Sutherland Sr. GS	128	38	-	-	-	-	166
Operating licence	41	43	37	23	24	142	310
Operating lease obligations	16	17	17	14	14	47	125
Unconditional purchase obligations	68	61	58	57	55	5	304
Accounts payable and accrued charges	1,031	4	7	-	-	19	1,061
Other	89	39	29	26	2	69	254
Total	3,098	1,883	1,088	1,040	1,101	7,619	15,829

Contributions under the ONFA are based on the 2012 ONFA Reference Plan contribution schedule approved in 2012. The updated ONFA Reference Plan is expected to be effective January 1, 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, 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, including lease revenues, and costs, including depreciation expense, associated with its ownership of the Bruce A and B nuclear generating stations is included in the determination of OPG's nuclear regulated prices established by the OEB. These revenues and costs are determined on the basis of the manner in which they are recognized in OPG's consolidated financial statements. As the assets on lease to Bruce Power are not prescribed facilities under *Ontario Regulation 53/05*, the net book value of the assets is not included in the regulated rate base.

During 2015, OPG recorded lease revenue related to the Bruce generating stations of \$185 million (2014 – \$258 million), which included supplemental rent from Bruce Power of \$134 million (2014 – \$207 million). The amount of supplemental rent shown in 2015 was net of a contractually required rebate of \$77 million. The net book value of

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, 2014. The next actuarial valuation of the OPG registered pension plan must have an effective date no later than January 1, 2017. 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 2016 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.

Estimated currently committed costs to close the project, including demobilization of project staff and cancellation of existing contracts and material orders.

property, plant and equipment on lease to Bruce Power as at December 31, 2015 was \$4,400 million (2014 – \$1,755 million).

### Collective Bargaining Agreements

As at December 31, 2015, the Power Workers' Union (PWU) represented approximately 5,300 OPG regular employees or approximately 57 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 include increases to employee pension plan contributions in each year of the agreement.

As at December 31, 2015, the Society of Energy Professionals (The Society) represented approximately 2,950 OPG employees or approximately 32 percent of OPG's regular workforce. The governing 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 include increases to employee pension plan contributions in each of the first two years of the agreement.

The changes to both collective agreements will 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 Inc. (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. The contract term was conditional on the initial public offering of Hydro One shares, which occurred in November 2015.

# Information Technology Services Contract

OPG conducted a competitive bid process for outsourced information technology services over the 2014 and 2015 period, issuing a Request For Proposal to a number of qualified suppliers. In October 2015, following the competitive bid process, a five-year agreement was awarded effective February 2016. The estimated value of the new contract is approximately \$300 million over the five-year period.

### 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 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 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 regulated 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, the management of the Nuclear Funds established pursuant to the ONFA with the Province, and related activities including the inspection and maintenance of the waste storage facilities. Accordingly, accretion expense on the Nuclear Liabilities and earnings from the Nuclear 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 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 OPG's consolidated statements of income and balance sheets.

The Regulated – Nuclear Waste Management segment is considered rate regulated because the costs associated with the Nuclear Liabilities are included by the OEB in the determination of regulated prices for production from OPG's Pickering and Darlington nuclear generating stations.

#### 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, the R.H. Saunders GS and the 48 hydroelectric stations prescribed for rate regulation effective in 2014. In addition, the business segment includes ancillary revenues 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.

# **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. OPG's share of the in-service generating capacity and generation volume from its interests in the PEC and Brighton Beach stations are also included 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 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 other unregulated service revenues, and activities related to the Lambton GS and the Nanticoke GS that were shut down at the end of 2013.

OM&A expenses of the generation business segments include an inter-segment service fee for the use of certain property, plant and equipment, and intangible assets held within the Services, 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 2015 and 2014 was as follows:

(millions of dollars)	2015	2014
Regulated – Nuclear Generation	33	23
Regulated – Hydroelectric	6	6
Contracted Generation Portfolio	4	3
Services, Trading, and Other Non-Generation	(43)	(32)

Segment (Loss) Income for the		Regulated Nuclear					
Year Ended		Waste		Contracted	Trading, and		
December 31, 2015	Nuclear	Manage-	Hydro-	Generation	Other Non-		
(millions of dollars)	Generation	ment	electric	Portfolio	Generation	Elimination	Total
_							
Revenue	3,245	122	1,619	535	73	(118)	5,476
Fuel expense	301	<u> </u>	345	39	2	•	687
Gross margin	2,944	122	1,274	496	71	(118)	4,789
Operations,	2,200	132	338	183	48	(118)	2,783
maintenance and							
administration							
Depreciation and	717	-	282	72	29	-	1,100
amortization							
Accretion on fixed	-	880	-	8	7	-	895
asset removal and							
nuclear waste							
management							
liabilities							
Earnings on nuclear	-	(704)	-	-	-	-	(704)
fixed asset removal							
and nuclear waste							
management funds							
Income from	-	-	-	(39)	-	-	(39)
investments subject							
to significant influence							
Property taxes	26	-	1	7	11	-	45
Restructuring	-	-	-	-	6	-	6
Other loss	3	-	3	1	7	-	14
(Loss) income before							
interest, income							
taxes, and							
extraordinary item	(2)	(186)	650	264	(37)	-	689

(millions of dollars)GenRevenue3Fuel expense3Gross margin2Operations,1	3,015 258 2,757 1,983	Nuclear Waste Manage- ment 121 - 121 129	Hydro- electric 1,417 343	Contracted Generation Portfolio	Services, Trading, and Other Non- Generation	Elimination (116)	Total
Revenue 3 Fuel expense Gross margin 2 Operations, 1	3,015 258 2,757	121 - 121	1,417 343	329			
Fuel expense Gross margin Operations,  2	258 2,757	- 121	343		197	(116)	
Gross margin 2 Operations, 1	2,757			37		(110)	4,963
Operations, 1			4 0 - 4		3	-	641
•	1,983	129	1,074	292	194	(116)	4,322
maintenance and administration			325	175	119	(116)	2,615
Depreciation and amortization	529	-	167	38	20	-	754
Accretion on fixed asset removal and nuclear waste management liabilities	-	782	-	8	7	-	797
Earnings on nuclear fixed asset removal and nuclear waste management funds	-	(714)	-	-	-	-	(714)
Regulatory disallowance related to the Niagara Tunnel project	-	-	77	-	-	-	77
Income from investments subject to significant influence	-	-	-	(41)	-	-	(41)
Property taxes	28	-	1	(1)	4	-	32
Restructuring	-	-	-	8	10	-	18
Other loss (income)	-	-	2	(6)	1	-	(3)
Income (loss) before interest, income							
taxes, and extraordinary item	217	(76)	502	111	33	_	787

Selected Consolidated Balance Sheet Information as at December 31, 2015	Nuclear	Regulated Nuclear Waste Manage-	Hydro-	Contracted Generation	julated Services, Trading, and Other Non-	_
(millions of dollars)	Generation	ment	electric	Portfolio	Generation	Total
Segment property, plant and equipment in-service, net	6,972	-	7,413	3,319	324	18,028
Segment construction in progress	2,290	-	98	141	38	2,567
Segment property, plant and equipment, net	9,262	-	7,511	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 Long-term	95 333	-	- 1	1 3	-	96 337
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)	-	(163)	(214)	(20,169)

Selected Consolidated Balance Sheet Information		Regulated Nuclear		_	gulated Services,	
as at December 31, 2014	Nuclear	Waste Manage-	Hydro-	Contracted Generation	Trading, and Other Non-	
(millions of dollars)	Generation	ment	electric	Portfolio	Generation	Total
Segment property, plant and equipment in-service, net	4,679	-	7,483	3,267	338	15,767
Segment construction in progress	1,652	-	86	35	53	1,826
Segment property, plant and equipment, net	6,331	-	7,569	3,302	391	17,593
Segment intangible assets in-service, net	11	-	1	4	14	30
Segment development in progress	2	-	1	-	43	46
Segment intangible assets, net	13	-	2	4	57	76
Segment fuel inventory	298	-	-	36	-	334
Segment materials and supplies inventory, net:						
Current	93	-	-	1	_	94
Long-term	332	-	1	5	-	338
Nuclear fixed asset removal and nuclear waste management funds (current and non-current portions)	-	14,379	-	-	-	14,379
Fixed asset removal and nuclear waste management liabilities	-	(16,663)	-	(154)	(211)	(17,028)

Selected Consolidated Cash Flow Information	Regulated			Unre		
(millions of dollars)	Nuclear Generation	Nuclear Waste Management	Hydro- electric	Contracted Generation Portfolio	Trading, and Other Non- Generation	Total
Year ended December 31, 2015 Investment in property, plant and equipment, and intangible assets	1,023		86	222	45	1,376
Year ended December 31, 2014 Investment in property, plant and equipment, and intangible assets	991	-	84	423	47	1,545

# 17. NET CHANGES IN NON-CASH WORKING CAPITAL BALANCES

(millions of dollars)	2015	2014
Receivables from related parties	(63)	(80)
Other accounts receivable and prepaid expenses	(47)	15
Fuel inventory	(10)	56
Income taxes payable/recoverable	42	75
Materials and supplies	(2)	1
Accounts payable and accrued charges	(20)	145
	(100)	212

# 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 including Hydro One, the IESO, and the OEFC, and jointly controlled entities. 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.

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

	2	2015	2	2014	
(millions of dollars)	Revenue	Expense	Revenue	Expense	
Hydro One					
Electricity sales	12	_	23	_	
Services	1	6	1	13	
Province of Ontario					
Decommissioning Fund excess funding	-	185	-	476	
Used Fuel Fund rate of return guarantee	-	274	-	439	
Gross revenue charges	-	121	-	123	
ONFA guarantee fee	-	8	-	8	
Pension benefits guarantee fee	-	-	-	2	
OEFC					
Gross revenue charges	-	207	-	209	
Interest expense on long-term notes	-	177	-	187	
Income taxes, net of investment tax credits	-	80	-	136	
Contingency support agreement	8	-	83	-	
IESO					
Electricity related revenue	4,903	65	4,305	75	
	4,924	1,123	4,412	1,668	

The receivable and payable balances, as at December 31, between OPG and its related parties are summarized below:

(millions of dollars)	2015	2014
Receivables from related parties		
Hydro One	1	1
IESO	531	468
OEFC	9	10
PEC	3	3
Province of Ontario	1	-
Accounts payable and accrued charges		
Hydro One	1	8
OEFC	51	63
Province of Ontario	20	3
IESO	18	-

# 19. INVESTMENTS SUBJECT TO SIGNIFICANT INFLUENCE

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

(millions of dollars)	2015	2014
PEC		
Current assets	14	15
Long-term assets	270	287
Current liabilities	(4)	(5)
Long-term liabilities	(5)	(4)
Brighton Beach		
Current assets	9	6
Long-term assets	177	186
Current liabilities	(15)	(13)
Long-term liabilities	(6)	(6)
Long-term debt	(104)	(118)
Investments subject to significant influence	336	348

# 20. RESEARCH AND DEVELOPMENT

For the year ended December 31, 2015, research and development expenses of \$50 million (2014 – \$88 million) were charged to operations.

# 21. NON-CONTROLLING INTEREST

Lower Mattagami Limited Partnership (LMLP) is an Ontario limited partnership between OPG, Amisk-oo-Skow Finance Corporation (AFC), a corporation wholly owned by the Moose Cree First Nation, and LM Extension Inc., a wholly owned subsidiary of OPG. 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, 2015, the AFC had a 25 percent interest in LMLP. OPG consolidates the results of LMLP in its consolidated financial statements and the non-controlling interest represents the AFC's equity interest in LMLP.

# **OPG OFFICERS**



























# **OPG GENERATION FACILITIES**



Nuclear Stations 2 🕸

Leased Nuclear Stations



Thermal Stations\*



Co-Owned Gas-Fired Stations\*\* 65

Hydroelectric Stations

Wind Power Turbine

Hydroelectric Project Under Construction\*\*\*

