ONTARIO POWER GENERATION INC.

ANNUAL INFORMATION FORM

FOR THE YEAR ENDED DECEMBER 31, 2016

March 10, 2017

ONTARIO POWER GENERATION

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Table of Contents

PRESENTATION OF INFORMATION

References in this Annual Information Form (AIF) to the "Company", the "Corporation" or "OPG" are made to Ontario Power Generation Inc. Unless otherwise noted, the information contained in this AIF is at or for the year ended December 31, 2016. Amounts are expressed in Canadian dollars unless otherwise indicated. Financial information is presented in accordance with United States generally accepted accounting principles (US GAAP). This AIF is dated March 10, 2017.

ADDITIONAL INFORMATION

Additional information relating to the Company may be found on SEDAR at www.sedar.com. Additional financial information relating to the Company is provided in the Company's annual Management's Discussion and Analysis (MD&A) and audited consolidated financial statements as at and for the year ended December 31, 2016, which is available on SEDAR at www.sedar.com or on the Company's website at www.opg.com. ***The above information is made available in accordance with legal requirements of an AIF and is not, unless otherwise specifically stated, incorporated by reference into this AIF.***

Details regarding compensation paid to directors and executive officers of the Company during the financial year ended December 31, 2016 is included in OPG's Statement of Executive Compensation (Form 51-102F6), which is available on SEDAR at www.sedar.com and is incorporated by reference herein.

FORWARD-LOOKING INFORMATION

This AIF 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. All forward-looking statements could be inaccurate to a material degree. In particular, forward-looking statements may contain assumptions such as those relating to OPG's generating station performance and availability, fuel costs, surplus baseload generation (SBG), cost of fixed asset removal and nuclear waste management, performance and earnings of investment funds, refurbishment of existing facilities, development and construction of new facilities, pension and other post-employment benefit (OPEB) obligations and funds, income taxes, proposed new legislation, the ongoing evolution of Ontario's electricity industry, environmental and other regulatory requirements, health, safety and environmental developments, business continuity events, the weather, financing and liquidity, applications to the Ontario Energy Board (OEB) for regulatory prices, the impact of regulatory decisions by the OEB, OM&A expenditures, retention of critical talent, supplier and third party performance, and project expenditures. Accordingly, undue reliance should not be placed on any forward-looking statement. The forward-looking statements included in this AIF are made only as of the date of this AIF. 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.

OPG faces various risks that could have a material adverse effect on its business, strategy, generating stations, reputation, financial condition, operating results, and generation development and other projects, as the context requires. There may be further risks and uncertainties that are not presently known, or that are not currently believed to be material, that may in the future adversely affect the Company's performance or financial condition. OPG may be exposed to a significant event that it is not fully insured or indemnified against, or to a party that fails to meet its indemnification obligations. For further details on risks faced by OPG, see *Risk Factors*.

CORPORATE STRUCTURE

OPG is an Ontario-based electricity generation company whose principal business is the generation and sale of electricity in Ontario. OPG was formed in April 1999 through the restructuring of Ontario Hydro's integrated electricity business. OPG was established under the *Business Corporations Act* (Ontario) (OBCA) and is wholly owned by the Province of Ontario (Province or Shareholder). OPG and the Province are parties to a Memorandum of Agreement (MOA) that sets out OPG's role and responsibilities. The current MOA was executed in July 2015 and reaffirmed for continuance by both the Ontario Minster of Energy and the OPG Board of Directors' Chair in the fourth quarter of 2016, as required by the MOA following a change in the Minister of Energy. For further details on the MOA, see *Interest of Management and Others in Material Transactions – Relationship with the Province and the OEFC*.

OPG's registered head office is located at 700 University Avenue, Toronto, Ontario, M5G 1X6, Canada.

OVERVIEW OF OPG

OPG is Ontario's largest clean energy generator. As at December 31, 2016, OPG operated two nuclear generating stations, three thermal generating stations, 65 hydroelectric generating stations, and one wind power turbine. The majority of OPG's generation is from its rate-regulated nuclear and rate-regulated hydroelectric stations. In addition, OPG and TransCanada Energy Ltd. co-own the 550 megawatt (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). Including its share of the co-owned facilities, OPG's total in-service generating capacity was 16,177 MW as at December 31, 2016, which represented approximately 45 percent of installed generation capacity in Ontario's electricity grid as reported by the Independent Electricity System Operator (IESO). OPG's in-service generating capacity as of December 31, 2016 excludes Unit 2 of the Darlington Nuclear GS. The unit, which has a generating capacity of 878 MW, was taken offline in mid-October 2016 and is currently undergoing refurbishment. OPG operates under an electricity generation licence issued by the OEB, which is valid until October 30, 2023. OPG expects the licence to be renewed in the future.

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) and are not included in the generation and other operating statistics set out in this AIF.

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

OPG's business operations are divided into the following business segments:

- ***Regulated – Nuclear Generation*** comprises the Pickering Nuclear GS and the Darlington Nuclear GS, which are subject to rate regulation, as well as the lease arrangement related to the Bruce nuclear generating stations;
- ***Regulated – Nuclear Waste Management*** reports the results of the Company's operations associated with the management of nuclear waste and the decommissioning of nuclear facilities;
- ***Regulated – Hydroelectric*** comprises the 54 OPG hydroelectric facilities subject to rate regulation;
- ***Contracted Generation Portfolio*** comprises the Company's generating operations that are under energy supply contracts; and
- ***Services, Trading, and Other Non-Generation*** is a non-generation segment, which is not subject to rate regulation.

Pursuant to the *Ontario Energy Board Act, 1998* and *Ontario Regulation 53/05,* OPG receives OEB-authorized regulated prices for electricity generated from the Pickering and Darlington nuclear generating stations and the 54 hydroelectric facilities prescribed for rate regulation (collectively, prescribed facilities or regulated facilities). The OEB is an independent, quasi-judicial tribunal that regulates market participants in Ontario's natural gas and electricity industries, and reports to the Legislature of the

Province through the Ontario Ministry of Energy. OPG is Ontario's only electricity generator subject to rate regulation by the OEB.

Of OPG's 54 regulated hydroelectric facilities, 48 facilities were prescribed for rate regulation effective July 1, 2014 pursuant to a November 2013 amendment to *Ontario Regulation 53/05*. The remaining six regulated hydroelectric facilities and the Pickering and Darlington nuclear generating stations have been subject to rate regulation by the OEB since 2008.

Electricity generated from most of OPG's non-regulated assets is subject to Energy Supply Agreements (ESAs) with the IESO. The IESO is a non-profit corporate entity governed by an independent Board of Directors appointed by the Province and is responsible for operating the electricity market and directing the operation of the bulk electrical system in Ontario. Effective January 1, 2015, the Ontario Power Authority (OPA), an organization previously established by the Province with a mandate to contribute to the development of a reliable and sustainable electricity system in Ontario, merged with the IESO. The new entity continued under the name IESO. The IESO is the counterparty of ESAs and other agreements that were previously executed with the OPA.

ESAs are in effect for the capacity and production from OPG's three operating thermal generating stations – the oil/gas dual-fuelled Lennox GS, the biomass powered Atikokan GS and the advanced biomass fuelled unit at the Thunder Bay GS. The results of these stations are reported under the Contracted Generation Portfolio segment. The expiry dates of these ESAs range from January 2020 to July 2024. In addition, 50-year ESAs are in place for the hydroelectric facilities reported under the Contracted Generation Portfolio segment. The hydroelectric ESAs for the operating stations have expiry dates ranging from February 2059 to January 2064. The ESAs for the contracted generating stations result in a relatively stable stream of revenues from the Contracted Generation Segment.

OPG's revenue and electricity generation by business segment for the years ended December 31, 2016, 2015 and 2014 and OPG's in-service generating capacity as at December 31, 2016, 2015 and 2014 are summarized in the table below.

		Regulated – Nuclear Generation	Regulated – Nuclear Waste Management	Regulated – Hydroelectric	Contracted Generation Portfolio [1]	Services, Trading, and Other Non-Generation
2016	Revenue *(millions of dollars)* [2]	**3,481**	**138**	**1,527**	**573**	**68**
	Electricity Generation *(terawatt hours)*	**45.6**	**N/A**	**29.5**	**3.1**	**N/A**
	In-service Generating Capacity *(MW)* [3]	**5,728**	**N/A**	**6,421**	**4,028**	**N/A**
2015	Revenue *(millions of dollars)* [2]	3,245	122	1,619	535	73
	Electricity Generation *(terawatt hours)*	44.5	N/A	30.4	3.1	N/A
	In-service Generating Capacity *(MW)*	6,606	N/A	6,428	4,021	N/A
2014	Revenue *(millions of dollars)* [2]	3,015	121	1,417	329	197
	Electricity Generation *(terawatt hours)*	48.1	N/A	31.3	2.8	N/A
	In-service Generating Capacity *(MW)*	6,606	N/A	6,426	4,027	N/A

[1] The in-service generating capacity includes OPG's share of 275 MW for PEC and 280 MW for Brighton Beach, and the electricity generation includes OPG's share of its 50 percent ownership in these stations.

[2] Revenue for each segment is shown before inter-segment elimination.

[3] Regulated – Nuclear Generation segment excludes the generating capacity of 878 MW from Unit 2 of the Darlington GS, which has been undergoing refurbishment since mid-October 2016.

For the year ended December 31, 2016, OPG's electricity generation accounted for over 50 percent of the total energy generated on Ontario's electricity grid, as reported by the IESO.

OPG is subject to a number of provincial and federal legislation and regulations, including the decisions of administrative tribunals or other regulatory bodies, and to Canada's international obligations under certain international treaties. Collectively, these sources dictate many of the constraints within which OPG is permitted to operate its facilities and manage its business.

Strategic Imperatives

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

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 are overriding priorities in all activities performed at OPG.

Project Excellence

OPG is pursuing a number of generation development and other projects in support of Ontario's electricity planning initiatives. OPG's major generation projects include the refurbishment of the Darlington GS, the construction of the Peter Sutherland Sr. hydroelectric GS, the refurbishment of the Sir Adam Beck Pump hydroelectric GS reservoir, the expansion of the Ranney Falls hydroelectric GS, and the construction of a solar facility at the Nanticoke GS site. OPG aims to be an industry leader in project management capability and performance.

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 the following 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; and
- Pursue opportunities to expand the existing core business and capitalize on new growth paths including emerging renewable energy opportunities.

Social Licence

As the largest, publicly-owned electricity generator in Ontario with geographically diverse operations, OPG holds itself accountable to the public and its employees, and continues to focus on maintaining public trust. OPG is committed to maintaining high standards of public safety and corporate citizenship, including environmental stewardship, transparency, community engagement, and Indigenous relations.

OPG has in place a Code of Business Conduct that establishes the standards, expectations, and accountabilities for ethical behaviour. All employees and all parties with whom the Company does business are expected to abide by OPG's Code of Business Conduct. A copy of the Code of Business Conduct can be found on SEDAR at www.sedar.com and also is available on the Company's website at www.opg.com.

Further details on OPG's strategic imperatives can be found in the corresponding sections of the Company's 2016 annual MD&A in the section, *Core Business, Strategy, and Outlook.*

GENERAL DEVELOPMENT OF THE BUSINESS

The following is a summary of key developments in OPG's business since January 2014.

General Development

OPG's Regulated Prices and Other OEB-Related Developments

Energy revenue generated from the Company's regulated nuclear and regulated hydroelectric facilities is based on regulated prices determined by the OEB through public proceedings. To date, the regulated prices have included a volumetric base regulated price, and volumetric rate riders for the recovery or repayment of approved variance and deferral account balances. As the regulated operations account for the majority of the Company's electricity generation, the outcomes of OPG's applications for regulated prices to the OEB determine a large portion of the Company's revenues and can have a significant impact on the Company's financial performance.

The following are the OEB-authorized regulated prices for electricity generated from the Company's regulated facilities in effect during the years ended December 31:

	2016	2015		2014	
($/megawatt hour)		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	59.29	51.52	59.29
Rate riders	**10.84** [1]	1.33	12.17 [1]	4.18	4.18
	70.13	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	40.20	35.78	40.20
Rate riders	**3.19** [1]	6.04	9.23 [1]	2.02	2.02
	43.39	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	41.93	N/A	41.93
Rate rider	**3.19** [1]	-	3.19 [1]	N/A	-
	45.12	41.93	45.12	N/A	41.93

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

Base Regulated Prices

Base regulated prices in effect in 2014 through 2016 were established using a forecast cost-of-service methodology based on OEB-approved revenue requirements, taking into account OEB-approved forecasts of production and operating costs for the regulated facilities, and a return on rate base determined using OEB's generic prescribed rate of return and an OEB-approved OPG-specific deemed capital structure. 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*, OPG's nuclear regulated prices are reduced by the amount of OPG's revenues, net of costs, from leasing the Bruce nuclear generating stations to Bruce Power. As directed by the OEB, OPG's revenues and costs related to the Bruce nuclear generating stations are determined in accordance with US GAAP for the purposes of establishing OPG's nuclear regulated prices and are subject to a variance account in accordance with *Ontario Regulation 53/05*. This includes OPG's costs related to its obligations for nuclear waste management and nuclear facilities decommissioning associated with the Bruce nuclear generating stations and the corresponding portion of the nuclear fixed asset removal and nuclear waste management segregated funds (Nuclear Segregated Funds) established pursuant to the Ontario Nuclear Funds Agreement (ONFA) between OPG and the Province.

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

The regulated prices effective November 1, 2014 for the nuclear facilities and the hydroelectric facilities prescribed for rate regulation prior to 2014 were determined by the OEB based on approved 24-month revenue requirements for the 2014 to 2015 period totaling approximately $7.3 billion. This reflected a reduction of $833 million from the revenue requirements submitted by OPG. The regulated price for the 48 hydroelectric facilities prescribed for rate regulation beginning in 2014 was established based on an approved 18-month revenue requirement for the period from July 1, 2014 to December 31, 2015 of approximately $750 million, a reduction of $101 million from OPG's submission. The most significant adjustments made by the OEB to OPG's rate request included the following:

- Allowed pension and OPEB costs were limited to the forecast 2014 and 2015 cash expenditures for these plans, which were approximately $600 million lower, including related tax impacts, than the forecast accrual costs submitted by OPG. The difference between accrual costs and cash expenditures is being recorded in a deferral account authorized by the OEB. For further details, see *General Development of the Business – General Development – OPG's Regulated Prices and Other OEB-Related Developments – Pension and OPEB Cost Recovery Methodology.*
- A reduction in overall forecast compensation costs of $100 million in each of 2014 and 2015 across all of OPG's regulated facilities.
- An increase in the forecast nuclear production of 0.5 terawatt hours (TWh) annually used to set the nuclear regulated prices, which had the effect of reducing the approved nuclear regulated price.
- The rate base addition for the Niagara Tunnel project to construct a third tunnel to divert additional water to OPG's generating stations on the Niagara River was limited to $1,365 million, which resulted in a write-off of $77 million being charged to operations in 2014.
- A reduction in the 2014 income tax expense included in the regulated prices by the amount of the regulatory tax loss calculated for 2013, which reduced the 2014/2015 revenue requirement by approximately $70 million.

In December 2014, OPG filed a motion with the OEB asking it 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 against the 2014/2015 revenue requirement. In its January

2016 decision on the motion, the OEB reversed a portion of the Niagara Tunnel project disallowance and upheld the original tax loss decision. In the first quarter of 2016, OPG recorded a gain of $22 million to recognize the expected future recovery from customers of the reversed portion of the Niagara Tunnel project disallowance.

In its November 2014 decision, the OEB adjusted the deemed capital structure applied to OPG's total regulated rate base to 45 percent equity and 55 percent debt, from 47 percent equity and 53 percent debt used previously. In making this adjustment, the OEB found that there had been an overall improvement in the risk profile of OPG's regulated operations, based on the increased proportionate share of rate base related to hydroelectric facilities. This reduced the 2014/2015 revenue requirements. In general, OPG's actual capital structure contains a significantly higher proportion of equity than has been reflected in the OEB-approved deemed capital structure, which has had the effect of reducing OPG's return on shareholder's equity.

The OEB-authorized effective date of November 1, 2014 for the base regulated prices was substantially later than the January 1, 2014 date requested by OPG. Consistent with the November 1, 2014 effective date, for the period from January 1, 2014 to October 31, 2014, OPG continued to record additions to the existing variance and deferral accounts pursuant to the OEB's previous decisions and orders, with reference to amounts embedded in the base regulated prices in effect prior to November 1, 2014.

The base regulated prices in effect prior to November 1, 2014 were established pursuant to the OEB's decision and order issued in March 2011 and April 2011, respectively. The prices had an effective date of March 1, 2011 and were based on approved 24-month revenue requirements for the nuclear facilities and the hydroelectric facilities prescribed for rate regulation prior to 2014 totaling approximately $6.7 billion.

Variance and Deferral Accounts and Rate Riders

Variance and deferral accounts are typically established by the OEB to capture, for subsequent review and approval, differences between actual costs and revenues and the corresponding forecast amounts approved by the OEB in setting regulated prices, or to record the impact of items not reflected in the approved regulated prices. Such accounts generally help to mitigate risks and uncertainties to the regulated entity and its customers.

The OEB has authorized several variance and deferral accounts for OPG, including those required by *Ontario Regulation 53/05*. The authorized accounts include, among others, those related to the gross margin impact of variability in regulated hydroelectric electricity production due to differences between the forecast and actual water conditions and due to the effect of SBG conditions, changes in liabilities for nuclear waste management and nuclear facilities decommissioning, changes in revenues and costs related to the lease and related agreements with Bruce Power for the Bruce nuclear generating stations, and variances in the revenue requirement impact of capital and non-capital costs incurred to increase the output of, refurbish, or add operating capacity to the regulated facilities, including the Darlington Refurbishment project. A number of these accounts are subject to an OEB prudence review. There is currently no regulatory variance or deferral account related to the impact of generation performance of OPG's nuclear stations on revenue from the base regulated prices. The Darlington Refurbishment project is discussed under *General Development of the Business – Nuclear Business Development – Darlington Refurbishment*.

Approved balances in the regulatory variance and deferral accounts authorized by OPG are recovered or refunded through volumetric rate riders. The additional revenue from the riders is largely offset by a corresponding increase in amortization expense related to the variance and deferral account balances, which are typically recognized as assets (amounts recoverable from customers) or liabilities (amounts payable to customers) on the Company's balance sheet. Differences in amounts recovered or repaid through rate riders due to differences between actual and forecast production volumes are recorded in separate variance accounts for future disposition.

The rate riders in effect in 2015 and 2016 included those authorized by the OEB's October 2015 order on OPG's application in 2014 to recover or repay most of the December 31, 2014 variance and deferral account balances, discussed below. The 2015 rate riders also included those established by the OEB's December 2014 order on OPG's September 2013 rate application for the period January 1, 2015 to December 31, 2015. The December 2014 order allowed for recovery of $189 million recorded in certain variance and deferral accounts as at December 31, 2013, without adjustments.

The total balances approved for recovery by the OEB's October 2015 order were approximately $1.8 billion, of which approximately $1.5 billion was the subject of an OEB-approved partial settlement agreement reached by OPG and intervenors. The remaining balances of $263 million were approved by the OEB's September 2015 decision, without adjustments. The rate riders authorized by the October 2015 order were in effect from July 1, 2015 to December 31, 2016 and allowed for recovery of $933 million of the total approved balances. The remaining approved balances will be subject to recovery after 2016, including through OPG's May 2016 application for new regulated prices, which is discussed under *General Development of the Business – General Development – OPG's Regulated Prices and Other OEB-Related Developments – OPG's 2016 Application for New Regulated Prices*.

The rate riders in effect during 2014 reflected the terms of a 2013 OEB-approved settlement agreement between OPG and intervenors, which provided for the recovery or repayment of most OEB-authorized variance and deferral account balances as at December 31, 2012. The settlement agreement provided for recovery of $633 million over the 2013/2014 period.

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 requirements for OPG's regulated nuclear facilities during the period from January 1, 2017 to the end of the Darlington Refurbishment project. The amended regulation requires the OEB to determine the revenue requirements 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 also will 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. OPG expects to recognize the deferred amounts as income in the period to which the underlying approved revenue requirements relate.

The November 2015 amendment required the portion of the approved annual nuclear revenue requirements deferred for future recovery to be determined with a view of making more stable year-over-year changes in OPG's nuclear regulated prices only. In March 2017, on OPG's recommendation, the Province amended *Ontario Regulation 53/05* to require that the deferred portion of the approved annual nuclear revenue requirements be determined with a view of making more stable year-over-year changes in OPG's weighted-average nuclear and hydroelectric regulated prices, including rate riders. The amendment is intended to make more predictable the impact on customer bills resulting from changes in OPG's overall regulated prices, reducing the average year-over-year change in customer bills over the term of OPG's May 2016 application for new regulated prices.

The regulation was also amended in November 2015 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. The LTEP is discussed under *General Development of the Business – General Development – Ontario's Long-Term Energy Plan and New Nuclear Units*.

Pension and OPEB Cost Recovery Methodology

Using the methodology previously applied by the OEB in setting OPG's regulated prices, the revenue requirements submitted by OPG in its September 2013 rate application included a forecast of 2014 and 2015 pension and OPEB costs determined on an accrual basis in accordance with US GAAP. In its November 2014 decision and December 2014 order on the application, the OEB approved revenue requirements based on OPG's estimated minimum required contributions to its registered pension plan, and a forecast of OPG's expenditures on the OPEB and supplementary pension plans. In directing this reduction in the revenue requirement, the OEB agreed with OPG and certain other parties that a generic proceeding on the regulatory treatment and recovery of pension and OPEB costs would be beneficial. The OEB also indicated that a change in the recovery methodology for OPG's pension and OPEB amounts from the accrual basis, if required, would be addressed in a future OPG rate proceeding, informed by the outcome of the generic proceeding.

Pending the generic proceeding, 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 and the corresponding actual cash expenditures for these plans. The OEB's November 2014 decision indicated that the future recovery, if any, of amounts recorded in the deferral account would be subject to the outcome of a future generic OEB proceeding on the regulatory treatment and recovery of pension and OPEB costs. The balance in the account is recognized as a regulatory asset on OPG's balance sheet.

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, which is continuing. In July 2016, the OEB held a public stakeholder forum as part of the consultation. In September 2016, OPG made a written submission of its position on the matter to the OEB. If the OEB decides that the recovery basis for OPG's pension and OPEB amounts should be changed from the accrual basis, OPG may be required to adjust the regulatory asset recorded for the Pension & OPEB Cash Versus Accrual Differential Deferral Account.

OPG's 2016 Application for New Regulated Prices

In May 2016, OPG filed a five-year application with the OEB for new base regulated prices for production from its regulated hydroelectric and nuclear facilities, with a proposed effective date of January 1, 2017. For the first time since OPG's prescribed facilities became subject to rate regulation, the new prices are expected to be determined on an incentive ratemaking methodology for the hydroelectric operations and a custom incentive regulation framework for the nuclear operations. Rate-setting under incentive regulation is typically more formulaic and involves greater de-coupling of a regulated entity's allowed revenues or prices from its costs than under a cost-of-service rate-setting methodology.

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

The proposed nuclear revenue requirements reflect OPG's plans to pursue Pickering extended operations until 2024, discussed in *General Development of the Business – Nuclear Business Development – Pickering Extended Operations to 2024*, as well as the projected impact of the scheduled return to service of the first refurbished Darlington unit in the first quarter of 2020. OPG is also seeking an increase in the deemed capital structure applied to its total regulated rate base to 49 percent equity

and 51 percent debt from 45 percent equity and 55 debt applied by the OEB in setting the existing regulated prices.

Consistent with the requirements of the November 2015 amendment to *Ontario Regulation 53/05*, OPG's application incorporated a nuclear rate smoothing proposal. The proposal would result in OPG deferring a portion of the approved nuclear revenue requirements in a deferral account for future collection. OPG is modifying the rate smoothing proposal in its application to reflect the requirements of the March 2017 amendment to the regulation. In addition, OPG's application requests new rate riders, effective January 1, 2017, to recover or repay the December 31, 2015 balances in all of the Company's OEB-authorized variance and deferral accounts, with the exception of the Pension & OPEB Cash Versus Accrual Differential Deferral Account, less amounts previously approved for recovery or repayment in 2016 through rate riders in effect to December 31, 2016. The application also requests the continuation of all applicable existing variance and deferral accounts.

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

In December 2016, the OEB issued an order granting OPG's request to declare the existing base regulated prices interim, effective January 1, 2017. This preserves the OEB's ability to make new regulated prices effective as early as January 1, 2017, which would allow OPG to recover the difference between the approved new regulated prices and the existing prices for the period between the effective date of the new prices and their implementation date based on the OEB's order. The OEB's decision on the application, including the effective date of the new regulated prices, is expected in the second half of 2017, following a public proceeding. The public proceeding is in progress, with the oral hearing portion having commenced in February 2017. Considering the timing of OPG's application and OPG's procedural adherence to date, the Company believes that the OEB could make the new regulated prices effective January 1, 2017.

Supreme Court of Canada's Decision on 2011 OEB Ruling

In September 2015, the Supreme Court of Canada (Supreme Court) issued its decision upholding the OEB's disallowance 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. This disallowance was part of the OEB's March 2011 decision on OPG's application for regulated prices effective March 1, 2011. The Supreme Court decision underscores that OPG must continue to establish the reasonableness of both committed and future costs as part of the rate-setting process.

Ontario's Fair Hydro Plan

On March 2, 2017, the Province announced Ontario's Fair Hydro Plan (the Plan) aimed at reducing electricity bills by 25 percent on average for all residential consumers in the province. As part of the Plan, the Province has proposed refinancing a portion of the Global Adjustment costs over a longer time period for Regulated Price Plan eligible customers (e.g., residential, farm, small businesses). According to the Plan, the Province intends to introduce legislation that would, if passed, enable the IESO and OPG to work together to undertake this financing. The Global Adjustment is administered by the IESO. OPG

intends to work with the Province and the IESO as part of the proposal and is exploring implementation options. Any final agreement to implement the Plan is subject to approval by OPG's Board of Directors, which has established a Special Committee to provide timely strategic and other guidance to OPG management in connection with the implementation of the Plan and to make a recommendation to the Board of Directors. The Global Adjustment includes the difference between Ontario's electricity market clearing price used to dispatch generation and the prices paid to contracted and regulated generators in the province, and the cost of conservation and demand management programs. Virtually all non-OPG generators in Ontario have bilateral contracts with the IESO that provide for payments that are different from the market clearing price of electricity, while the prices for all of OPG's nuclear and a majority of its hydroelectric generation are set by the OEB.

Renewal of Collective Agreements and Acquisition of Hydro One Limited Shares

Most of OPG's regular employees are represented by one of two unions: the Power Workers' Union (PWU) and The Society of Energy Professionals (The Society). As at December 31, 2016, the PWU represented approximately 55 percent of OPG's regular workforce, while The Society represented approximately 34 percent of the 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 previous collective agreement between OPG and The Society expired on December 31, 2015. In November 2015, the parties agreed to renew the collective agreement for a three-year term, expiring on December 31, 2018. Changes to the collective agreement included increases to employee pension plan contributions in each of the first two years of the agreement. The changes in pension plan contributions apply to current employees and future employees of both unions, and do not have an end date.

The changes to both collective agreements provided 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 Limited (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 and have less than 35 years of pensionable service. The lump sum payments and future share awards are intended to compensate current eligible employees, over a defined period, for their increased pension plan contributions.

In April 2016, OPG acquired nine million common shares of Hydro One at $23.65 per share as part of a secondary share offering by the Province through a syndicate of underwriters. The acquisition, totaling $213 million, was made for investment purposes to mitigate the risk of future price volatility related to OPG's future share delivery obligations under the collective agreements. The shares acquired in this transaction represent the substantial majority of OPG's currently anticipated purchases of Hydro One shares.

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

Ontario's Long-Term Energy Plan and New Nuclear Units

From October 2016 to December 2016, the Government of Ontario conducted a consultation process as part of the update to the LTEP, a document periodically published by the Ontario Ministry of Energy to outline the Province's long-term plans for the future development of Ontario's electricity system. OPG made a formal submission as part of the consultation as it relates to OPG's core generation business and growth opportunities. The Ontario Ministry of Energy has indicated that the development of the updated LTEP, scheduled to be published in 2017, will balance the principles of affordability, reliability, clean

energy, community and Indigenous engagement, as well as conservation and demand management. OPG's business growth opportunities may be affected by the results of the 2017 LTEP.

The last LTEP was released by the Government of Ontario in December 2013. Key elements of the 2013 LTEP that impacted OPG included the planned refurbishment of the four-unit Darlington GS, Bruce Power's planned refurbishment of the six un-refurbished units of the Bruce nuclear generating stations, and the Province's encouragement of OPG to explore new business lines and opportunities inside and outside Ontario. The 2013 LTEP indicated that by 2025, 20,000 MW of renewable energy would be online, representing about one half of Ontario's installed capacity, including 10,700 MW of wind, solar, and bioenergy capacity by 2021 and 9,300 MW of hydroelectric capacity by 2025.

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

Since the issuance of the 2013 LTEP, the Province has confirmed that it will proceed with OPG's refurbishment of the Darlington GS, approved OPG's plans to pursue the continued safe and reliable operation of two units at the Pickering GS to 2022 with the four remaining units continuing to operate until 2024, and announced an updated agreement between the IESO and Bruce Power that provides for the refurbishment of the six un-refurbished units of the Bruce nuclear generating stations. These developments are discussed further in *General Development of the Business – Nuclear Business Development*.

Shareholder Declarations and Shareholder Resolutions to Sell Certain Real Estate Properties

In December 2015, OPG received a Shareholder Declaration and a Shareholder Resolution that requires the Company to sell its head office premises and associated parking facility located at 700 University Avenue and 40 Murray Street in Toronto, Ontario. An active program to locate a buyer for these real estate assets was initiated in October 2016, and a purchase and sale agreement was executed in December 2016. The sale is expected to be completed during the second quarter of 2017.

In June 2016, OPG received a Shareholder Declaration and a Shareholder Resolution that requires the Company to sell its former Lakeview GS site located in Mississauga, Ontario. OPG is in the process of preparing the site for sale.

Pursuant to both Shareholder Declarations and Shareholder Resolutions, and as prescribed in the *Trillium Trust Act (2014)*, OPG is required to transfer the proceeds, net of prescribed deductions under the act, from disposition of the above assets into the Province's Consolidated Revenue Fund. Neither the former Lakeview GS site nor the Company's head office premises and associated parking facility are considered core assets to OPG's business.

For a complete list of Shareholder directives, see *Interest of Management and Others in Material Transactions – Relationship with the Province and the OEFC – Shareholder Directives*.

Business Transformation

OPG has completed a multi-year initiative with the objective of transforming itself into a more streamlined, agile and efficient organization. The business transformation initiative was intended to drive sustainable change across the Company, while ensuring that there is no adverse impact on the safety, reliability and

environmental sustainability of OPG's operations. OPG's cumulative savings from reductions in regular headcount from ongoing operations, through the business transformation and other initiatives, since the beginning of 2011, reached $1 billion in 2016.

The business transformation initiative involved aggressively pursuing cost control and efficiency improvements at the enterprise and business unit level, including realignment of work, streamlining of processes and leveraging workforce attrition. As part of the initiative, OPG implemented a centre-led organizational model intended to more efficiently utilize resources. In 2015, OPG successfully completed a large-scale initiative, the Enterprise System Consolidation Project, to streamline the company's software systems and improve business processes by implementing a common enterprise software platform.

Although business transformation has concluded as a discrete initiative, improving organizational performance and building on efficiency gains achieved to date remains a key priority for the Company. OPG continues to review its cost structure, identify cost improvement strategies and embed an outcomes-driven culture that reinforces low cost, efficiency, and organizational agility as part of business decision-making.

Nuclear Business Development

Darlington Refurbishment

Government's Endorsement and Transition to Execution Phase

The Darlington generating units are forecast to be approaching their originally designed end-of-life. Refurbishment of the four generating units is expected to extend the operating life of the station by approximately 30 years, into the 2050s. In January 2016, the Government of Ontario's support for the Darlington Refurbishment project was affirmed through the Ontario Minister of Energy's announcement endorsing OPG's plan to refurbish the four Darlington units at a total project budget of $12.8 billion, including capitalized interest and escalation. The Province's announcement followed the approval of the project budget and schedule by OPG's Board of Directors in November 2015. The refurbishment of the last unit is scheduled to be completed by 2026. *Ontario Regulation 53/05* requires the OEB to ensure that OPG recovers capital and non-capital costs and firm financial commitments in respect of the Darlington Refurbishment project, if the OEB is satisfied that the costs were prudently incurred and that the firm financial commitments were prudently made.

The refurbishment project is a multi-phase program comprising several sub-projects. The major work streams include: de-fuelling of reactors and refurbishment of the fuel handling equipment; removal and replacement of feeder tubes and fuel channel assemblies in each reactor (Retube and Feeder Replacement or RFR); inspections and repairs of turbine generator sets and replacement of associated control systems; mechanical cleaning, water lancing, and inspection and maintenance work on steam generators; and replacement or repairs of certain other station components referred to as balance of plant. The RFR is the largest sub-project and represents a majority of the critical path schedule.

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

Once refurbished, Unit 2 is scheduled to be returned to service in the first quarter of 2020, at which time capital expenditures of approximately $4.8 billion are planned to be placed in service. This includes expenditures incurred during the definition and planning phase of the project.

Preparation and execution activities on the major sub-projects and the planned deliveries of the major reactor components, including fuel channels and feeder tubes, are tracking in line with the project schedule. Detailed engineering design for the project has been substantially completed.

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

Major pre-requisite and preparatory work completed since the beginning of 2014 includes the following:

- A training and reactor mock-up facility was completed in 2014, allowing for simulation and training for refurbishment execution tasks.
- In November 2015, the Refurbishment Project Office was completed. The facility acts as a secure entry point and provides supporting facilities for refurbishment personnel.
- The RFR Island Support Annex was completed in February 2016. The facility houses RFR field preparatory, contractor management, and project oversight activities.
- The specialized tooling for removal and replacement of feeder tubes and fuel channel assemblies in each reactor was delivered to OPG's reactor training and mock-up facility in the second quarter of 2016, as planned, and testing of the tooling has been completed.
- All 28 storage tanks have been installed in the Heavy Water Storage and Drum Handling Facility, which is intended to provide storage and processing capability for the removal of heavy water from the units during refurbishment, as well as for continued station operations.

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

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

CNSC Regulatory Approvals

In December 2013, OPG submitted an application to the CNSC for the operating licence renewal for the Darlington GS. The CNSC granted the Darlington GS a 10-year operating licence in December 2015, 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, spans most of the planned duration of the Darlington Refurbishment project.

In line with CNSC's regulatory requirements related to life extensions of nuclear power plants in effect at the time that OPG began to undertake the Darlington Refurbishment project, OPG completed a series of assessments, including an EA, an Integrated Safety Review, and a Global Assessment Report (GAR). The EA decision, issued by the CNSC and Fisheries and Oceans Canada in March 2013 following public hearings, confirmed that, taking into account identified mitigation measures, the project was not likely to cause significant adverse environmental effects. In April 2014, the CNSC accepted the GAR as meeting all regulatory requirements related to life extensions of nuclear power plants. In November 2014 and April 2016, respectively, certain intervenors' request for a judicial review and subsequent appeal to the Federal Court of Appeal related to the EA decision were dismissed by the courts.

Actions identified as part of the above assessments 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, were integrated into an Integrated Implementation Plan (IIP). As part of the Darlington operating licence renewal in December 2015, the CNSC approved the regulatory scope defined in the IIP. OPG has been undertaking activities in support of the IIP requirements, including the commissioning of

two safety enhancements at the station, the Third Emergency Power Generator and the Containment Filtered Venting System, which were originally scheduled to be placed in-service in 2016. Remediation measures are in progress and OPG expects to place both projects in-service by the second quarter of 2017. These delays will not impact the overall Darlington Refurbishment project schedule, as neither of the two projects is on the critical path.

Pickering Extended Operations to 2024

In 2015, OPG completed the necessary work to demonstrate with sufficient confidence that the Pickering fuel channel life, a key life-limiting component of the station, will allow all six operating units of the station to operate to the end of 2020. OPG's early technical work at that time also showed that the Pickering GS can be operated safely beyond 2020. In January 2016, OPG announced its plan to pursue continued safe and reliable operation of the Pickering GS beyond 2020. OPG's objective is to maximize the safe and reliable operating life of the Pickering units. Under OPG's current plan, all six operating units at the station would operate until 2022, at which point two units would be shut down and the remaining four units would continue to operate until 2024. The Province announced its approval of OPG's plan to pursue continued operation of the Pickering GS beyond 2020 up to 2024 in January 2016. Extending operations at the Pickering GS will provide Ontario with a clean, reliable source of baseload electricity during the Darlington GS and initial Bruce nuclear unit refurbishments, providing continued employment to approximately 3,000 regular employees at OPG.

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

As part of the plan to extend operations, OPG is continuing to undertake further technical work to confirm that the Pickering pressure tubes will achieve the additional life necessary to operate to 2024. OPG also is conducting component condition assessments to identify the work required to support the continued operation of the station.

Bruce Power Refurbishment and Bruce Lease Agreement

OPG leases the four-unit Bruce A (Units 1-4) and the four-unit Bruce B (Units 5-8) nuclear generating stations and associated lands and facilities to Bruce Power on a long-term basis. Bruce Units 1 and 2 were refurbished by Bruce Power under a refurbishment agreement with the IESO and returned to service in 2012. While Bruce Power is responsible for operating all of the leased units, OPG is primarily responsible for the management of the nuclear used fuel and other nuclear waste associated with the Bruce nuclear generating facilities, as well as the decommissioning of the facilities at the Bruce site. Under the lease agreement between Bruce Power and OPG (Bruce Lease) and related agreements, OPG receives base rent and supplemental rent payments from Bruce Power, fees for nuclear waste management other than used fuel, and fees for certain other services. The output from the Bruce nuclear generating stations is not subject to rate regulation by the OEB.

In December 2015, the Province announced that the refurbishment agreement between the IESO and Bruce Power had been updated and that Bruce Power will proceed with the refurbishment of the six un-refurbished units of the Bruce nuclear generating stations. In order to facilitate 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 supplemental rent payments and fees for nuclear waste management other than used fuel, and to modify the fee structure for OPG's heavy water detritiation services starting in 2017. Beginning in

2016, supplemental rent payments wholly represent fees for nuclear used fuel management. Amendments were also made to enable certain adjustments to future base rent, supplemental 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. Certain of the above amendments were executed by OPG pursuant to a Shareholder Declaration and Shareholder Resolutions issued in November 2015. For a complete list of Shareholder directives, see *Interest of Management and Others in Material Transactions – Relationship with the Province and the OEFC – Shareholder Directives*.

Ontario Nuclear Funds Agreement Reference Plan Update

OPG is responsible for the management of radioactive used nuclear fuel and low and intermediated level radioactive waste material (L&ILW) and the decommissioning of its nuclear stations and waste management facilities. Pursuant to the ONFA, OPG is required to set aside monies into two segregated funds, the Used Fuel Segregated Fund and the Decommissioning Segregated Fund to fund the future life cycle costs of long-term nuclear used fuel and L&ILW management and nuclear facilities decommissioning. OPG's required contributions to the Nuclear Segregated Funds are determined based on periodically updated reference plans approved by the Province under the ONFA, at least once every five years. As part of the reference plan update process, OPG estimates the total funding liabilities for future nuclear waste management and nuclear decommissioning based on life cycle cost estimates and a set of underpinning assumptions, including remaining useful lives of the nuclear stations, proposed methods and timing of nuclear waste disposal, and economic indicators. In accordance with US GAAP, OPG carries a present value asset retirement obligation on the balance sheet related to its nuclear waste management and nuclear decommissioning liabilities. In accordance with *Ontario Regulation 53/05*, the OEB is required to ensure that OPG recovers the revenue requirement impact of its nuclear waste management and nuclear decommissioning liabilities arising from the current approved ONFA reference plan. The current methodology applied by the OEB for including OPG's costs associated with these liabilities in the regulated prices was established by the OEB in its 2008 decision on OPG's first application for new regulated prices.

In 2016, OPG completed a comprehensive update of the estimate for its obligations for nuclear waste management and nuclear facilities decommissioning, in line with the required ONFA reference plan update process. The results of the update were reflected in a new ONFA reference plan, for years 2017 to 2021, as well as a downward adjustment in the asset retirement obligation carried on OPG's balance sheet as at December 31, 2016. The 2017-2021 ONFA reference plan was approved by the Province in December 2016, with an effective date of January 1, 2017 (the 2017 ONFA Reference Plan). Reflecting the funded status of the Used Fuel Segregated Fund and the Decommissioning Segregated Fund based on the revised lower life cycle liability estimates per the 2017 ONFA Reference Plan, no overall contributions to either the Used Fuel Segregated Fund or the Decommissioning Segregated Fund are currently required starting in 2017. Contributions may be required in the future should either or both of the funds be in an underfunded position when a new reference plan is approved. Such may be the case as a result of future variability in asset performance due to volatility inherent in financial markets and economic conditions. Future contribution levels also are dependent on changes in baseline cost estimates and underpinning planning assumptions used to establish the funding obligations in subsequent ONFA reference plans.

The overall reduction in OPG's nuclear waste management and nuclear decommissioning liabilities from the comprehensive update was mainly due to a decrease in cost estimates to reflect a proposed new, more cost effective container design and engineered barrier concept to house used nuclear fuel for disposal, updated cost escalation rates, and a later expected in-service date for Nuclear Waste Management Organization's (NWMO) planned deep geologic repository for the long-term permanent disposal of Canada's used nuclear fuel. These decreases were partly offset by higher cost estimates related to station decommissioning, primarily due to a better definition of work required during the preparation for safe storage after station shutdown and a higher volume of waste expected to be generated during the decommissioning.

For further details on OPG's nuclear waste management and nuclear decommissioning obligations, the ONFA and proposed methods for long-term used fuel and L&ILW disposal, see *Description of the Business – Regulated – Nuclear Waste Management Segment.*

Hydroelectric Business Development

Lower Mattagami Generating Stations

The Lower Mattagami River project added one additional generating unit at each of OPG's existing Little Long, Harmon, and Kipling generating stations, and replaced the existing generating station at the Smoky Falls site with a new three-unit station. All six new generating units were placed in-service in 2014, ahead of the target completion date of June 2015. The cost of the project after the completion of closure activities was within the approved budget of $2.6 billion. The project increased the capacity of the four generating stations on the Lower Mattagami River by 438 MW. The stations are operating under a 50-year ESA with the IESO. The last tranche of the project financing was issued in October 2016.

Peter Sutherland Sr. Hydroelectric Generating Station

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 New Post Creek near its outlet to the Abitibi River, with a budget of $300 million. The station is being 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 50-year hydroelectric ESA was executed by the IESO and the partnership for the development of the station and the supply of electricity and related products to the Ontario market. The ESA's 50-year term takes effect once the station achieves commercial operation.

Construction work on the project commenced in the second quarter of 2015, and project financing was completed in October 2015. Commissioning of the generating station began in February 2017. The station is expected to be in service in the spring of 2017, well ahead of the originally planned schedule of the first half of 2018. The project's schedule was accelerated to take advantage of favourable weather conditions. The project is tracking within the approved budget.

Sir Adam Beck Pump Generating Station Reservoir Refurbishment

In August 2015, OPG's Board of Directors approved a project to refurbish the 300-hectare storage reservoir at the Sir Adam Beck Pump GS. The Sir Adam Beck Pump GS facility allows OPG to pump and store water diverted from the Sir Adam Beck generating complex during periods of low electricity demand to be used to generate up to 600 MW of electricity during subsequent periods of high electricity demand.

The refurbishment construction began in April 2016 and was completed in February 2017, ahead of the originally planned schedule date of April 2017 and below the approved budget of $58 million. The reservoir refurbishment work included the installation of a partial new reservoir liner and construction of a grout curtain in the bedrock foundation of the reservoir dyke. The refurbishment is expected to add approximately 50 more years to the reservoir's life.

Ranney Falls Hydroelectric Generating Station

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

Thermal and Solar Business Development

Biomass Conversions at Atikokan and Thunder Bay Generating Stations

In April 2014, OPG ended coal-fired generation at the Thunder Bay GS, which marked the end of coal-fired generation in Ontario.

Following the cessation of coal-fired generation, OPG completed the conversion of the Atikokan GS to biomass in August 2014 and one unit at the Thunder Bay GS to advanced biomass in January 2015. The Atikokan GS is currently the largest generating station in North America fuelled by 100 percent biomass, a sustainable fuel recognized as beneficial to climate change mitigation, with an in-service capacity of 205 MW. The converted Thunder Bay unit has 153 MW of in-service capacity using advanced biomass fuel. Advanced biomass fuel is wood-based fuel that is thermally treated to allow it to be stored outdoors and withstand exposure to the weather, and contains significantly less nitrogen oxide and sulphur dioxide compared to coal emissions. Both conversion projects were completed ahead of schedule and within the approved cost estimates, and are operating under ESAs with the IESO.

Nanticoke Solar Facility

In March 2016, Nanticoke Solar LP, then a partnership between OPG, SunEdison Canadian Construction LP (SECCLP) and a subsidiary of Six Nations of the Grand River Development Corporation, was selected through the first phase of IESO's Large Renewable Procurement (LRP) program to develop a 44 MW solar facility at OPG's Nanticoke GS site and adjacent lands in Haldimand County, Ontario. The LRP program was a competitive bidding process for procuring large renewable energy projects in Ontario. In March 2016, Nanticoke Solar LP and the IESO executed a 20-year LRP contract, which formalized the terms and conditions for the development and operation of the new solar facility. In the first quarter of 2017, OPG purchased SECCLP's interests in Nanticoke Solar LP and is working to obtain approvals and permits required to enable the commencement of construction planned for the first half of 2018. The 20-year term of the LRP contract takes effect once the station achieves commercial operation, which is expected in the first quarter of 2019.

Decommissioning of Lambton and Nanticoke Coal-Fired Generating Stations

OPG ceased coal-fired generation at the Lambton and Nanticoke generating stations in September 2013 and December 2013, respectively. In November 2016 and July 2015, respectively, OPG announced that it would decommission the Lambton and Nanticoke generating stations as it could not commercially support continued preservation of these sites in light of the outlook for long-term electricity demand in the province that does not support the need for their future conversion. OPG is developing decommissioning plans for these two stations, which will ensure that they are closed safely, securely, and in an environmentally responsible manner. The decommissioning plan for the Nanticoke GS will accommodate the construction and operation of the Nanticoke solar facility.

DESCRIPTION OF THE BUSINESS

The Electricity Industry

The electricity industry is principally comprised of four components: generation, transmission, distribution, and marketing of energy and other services in wholesale and retail markets.

Generation is the production of electricity. Transmission is the transfer of electricity across high-voltage power lines from generating facilities to local areas. Distribution is the delivery of electricity within local areas to homes and businesses using relatively low-voltage power lines. Energy marketing relates to the purchase of large amounts of electricity or equivalent financial products, and the subsequent re-selling in smaller quantities to third parties in either the wholesale or retail markets.

Electricity has traditionally been generated in large, multi-unit, centralized facilities. These facilities are usually classified by: (i) the type of fuel used; (ii) capacity, typically expressed in MW; and (iii) dispatch mode (being whether or not the electricity generated by a particular facility is dispatched to meet peak, intermediate or baseload demand). The energy produced by a facility is generally expressed as its output over the time the facility operates, typically in terms of MWh. Increasingly, new supply from smaller scale, largely intermittent, renewable sources such as wind, solar, and bio-energy is being integrated into the power system, connected either directly to the transmission system or embedded in distribution networks. Distributed generation involves production of electricity closer to end users and away from large scale production facilities that require more transmission. Electricity systems typically require new capital expenditures and processes in order to accommodate intermittent generators.

Electricity is an essential commodity that cannot be stored without converting to other forms, a process that is more difficult in large volumes. Therefore, electricity supply must instantaneously match demand to maintain the stability and reliability of the electrical power system. This is accomplished by coordinating the supply of and demand for electricity, a responsibility typically assigned to regulated regional system operators. Electricity systems have evolved on a regional basis and are connected to neighbouring regional power grids. Such connections enhance system reliability and permit the economic purchase and sale of electricity between electricity markets.

Ontario's Electricity Industry

OPG's predecessor, Ontario Hydro, served as a vertically integrated electric utility in Ontario. Following the adoption of a restructuring plan for Ontario's electricity industry pursuant to the *Energy Competition Act, 1998,* five principal successors to Ontario Hydro's integrated electricity business began operating as separate entities on April 1, 1999:

- OPG, which purchased and assumed the electricity generation, wholesale energy, and ancillary services businesses of Ontario Hydro;
- Hydro One, which purchased and assumed the transmission, distribution, and retail energy services businesses of Ontario Hydro;
- the Independent Electricity Market Operator (later renamed the IESO), which was formed to act as both the independent electricity system operator and the market operator. The IESO is responsible for the dispatch of generation to meet demand, the control of the Ontario transmission grid, and the operation of energy and ancillary markets;
- the Electrical Safety Authority, which was established to carry out electrical equipment and electrical wiring safety and inspection functions; and
- the Ontario Electricity Financial Corporation (OEFC), which is the legal continuation of the former Ontario Hydro and is responsible for managing the debt and certain other obligations not transferred to other successor companies of Ontario Hydro.

OPG purchased and assumed all of the interest of Ontario Hydro in and to all officers, employees, assets, liabilities, rights and obligations of Ontario Hydro directly or indirectly relating in any manner to the applicable activities carried on by Ontario Hydro as of April 1, 1999, pursuant to the transfer orders made by Order-in-Council under the *Electricity Act, 1998*. The transfer orders provide that if they fail for any reason to fully and effectively in law transfer any such asset, right, liability or obligation or that if such transfer would constitute a breach of the terms of the asset, right, liability or obligation or of any applicable law, such assets, rights, liabilities or obligations are not transferred, but are held by the OEFC for the benefit of OPG.

Ontario's competitive electricity market was opened by the IESO in 2002. The market is used to manage the purchase and sale of wholesale electricity in the province.

Since the opening of the competitive market, Ontario's power supply mix has experienced significant change. A significant amount of new capacity has been added, while coal-fired generation, which at its peak accounted for approximately 6,500 MW of capacity, has been eliminated. New natural gas powered capacity of approximately 5,000 MW as of the end of 2016 has largely replaced the peaking capacity previously provided by coal-fired generation, while the return to service of Units 1 and 2 at the Bruce A GS in 2012 added approximately 1,500 MW of baseload nuclear generation. New wind and solar capacity of over 6,700 MW has also been added as of the end of 2016, toward the longer-term targets set out in Ontario's 2013 LTEP. In September 2016, the Government of Ontario suspended the planned second phase of the IESO's LRP procurement process for over 1,000 MW of additional renewable generation capacity that was about to begin. The updated LTEP, scheduled to be released in 2017, is expected to include revised plans and targets for renewable generation in Ontario.

While electricity supply in Ontario has increased, the province's electricity demand as reported by the IESO has fallen, by approximately 9 percent over the last decade, largely due to changes in economic conditions and conservation measures, and also in part due to the addition of small scale solar generation embedded in the distribution system. Embedded generation reduces the demand supplied by grid-connected generation. Reducing electricity demand by encouraging conservation and demand management has been a key part of the Government of Ontario's plan to reduce greenhouse gas (GHG) emissions from the province's electricity sector. Shorter-term fluctuations in electricity demand are impacted by variations in seasonal weather conditions. Ontario's electricity demand as reported by the IESO was 137.0 TWh in 2016, which excludes electricity exports out of the province.

For further details on the LTEP, refer to *General Development of the Business – General Development – Ontario's Long-Term Energy Plan and New Nuclear Units.*

Ontario Electricity Market Activities

Real-time energy supply needs are met through the wholesale electricity market administered by the IESO, with the market clearing price, the Hourly Ontario Energy Price, set by offers or bids into the market. OPG offers its generation into this real-time energy market, or spot market, to be dispatched by the IESO. The IESO receives hourly offers from electricity generators and importers to provide energy, along with bids to withdraw energy from a few flexible loads and exporters, and then schedules the lowest-cost offers and bids needed to meet demand every five minutes.

Virtually all non-OPG generators in Ontario have bilateral contracts with the IESO that provide for payments that are different from the market price of electricity. In addition, the prices for all of OPG's nuclear and most of its hydroelectric stations are set by the OEB. The difference between the market price and the prices paid for regulated and contracted generation, as well the cost of conservation and demand management programs, are charged to Ontario electricity consumers through the Global Adjustment portion of the total price of electricity.

Maintaining power system reliability requires a continuous balance of supply and demand. Some generators are needed to produce a constant supply of energy to meet basic energy needs (baseload generation), while others are needed to adjust energy output to match changes in demand (peaking and intermediate generation). OPG's nuclear generating stations operate as baseload facilities, whereas its hydroelectric stations operate as baseload, intermediate or peaking stations, depending on their physical characteristics and hydrological conditions. OPG's thermal stations operate as peaking facilities.

SBG occurs when electricity production from the baseload facilities is greater than the market demand for electricity. Baseload generation supply surplus in Ontario is managed by the IESO, mainly through generation reductions at hydroelectric and certain nuclear stations and other grid-connected renewable resources. The prevalence of SBG conditions is impacted by weather conditions which affect electricity demand, wind and solar generation quantities, and through the impact on water flows, the availability of hydroelectric power. In 2016, OPG lost 4.7 TWh of hydroelectric generation due to SBG conditions. In 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 due to SBG conditions,

which represents the majority of such production forgone by OPG to date, has been offset by a regulatory variance account authorized by the OEB. During 2016 and 2015, generation losses at OPG's regulated hydroelectric stations due to SBG conditions were 4.3 TWh and 2.8 TWh, respectively. For the portion of 2014 that these stations were subject to regulated prices, such generation losses totalled 1.9 TWh.

The OEB has authorized an additional pricing mechanism for OPG's regulated hydroelectric generation that provides a financial incentive to OPG to shift hydroelectric generation from lower market price periods to higher market price periods. This is intended to benefit customers through the displacement of generation from the relatively higher cost sources such as natural gas. The time-shifting is made possible by the ability to store water in reservoirs located at a number of OPG's hydroelectric facilities, including the Sir Adam Beck Pump GS.

The IESO also administers the operating reserve market and a market for ancillary services. The objective of the operating reserve market is to ensure that additional supplies of energy are available to maintain power system reliability following an unforeseen event. Ancillary services include regulation service, reactive support, black start capacity, and other services required to maintain the reliability of the Ontario electricity system. OPG participates in these markets. Revenues earned by OPG's regulated facilities from providing services into these markets are applied by the OEB to reduce regulated prices for electricity generated from these facilities.

OPG and other Ontario electricity market participants are required to comply with market rules issued by the IESO. As an owner and operator of generating stations, OPG is also subject to reliability standards as set out by the North American Electric Reliability Corporation (NERC), Northeast Power Coordinating Council (NPCC) and the IESO. NERC, NPCC and IESO are standards authorities with the ability to create or modify reliability standards. Such standards are binding on OPG pursuant to the OEB-issued electricity generating license and the IESO market rules. The IESO monitors compliance with and enforces the market rules and coordinates with system operators and reliability agencies in other jurisdictions to ensure energy adequacy and security across the interconnected bulk electricity market in North America.

Interconnected Markets

The interconnected markets are electricity markets in neighbouring provinces and states whose transmission systems are connected to the Ontario power grid, either directly or through other contiguous interconnected markets. Ontario's market is interconnected with the United States (U.S.) northeast, U.S. midwest, Manitoba, and Québec. Market intermediaries wishing to import or export electricity between Ontario and the interconnected markets are required to schedule these transactions through the Ontario spot market. OPG and its wholly owned subsidiary, OPG Energy Trading (OPGET), participate in the interconnected markets. For further details on OPGET, see *Description of the Business – Services, Trading, and Other Non-Generation Segment.*

Interconnection transmission capabilities between Ontario and the interconnected markets are subject to physical and weather dependent limitations. These limitations include planned or forced outages to transmission lines and other equipment that reduce transmission capacity. They also include wind and temperature conditions that affect the transfer capability of all transmission lines on the electrical system. For example, higher ambient air temperature lowers capacity, while higher wind speeds increase capacity. Overall power system parameters and conditions also can result in limitations on particular interties, being one or more transmission lines that connect Ontario to a neighbouring region. For example, high flow on one intertie may result in a reduction in the limit on another intertie.

Water Rights

OPG's management of available water resources directly affects the generation output, efficiency, and ultimately return on investment for the Company's hydroelectric assets. The watersheds on which OPG's hydroelectric generating facilities are located are shared by many users and are subject to various governance requirements, such as international, federal and provincial agreements, water power leases, and regulations. Accordingly, OPG must balance the economic, environmental, social and legal requirements associated with the watersheds when utilizing water to optimize electricity generation.

International Rivers

The six OPG hydroelectric generating stations subject to OEB rate regulation since 2008 are directly or indirectly supplied by two major international waterways, the Niagara River and the St. Lawrence River, and are subject to treaties with the U.S. relating to water use. These stations represent approximately 45 percent of OPG's total in-service hydroelectric capacity.

Through a series of agreements between the Government of Canada and the Province, and certain federal and provincial laws, OPG has been granted the right to exercise Canada's rights with respect to the construction, maintenance, and operation of generating facilities under the *Boundary Waters Treaty of 1909* and the *Niagara Diversion Treaty of 1950* between Canada and the U.S. Both of these treaties continue in perpetuity but are terminable by either party with 12 months prior written notice. Given the significance of these treaties, OPG does not expect either party to exercise their respective termination rights in the foreseeable future.

The *Boundary Waters Treaty of 1909* established the International Joint Commission with the mandate of regulating shared water uses and preventing and resolving disputes between U.S. and Canada. In December 2016, the International Joint Commission issued an order implementing a new plan to manage water levels and flows in Lake Ontario and the St. Lawrence River, effective January 7, 2017. The new plan, which replaced the existing plan in use since 1963, is intended to allow for more natural water levels, while minimizing impacts to other users, including hydroelectric power production. No significant changes in OPG's operations are expected as a result of the new plan.

The *Niagara Parks Act* (Ontario) gives the Niagara Parks Commission the authority to grant certain rights for the use of the waters of the Niagara River for purposes of power generation. By agreement with OPG, the Niagara Parks Commission has agreed not to grant any rights to third parties until after 2056.

Under an agreement between OPG and the St. Lawrence Seaway Management Corporation, a federal agency, the DeCew Falls generating stations use water that is transported along the Welland Canal from Lake Erie. The agreement has been renewed through June 30, 2038.

The Province has granted OPG the right to use water from the International Rapids section of the St. Lawrence River for power generation at the R.H. Saunders GS, subject to an agreement between the Government of Canada and the Province. The Government of Canada has the right, upon notice and after unsuccessful arbitration, to take over the operation of and title to the R.H. Saunders GS in the unlikely event of a breach of the agreement by the Province.

Interprovincial Rivers

Four of OPG's hydroelectric stations are located on the Ottawa River, which forms part of the Ontario-Québec border. These stations represent approximately 12 percent of OPG's total in-service hydroelectric capacity. Three of these stations are subject to 999-year leases with each of the Provinces of Ontario and Québec. The fourth station is subject to a water power lease with the Province of Ontario, which is renewable to 2031, subject to certain conditions. OPG's use of water from the Ottawa River basin is subject to guidelines established by the Ottawa River Regulation Planning Board, comprised of government and industry representatives.

Interior Rivers

Fifty-five of OPG's hydroelectric stations, representing approximately 43 percent of OPG's total in-service hydroelectric capacity, are located on 20 other Ontario river systems. OPG holds water power leases, Crown leases and licences with the Province on the river systems that supply 37 of these stations. These leases and licences have expiry dates, including renewal periods, ranging between 2023 and 2075. Certain of these leases provide that the leased property and any fixed improvements, including generating stations and dams, will revert to the Province on the expiry of the lease. OPG intends to work towards new leases and licenses for these stations. OPG's use of Ontario's interior watersheds is constrained by restrictions contained in certain of the water power leases and licences. Eight of the 55 stations are located on the Trent and Rideau Waterways and are operated pursuant to licences from the federal government. These licences expire in February 2020. The process to renew the licences is currently underway with Parks Canada. Ten of the 55 stations are not subject to leases or licences.

The current provincial regulatory framework requires the development of Operational Plans for new storage dams and generating stations in Ontario, except for those on international rivers, interprovincial rivers, or rivers under federal jurisdiction. These plans include any limitations on water flows and elevations, and historically have been a component of formal Water Management Plans (WMPs). WMPs were established under the *Lakes and Rivers Improvement Act* (Ontario) and *Water Management Planning Guidelines for Waterpower (2002)*, on a watershed basis, in consultation with the Ontario Ministry of Natural Resources and Forestry (MNRF), federal fisheries authorities, and stakeholders, such as recreational and commercial users, local communities, environmental groups, and Indigenous groups. In October 2016, the MNRF published a Technical Bulletin, *Maintaining Water Management Plans (2016),* eliminating the need for WMPs where they are not already in place, removing the expiry date from existing WMPs, and outlining the requirements for Operational Plans for new waterpower works going forward. Existing WMPs continue to be in effect. WMPs and Operational Plans may be amended as certain conditions change or new data becomes available. OPG operates in compliance with WMPs and Operational Plans.

The operations of certain OPG stations in northwestern Ontario can impact users in Manitoba and are subject to guidelines and directions provided by the Lake of the Woods Control Board, which is comprised of Ontario, Manitoba and federal government representatives.

Dams and Waterways

In Canada, dams fall under provincial jurisdiction, with the exception of dams situated in interprovincial and international boundary waters and canals, and those owned by the Government of Canada. The majority of OPG's dams fall within the jurisdiction of the Province, with approximately 20 dams falling within the jurisdiction of the Province of Québec and 13 dams associated with the Trent-Severn and Rideau Waterways falling under federal jurisdiction. The International Joint Commission has an oversight role for dams and associated works on international boundary waters, including the St. Lawrence River and the Niagara River.

The Province regulates dams under the *Lakes and Rivers Improvement Act* (Ontario) administered by the MNRF. The legislation requires MNRF approval for activities such as the construction, alteration, improvement, or repair of dams.

In August 2011, the MNRF published a revised set of Technical Guidelines for dams, following a period of public consultation. The Technical Guidelines represent the government standards for dam safety. OPG was an active participant in developing the Technical Guidelines through the MNRF's advisory panel. In general, OPG practices in the area of dam safety and public safety around dams exceed the minimum requirements outlined in the Technical Guidelines. In cooperation with the MNRF, OPG is developing a new risk-informed approach to prioritize the outcomes of dam safety assessments.

Currently, there is no federal or provincial regulation with respect to public safety around dams that addresses dam public safety issues relating to changes in operating water levels, discharges from the

hydroelectric or dam facilities, and other waterways-based hazards posed by such facilities. The *Navigation Protection Act* (Canada) does, however, require OPG to obtain approvals for the installation of all in-water works, such as safety booms and buoys associated with the OPG Waterways Public Safety Program. For additional details on OPG's Dam Safety and Waterways Public Safety Programs, see *Description of the Business – Workplace Safety and Public Safety – Dam Safety and Waterways Public Safety*.

Generation Operations

Nuclear (Regulated – Nuclear Generation Segment)

Overview of Generating Facilities

OPG owns and operates two nuclear generating stations, the results of which are reported in the Regulated – Nuclear Generation business segment. The Pickering GS, comprised of six operating units and two units in a permanent safe shutdown state, is located on the shore of Lake Ontario in Pickering, Ontario. As at December 31, 2016, the station's total in-service capacity was 3,094 MW. Four of the eight Pickering units originally went into service in the 1970s. A decision was made by Ontario Hydro in the late 1990s to place these four units in voluntary lay-up. In 2003 and 2005, respectively, two of the four laid-up units were returned to commercial operation, with the two remaining units placed in a permanent safe shutdown state. The other four operating units have been in service since between 1983 and 1986.

The Darlington GS, comprised of three operating units and one unit, Unit 2, undergoing refurbishment as of mid-October 2016, is located on the shore of Lake Ontario in the Municipality of Clarington, Ontario. As at December 31, 2016, the total in-service capacity of the three operating units was 2,634 MW. Unit 2 has a capacity of 878 MW. All four Darlington units have been in service since the early 1990s. Both the Pickering GS and the Darlington GS have been designed to operate at full power as baseload facilities.

The performance of OPG-operated nuclear generating stations during 2016, 2015 and 2014 was as follows:

Regulated – Nuclear Generation Performance (2014 to 2016)

Station	No. of In-Service Units	Unit Capability Factor [1] (%)		
		2016	2015	2014
Darlington	3[2]	**89.5**	76.9	92.1
Pickering	6	**75.2**	79.4	75.3
Total	9			

1 Unit capability factor is the amount of energy a generating unit is capable of producing as a percentage of its maximum output assuming no external constraints such as transmission limitations. The nuclear unit capability factor excludes unit(s) during the period in which they are undergoing refurbishment.

2 Excluding Unit 2, which has been undergoing refurbishment since October 15, 2016.

The lower Unit Capability Factor at the Darlington GS in 2015 was primarily due to the four-unit vacuum building outage, which required the shutdown of all units. The higher Unit Capability Factor at the Pickering GS in 2015 was primarily due to the improvement in reliability of the station associated with improved equipment reliability and human performance. In 2016, the Pickering GS experienced a higher number of unplanned outage days as a result of emergent discovery work during planned outages, which contributed to the lower Unit Capability Factor compared to 2015.

OPG's Bruce A and Bruce B nuclear generating stations have been leased on a long-term basis to Bruce Power. The stations are located in the Municipality of Kincardine, Ontario on the shore of Lake Huron.

For additional information on OPG's nuclear operations, see *Core Business, Strategy, and Outlook – Operational Excellence – Electricity Generation Production and Reliability – Nuclear Operations* in the Company's 2016 MD&A.

Nuclear Generation Technology

Nuclear generation harnesses the energy released during controlled nuclear fission reactions to produce steam that is used to drive turbines to generate electricity. Nuclear generation has two main advantages. It is a relatively low marginal-cost generation technology, and it produces virtually no GHG, sulphur dioxide, nitrogen oxide, or mercury emissions. The latter advantage has become more significant as governments implement climate change action plans and stricter air emission standards.

However, in contrast to other types of generating facilities, notwithstanding the lower fuel costs, nuclear generating stations incur nuclear waste management and decommissioning costs and greater operating and maintenance expenses. In addition, the construction of nuclear generating stations entails greater initial capital costs than other generation technologies. The higher initial costs reflect the complexity of the technical processes fundamental to nuclear electricity generation, and the additional design and safety precautions taken to protect the public from potential risks associated with nuclear operations.

All of OPG's nuclear generating stations use CANada Deuterium Uranium (CANDU) technology reactors. CANDU is a pressurized-heavy-water, natural-uranium power reactor, originally designed in the 1960s by a consortium of Canadian government agencies and private industry. CANDU reactors are unique in their use of natural-uranium fuel and deuterium oxide, or heavy water, as both a moderator to slow down the fission process and a coolant within the reactor. The refuelling system is also unique in that CANDU reactors can be refuelled at full power. This is due to the subdivision of the reactor core into hundreds of separate fuel channels, each holding a single string of natural uranium fuel bundles, allowing for greater fuel efficiency. In contrast, U.S. reactors, which use enriched uranium fuel, must be shut down during refuelling. All nuclear power reactors in Canada use CANDU technology. CANDU reactors are currently operating in Ontario, New Brunswick, Argentina, Romania, South Korea, India, Pakistan and China.

Nuclear Fuel Procurement

OPG's nuclear fuel supply chain involves the purchase of uranium concentrate, the purchase of services for the conversion of uranium concentrate to uranium dioxide, and the purchase of services for the manufacture of fuel bundles containing the uranium dioxide. OPG currently purchases each of these components separately and maintains ownership of the uranium throughout the supply chain. OPG maintains a portfolio of multi-year supply contracts for uranium concentrate with domestic and foreign suppliers located in uranium-producing regions and occasionally enters into the short-term spot market to acquire a portion of its uranium needs. OPG's nuclear fuel bundles are supplied by Canadian-based manufacturers.

Nuclear Regulation

The *Nuclear Safety and Control Act* (NSCA) establishes the mandate and authority of the CNSC to make regulations governing all aspects of the development and application of nuclear energy in Canada. The NSCA grants to the CNSC the power to act as a court of record, the right to make regulations, the power to require financial guarantees for nuclear waste management and nuclear facilities decommissioning as a condition of granting a licence, order-making powers, and the power to impose monetary penalties for licence infractions. The NSCA also grants the CNSC the power to require periodic re-certification of nuclear operators and to set requirements for various nuclear facility security measures. It also provides for regulatory authority over environmental matters, including a requirement that licence applicants make adequate provision for the protection of the environment. The NSCA grants the CNSC licensing authority for all nuclear activities in Canada, including the issuance of new licences to operators, the renewal of existing licences, and amendments to existing licences.

A fundamental principle in nuclear regulation is that the licensee bears the responsibility for safe operation, with the CNSC setting safety objectives in areas such as radiation protection and physical security for nuclear generating stations and the transport of radioactive materials. The CNSC verifies compliance with the licence and performs audits and inspections of the licensee's performance against these objectives. The CNSC also has issued guidance documents to assist licensees in complying with regulatory requirements. Requirements specified in these guidance documents have been incorporated into the design and operating documents for OPG's nuclear generating stations.

Since the operation and regulation of nuclear energy has transboundary impacts, Canada has become a signatory to various international conventions relating to nuclear energy and emergency responses and is bound by conventions that it has ratified. In addition, the CNSC has a bilateral information exchange and co-operation agreement with the U.S. Nuclear Regulatory Commission, which provides, among other things, for the prompt, reciprocal notification of reactor safety problems that could affect both U.S. and Canadian nuclear generation facilities.

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

All of OPG's nuclear power reactor operating licences and waste facility licences are current and up to date. In 2016, OPG submitted applications with the CNSC seeking a ten-year licence renewal for the Western Waste Management Facility (WWMF) located at the Bruce generating stations' site to May 31, 2027, and a ten-year licence renewal for the Pickering Waste Management Facility (PWMF) to August 31, 2028. The licence renewal applications will be presented to the CNSC at a public hearing in April 2017. The current licence for the WWMF expires on May 31, 2017 and for the PWMF on March 31, 2018. The current licence for the Darlington Waste Management Facility expires on April 30, 2023. Further details on the operating licence for the Darlington GS are found under *General Development of the Business – Nuclear Business Development – Darlington Refurbishment* and for the Pickering GS under *General Development of the Business – Nuclear Business Development – Pickering Extended Operations to 2024.*

For details on Canada's nuclear liability regime and related insurance coverage, see *Description of the Business – Insurance*.

Fukushima Daiichi Response

In response to the 2011 Fukushima Daiichi incident in Japan, OPG has confirmed that its stations are safe and that systems and procedures are in place to withstand significant emergencies. In 2013, a systematic review and verification of defences against external hazards was completed at OPG-operated stations. The review showed that:

- the nuclear safety systems and multiple back-up power systems in place at the stations are effective; and
- the current design of the stations is strong and the stations are able to withstand extreme external events.

The review also provided recommendations for further opportunities to enhance the safety margin and to develop preparedness for unexpected events that go beyond the extreme events already considered in the design of the stations.

OPG's action plan in response to the Fukushima Daiichi event is well aligned with the CNSC's Fukushima Action Plan, issued in mid-2012. In 2013, OPG submitted its plans for the majority of the CNSC's Fukushima Action Plan items applicable to OPG-operated stations to the CNSC. In January 2015, the

CNSC recognized OPG's efforts in this area and confirmed that all of the Fukushima action items were closed. OPG's Fukushima Implementation Plan included a number of key safety enhancements for providing additional back-up capability to increase OPG's flexibility to respond to unexpected and highly unlikely external events that can impact either a single unit or multiple units at the same time. CNSC staff concluded that OPG had strengthened reactor defence and enhanced its emergency response at both the Darlington GS and the Pickering GS in response to the lessons learned from the Fukushima Daiichi incident.

Nuclear Generating Station Life

Service life predictions for OPG-operated nuclear stations are developed by assessing the impacts of a number of operating, technical, and regulatory considerations on both unit and station economics. A decision by OPG to remove a unit from service would be primarily an economic decision that becomes more likely as the number of components requiring replacement and the frequency and duration of inspections required to ensure a unit's fitness for service increases. The key life-limiting components at OPG's nuclear stations include fuel channels, feeder tubes, steam generators, and other reactor components. End-of-service life predictions are reviewed as new information on possible degradation mechanisms becomes available and as future generation expectations are revised.

In December 2015, OPG revised the accounting assumptions for the estimated useful lives of the nuclear generating stations it operates. Effective December 31, 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; and
- 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.

The accounting end of life assumptions for the Pickering GS are expected to be reassessed when OPG's further technical work confirms that the longer fuel channel life necessary to extend Pickering operations will be achieved and that the units would be fit to operate beyond 2020, taking into account the requirement for the CNSC's approval. Further information can be found under *Nuclear Business Development – Pickering Extended Operations to 2024*.

Nuclear Facility Planning

OPG uses a structured approach to identify and prioritize projects to optimize returns from nuclear station reinvestment within the constraints imposed by technical and financial requirements, while ensuring that safety, environmental, and other regulatory programs are of the highest priority. Input from predictive maintenance programs, life cycle management plans, and system health monitoring is used to determine the activities necessary to sustain and improve nuclear unit performance.

A structured framework modeled on the best practices identified by the Electric Power Research Institute, the Institute for Nuclear Power Operations and the World Association of Nuclear Operators (WANO) is used to optimize the maintenance of the nuclear generating stations and assess the health of the facilities. The structured framework includes predictive maintenance programs, which combine technologies and human expertise to analyze equipment performance, maintenance and design data in order to make timely decisions about the scope and timing of inspections and maintenance for major or critical equipment. The predictive maintenance program for each station is prioritized on the basis of the importance of the equipment for reactor safety. Life cycle management plans are maintained for critical station components and are updated annually to incorporate operating experience and new information. The life cycle plans define the inspection and maintenance programs required to ensure that these components perform in accordance with their design basis. In addition, system engineers conduct performance monitoring of station systems according to system performance monitoring plans that are based on a comparison of performance indicators against established targets to improve system performance. System performance is assessed by collecting, trending and analyzing station data. This information is reported in system health reports which are updated, at a minimum, annually.

OPG's practices impacting the performance of the nuclear stations are audited regularly by WANO, with identified areas for improvement acted upon with priority. In May 2016, OPG hosted a WANO peer evaluation that compared the Darlington GS against standards of excellence through an in-depth, objective review by an international panel of industry experts. The review maintained Darlington's excellent standing as one of the top performing nuclear plants in the world.

In September 2016, OPG hosted a team of experts from the International Atomic Energy Agency at the Pickering GS to conduct a standard Operational Safety Review Team mission. The team conducted an in-depth review of performance and adherence to international safety standards. A report on the mission is expected to be released in the second quarter of 2017.

Nuclear planned outages are necessary to execute inspection and maintenance work related to asset management and regulatory requirements for systems and equipment where access is not possible under normal operating conditions. Planned outages also give OPG an opportunity to perform system and equipment upgrades, project work, configuration changes, and other improvements and modifications. The nuclear generation plan, by reference to the station's life cycle management plans, establishes the number, frequency and duration of the outages for each year required to ensure the continued safe and reliable long-term operation of the plant and its compliance with CNSC regulatory requirements.

The outage cycle determines the number of planned outages at each station in a particular year. The Darlington GS is on a 36-month outage cycle, where each of the four units undergoes an outage every three years, resulting in one or two outages per year for the station. The Pickering GS is on a 24-month outage cycle, resulting in each of the six units having an outage every two years, and three outages per year for the station. In addition, on a periodic basis all units at each station are required to be shut down to allow for inspection and maintenance on the station vacuum building, containment systems and other safety systems. The CNSC currently requires these outages every 12 years at the Darlington GS and every 10 years at the Pickering GS. The most recent vacuum building outage took place at the Darlington GS in 2015 and at the Pickering GS in 2010.

Nuclear Ancillary Operations

OPG's nuclear generating units contain approximately 7,500 tonnes of deuterium oxide, or heavy water, not including heavy water contained at the leased Bruce stations. The heavy water is required to operate CANDU reactors. Ontario Hydro ceased the operation of its heavy water plants in 1997 and the plants were subsequently decommissioned. There are currently no heavy water plants in Canada. OPG believes that its existing inventory of heavy water will be sufficient to replenish supplies as a result of normal operating losses at its nuclear stations, including the refurbishment of the Darlington GS. OPG also believes that sufficient quantities of heavy water are available for possible changes in operating conditions or for new nuclear generating facilities. OPG seeks opportunities to sell available surplus quantities of heavy water from its inventory.

Tritium is a radioactive substance produced as a by-product of operating CANDU reactors, through the use of heavy water in the reactor moderator and heat transport systems. OPG operates a specialized facility at its Darlington site, the Darlington Tritium Removal Facility (TRF), which removes tritium from the tritiated heavy water (detritiation) used at the nuclear generating stations, in order to control the occupational dose exposure to employees and limit the amount of tritium released to the environment. The extracted tritium is chemically immobilized, placed in special containers, and safely stored in a vault. The Darlington TRF is also expected to be used to detritiate heavy water during the eventual decommissioning of OPG's nuclear generating stations. Some tritium is sold to government-approved organizations for authorized commercial and health industry uses. OPG also provides detritiation services to Bruce Power. Opportunities for providing detritiation services to other third parties are limited because of storage and capacity restrictions at the Darlington TRF.

Cobalt-60 produced and sold by OPG is used mainly in the health industry to sterilize surgical and medical supplies. Cobalt-60 is produced in Units 6, 7 and 8 at the Pickering GS. Cobalt-60 can be

produced in reactors which, like the CANDU reactors, use adjuster rods to regulate power. The production process involves replacing the stainless steel rod by a rod containing Cobalt-59, which is isotopically converted into Cobalt-60 after lengthy exposure to the atomic reaction in the reactor core. After two years, the rods are removed, cut, and packaged for sale as Cobalt-60, and new rods are inserted in the reactor to continue the production cycle.

OPG's revenues from the sale of the above isotopes and detritiation services, as well as a portion of the revenues from the sale of surplus heavy water, are applied by the OEB to reduce regulated prices for electricity produced from OPG's nuclear facilities.

Hydroelectric (Regulated – Hydroelectric and Contracted Generation Portfolio Segments)

Overview of Generating Facilities

Hydroelectric generating stations use the energy of falling water to drive hydraulic turbines that generate electricity. OPG's hydroelectric stations provide one of the Company's competitive advantages – a reliable, relatively low-cost source of renewable energy free of air emissions. Electricity generation from OPG's hydroelectric facilities depends primarily upon the availability of water, which is affected largely by natural factors such as precipitation and evaporation. It is also impacted by the prevalence of SBG conditions.

OPG currently owns and operates 65 hydroelectric generating stations and 238 associated dams located on 24 rivers systems across Ontario. Effective January 1, 2014, the results of 54 of these stations that are rate regulated by the OEB are reported in the Regulated – Hydroelectric segment. The results of the remaining 11 stations are subject to long-term ESAs with the IESO and are included in the Contracted Generation Portfolio segment. The 54 regulated hydroelectric stations include the 48 stations prescribed for rate regulation beginning in 2014 and the six stations that have been rate regulated by the OEB since 2008.

As at December 31, 2016, OPG's regulated hydroelectric facilities had a total in-service capacity of 6,421 MW and the non-regulated hydroelectric facilities had a total in-service capacity of 1,014 MW. OPG's hydroelectric generating stations range in age from two to over 118 years and include the oldest assets in OPG's generation portfolio.

Hydroelectric ESAs with 50-year terms are in place for the following hydroelectric facilities:

- Lac Seul and Ear Falls generating stations, with an expiry date of February 2059;
- Healey Falls GS, with an expiry date of April 2060;
- Sandy Falls, Wawaitin, Lower Sturgeon, and Hound Chute generating stations, with an expiry date of December 2060;
- Little Long, Harmon, Smoky Falls, and Kipling generating stations, with an expiry date of January 2064; and
- Peter Sutherland Sr. GS, which is being commissioned and will be subject to a 50-year ESA upon achieving commercial operation.

OPG's hydroelectric facilities are operated and maintained by the following five regional operations groups:

- Niagara Operations – includes the three Sir Adam Beck stations located on the Niagara River and the two DeCew Falls facilities located on the Welland River. These facilities have been rate regulated by the OEB since 2008.
- Eastern Operations – includes the following ten regulated hydroelectric generating stations: the R.H. Saunders GS on the St. Lawrence River; the Otto Holden, Des Joachims, Chenaux, and Chats Falls generating stations on the Ottawa River; and the Mountain Chute, Barrett Chute, Calabogie, Stewartville, and Arnprior generating stations on the Madawaska River. The R.H. Saunders GS has been regulated by the OEB since 2008.

- Central Operations – includes 25 regulated and one non-regulated hydroelectric generating station on the following ten river systems in central Ontario: Beaver River, Mississippi River, Muskoka River, Otonabee River, Rideau River, Severn River, South River, Sturgeon River, Trent River, and Wanapitei River.
- Northeast Operations – includes five regulated and eight non-regulated hydroelectric stations in northeastern Ontario. The regulated stations are the Chute and Lower Notch generating stations on the Montreal River; the Abitibi Canyon and Otter Rapids generating stations on the Abitibi River; and the Matabitchuan GS on the Matabitchuan River. The non-regulated stations are the Little Long, Harmon, Smoky Falls, and Kipling generating stations on the Lower Mattagami River; the Wawaitin, Sandy Falls, and Lower Sturgeon generating stations on the Upper Mattagami River; and the Hound Chute GS on the Montreal River.
- Northwest Operations – includes nine regulated and two non-regulated generating stations in northwestern Ontario. The regulated stations are the Pine Portage, Cameron Falls, and Alexander generating stations on the Nipigon River; the Silver Falls and Kakabeka Falls generating stations on the Kamanistikwia River; the Manitou Falls and Caribou Falls generating stations on the English River; the Aguasabon GS on the Aguasabon River; and the Whitedog Falls GS on the Winnipeg River. The non-regulated stations are the Lac Seul and Ear Falls generating stations on the English River.

These operations groups are also responsible for the operation and maintenance of OPG's thermal facilities discussed under *Description of the Business – Generation Operations – Thermal (Contracted Generation Portfolio Segment)*.

The performance of OPG's hydroelectric generating stations during 2016, 2015 and 2014 was as follows:

Hydroelectric Generation Performance (2014 to 2016)

	Regulated – Hydroelectric			Contracted Generation Portfolio – Hydroelectric			Total Hydroelectric		
	2016	**2015**	**2014**	**2016**	**2015**	**2014**	**2016**	**2015**	**2014**
Availability *(%)* [1]	**89.0**	91.2	91.4	**77.3**	88.6	90.2	**87.5**	90.9	91.7

[1] Availability refers to the 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.

Lower availability of the Regulated – Hydroelectric facilities during 2016 was primarily due to the planned reservoir refurbishment project at the Sir Adam Beck Pump GS. Lower availability of the Contracted Generation Portfolio hydroelectric facilities in 2016 was primarily due to a higher number of planned outage days at the Kipling and Harmon generating stations.

OPG's objectives for the hydroelectric operations include operating and maintaining the generating facilities in an efficient and cost-effective manner, while enhancing their reliability and availability. The Company continues to evaluate and implement plans to increase capacity, maintain and improve performance, and extend the operating life of its hydroelectric generating assets. These plans 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. Over the next three years, OPG plans to increase the total capacity of its hydroelectric generating fleet by approximately 135 MW, which includes the Peter Sutherland Sr. GS and the Ranney Falls GS projects. OPG is also planning to repair, rehabilitate, or replace a number of aging civil structures. Where economical and practical, OPG pursues opportunities to refurbish, expand or redevelop its existing hydroelectric stations.

For additional information on OPG's hydroelectric operations, see *Core Business, Strategy, and Outlook – Operational Excellence – Electricity Generation Production and Reliability – Hydroelectric Operations* in the Company's 2016 MD&A.

Hydroelectric Facility Planning

Major components of hydroelectric facilities typically include: generating equipment such as turbines, generators and transformers; civil works such as powerhouses, dams, headworks, spillways and water conveyance canals and tunnels; and facilities required to operate and maintain the stations such as control rooms and work centres. Although there is a link between the age of a facility and the capital investment required to maintain that facility, age does not establish an upper limit on the expected useful life of hydroelectric facilities and dams. Regular maintenance and the replacement of specific components typically allow stations to operate for very long periods, especially for facilities built after 1925.

OPG operates seven staffed control rooms across Ontario that provide remote control and monitoring for all of OPG's hydroelectric generating facilities. These control rooms are designed to minimize the number of staffed control rooms, reduce control system failures, and increase the amount of information available for production planning.

OPG uses a structured portfolio approach to identify and prioritize projects for its hydroelectric asset investment program. Engineering reviews and station condition assessments are performed to determine short-term and long-term expenditure requirements to sustain or improve the performance of each facility. These may be followed by the preparation of a facility life cycle plan, which is performed on an as-needed basis for marginal assets or assets potentially requiring significant expenditures relative to the value of the facility. This approach is designed to identify necessary capital, operating and maintenance expenditures for each facility and to direct resources towards those facilities that can best maintain or enhance their value.

OPG utilizes a preventive maintenance program that provides a consistent method of identifying, scheduling, and executing maintenance activities at the hydroelectric facilities. The maintenance program is based on the concept of streamlined reliability-centred maintenance, whereby the type and frequency of preventive maintenance applied to an individual component is determined based on the nature and consequences of failure, balancing cost and risk.

The cornerstone of OPG's project prioritization and preventive maintenance approaches for the hydroelectric assets is that safety, environmental, and other regulatory programs are of the highest priority.

Water Management

OPG's water management strategy for its hydroelectric facilities is to safely utilize available water for generation of electricity in conformance with legal, environmental, operational, and WMP and Operational Plan requirements. OPG uses hydrological and meteorological data to manage water levels, water flows and water storage, and strives to schedule water use for optimum utilization and to minimize controllable water spills due to SBG conditions.

Gross Revenue Charge and Water Rental Payments

Hydroelectric generating stations in Ontario are subject to taxes and charges as prescribed by *Ontario Regulation 124/02* under the *Electricity Act, 1998*. These taxes and charges, referred to as Gross Revenue Charge (GRC), are based on station gross revenue, which, for this purpose, is determined as the product of annual station energy generation and the prescribed revenue rate of $40/MWh (Gross Revenue). All OPG hydroelectric generating stations are subject to GRC Property Tax, which is determined by applying graduated tax rates, ranging from 2.5 percent to 26.5 percent through four tiers of production, to a station's annual Gross Revenue. GRC Property Tax payments are made to the OEFC.

Hydroelectric generating stations that are subject to water power lease agreements with the MNRF are also subject to GRC Water Rental charges in addition to GRC Property Tax payments. The GRC Water Rental charge is determined as 9.5 percent of a station's annual Gross Revenue. GRC Water Rental payments are made to the Ontario Ministry of Finance.

Annual land rental fees are paid to the MNRF as prescribed by Crown leases and licences of occupation which authorize OPG's tenure (including flooding rights), typically at storage dam sites.

The eight OPG hydroelectric generating stations located on the Trent River and Rideau Canal are subject to rental charges prescribed by licences with Parks Canada. These licences authorize OPG to occupy the lands, maintain and operate the powerhouses and dams, and utilize water that is surplus to navigation needs for the generation of electricity.

Water conveyance charges are paid to the St. Lawrence Seaway Management Corporation as prescribed by a lease agreement providing for the withdrawal of water surplus to navigation needs from the Welland Canal for utilization at the DeCew Falls generating stations. The water conveyance charges apply to the transport of water from Lake Erie through the Welland Canal to OPG's intakes at Allanburg.

Water rental payments are made to the Government of Québec, as prescribed by an agreement dated January 2, 1943 and a rate amending agreement effective January 2, 1993. These agreements pertain to the sharing of the water powers of the Ottawa River and were ratified by the Governments of Ontario and Québec. Water rental charges payable to the Province of Québec are based on one-half of the energy produced at the three regulated OPG hydroelectric generating stations located on the Ottawa River. The GRC payments made to the Province of Ontario with respect to these three sites are also based on one-half of the energy produced at the stations.

Under the aforementioned 1943 agreement, OPG also provides compensation to Hydro Québec for the generating value at OPG's stations on the Ottawa River attributed to the water diverted into the Ottawa River through the Dozois Reservoir in Québec. OPG shares in operation and maintenance costs pertaining to the dam enabling the Dozois diversion.

The GRC and water rental payments for the regulated hydroelectric stations are recoverable through OEB-approved regulated prices applicable to these stations.

For further details on water rights, see *Description of the Business – Water Rights*.

Thermal (Contracted Generation Portfolio Segment)

Overview of Generating Facilities

Thermal generating stations use heat energy to drive steam turbines that generate electricity. OPG's wholly-owned operating thermal facilities are comprised of biomass-fuelled generating units at each of Atikokan GS and Thunder Bay GS, and the dual-fuelled generating Lennox GS, which is capable of burning either oil or natural gas. Effective January 1, 2014, the results of these facilities are reported in the Contracted – Generation Portfolio business segment.

The combined in-service capacity of the three operating thermal facilities was 2,458 MW as at December 31, 2016. The Lennox GS is located in Greater Napanee, Ontario and accounts for approximately 2,100 MW of this in-service capacity. The Atikokan GS is located in Atikokan, Ontario and has an in-service capacity of 205 MW. The Thunder Bay GS is located in Thunder Bay, Ontario and its advanced biomass fuelled unit has an in-service capacity of 153 MW.

Capacity and production from the Lennox GS are subject to an ESA with the IESO for the period from January 2013 to September 2022. Capacity and production from the Atikokan GS are subject to a ten-year ESA expiring in July 2024. For the Thunder Bay GS advanced biomass fuelled unit, capacity and production are subject to a five-year ESA expiring in January 2020.

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 has enabled the system to accommodate the expansion of Ontario's renewable generation portfolio. The continued operation of these stations is expected to provide Ontario with capacity and peaking generation during the initial years of the refurbishment of the Darlington and Bruce nuclear facilities.

The three thermal generating stations are operated and maintained as part of regional operations groups used to operate and maintain the Company's hydroelectric facilities. The Lennox GS is operated under Eastern Operations, and the Atikokan and Thunder Bay generating stations are part of Northwest Operations.

Thermal stations that are no longer available to generate electricity are included in the Services, Trading, and Other Non-Generation business segment once they are removed from service. This includes the Lambton GS and Nanticoke GS sites, which ceased coal-fired generation in 2013.

Contracted Generation Portfolio – Thermal Performance (2014 to 2016)

	2016	2015	2014
Equivalent Forced Outage Rate (%) [1]	**1.6**	11.2	8.9

[1] Equivalent Forced Outage Rate 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.

The changes in thermal EFOR over the three-year period were primarily due to an outage in 2015 to perform repair work at the Lennox GS.

For additional information on OPG's thermal operations, see *Core Business, Strategy, and Outlook – Operational Excellence – Electricity Generation Production and Reliability – Thermal Operations* in the Company's 2016 MD&A.

Thermal Fuel Procurement

Due to the relatively low capacity factor of the Lennox GS, natural gas is purchased on the spot market, other than a small volume of fixed term natural gas required for non-generation operational services. Oil for the Lennox GS is contracted for and purchased on an as needed basis. Fuel switching at the station is based on market and fuel economics. Annual procurement of biomass fuel quantities for Atikokan GS and Thunder Bay GS is pre-determined by the corresponding ESAs. Agreements are in place with suppliers for the purchase of all biomass fuel pellets needed to provide fuel for the Atikokan GS for the duration of its ESA, and for most of the advanced biomass fuel pellets needed to provide fuel for the duration of the ESA for the Thunder Bay GS.

Thermal Facility Planning

OPG's facility planning approach is designed to identify necessary capital and operating and maintenance expenditures for each thermal facility. This planning approach aims to sustain facility availability for the remaining service life through station reinvestment within constraints imposed by technical, financial, safety, and system requirements, as well as regulatory and contractual limits. Periodic engineering reviews of major systems are conducted to identify performance issues, provide reinvestment recommendations where appropriate, and ensure that regulatory, safety and operating standards continue to meet expectations. OPG undertakes projects at thermal stations that are expected to achieve an appropriate return within the service life of the stations.

Thermal Station Decommissioning

OPG has recognized, and carries on its balance sheet, a liability to cover future expenditures to decommission and dismantle each of its thermal stations at the end of their estimated service lives. This provision is not funded and is estimated on the basis of station closure. Costs previously incurred by OPG to preserve Lambton and Nanticoke generating stations for potential conversion to natural gas in the future were not charged to the provision, as they were charged against net income as incurred.

Portlands Energy Centre Partnership

OPG has a 49.95 percent partnership interest in Portlands Energy Centre L.P., a limited partnership formed with TransCanada Energy Ltd. (49.95 percent) and the general partner of the partnership, Portlands Energy Centre Inc. (0.1 percent). The shareholders of Portlands Energy Centre Inc. are OPG (50 percent) and TransCanada Energy Ltd. (50 percent). PEC is a 550 MW combined cycle generation natural gas turbine electricity generating facility located on the former R. L. Hearn GS site in the port area of downtown Toronto, Ontario. The station was declared in-service in a combined cycle mode in April 2009. PEC operates under an Accelerated Clean Energy Supply contract with the IESO and trades electricity in the Ontario electricity market.

The Contracted Generation Portfolio segment includes OPG's share of equity income from its 50 percent ownership interest in the station. OPG's share of the in-service generating capacity and generation volume from its interest in the station are included in the operating statistics for the segment.

Brighton Beach Power Partnership

OPG has a 49.95 percent partnership interest in Brighton Beach Power L.P., a limited partnership formed with ATCO Power Canada Ltd. (49.95 percent) and the general partner of the partnership, Brighton Beach Power Ltd. (0.1 percent). The shareholders of Brighton Beach Power Ltd. are OPG (50 percent) and ATCO Power Canada Ltd. (50 percent). Brighton Beach is a 580 MW combined cycle gas turbine electricity generating facility located on the former J.C. Keith GS site in Windsor, Ontario. The station began commercial operation in July 2004. Brighton Beach operates under a tolling arrangement with Shell Energy North America (Canada) Inc. (Shell Energy), pursuant to which Shell Energy owns and trades the electricity produced by the facility in return for the supply of gas and the fees payable under the tolling agreement. Shell Energy's financial obligations are guaranteed by Shell Energy North America (US) L.P. (Shell L.P.), and Shell L.P.'s obligations are in turn guaranteed by Shell Oil Company.

The Contracted Generation Portfolio segment includes OPG's share of equity income from its 50 percent ownership interest in the station. OPG's share of the in-service generating capacity and generation volume from its interest in the station are included in the operating statistics for the segment.

Regulated – Nuclear Waste Management Segment

Overview

OPG is responsible for the ongoing management of radioactive wastes generated by its nuclear operations. In addition, OPG has the obligation for decommissioning its nuclear generating stations and nuclear waste facilities after the end of their useful lives and for managing radioactive wastes that arise in connection with the decommissioning. The handling and disposal of radioactive waste in Canada is subject to federal legislation.

The radioactive wastes generated by OPG's nuclear operations include the following:

- Used nuclear fuel bundles;
- Intermediate-level waste – material that has come in close contact with the reactors, but is less radioactive than used fuel, such as ion exchange resins and reactor equipment and components; and

- Low-level waste – material used in connection with station operation that is not highly radioactive, such as tools and protective clothing.

The Company's Regulated – Nuclear Waste Management segment reports the results of the Company's operations associated with the following:

- management of used nuclear fuel and L&ILW;
- decommissioning of OPG's nuclear generating stations including the stations on lease to Bruce Power and other nuclear facilities;
- management of the Nuclear Segregated Funds established under the ONFA to fund OPG's obligation for nuclear facilities decommissioning and the long-term management of nuclear waste; and
- Other related activities including the inspection and maintenance of the waste storage facilities.

The nuclear accretion expense, which is the increase in the carrying amount of the present value liabilities for nuclear fixed asset removal and nuclear waste management liabilities reported on the balance sheet due to the passage of time, and the earnings from the Nuclear Segregated Funds are reported under this segment. The Regulated – Nuclear Waste Management segment is considered rate regulated because OPG's costs associated with nuclear waste management and nuclear facilities decommissioning liabilities have been included by the OEB in the determination of regulated prices for production from the Pickering and Darlington nuclear generating stations.

Federal Government Policy

In accordance with the requirements of the *Nuclear Fuel Waste Act* (Canada) (NFWA), in 2002, OPG and the other owners of nuclear fuel waste in Canada established a separately incorporated NWMO, with a mandate to manage and coordinate the full range of activities relating to the long-term management of nuclear fuel waste in Canada. This includes the design and implementation of Canada's plan for the long-term management of used nuclear fuel. In 2007, the federal government approved NWMO's submitted option, the Adaptive Phased Management (APM) plan, as the long-term solution for nuclear fuel waste. The APM plan contemplates the eventual long-term permanent disposal of radioactive nuclear fuel waste in a deep geologic repository (DGR) after a collaborative process of communication and engagement with Canadians aimed at selecting a suitable geological site with an informed and willing host community. The NWMO is in the process of undertaking a multi-year site selection process for the used fuel DGR.

The NFWA also requires the nuclear fuel waste owners in Canada to establish and make payments into trust funds for the purpose of funding the implementation of the long-term management plan for used fuel. Accordingly, OPG has established the Ontario NFWA Trust, which forms part of the Nuclear Segregated Funds under the ONFA. For additional details, see *Description of the Business – Regulated – Nuclear Waste Management Segment – Funding Mechanisms.*

Current Practices

Used Nuclear Fuel

Bundles of used nuclear fuel from OPG's reactors and leased reactors at the Bruce site are temporarily stored at each nuclear generating station in water-filled pools, known as wet bays, for a cooling-off period of at least ten years, during which time their radioactivity is substantially reduced. Each nuclear generating station has sufficient capacity to store used nuclear fuel in the wet bays for approximately 15 to 20 years of operation.

After bundles of used nuclear fuel have been stored for the cooling-off period, prior to the in-service of the planned used fuel DGR, the bundles are transferred from the wet bays to above-ground dry storage containers at the corresponding nuclear station site. Currently, there is used nuclear fuel in dry storage at the Pickering, Darlington and Bruce sites.

OPG's planning assumption for the long-term management of used nuclear fuel is consistent with the NWMO's APM concept. The NWMO has indicated that it currently expects an in-service date of 2043 at the earliest for the used fuel DGR.

Low and Intermediate Level Waste

OPG's L&ILW is stored at the radioactive waste management facility at WWMF located on the Bruce site. This facility, which continues to be owned and operated by OPG following the lease of the Bruce generating stations, operates under a separate licence issued by the CNSC. OPG's planning assumption for the long-term management of L&ILW is the placement of this nuclear waste in a separate L&ILW DGR.

For additional details, see *Description of the Business – Regulated – Nuclear Waste Management Segment – Deep Geologic Repository for Low and Intermediate Level Waste.*

Station Decommissioning

OPG's planning assumption for the decommissioning of its nuclear generating stations is a deferred dismantlement strategy. Under this strategy, each station will be de-watered and de-fuelled immediately after it has ceased operations and prepared for safe storage and monitoring. Thereafter, OPG intends to monitor the station for approximately 30 years while in safe storage, after which time the station will be dismantled and the site restored over a period of approximately ten years. This strategy has been communicated to the CNSC through regular updates of OPG's preliminary decommissioning plans and liability estimates for the nuclear generating stations. OPG's nuclear operating licences have been issued based on, amongst other things, CNSC's understanding of this strategy.

Deep Geologic Repository for Low and Intermediate Level Waste

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

Under the NSCA, OPG requires licences from the CNSC for activities to be undertaken with respect to the L&ILW DGR project. Before the CNSC can make licensing decisions for the proposal, an EA must be conducted in compliance with the requirements of the *Canadian Environmental Assessment Act*. As part of the EA process for the L&ILW DGR, Environmental Impact Statement, Preliminary Safety Report, and Technical Support Documents were submitted to the CNSC in 2011. The purpose of these submissions was to obtain EA approval and a site preparation and construction licence from the JRP for the project. The responsibility of the JRP, which was appointed by the Canadian Environmental Assessment Agency (CEAA) and the CNSC in 2012, was to examine 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 EA to the federal Minister of Environment. The report concluded that, given mitigation, there is unlikely to be significant environmental impact from the project and recommended that the Minister approve the EA. The report suggested that the project should be implemented expeditiously.

In August 2015, OPG responded to the CEAA's list of potential environmental conditions relating to the JRP report. In February 2016, the federal Minister of Environment and Climate Change requested additional information on certain aspects of the EA, including information related to alternate locations for the project and the impact on environmental effects if Canada's planned used fuel deep geologic repository being developed by the NWMO were to be located in close proximity to OPG's proposed L&ILW DGR. OPG has completed the requested studies and submitted the requested information in December 2016, as planned. Following a review by the CEAA and a period of public comment, an EA Decision Statement by the Minister is expected by the fourth quarter of 2017. Based on the information

submitted to the Minister, the L&ILW DGR at the WWMF site remains OPG's preferred solution for the safe long-term management of the L&ILW, based on a relative consideration of environmental effects, transportation risks, transportation and other project related costs and uncertainties, and the absence of certainty of improved safety or environmental quality at an alternate location.

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

Funding Mechanisms

On April 1, 1999, Ontario Hydro's obligation for nuclear facilities decommissioning and nuclear waste management was transferred to OPG. The responsibility for funding the liabilities for nuclear facilities decommissioning and the long-term nuclear waste management between the Province and OPG is described in the ONFA. The key provisions of the ONFA are: (i) for OPG to establish two segregated funds, the Used Fuel Segregated Fund to fund the future costs of long-term nuclear used fuel waste management and certain costs of used fuel storage incurred after the stations are shut down, and the Decommissioning Segregated Fund to fund the future costs of nuclear decommissioning and long-term L&ILW management, and certain costs of used fuel storage incurred after the stations are shut down; (ii) for the OEFC to be responsible for funding approximately $2.4 billion present value as at April 1, 1999 that had been an accumulated liability of Ontario Hydro, which the OEFC has since then fully funded through an initial contribution to the Decommissioning Segregated Fund; (iii) for the Province to limit OPG's financial exposure in relation to the cost of used fuel management for the first 2.23 million bundles of used fuel; and (iv) for the Province to provide financial guarantees to the CNSC for OPG's nuclear decommissioning and nuclear waste management obligations, as required by the CNSC.

The Used Fuel Segregated Fund and the Decommissioning Segregated Fund are administered by a third party custodian and held in accounts segregated from OPG's other assets. OPG has granted a security interest in both funds to the Province. As a result, these funds are not available to satisfy the claims of OPG's creditors.

OPG's required contributions to the Used Fuel Segregated Fund and the Decommissioning Segregated Fund are determined based on reference plans and associated life cycle cost estimates periodically approved by the Province under the ONFA. These reference plans are prepared by OPG with the assistance of external consultants and based on external practices and international benchmarks. Under the ONFA reference plans, the total present value of OPG's future nuclear facilities decommissioning and nuclear waste management costs is determined based on baseline cost estimates and a set of underpinning major planning assumptions, including remaining useful lives of the nuclear stations, proposed methods and timing of nuclear waste disposal, and economic indicators. Given the long-term duration of these life cycle programs, the multiple assumptions involved and the evolving technology to handle nuclear waste, there is a significant degree of inherent uncertainty surrounding the measurement of the underlying costs, which may increase or decrease over time.

The limits to OPG's financial exposure under the ONFA with respect to the life cycle cost of long-term management of the first 2.23 million bundles of used fuel are as follows (all amounts are expressed in January 1, 1999 present value dollars): (i) OPG will bear all costs up to $4.6 billion; (ii) OPG and the Province will share, on an equal basis, costs incurred between $4.6 billion and $6.6 billion; (iii) OPG will be responsible for 10 percent of the costs incurred between $6.6 and $10 billion, and the Province will be responsible for the remaining 90 percent; (iv) the Province will be wholly responsible for any costs above $10 billion. As a result, OPG's funding liability for these used fuel costs under the ONFA is capped at $5.9 billion in January 1, 1999 present value dollars, which is equivalent to approximately $15 billion in December 31, 2016 present value dollars. OPG is responsible for all incremental costs

relating to the management of used fuel bundles in excess of the 2.23 million threshold. As at December 31, 2016, approximately 2.5 million bundles of used fuel waste had been produced. The 2.23 million fuel bundles threshold represents the estimated total life cycle bundles based on the initial estimated useful lives of the nuclear stations assumed in the ONFA.

Under the ONFA, the Province guarantees OPG's annual return earned in the Used Fuel Segregated Fund at 3.25 percent plus the rate of change in the Ontario Consumer Price Index, as defined in the ONFA, for funding related to the first 2.23 million used fuel bundles. Upon approval of a new or amended ONFA reference plan, the Province is obligated to make an additional contribution to the Used Fuel Segregated Fund in relation to the first 2.23 million bundles if the fund's assets earned a rate of return that is less than the guaranteed rate of return. If the return on the fund's assets exceeds the Province's guaranteed rate of return, the Province is entitled to withdraw any portion of the excess related to the first 2.23 million bundles, upon approval of a new or amended ONFA reference plan. OPG is responsible for cost increases and investment returns for the portion of the fund attributable to the used fuel bundles in excess of the 2.23 million threshold. OPG also is responsible for cost increases and investment returns for the Decommissioning Segregated Fund.

The investments in the Nuclear Segregated Funds include a diversified portfolio of equities and fixed income securities that are invested across geographic markets, as well as investments in real assets including infrastructure, real estate and agriculture. As the Nuclear Segregated Funds are invested to fund long-term liability requirements, the portfolio asset mix is structured to achieve the required return over a long-term horizon. While the Nuclear Segregated Funds are manage to achieve, in the long term, the target return rate based on the discount rate specified in the ONFA, the rates of return earned in a given period may be subject to various external factors including financial market conditions and changes in the Ontario Consumer Price Index, which, in the short-term, can be volatile and cause fluctuations in the Company's financial results. OPG jointly oversees the investment management of the Nuclear Segregated Funds with the Province.

Under the current OEB-approved cost recovery methodology for OPG's nuclear waste management and nuclear facilities decommissioning liabilities, OPG's income is exposed to the rate of return risk for the portion of the Nuclear Segregated Funds related to the Pickering and Darlington nuclear generating stations.

Contributions to the Nuclear Segregated Funds

OPG's contribution requirements under the ONFA are recalculated each time there is an approved new or amended reference plan and under certain other events. Reference plans are required to be prepared at least every five years, or more frequently if there is an underlying change in the assumptions of the reference plan that both OPG and the Province agree are significant enough to trigger a recalculation of the contribution levels during the five-year period.

Prior to 2017, OPG made contributions to the Used Fuel Segregated Fund every quarter, including a one-time special payment in earlier years, as required by the ONFA. These contributions reflected ONFA requirements to fund the majority of the underlying used fuel liability by the end of the initial estimated useful lives of the nuclear stations assumed in the ONFA, resulting in significantly higher contributions to the Used Fuel Segregated Fund in the earlier years of OPG's existence. OPG has not been required to make contributions to the Decommissioning Segregated Fund, which was fully funded at its inception through the initial contribution made by the OEFC and, taking into account asset performance and changes in underlying funding obligations over time, at the time of every subsequent approved ONFA reference plan.

Based on the funded status of the Used Fuel Segregated Fund and the Decommissioning Segregated Fund reflecting the lower life cycle liability estimates per the 2017 ONFA Reference Plan, no overall contributions to either fund are currently required starting in 2017. Contributions to either or both funds may be required in the future should the funds be in an underfunded position when a new reference plan is approved. Such may be the case as a result of future variability in asset performance due to volatility

inherent in financial markets and economic conditions. Future contribution levels also are dependent on changes in baseline cost estimates and underpinning planning assumptions used to establish the funding obligations in subsequent ONFA reference plans, as well as any changes in the tax treatment of fund earnings. OPG's required contributions could increase, for example, if cost estimates increased, if the operating lives of the nuclear stations were revised, if fund assets earned less than the target rate of return, if the income earned in the funds became subject to tax, or if the NWMO were unable to receive the same sales tax treatment that OPG would be entitled to receive if the NWMO had not been established.

OPG is required to make annual contributions to the Ontario NFWA Trust based on a funding formula approved by the federal Minister of Natural Resources for OPG and the other nuclear fuel waste owners in Canada. The trust forms part of the Used Fuel Segregated Fund. Any OPG contributions to the Used Fuel Segregated Fund as well as any portion of the Used Fuel Segregated Fund currently not in the trust can be applied to satisfy the trust's annual contribution requirements. The funds in the Ontario NFWA Trust will be used for the purposes of long-term management of nuclear used fuel waste, in accordance with the NFWA. OPG and the Province are beneficiaries of the trust.

If there is a surplus in the Decommissioning Segregated Fund such that the funding liabilities, as defined by the most recently approved ONFA Reference Plan, are at least 120 percent funded, OPG may direct, at the time a new or amended reference plan is approved, up to 50 percent of the surplus over 120 percent to the Used Fuel Segregated Fund, with the OEFC entitled to a distribution of an equal amount.

If there is a surplus in the Used Fuel Segregated Fund such that the funding liabilities, as defined by the most recently approved ONFA Reference Plan, are at least 110 percent funded, the Province has the right, at any time, to access the excess amount greater than 110 percent. Neither OPG nor the Province have a right to direct any amounts from the Used Fuel Segregated Fund to the Decommissioning Segregated Fund.

Upon termination of the ONFA, the Province has the sole right to any excess funds in the Decommissioning Segregated Fund and the Used Fuel Segregated Fund.

OPG has the responsibility for the management and disposal of the used nuclear fuel and L&ILW generated by the Bruce generating stations and for the eventual decommissioning of these stations. These obligations on the part of OPG are recovered from Bruce Power through annual rent payments and volume based fees per the Bruce Lease and related agreements. Pursuant to the lease agreement, Bruce Power must return the two Bruce stations to OPG together, in a de-fuelled and de-watered state. As such, these de-watering and de-fuelling costs will not be funded by OPG. Further details on the 2015 amendments to these agreements are found in *General Development of the Business – Nuclear Business Development – Bruce Power Refurbishment and Bruce Lease Agreement*.

Provincial Guarantee

In accordance with the NSCA, the CNSC requires OPG to have sufficient funds available to discharge its existing nuclear waste management and nuclear decommissioning obligations. As required by the terms of the ONFA, the Province provides a guarantee to the CNSC, on behalf of OPG, for any shortfall between the CNSC financial guarantee requirement and the value of the Nuclear Segregated Funds. The CNSC process requires the CNSC financial guarantee requirement to be updated once every five years and for OPG to provide an annual report to the CNSC on the assumptions, asset values, and resulting financial guarantee requirements. The CNSC financial guarantee requirement calculation takes into account nuclear waste expected to be generated to the end of each year.

In December 2012, the CNSC accepted OPG's proposed 2013-2017 CNSC financial guarantee requirement resulting in a Provincial Guarantee amount of $1,551 million for the 2013-2017 period. OPG is currently updating the CNSC financial guarantee requirement for the 2018-2022 period and expects to

file it with the CNSC in the first half of 2017. OPG pays the Province an annual guarantee fee equal to 0.5 percent of the amount of the Provincial Guarantee.

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-regulated, non-hedging activities. As part of trading activities, OPG transacts with counterparties in Ontario and neighbouring energy markets in predominantly short-term trading activities of typically one year or less in duration. These activities relate to electricity that is purchased and sold at the Ontario border, financial energy trades, transactions related to financial risk management energy-related products, and sales of other energy-related products.

In addition, the segment includes the results of OPGET, which engages in U.S.-based wholesale energy trading activities in the U.S. northeast. The activities of OPGET include trading electricity in the U.S. using over-the-counter energy-related derivatives. OPGET retains a Federal Energy Regulatory Commission Licence.

The segment also includes revenue from real estate rentals and non-regulated services, non-regulated business development activities, and prior to OPG's decision to decommission the stations, preservation costs related to the Lambton GS and Nanticoke GS sites.

Indigenous Relations

The Aboriginal and treaty rights of Indigenous communities are recognized and affirmed in the *Constitution Act, 1982*. OPG's corporate governance includes an Indigenous Relations policy to help build and develop mutually beneficial working relationships with Indigenous communities proximate to the Company's present and future operations. The policy focuses on building respectful relationships with Indigenous communities, businesses and organizations through partnership, collaboration, and support for procurement, employment and educational opportunities. The Company seeks to establish and maintain these relationships based on a foundation of respect for the languages, customs, and political, social and cultural organizations of the indigenous communities.

OPG may be subject to claims by Indigenous communities or other Indigenous groups and individuals. These claims may stem from generation development activities, historic operations of Ontario Hydro that may have impacted Aboriginal and treaty rights, or the absence of legal permits, rights-of-way, or easements. Legal precedents created by court rulings may impact negotiations and resolution of past grievances. To date, OPG has resolved 23 past grievance claims, achieving final settlement agreements.

In line with the company's Indigenous Relations policy, OPG is pursuing prospective generation-related developments and other joint projects with Indigenous communities. OPG currently has four generation development partnerships with Indigenous communities. OPG's first such partnership was established in early 2009 as part of the Obishikokaang Waasiganikewigamig/Lac Seul GS project. The signing of the "*Amisk-oo-Skow*" Agreement with the Moose Cree First Nation (MCFN) in early 2010 marked the second such partnership. In 2011, the Lower Mattagami Limited Partnership agreement was amended and restated to include the MCFN and their wholly owned Amisk-oo-Skow Finance Corporation as limited partners and to enable the MCFN to acquire up to 25 percent limited partnership interest in the Lower Mattagami River project. During 2014, the MCFN acquired a 25 percent interest in the assets through its investment in the Lower Mattagami Limited Partnership as incremental units of the project were placed in-service.

In November 2008, OPG and Coral Rapids Power L.P., a wholly owned subsidiary of Taykwa Tagamou Nation, negotiated a suite of agreements regarding what is now known as the Peter Sutherland Sr. GS development project, including a partnership agreement. Under the partnership agreement, Coral Rapids Power L.P. is pursuing an equity interest in the partnership.

Following selection by the IESO in March 2016, OPG and a subsidiary of the Six Nations of Grand River Development Corporation have partnered, through Nanticoke Solar LP, to develop a new 44 MW solar facility at OPG's Nanticoke GS site and adjacent lands.

Other recent joint projects with Indigenous partners include two shoreline remediation projects completed in 2016. The Whitesand First Nation, working closely with OPG, completed a project to remediate nearly two kilometers of shoreline, while the Long Lake #58 First Nation undertook the management of a five-year shoreline remediation project. OPG also has been engaging proactively with Indigenous communities regarding the Company's nuclear operations, including both regularly scheduled meetings and an outreach effort in connection with OPG's proposed L&ILW DGR and the re-licensing of the PWMF and the WWMF.

In November 2016, OPG was recognized for its ongoing commitment to engaging local Indigenous communities with the Canadian Electricity Association's (CEA) 2016 Sustainable Electricity award for Leadership in External Collaboration and Partnerships.

Workplace Safety and Public Safety

Workplace Health and Safety

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. Overall, OPG's workplace safety performance has been one of the best amongst its comparator Canadian electrical utilities. In 2016, OPG received the CEA President's Gold Award recognizing three consecutive years, 2013 to 2015, of sustained top quartile safety performance within the comparator group.

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

	2016	2015	2014
AIR *(injuries per 200,000 hours worked)*	**0.56**	0.39	0.36
ASR *(days lost per 200,000 hours)*	**2.59**	0.50	1.31

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

In 2016, OPG launched an organization-wide "iCare Enough to Act" initiative aimed at renewing employees' commitment to their own and each other's safety and well-being. Plans to further strengthen safety as a foundational element of the Company's values-based culture are being developed through leadership forums and other engagement activities.

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

than average Construction Contractor AIR as compared to the Health and Safety Association Contractor AIR, a metric of construction contractor safety performance across Ontario.

Since 2014, OPG has been operating under a single integrated health and safety management system and set of operational risk control procedures across the Company, providing consistent performance expectations for all employees. The control procedures are designed to ensure continued enterprise-wide monitoring of health and safety performance and to support continuous learning and improvement in these areas. Oversight and reporting by corporate and site safety functions is in place to provide senior management with regular information on the effectiveness of the safety management efforts, compliance with legal and corporate requirements, and safety performance trends. OPG's incident management system requires that all incidents, including near misses, be reported and investigated and that corrective action plans be developed and completed in order to prevent reoccurrences.

In 2014, OPG launched a Total Health initiative that aims to embed a health culture that supports employees and their families in their efforts to achieve an optimal level of health and functioning, through health education, health promotion, disease and injury prevention, and crisis intervention. In 2016, the Company launched the Mental Health First Aid training course for employees, an accredited training program facilitated by the Mental Health Commission of Canada. The training aims to increase awareness and empathy for mental illness, reduce stigma, support affected employees, and improve return to work outcomes.

Nuclear Radiation Safety

OPG manages a radiation protection program designed to minimize detrimental health effects to employees and members of the public. OPG follows developments in the field of radiation protection as documented by the International Commission on Radiological Protection (ICRP), the United Nations Scientific Committee on the Effects of Atomic Radiation, and the U.S. National Council on Radiation Protection and Measurements. Widely recognized as the main source of expert advice regarding protection from the harmful effects of ionizing radiation, the ICRP periodically issues recommendations concerning principles of radiation protection. These recommendations are usually adopted by most countries without significant modification and are incorporated into the applicable laws. The Canadian Radiation Protection Regulations are based on the recommendations of the ICRP, and OPG's nuclear facilities conform to these regulations. The CNSC is the federal agency that regulates radiation protection in Canada.

Radiation exposures to station personnel and the public are limited by station design and adherence to approved operating procedures. Over the years, OPG has been a leader in applying the principles of keeping radiation doses as low as reasonably achievable. OPG's internal operating limits for occupational exposure are set well below the regulatory limits to ensure that the regulatory limits are not exceeded. OPG's operating targets for radiological emissions are set at even more restrictive levels and typically represent small fractions of the regulatory limits.

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

As a condition of receiving operating licences for its nuclear facilities, OPG has developed comprehensive emergency plans that detail the Company's planned response to reactor accidents, as well as accidents involving the transportation of radioactive materials. These plans dictate how OPG will work with municipal, regional, provincial, and federal agencies to safeguard station personnel and members of the

public in the unlikely event of a radiation emergency at one of OPG's facilities. Station staff are required to regularly participate in emergency exercises to maintain and continuously improve response capability for such events.

Dam Safety and Waterways Public Safety

OPG manages dam safety and other risks associated with the production of hydroelectric power through OPG's Safe Operations Policy and Dam Safety Program. The Safe Operations Policy directs that dams be designed, constructed, operated, and maintained in a manner that meets all regulatory requirements, or, in the absence of regulations, the safety guidelines published by the Canadian Dam Association or other industry best practices. OPG is one of the first dam owners in Canada to have developed and implemented a dam safety program and is considered an industry leader in many aspects of the program.

In addition to effectively managing the safety of dams against catastrophic failure, OPG has developed a number of technical standards and procedures concerning public safety around dams, and materials to educate the public and raise awareness of the hazards associated with the operation of the hydroelectric facilities. This includes the implementation of control measures in the form of signage, safety booms, buoys, fencing and audible alerts at the appropriate facilities. These measures are actively managed to maintain their effectiveness. OPG also strives to entrench a "Stay Clear – Stay Safe" message as part of its public education program, through strategically placed advertisements and engagement of other agencies, such as the MNRF, Ontario Provincial Police, Life Saving Society, Ontario Waterpower Association, and other stakeholders.

Since 2007, OPG has engaged an independent advisory panel consisting of internationally recognized experts to conduct an annual review of its Dam Safety Program. The Chair of the independent panel establishes areas of in-depth review and presents the observations to OPG's Board of Directors. The panel has consistently found that the risks associated with the dams owned and operated by OPG are being managed in alignment with industry best practices and guidelines.

For additional details on the regulatory regime related to dams and waterways, see *Description of the Business – Water Rights.*

Environment

Overview

OPG is committed to meeting all legal requirements and any environmental commitments that it makes, with the objective of exceeding the legal requirements where it makes business sense. OPG's Environmental Policy specifically commits the Company to:

- Establish an environmental management system (EMS) and maintain registration for this system to the ISO 14001 Environmental Management System standard;
- Work to prevent or mitigate adverse effects on the environment with a long-term objective of continual improvement; and
- Manage sites in a manner that strives to maintain, or enhance where it makes business sense, significant natural areas and associated species of concern.

The policy is implemented through OPG's EMS. Within the EMS, OPG sets environmental goals and maintains planning, operational control, and monitoring programs to manage its negative and positive impacts on the environment. The most significant environmental aspects of OPG's operations include: chemical emissions to water, spills, fish impingement and entrainment, thermal effluent emissions, displacement of fossil fuels, enhancement and disruption of wildlife habitat, tritium and carbon-14 emissions, radioactive waste generation, and water flow and level changes. The policy is reviewed annually as part of the EMS to ensure that it remains appropriate to the nature, scale and environmental impacts of OPG's activities.

OPG communicates its environmental performance to external and internal stakeholders through a range of engagement methods such as reports and correspondence to regulators, meetings, newsletters, open houses, consultations, news releases, advertising campaigns, social media, and participation in community events.

Details of OPG's environmental performance and initiatives to fulfill the Environmental Policy can be found in OPG's annual *Sustainability Report*, which is available on the Company's website at www.opg.com. ***Unless otherwise specifically stated, none of the information contained on, or connected to the Company's website nor any of the contents of the Sustainability Report are incorporated by reference herein.***

Environmental Compliance

OPG must comply with a large number of environmental requirements contained in statutes, regulations, by-laws, licences, permits and approvals. Failure to comply with applicable environmental laws may result in enforcement action, including the potential for orders or charges. OPG reports any incidents of non-compliance to the appropriate federal, provincial or municipal authorities as required, with corrective action plans developed and implemented accordingly.

Changes in environmental regulatory requirements may result in existing operations being in a state of non-compliance, a potential inability to comply, and potential costs and liabilities for OPG. To ensure compliance, such circumstances may require OPG to install control technologies, develop new processes, allowances or offsets, or place constraints on electricity production.

Protection of Fish

Electricity generating facilities located on waterways can impact fish in a number of ways. At nuclear and thermal stations, the intake of water for equipment cooling purposes can result in fish being impinged on station equipment and fish larvae and eggs being entrained in the water as it passes through the station. The warmer water returned to the water body also has the potential to impact aquatic organisms and habitat near the station. At hydroelectric stations, the flow of water through the station turbines can result in fish impingement and entrainment, while physical barriers such as dams can prevent the migration of fish.

OPG utilizes measures such as fish ladders, trap and transport programs, stocking programs, barriers and deterring structures, water flow alterations, habitat protection and creation, and station effluent temperature limits to manage and mitigate impacts to fish. Potential regulatory changes being monitored and managed as risks by the Company include electricity production constraints and water flow management requirements to protect fish and fish habitat, and expanded fish passage requirements.

Biodiversity and Habitat Stewardship

The generation of electricity can have an impact on biodiversity, either directly through habitat loss and fragmentation or indirectly through emissions to the environment. OPG is committed to managing its sites in a manner that strives to maintain significant natural areas and associated species of concern. OPG also works with its community partners to support regional ecosystems and biodiversity through science-based habitat stewardship. OPG's regional biodiversity program is strategically focused on funding and promoting efforts which contribute to the protection and restoration of a natural system of habitat cores and corridors across Ontario.

Climate Change Mitigation and Air Quality

OPG's operational and growth strategies support reductions in GHG emissions and improved air quality. 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. The elimination of coal-fired electricity production at OPG's generating stations resulted in coal being reduced from one-quarter of Ontario's energy supply mix in 2003 to zero in 2014.

OPG monitors and reports GHG emissions from its facilities in accordance with the regulatory requirements set out by Environment and Climate Change Canada and the Ontario Ministry of the Environment and Climate Change. In 2016, the Government of Ontario passed the *Climate Change Mitigation and Low-Carbon Economy Act, 2016* and the associated *Cap and Trade Program Regulation*. The legislation provides the foundation for regulating GHG emissions in Ontario and includes a cap and trade program, with the first compliance period being from January 1, 2017 to December 31, 2020. The cap and trade program is a market mechanism intended to give Ontarians an incentive to reduce GHG emissions by putting a price on carbon. The program requirements are expected to result in increased fuel costs for some OPG-owned and co-owned generating facilities. Fuel costs for these stations are generally recovered from the electricity market. With OPG's low GHG emitting fleet, this is not expected to have a material adverse financial impact on the Company. OPG has established the necessary processes to comply with the cap and trade program requirements.

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

Radiological Emissions

Very low levels of radioactivity are released to air and water as a result of operating the reactors at OPG's nuclear generating stations. OPG maintains an effluent monitoring and control program to ensure radiological emissions are kept well below the release limits specified in the station operating licences. OPG also has environmental monitoring programs in the vicinity of the nuclear stations to ensure operations have no adverse impacts on human health and the environment. These programs are designed to assess impacts, demonstrate compliance with regulatory limits, validate the effectiveness of containment and effluent controls, and verify predictions made by environmental risk assessments. Results from the monitoring programs have confirmed OPG's radiological emissions are a small fraction of the regulatory release limits.

In June 2016 and August 2016, the CNSC released sampling results from its independent environmental monitoring program, which confirmed that the public and the environment around OPG's nuclear generating stations continued to be safe.

For further details, see *Workplace Safety and Public Safety – Nuclear Radiation Safety.*

People and Culture

Workforce Resourcing Strategies

Electricity generation involves complex technologies that require highly skilled and trained workers, and a well trained and engaged workforce is fundamental to the achievement of OPG's strategic imperatives. The Company is focused on improving the capability of its workforce through leadership development, knowledge management, diversity and inclusion programs, and hiring in key areas. Ability to secure the right talent mix in order to effectively meet the Company's immediate and longer term business needs on a timely basis is supported through workforce planning, resourcing and on-boarding strategies, both to acquire external talent into the organization and to develop existing employees. The goal of resourcing strategies and workforce planning is to ensure that the Company's workforce is diverse and has the right skill set and capability for the safe and effective operation of the generating facilities and successful delivery of major projects, including the refurbishment of the Darlington GS. These strategies are being designed to take into account anticipated staffing requirements to the end of planned commercial

operations of the Pickering GS, through to the end of the planned period to de-fuel, de-water and place the station in a safe state condition.

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

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.

Effective January 1, 2017, OPG implemented a new Executive Compensation Program that is compliant with *Ontario Regulation 304/16: Executive Compensation Framework*, introduced in September 2016. The regulation sets out how all employers designated under the *Broader Public Sector Executive Compensation Act, 2014*, including OPG, must establish and post compensation programs for executives. OPG's new Executive Compensation Program is designed to provide compensation that is at the 50th percentile of the market and focused on at-risk, performance based pay. The program will better enable OPG to attract, align and retain the executive talent critical to delivering Shareholder and customer value, while ensuring continued safe and reliable operations. For further information, refer to *Corporate Governance – Compensation.*

Employees

OPG's average number of full-time employees and average number of seasonal, casual construction and non-regular staff (Other Staff) in 2016 were as follows:

Business Segment	**Full-time Employees**	**Other Staff**
Regulated – Nuclear Generation [1]	7,250	1,120
Regulated – Hydroelectric	1,150	45
Contracted Generation Portfolio	540	50
Services, Trading, and Other Non-Generation	130	5
Total	**9,070**	**1,220**

[1] Including employees associated with the Regulated – Nuclear Waste Management segment.

The majority of OPG's employees are represented by the PWU and The Society. The PWU includes most workers below the level of first line manager – from clerical staff to technicians and trades staff and station operators. The Society includes supervisors, professional engineers, scientists, and other professionals.

Bargaining rights with the 19 craft unions that perform construction work at OPG's generating facilities in addition to the regular workforce are established either through the EPSCA or directly with OPG. EPSCA is a voluntary association of owners and contractors who perform work in the electrical power systems sector. The primary purpose of EPSCA is negotiating and administering collective agreements on behalf of employers performing work on what is now OPG property. Collective agreements between the Company and its construction unions are negotiated either directly or through EPSCA. OPG currently has 17 agreements through EPSCA and two direct trade agreements. The two direct trade agreements are with the Canadian Union of Skilled Workers and the Brick and Allied Craft Union.

Insurance

The principal types of discretionary insurance carried by OPG include directors' and officers' liability, excess commercial general liability, all risks property, boiler and machinery breakdown, including statutory boiler and pressure vessel inspections, and business interruption. In addition to providing coverage for OPG's non-nuclear facilities, this insurance applies to the conventional operations at OPG's nuclear generating stations. OPG also maintains nuclear property insurance, including nuclear boiler and machinery breakdown, for damage to the nuclear portions of its generating stations and for perils propagating from the nuclear to the conventional side of its assets. This coverage complements the conventional property insurance program.

OPG also purchases or requires contractors to purchase discretionary insurance for construction projects. For the Darlington Refurbishment project, the insurance coverage for the pre-requisite construction works was placed in 2013 and for refurbishment execution in 2016. The owner-controlled insurance program for the refurbishment consists of wrap-up liability, course of construction and marine transit insurance.

OPG purchases certain insurance coverage as required by statute, namely owned and leased motor vehicle liability and nuclear energy liability insurance. The federal *Nuclear Liability and Compensation Act* (NLCA) that came into effect on January 1, 2017, and its predecessor legislation, the *Nuclear Liability Act* (NLA), impose absolute liability on a licensed operator of a nuclear generating station for any damage to property of, or injury to, the public arising from a nuclear incident, other than damage resulting from sabotage or acts of war. As such, the legislation protects all other persons from liability, including suppliers of nuclear fuel and components used in nuclear reactors.

The NLCA requires all operators of nuclear generating stations in Canada to maintain specified amounts of nuclear liability insurance purchased from a federal government approved insurer or other equivalent forms of financial security approved by the federal government. Under the NLCA, OPG is required to maintain an initial $650 million per incident of nuclear energy liability insurance for each of its nuclear installations as defined by the NLCA effective in 2017, for which there is no deductible amount, with successive annual increases to $750 million, $850 million, and $1 billion over the 2018-2020 period. The Pickering GS site and the Darlington GS site are considered to be two separate nuclear installations under the NLCA. OPG is also required to maintain $13 million per incident of nuclear energy liability insurance for the WWMF. OPG is not responsible for purchasing nuclear liability insurance for the Bruce nuclear generating stations. Previously, the NLA required OPG to maintain $75 million per incident of nuclear energy liability insurance for each of the Pickering GS site and the Darlington GS site and $6 million for the WWMF, purchased from a federal government approved insurer. OPG continues to maintain nuclear liability insurance or other forms of financial security that have been approved by the federal government equal to the required liability limits.

Under Part I of the NLCA, an operator is liable for all damages resulting from a nuclear incident. If, in the opinion of the Governor in Council, OPG's liability could exceed the specified insured amount in respect of a nuclear incident, or it would be in the public interest to do so, the Governor in Council shall proclaim Part II of the NLCA as applicable in respect of a nuclear incident. Under Part II of the NLCA, OPG's liability would be effectively limited to the amount of required abovementioned insurance, and the Governor in Council may authorize additional funds to be paid by the federal government as may be specified in an order.

RISK FACTORS

OPG faces a wide range of significant risks which could have a material adverse effect on the Company's business and achievement of strategic imperatives. There may be further risks and uncertainties that are not presently known, or that are not currently believed to be material, that may in the future adversely affect the Company's performance or financial condition.

The risks faced by OPG include those associated with:

- Significant inherent uncertainties regarding the outcomes of OEB rate and other proceedings for OPG's regulated operations, including the Company's May 2016 application for new regulated prices for the 2017-2021 period and the OEB's sector-wide review of pension and OPEB cost recovery mechanisms;
- The ability to deliver the Darlington Refurbishment project objectives on time and on budget. Failure to carry out the refurbishment of the first unit as planned may result in a decision not to refurbish the remaining Darlington units;
- The planned extension of commercial operations of the Pickering GS to 2024;
- Availability or alignment of skilled human resources;
- Maintaining safe and reliable operations of aging generating assets and the exposure to variable output from existing generating stations;
- The cost, schedule, and technical aspects of major development projects;
- Additional nuclear regulatory and licencing requirements and changes in technical codes, regulations or laws;
- Non-performance by strategic suppliers or an inability to diversify the supplier base;
- Managing information technology (IT), including the risks of failure to meet IT requirements and effectively deal with cyber security threats;
- Uncertainty inherent in cost estimates for nuclear waste management and nuclear facilities decommissioning obligations;
- Uncertainty associated with nuclear waste management operations, including proposed waste disposal facilities such as the L&ILW DGR;
- Potential non-compliance with applicable environmental laws;
- The impact of changes in various market factors, such as equity prices, interest rates, inflation, and commodity prices, on the market value of investments held by OPG's Nuclear Segregated Funds and registered pension plan;
- Changes in the opinion of various stakeholders regarding OPG's public profile, including the impact thereon of OPG's inability to achieve operational excellence and project excellence safely and reliably and to maintain financial strength;
- The quality of OPG's relationships with Indigenous communities, including exposure to potential claims by, and the outcome of negotiations with, these communities;
- Changes in post-employment benefit obligations;
- Employee and contractor occupational safety risks and hazards;
- Inability to file consolidated financial statements beyond 2018 based on US GAAP upon expiry of the current exemptive relief from the Ontario Securities Commission; further details regarding the exemptive relief can be found in the Company's 2016 annual MD&A under the heading, *Exemptive Relief for Reporting under US GAAP* in the section *Critical Accounting Policies and Estimates;*
- The obligation of OPG's shareholder, the Province of Ontario, to respond to a broad range of matters in its role as the Government of Ontario competing with OPG's commitment to maximize the return on the shareholder's investment in the Company. This includes, but is not limited to, the Province's response to mitigate the impact of rising electricity prices on consumers.
- Deterioration in counterparty credit and non-performance by suppliers and contractors;
- Electricity market conditions including new participants in the market, competitive actions of market participants, electricity demand, economic growth, SBG conditions, changes in the regulatory environment, and wholesale prices in interconnected markets;
- Increases in operating costs and other business impacts arising from federal and provincial legislation and regulations, including potential changes therein;
- Volatility in electricity trading activities;
- Impact of a successful challenge by tax authorities of a tax position taken by OPG that is not recoverable from customers;
- Movements in the U.S. dollar and other foreign currencies relative to the Canadian dollar;
- Ability to cost effectively meet liquidity requirements including funding for business development initiatives;
- Delays or cancellations of development projects in the initial stages of development;

- Changes in the market price of fuels used to produce electricity;
- Contracted generation assets, which may not meet performance targets as specified in the ESAs or other long-term contracts. Additionally, upon expiry, subsequent ESAs may not be available;
- Uncertainty in U.S. government policy that may impact OPG's operations; and
- Business continuity events, including disruptions due to extreme weather, natural disasters, technology and human factors.

The above list of risk factors is not exhaustive. For a detailed discussion of risks that could materially adversely affect OPG, including its business, strategy, generating stations, reputation, financial condition, operating results and projects, see the Company's 2016 annual MD&A under the section *Risk Management*, which risk factors are incorporated by reference herein.

DIVIDENDS

In 1999, OPG's Board of Directors established a policy to pay a dividend of 35 percent of net income after taxes. The declaration and payment of dividends remains at the sole discretion of OPG's Board of Directors and is dependent on the results of OPG's operations, the Company's financial condition and cash requirements, securities legislation requirements, and other factors considered relevant by the Board of Directors in exercising its discretion and judgment on an ongoing basis. OPG did not declare or pay any dividends for the years 2014 to 2016.

There are no restrictions in the articles of the Company that could prevent the Company from paying dividends. However, the declaration and payment of dividends are subject to financial tests set forth in the OBCA.

DESCRIPTION OF CAPITAL STRUCTURE

The authorized share capital of OPG consists of an unlimited number of common shares (the voting shares of the Company). As at December 31, 2016, OPG had 256,300,010 common shares issued and outstanding, all of which are owned directly by the Province at a stated value of $5,126 million. OPG is authorized to issue an unlimited number of common shares without nominal or par value. Holders of common shares are entitled to one vote per share at meetings of the shareholders of the Company and to receive dividends if, as, and when declared by the Board of Directors of the Company. Holders of common shares would participate, pro rata to their holding of common shares, in any distribution of the assets of the Company upon its liquidation, dissolution, or winding up. Any issue of new shares is subject to the consent of all of OPG's shareholders.

All of the Company's voting securities are held by the Province. Accordingly, the Company is controlled by the Province.

CREDIT RATINGS

DBRS Limited (DBRS) and S&P Global Ratings (S&P) provide credit ratings for commercial entities. A credit rating generally provides investors with an independent measure of credit quality of an issue of securities. Credit rating categories for long-term debt instruments range from highest credit quality (generally 'AAA') to default in payment (generally 'D').

In April 2016, DBRS re-affirmed the long-term credit rating on OPG's debt at 'A (low)' and the commercial paper rating at 'R-1 (low)', each with a stable outlook. In July 2016, S&P re-affirmed OPG's long-term credit rating at BBB+ with a stable outlook. On July 7, 2015, S&P lowered OPG's long-term corporate credit rating from 'A-' to 'BBB+' with a stable outlook. S&P's rating action followed its July 6, 2015 downgrade to the Province's rating from 'AA-' to 'A+'. The link between the Province and OPG through ownership and financial support may impact OPG's credit rating. S&P's commercial paper rating for OPG is 'A-1 (low)'.

Long-term debt instruments that are rated in the 'A' category by DBRS are considered to be of good credit quality. The capacity for the payment of financial obligations by the obligor of such instruments is considered to be substantial, but of lesser credit quality than higher-rated entities. Entities in the 'A' category may be vulnerable to future events, but qualifying negative factors are considered manageable. The addition of a "high" or "low" modifier indicates relative standing within the rating category.

A 'BBB' rating category by S&P for long-term debt instruments means that the obligor has adequate capacity to meet its financial commitments, but is considered more subject to adverse economic conditions than higher-rated entities. The addition of a plus '+' or minus '-' designation after a rating indicates the relative standing within a particular rating category.

DBRS's commercial paper credit rating scale ranges from 'R-1 (high)' to 'D', which represents the highest to lowest quality of such securities rated. The rating of 'R-1 (low)' is the third highest and is considered to be of good credit quality. S&P's Canadian commercial paper rating scale ranges from 'A-1 (high)' to 'D', which represents the highest to lowest quality of such securities rated. The rating of 'A-1 (low)' is the third highest and is considered to be satisfactory.

There can be no assurance that a credit rating will remain in effect for any given period of time or that a credit rating will not be lowered, withdrawn or revised by either or both rating agencies if, in their judgment, circumstances so warrant. The rating of any securities is not a recommendation to buy, sell or hold such securities, and such ratings do not comment as to market price or suitability for a particular investor.

During the past two years, OPG has made payments to DBRS and S&P's credit rating agencies for their credit rating services and for other services. OPG reasonably expects such payments will continue in the future for the services acquired.

MARKET FOR SECURITIES

None of the Company's securities are listed and posted for trading or quoted on any exchange or quotation system.

CORPORATE GOVERNANCE

National Instrument 58-101 *Disclosure of Corporate Governance Practices* (NI 58-101), 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 NI 58-101 and National Policy 58-201 *Corporate Governance Guidelines.* In addition, OPG has reviewed its governance practices against the principles discussed in the 2013 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 is as follows:

Board of Directors

OPG's Board of Directors (Board) is made up of 14 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 Indigenous communities; and

- stakeholder management.

The Board exercises its independent supervision over management as follows: the majority of members of the Board are independent of the Company; meetings of the Board are held at least five times a year; a formal Charter for the Board 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 Board 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 for: ensuring a culture of integrity and ethical conduct; increasing Shareholder value; defining and executing a corporate 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, and health, environmental 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 corporate and CEO targets and objectives.

Director Independence

On an annual basis, the Compensation, Leadership and Governance Committee of the Board 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.

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 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 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 the Directors' independence and financial literacy for the purposes of complying with securities regulations related to boards of directors and audit committees; and
(iii) satisfy other disclosures and regulatory filings.

To further minimize potential conflicts of interest, the Board has a policy on interlocking directorships. This policy states that no more than two OPG Directors may sit on a board of directors 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 of directors.

Strategic Planning

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 2016, 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 are 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

The Board oversees OPG's approach of identifying, reporting and mitigating the risks that could significantly impact the Company'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, comprised of independent Directors. The committee's mandate includes oversight of the Enterprise Risk Management (ERM) framework that management uses to manage the Company's risk profile. The ERM framework assists the Board in understanding how risks may affect the Company and how they are being addressed by management. The Audit and Risk Committee receives quarterly reports from OPG's Chief Risk and Audit Executive (CRAE) 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 CRAE and Senior Vice President, People & Culture and Chief Ethics Officer jointly review the executive compensation framework on an annual basis to identify any potential for unintended risk-taking. The CRAE and Senior Vice President, People & Culture and Chief Ethics Officer provide an annual joint report to the Compensation, Leadership and Governance Committee on the results of their review.

Directors

The following tables set forth the name, age, municipality of residence, position with the Company and principal occupation of each of the Directors of the Company as of March 10, 2017. Each Director holds office until he or she resigns or a successor is elected or appointed. For a discussion of the Board Committee structure, refer to the heading, *Committees of the Board of Directors*.

Bernard Lord
Age: 51
Moncton, New Brunswick, Canada

Bernard Lord was appointed Board Chair for Ontario Power Generation on April 1, 2014. Mr. Lord is the CEO of Médavie, a not-for-profit Canadian medical care insurance company headquartered in Moncton, New Brunswick.

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 Law Society in 1993 and was appointed as Queen's Counsel in 2011.

Mr. Lord was the CEO of the Canadian Wireless and Telecommunications Association from October 2008 until August 2016. He also served on several other boards of directors.

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.

Mr. Lord's 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.

2016 Board/Committee Membership:	**2016 Attendance:**	
Board (since November 2013)	8 of 8	100%
The Board Chair is not a member of any standing Committee. The Board Chair attends all Committee meetings.	18 of 18	100%

Principal Occupation: CEO of Médavie

Board Memberships for other Reporting Issuers: None

Independence from OPG: Independent

Interlocking Directorships on Boards of other Reporting Issuers: None

Jeffrey Lyash
Age: 55
Toronto, Ontario, Canada

Jeff Lyash is the President and CEO of OPG. Mr. Lyash was formerly the president of CB&I Power, a position he held from 2013 to 2015, 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/Progress Energy from 2008 to 2012. With 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 22,000-megawatt 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 Fuqua School of Business Advanced Management Program.

2016 Board/Committee Membership:	**2016 Attendance:**	
Board (since August 2015)	8 of 8	100%
The President and CEO attends all Committee meetings, excluding independent Director in-camera meetings/sessions.	18 of 18	100%

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

Nicole Boivin
Age: 58
Brant County, 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 directors of the Harbourfront Centre in Toronto, where she was part of the executive committee and chaired the development committee.

Ms. Boivin 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 from 2007 to 2011. Of note, she led the creation of the global co-branding strategy following Manulife's acquisition of John Hancock in the U.S. 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 1990s 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.

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

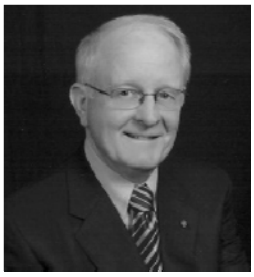
2016 Board/Committee Membership:	**2016 Attendance:**	
Board (since April 2014)	8 of 8	100%
Compensation, Leadership and Governance Committee (since February 2016)	4 of 4	100%
Darlington Refurbishment Committee (since February 2016)	4 of 4	100%

Principal Occupation: Corporate Director

Board Memberships for other Reporting Issuers: None

Independence from OPG: Independent

Interlocking Directorships on Boards of other Reporting Issuers: None



William Coley
Age: 73
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. He also served on the WANO Fukushima Commission.

2016 Board/Committee Membership:	**2016 Attendance:**	
Board (since January 2013)	7 of 8	88%
Compensation, Leadership and Governance Committee (since February 2016)	4 of 4	100%
Generation Oversight Committee (since February 2016)	4 of 4	100%
Darlington Refurbishment Committee (since May 2015)	4 of 4	100%

Principal Occupation: Retired Chief Executive of British Energy

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

Independence from OPG: Independent

Interlocking Directorships on Boards of other Reporting Issuers: None

Elisabeth (Lisa) DeMarco
Age: 49
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. Ms. DeMarco was previously a partner at Macleod Dixon LLP from 2002 to 2012, partner at Norton Rose Canada LLP from 2012 to 2013 and partner at Norton Rose Fulbright LLP from 2013 to 2014. She represents several governments and leading energy clients in a wide variety of natural gas, electricity, pipeline 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, gas, and electricity) 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 Québec. 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 also lead counsel on all aspects of the successful sale of an Ontario power distribution company. She was an appointed member of Ontario's Clean Energy Task Force and Climate Action Group.

Ms. DeMarco is 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) and is called to the bar in England and Ontario.

2016 Board/Committee Membership:	**2016 Attendance**	
Board (since April 2014)	8 of 8	100%
Audit and Risk Committee (since February 2016)	5 of 6	83%
Generation Oversight Committee (since February 2016)	4 of 4	100%

Principal Occupation: Senior Partner, DeMarco Allan LLP

Board Memberships for other Reporting Issuers: None

Independence from OPG: Independent

Interlocking Directorships on Boards of other Reporting Issuers: None

Jean Paul (JP) Gladu
Age: 43
Toronto, Ontario, Canada

JP Gladu is currently the President and CEO of the Canadian Council for Aboriginal Business (CCAB) 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, including involvement in business development for the Bingwi Neyaashi Anishinaabek Nation from 2009 to 2012. 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 Masters of Business Administration 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 currently serves on the Canadian Electricity Associations' Public Advisory Panel. He has also held previous board positions with Colleges and Institutes Canada (previously the Association of Canadian Community Colleges), Northern Policy Institute, Canadian Foundation for Economic Education boards of directors, Centre for Research and Innovation in the Bio-Economy, Papasay Management Corporation, and a board member of the Canadian Bioenergy Association. He also held advisory positions with the Canadian Association of Petroleum Producers Renewable Clean Energy Committee and the Ontario Provincial Forest Policy Committee.

2016 Board/Committee Membership:	**2016 Attendance:**	
Board (since November 2015)	8 of 8	100%
Compensation, Leadership and Governance Committee (since February 2016)	4 of 4	100%
Generation Oversight Committee (since February 2016)	4 of 4	100%

Principal Occupation: President and CEO, Canadian Council for Aboriginal Business

Board Memberships for other Reporting Issuers: None

Independence from OPG: Independent

Interlocking Directorships on Boards of other Reporting Issuers: None

Brendan Hawley
Age: 64
Ottawa, Ontario, Canada

Brendan Hawley is the Principal of a national public affairs consultancy that has advised industry, corporate and government clients over the past 30 years. Covering a range of industries from energy and power, to cultural industries, Mr. Hawley has advised on issues relating to the public impact/perception of industry structure, products, and economic impact as well as government legislation and regulation.

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.

2016 Board/Committee Membership:	**2016 Attendance**	
Board (since April 2014)	8 of 8	100%
Audit and Risk Committee (since February 2016)	6 of 6	100%
Darlington Refurbishment Committee (since February 2016)	4 of 4	100%

Principal Occupation: Management Consultant, Brendan Hawley & Associates

Board Memberships for other Reporting Issuers: None

Independence from OPG: Independent

Interlocking Directorships on Boards of other Reporting Issuers: None

John Herron
Age: 63
Punta Gorda, Florida, U.S.A.

John Herron retired from Entergy in April 2013 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 Sequoyah 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 Post-Fukushima Commission and the U.S. nuclear industry's Fukushima response steering committee.

2016 Board/Committee Membership:	**2016 Attendance**	
Board (since November 2013)	7 of 8	88%
Generation Oversight Committee* (since February 2016)	4 of 4	100%
Darlington Refurbishment Committee (since May 2015)	4 of 4	100%

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

Interlocking Directorships on Boards of other Reporting Issuers: None

* Chair of Committee

Ira Kagan
Age: 54
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 sector (including many of the leading developers in the Greater Toronto Area) and the 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.

2016 Board/Committee Membership:	**2016 Attendance**	
Board (since April 2014)	8 of 8	100%
Audit and Risk Committee (since February 2016)	6 of 6	100%
Generation Oversight Committee (since February 2016)	3 of 4	75%

Principal Occupation: Lawyer, Kagan Shastri LLP

Board Memberships for other Reporting Issuers: None

Independence from OPG: Independent

Interlocking Directorships on Boards of other Reporting Issuers: None

M. George Lewis
Age: 56
Toronto, Ontario, Canada

From February 2007 until November 2015, George 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, Canada's largest bank. 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.

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 top-rated 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 Masters 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 Enbridge Income Fund Holdings Inc., 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.

2016 Board/Committee Membership:	**2016 Attendance:**	
Board (since February 2005)	8 of 8	100%
Audit and Risk Committee* (since February 2016)	6 of 6	100%
Compensation, Leadership and Governance Committee (since February 2016)	4 of 4	100%

Principal Occupation: Corporate Director

Board Memberships for other Reporting Issuers: Enbridge Income Fund Holdings Inc. (TSX)

Independence from OPG: Independent

Interlocking Directorships on Boards of other Reporting Issuers: None

* Chair of Committee

Margaret (Peggy) Mulligan
Age: 58
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 Institute of Chartered Professional Accountants of Ontario in 2003.

2016 Board/Committee Membership:	**2016 Attendance:**	
Board (since December 2005)	7 of 8	88%
Compensation and Leadership and Governance Committee* (since February 2016)	4 of 4	100%
Darlington Refurbishment Committee (since May 2015)	4 of 4	100%

Principal Occupation: Corporate Director

Board Memberships for other Reporting Issuers: Canadian Western Bank (TSX), ClearStream Energy Services Inc. (TSX) (*previously Tuckamore Capital*)

Independence from OPG: Independent

Interlocking Directorships on Boards of other Reporting Issuers: None

* Chair of Committee

Yezdi Pavri
Age: 67
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.

2016 Board/Committee Membership:	**2016 Attendance:**	
Board (since September 2015)	8 of 8	100%
Audit and Risk Committee (February 2016)	6 of 6	100%
Compensation, Leadership and Governance Committee (since February 2016)	4 of 4	100%

Principal Occupation: Corporate Director

Board Memberships for other Reporting Issuers: None

Independence from OPG: Independent

Interlocking Directorships on Boards of other Reporting Issuers: None

Gerry Phillips
Age: 76
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, as well as, Minister responsible for Securities Regulation in Ontario. He was also the Chair of the Management Board of Cabinet from 2008 to 2011 and the Chair of the Select Committee on the TMX Transaction in 2011.

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.

2016 Board/Committee Membership:	**2016 Attendance:**	
Board (since January 2013)	8 of 8	100%
Audit and Risk Committee (since February 2016)	6 of 6	100%
Darlington Refurbishment Committee (since May 2015)	4 of 4	100%

Principal Occupation: Retired

Board Memberships for other Reporting Issuers: None

Independence from OPG: Independent

Interlocking Directorships on Boards of other Reporting Issuers: None

Jim Reinsch
Age: 73
Frederick, Maryland, U.S.A.

Jim Reinsch 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.

2016 Board/Committee Membership:	**2016 Attendance:**	
Board (since August 2015)	8 of 8	100%
Generation Oversight Committee (since February 2016)	4 of 4	100%
Darlington Refurbishment Committee* (since August 2015)	4 of 4	100%

Principal Occupation: Corporate Director

Board Memberships for other Reporting Issuers: None

Independence from OPG: Independent

Interlocking Directorships on Boards of other Reporting Issuers: None

*Chair of Committee

Margaret (Peggy) Gilmour served as a Director from October 2015 to July 2016 and was a member of the Audit and Risk Committee and the Generation Oversight Committee.

Orientation and Continuing Education

The Compensation, Leadership and Governance Committee is responsible for reviewing and recommending appropriate orientation programs for new Directors. 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. This includes plant tours of OPG's major facilities, site visits to projects with OPG's Indigenous business partners, and special presentations by internal and external experts on topical business-related issues or on specific aspects of OPG's operations. In 2016, such topics included pension plans, project management, and anti-bribery and corruption. Directors also are provided with articles and publications on current topics of interest. Board members have full access to all Board and Board committee materials and records. OPG has developed a Director Governance Handbook, which provides Directors with information necessary to fulfill their roles, 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 Board committees responsible for 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 throughout the year on the Code of Business Conduct in order to satisfy itself that appropriate code of conduct and compliance programs are in place and are being enforced, and remedial action is being taken. The Audit and Risk Committee receives quarterly reports from 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. The Audit and Risk Committee has procedures for the receipt, retention and treatment of complaints received pertaining to accounting, internal controls or auditing matters, and for the confidential anonymous submission by employees concerning such matters.

Nomination of Directors

The Compensation, Leadership and Governance Committee, which is comprised of six 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, Board committee and Director evaluations. The Compensation, Leadership and Governance Committee recommends candidates to the Shareholder. Nominations of Directors by the Shareholder also may be considered by the Compensation, Leadership and Governance Committee. When considering a potential candidate, the 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 considers 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 interview 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.

Diversity in Leadership

Board of Directors

As noted under the heading, *Nomination of Directors*, the Compensation, Leadership and Governance Committee interviews a diverse candidate for every vacancy on the Board, where diversity is defined as: women, aboriginal peoples, people with disabilities, and visible minorities. The Board has signed on to the Catalyst Accord, set a target for "diverse" representation on the Board of 50 percent, including 40 percent women by 2019 and adopted a target of 25 percent women on the Board by 2017. In 2016, four members were added to the Board, three of whom meet the diversity definition. As of the date of this AIF, five of the 14 members of the Board, 36 percent, meet the diversity definition. Representation of women on the Board is 21 percent (three Directors) as of the date of this AIF.

Senior Management

OPG strives to create a workforce that reflects diverse populations of the communities in which it operates. As of December 31, 2016, women filled 17 percent of Corporate Officer roles and 24 percent of senior management (senior managers and above) positions. In total, there were two women in Corporate Officer roles and 136 women in senior management 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 of women in senior management roles has been established.

Compensation

Executive Compensation Framework

In September 2016, the Government of Ontario introduced *Regulation 304/16: Executive Compensation Framework*. The regulation sets out how all employers, including OPG, designated under the *Broader Public Sector Executive Compensation Act, 2014* must establish and post compensation programs for executives. The regulation requires all designated employers to have a written Executive Compensation Program that describes the compensation they may provide to executives. The program must include the compensation philosophy, salary and performance-related pay caps, comparative analysis details, and a description of other elements of compensation. The regulation also requires that designated employers post their program on their website and provide a reasonable opportunity for members of the public to provide comments. OPG met the requirements of *Ontario Regulation 304/16* and posted its new Executive Compensation Framework on the Company's website for public comment on November 30, 2016. OPG reviewed the comments received through the public consultation process and determined that they do not alter its Executive Compensation Program, which became effective on January 1, 2017. OPG's Executive Compensation Program applies to employees at the Vice President level and higher. A copy of OPG's Executive Compensation Program is available on the Company's website at www.opg.com.

Director Compensation

As at March 10, 2017, OPG's Director compensation framework provides each Director who is not an employee of OPG with an annual retainer of $25,000. Directors also receive a $3,000 retainer for each Board committee of which they are a member. Directors serve on at least two committees. Directors receive an additional retainer for serving as committee chairs. The retainer for the chair of the Audit and Risk Committee is $8,000. The chairs of the other three committees receive retainers of $5,000.

In addition to the above, Directors are compensated for each regular and/or special meeting that they attend and receive a fee of $2,000 or $1,000, 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 Board 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

Among its other responsibilities, the Compensation, Leadership and Governance 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 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 CEO 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's base pay and incentives compensation are compliant with *Ontario Regulation 304/16*. Other elements of the CEO's compensation will be compliant within the three-year period provided in the regulation to bring all elements of compensation into compliance.

For details regarding compensation paid to Directors and executive officers during the financial year ended December 31, 2016, see OPG's Statement of Executive Compensation (Form 51-102F6), which is available on SEDAR at www.sedar.com and incorporated by reference herein.

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 are the current standing Board committees as at March 10, 2017:

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 related principles, policies and procedures established by management. 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 to the Board. The committee is also responsible for recommending the appointment and compensation of the external auditor to the Board and for oversight of the external auditor.

The committee also 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 Segregated Fund and the Decommissioning Segregated Fund;
- review and approval of the audited financial statements of the OPG Pension Fund, the Used Fuel Segregated Fund and the Decommissioning Segregated Fund; and
- review and approval of the statements of investment policies and procedures for the OPG Pension Fund, the Used Fuel Segregated Fund and the Decommissioning Segregated Fund.

The Audit and Risk Committee also oversees 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 also is 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 AIF, the Audit and Risk Committee consists of George Lewis (Chair), Elisabeth (Lisa) DeMarco, Brendan Hawley, Ira Kagan, Yezdi Pavri, and Gerry Phillips.

For further details regarding the Audit and Risk Committee, see *Audit and Risk Committee Information*.

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 collective bargaining negotiations. The committee also provides oversight of the design of OPG's benefit and pension plans.

The Compensation, Leadership and Governance Committee oversees the Board's governance program and practices to ensure that they 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 also is responsible for overseeing OPG's reputation management plan, and for identifying and recommending to the Board candidates for nomination to the Shareholder. Finally, the committee oversees OPG's processes for Board, Board committee, and Director assessments, as well as Director compensation and new Director orientation.

As of the date of this AIF, the Compensation, Leadership and Governance Committee consists of Margaret (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, including retaining external independent oversight advisors. The committee also was responsible for making a recommendation to the Board with respect to a final budget and schedule for the Darlington Refurbishment project, which subsequently was approved by the Board of Directors in November 2015. The committee monitors and reports on the progress of the refurbishment project against the approved budget and schedule. The committee will make a recommendation to the Board with respect to the refurbishment of subsequent Darlington units, and other recommendations for approvals related to the refurbishment project as may be required from time to time.

As of the date of this AIF, the Darlington Refurbishment Committee consists of Jim Reinsch (Chair), Nicole Boivin, Bill Coley, Brendan Hawley, John Herron, Margaret (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 the Company's major generation projects including those related to nuclear waste management, other than the Darlington Refurbishment project. The committee also is responsible for the oversight of OPG's environment and dam safety management systems and OPG's Indigenous relations. The committee reviews reports of internal and external advisors/assessors in respect of OPG's generation operations and management's response to the findings from such assessments. The committee provides oversight to ensure 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 of this AIF, the Generation Oversight Committee consists of John Herron (Chair), Bill Coley, Elisabeth (Lisa) DeMarco, JP Gladu, Ira Kagan and Jim Reinsch.

Special Committee of the Board

This Special Committee of the Board was established on March 10, 2017. The Special Committee is responsible for providing timely strategic and other guidance to OPG management in connection with the Province's announcement of Ontario's Fair Hydro Plan on March 2, 2017, which includes refinancing a portion of the Global Adjustment. The Committee is also responsible for making recommendations to the Board with respect to OPG's participation in the Province's implementation of the refinancing proposal.

As of the date of this AIF, the Special Committee consists of George Lewis (Chair), Bernard Lord, Bill Coley, Peggy Mulligan, Yezdi Pavri and Lisa DeMarco.

Assessments

The Compensation, Leadership and Governance Committee is responsible for the annual process for evaluating the performance of the Board, its committees and 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. The individual Director evaluations are based on self-assessment questionnaires, 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 the Company'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
- Indigenous Relations Policy
- Code of Business Conduct
- Disclosure Policy
- Environmental Policy
- Employee Health and Safety Policy
- Nuclear Safety Policy

- Safe Operations Policy
- Cyber Security Policy

Unless otherwise specifically stated, none of the information contained on, or connected to the Company's website nor any of the contents of the aforementioned additional information on OPG's governance are incorporated by reference herein.

EXECUTIVE OFFICERS

The following table sets forth the name, municipality of residence, position with the Company, and the date of commencement for each of the executive officers of the Company as of March 10, 2017:

Name and Municipality of Residence	**Current Position Held**	**Executive Officer Since**
Bernard Lord *Moncton, New Brunswick*	Board Chair	April 2014
Jeff Lyash *Toronto, Ontario*	President and Chief Executive Officer	August 2015
Carlo Crozzoli *Toronto, Ontario*	Senior Vice President, Corporate Business Development and Strategy	December 2011
Chris Ginther *Newmarket, Ontario*	Chief Administrative Officer	July 2012
Ken Hartwick *Milton, Ontario*	Chief Financial Officer & Senior Vice President – Finance	March 2016
Glenn Jager *Clarington, Ontario*	President, OPG Nuclear and Chief Nuclear Officer	November 2013
David Kaposi *Toronto, Ontario*	Vice President, Chief Investment Officer	November 2013
Barb Keenan *Toronto, Ontario*	Senior Vice President, People & Culture and Chief Ethics Officer	March 2010
Catriona King *Richmond Hill, Ontario*	Vice President, Corporate Secretary	February 2005
John Lee *Toronto, Ontario*	Vice President, Treasurer	July 2011
Mike Martelli *Etobicoke, Ontario*	President, Renewable Generation and Power Marketing	July 2013
Dietmar Reiner *Clarington, Ontario*	Senior Vice President, Nuclear Projects	June 2014
Jennifer Rowe *Toronto, Ontario*	Senior Vice President, Corporate Affairs	January 2017

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

- Mr. Crozzoli was Senior Vice President, Corporate Business Development and Chief Risk Officer at OPG from December 2011 to November 2015, Acting Senior Vice President, Finance, Strategy & Risk and Chief Financial Officer at OPG from November 2015 to March 2016 and Senior Vice-President, Corporate Business Development and Chief Risk Officer at OPG from March 2016 to August 2016.
- Mr. Ginther was Senior Vice President, Law and General Counsel and Chief Ethics Officer at OPG from July 2012 to January 2016 and Senior Vice President, Legal, Ethics and Compliance at OPG from January 2016 to February 2017.
- Mr. Hartwick was President and CEO at Just Energy Corp. from February 2008 to April 2014, Interim President and CEO at Atlantic Power Corporation from September 2014 to January 2015, Chief Financial Officer at Wellspring Financial Corporation from February 2015 to March 2016 and Senior Vice President, Finance, Strategy, Risk and Chief Financial Officer at OPG from March 2016 to February 2017.
- Mr. Jager was Senior Vice President, Pickering Nuclear Generating Station at OPG from January 2010 to November 2013 and Chief Nuclear Officer at OPG from November 2014 to March 2015.
- Mr. Kaposi was Global Head of Alternatives for Mercer (Canada) Inc. from November 2007 to June 2012 and Partner, Investor Relations at Bastion Infrastructure Group Inc. from July 2012 to September 2013.
- Ms. Keenan was Senior Vice President, People and Culture at OPG from March 2012 to January 2016 and Senior Vice President, People, Culture and Communications from January 2016 to February 2017.
- Ms. King was Vice President, Corporate Secretary at OPG from June 2005 to May 2012.
- Mr. Martelli was Plant Manager for the Niagara Plant Group at OPG from June 2010 to July 2013 and Senior Vice President, Hydro-Thermal Operations at OPG from July 2013 to January 2016.
- Mr. Reiner was Senior Vice President, Nuclear Refurbishment at OPG from March 2010 to April 2014.
- Ms. Rowe was Senior Managing Director – Marketing and Communications and VP Corporate Affairs at Manulife from January 2010 to October 2012 and Senior Vice President and Chief Marketing Officer at Meridan Credit Union from October 2012 to April 2016.

INDEBTEDNESS OF DIRECTORS AND EXECUTIVE OFFICERS

As of the date of this AIF, no director or executive officer of the Company or any of its subsidiaries had any outstanding indebtedness to the Company or any of its subsidiaries except routine indebtedness or had any indebtedness that was the subject of a guarantee, support agreement, letter of credit or other similar arrangement or understanding provided by the Company or any of its subsidiaries.

CEASE TRADE ORDERS, BANKRUPTCIES, PENALTIES OR SANCTIONS

To the knowledge of OPG, no director or executive officer is, at the date of the AIF, or was within 10 years before the date of the AIF, a director, chief executive officer, or chief financial officer of any company, that (a) was subject to an order that was issued while the director or executive officer was acting in the capacity as director, chief executive officer, or chief financial officer, or (b) was subject to an order that was issued after the director or executive officer ceased to be a director, chief executive officer or chief financial officer and which resulted from an event that occurred while that person was acting in the capacity as director, chief executive officer, or chief financial officer.

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 AIF, or has been within the 10 years before the date of the AIF, 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 AIF, 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.
- William Coley is a director of Peabody Energy Corporation which declared voluntary Chapter 11 bankruptcy protection in April 2016 for most of its U.S. entities and is currently restructuring.

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. The Audit and Risk Committee's Charter is attached to this AIF as Appendix A. Information on OPG's Audit and Risk Committee is as follows:

Composition of the Audit and Risk Committee

As at March 10, 2017, the members of the Audit and Risk Committee were George Lewis (Chair), Elisabeth (Lisa) DeMarco, Brendan Hawley, Ira Kagan, Yezdi Pavri and Gerry Phillips. All members are independent within the meaning of NI 52-110 and have 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 Risk Committee

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 assist audit committees in implementing these recommendations. The Audit and Finance Committee of the Board conducted its first comprehensive review of the Company's external auditor, Ernst & Young LLP (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 the Company'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, and audits of the financial statements of OPG's consolidated subsidiaries and other financial information.

In conducting the 2016 review of E&Y's performance, the Audit and Risk 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 experience. The results of the 2016 annual review were discussed at the Audit and Risk Committee meeting in August 2016. As part of the review, the Committee considered factors such as the auditor's 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, concluded that their reappointment was in the best interests of OPG, and, in November 2016, recommended that the Board reappoint E&Y as the Company's auditor for the 2017 fiscal year. The Board reappointed E&Y as the Company's auditor for the 2017 fiscal year in November 2016.

External Auditor Service Fees

The following fees were billed by Ernst & Young LLP:

(thousands of dollars)	**2016**	**2015**
Audit fees	**1,959**	1,963
Audit-related fees	**554**	623
All other fees [1]	**17**	17

[1] Comprised of fees related to the subscription of an online accounting research tool and training.

INTEREST OF MANAGEMENT AND OTHERS IN MATERIAL TRANSACTIONS

Relationship with the Province and the OEFC

Relationship with the Shareholder

As a corporation created under and governed by the OBCA, OPG's management is supervised by its Board of Directors, which is obligated by law to act in the best interests of the Company. The Company's sole Shareholder, the Province, owns all of the Company's issued and outstanding common shares and thereby has the power to determine the composition of the Company's Board of Directors.

As one of several wholly-owned government business enterprises of the Province, OPG has transactions in the normal course of business with various government ministries and organizations in Ontario that fall under the purview of the Province.

Memorandum of Agreement

On August 17, 2005, OPG entered into the MOA with the Shareholder regarding OPG's role and responsibility as a power producer in Ontario. In July 2015, the MOA was revised. The MOA serves as the basis of agreement between OPG and the Shareholder regarding OPG's mandate, governance, performance, reporting and communications, and establishes the accountabilities between OPG and the Province. OPG's strategic imperatives are based on the Company's mandate as set out in the MOA. The MOA was reaffirmed for continuance by both the Ontario Minister of Energy and the OPG Board of Directors' Chair in the fourth quarter of 2016, as required by the MOA following a change in the Minister of Energy.

A copy of the MOA can be found on the Company's website at www.opg.com. ***Unless otherwise specifically stated, none of the information contained on, or connected to the Company's website nor any of the contents of the MOA are incorporated by reference herein.***

Shareholder Directives

The Shareholder may at times direct OPG to undertake special initiatives. A Shareholder directive is issued when the Shareholder finds it necessary to assume decision-making power and authority over certain aspects of the business operations of the Corporation. Under a Shareholder directive, the Shareholder assumes all the rights, powers, duties and liabilities of the Directors to manage or supervise the management of the business and the Directors are relieved of their duties and liabilities. Shareholder directives are communicated as written pursuant to section 108 of the OBCA. Copies of each Shareholder directive can be found on the Company's website at www.opg.com. ***Unless otherwise specifically stated, none of the information contained on, or connected to the Company's website nor any of the contents of the Shareholder directives are incorporated by reference herein.***

The Shareholder directives issued by the Shareholder to date are listed below in reverse chronological order:

- Sale of the Corporation's Lakeview site (June 9, 2016);
- Sale of the Corporation's Head Office (December 14, 2015);
- Bruce Power L.P. Lease Agreement and Used Fuel Agreement (November 30, 2015) – For further details, see *General Development of Business – Nuclear Business Development – Bruce Power Refurbishment and Bruce Lease Agreement*;
- Bruce Power L.P. Amended and Restated Heavy Water and Associated Services Agreement (November 30, 2015) – For further details, see *General Development of Business – Nuclear Business Development – Bruce Power Refurbishment and Bruce Lease Agreement*;
- Conversion of One Unit of Thunder Bay Generating Station to Advanced Biomass (May 1, 2014);
- Thunder Bay Generating Station Conversion (December 16, 2013);
- Early Closure of Ontario Power Generation's Lambton and Nanticoke Coal-Fired Generation Stations (March 7, 2013);
- First Nation Directive (April 1, 2011) – OPG was directed to pay a part of the Shareholder's portion of the settlement liability with a First Nation on its behalf;
- Atikokan Generating Station Conversion (March 8, 2011);
- Addressing Carbon Dioxide Emissions from the Use of Coal at Coal-Fired Generating Stations (May 20, 2010);
- Request for Indicative Prices for the Supply of Wood Pellet Fuel Declaration (Atikokan) (March 18, 2010);
- Request for Expressions of Interest for Supply and Transportation of Solid Biomass Fuel Declaration (January 13, 2009);
- Addressing Carbon Dioxide Emissions from the Use of Coal at Coal-Fired Generating Stations (May 15, 2008);
- Thunder Bay Gas Conversion Cancellation (July 12, 2006);
- Nuclear Directive (June 16, 2006) – OPG was directed to begin feasibility studies on refurbishing existing nuclear units, an environmental assessment on refurbishing Pickering B units, and federal approvals processes (including environmental assessment) for new nuclear units;
- Lower Mattagami River Agreement (May 23, 2006);
- Bruce Power Lease Agreement (October 14, 2005); and
- Thunder Bay Gas Conversion Declaration (October 6, 2005).

Ontario Nuclear Funds Agreement

The ONFA between OPG and the Province sets out the responsibility for funding the liabilities for the decommissioning of OPG's nuclear facilities and the long-term management of OPG's used nuclear fuel and other nuclear waste. Pursuant to the ONFA, the Company has established a Used Fuel Segregated Fund and a Decommissioning Segregated Fund to fund the future costs of these activities. For additional details, see *Description of the Business – Regulated – Nuclear Waste Management Segment – Funding Mechanisms*.

OPG Debt Held by the OEFC

OPG's long-term debt has been financed predominantly by the OEFC. As at December 31, 2016, the OEFC held approximately $3.3 billion of OPG's long-term debt with maturities ranging from one month to 30 years. For additional details, see Note 6 to the Company's audited annual financial statements as at and for the year ended December 31, 2016.

Payments-In-Lieu of Corporate Income Taxes and Property Taxes

OPG and its wholly-owned subsidiaries are exempt from tax under the *Income Tax Act* (Canada) and *Taxation Act, 2007* (Ontario). However, under the *Electricity Act, 1998*, OPG is required to make proxy tax payments 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 paying taxes similar to those imposed under the federal and Ontario tax acts.

OPG is subject to income tax audits by the Ontario Ministry of Finance. As of the date of this AIF, income tax audits up to and including the 2012 taxation year have been completed.

The *Electricity Act, 1998* also provides that OPG and certain of its subsidiaries are required to make payments in lieu of property tax to the OEFC on their non-hydroelectric generating station buildings and structures. These payments generally equal the difference between property taxes that would be otherwise payable if these assets were privately owned, and the amount payable to municipalities in respect of these assets as determined under the *Assessment Act, 1990* (Ontario). As with other hydroelectric generators in Ontario, OPG's hydroelectric generation operations are not subject to payments in lieu of property taxes because they are subject to the GRC regime. For additional details on the GRC regime, see *Description of the Business – Generation Operations – Hydroelectric (Regulated – Hydroelectric and Contracted Generation Portfolio segments) – Gross Revenue Charge and Water Rental Payments*.

LEGAL PROCEEDINGS AND REGULATORY ACTIONS

Legal Proceedings

OPG is potentially the subject of various legal proceedings and claims that arise in the ordinary course of business. The outcome of these proceedings and claims is uncertain. Based on information available as of the date of this AIF, management believes that none of the proceedings and claims, individually and in the aggregate, are expected to have a material impact on OPG.

British Energy Claim

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

In 2012, the arbitrator found that British Energy was liable to the claimants for some of the damages they claimed. The final settlement amount was valued by British Energy at $71 million. In September 2014, British Energy amended its Statement of Claim (Amended Claim) to reduce the claim amount to $100 million to reflect that the purchasers of British Energy's interest in Bruce Power did not receive the full damages they originally claimed in the Arbitration. British Energy also added an allegation to its Amended Claim that OPG breached a covenant to maintain the steam generator between the time of the initial agreement to lease and the effective date of the lease in accordance with "Good Utility Practices".

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

Regulatory Actions

OPG is not aware of any penalties or sanctions imposed by a court or securities regulatory authority or other regulatory body against the Company, nor has the Company entered into any settlement agreements before a court or with a securities regulatory authority.

MATERIAL CONTRACTS

Except for contracts entered into in the ordinary course of business (unless otherwise required by applicable securities requirements to be disclosed), there were no material contracts entered into by the Company or its subsidiaries during the most recently completed financial year, or before the most recently completed financial year that are still in effect.

INTERESTS OF EXPERTS

The external auditor of the Company is Ernst & Young LLP, Chartered Professional Accountants, 222 Bay Street, P.O. Box 251, Toronto, Ontario M5K 1J7. Ernst & Young LLP has been the Company's auditors since OPG was formed in 1999, and is independent in accordance with the Rules of Professional Conduct of the Chartered Professional Accountants of Ontario.

GLOSSARY

ancillary service	a service necessary to maintain the reliability of the IESO-controlled grid.
availability	when used in reference to a generating unit, a measure of mechanical reliability represented by the percentage of time a generating unit is capable of providing service, whether or not it is actually in-service, relative to the total time for the period.
baseload facilities	electricity generation facilities that produce a constant supply of energy. In Ontario, baseload facilities are made up of nuclear, run-of-the-river hydroelectric and variable generation facilities such as wind and solar.
bilateral contract	a contract for the purchase and sale of notional electricity usually entered into directly between a generator and an end-user, or between a generator or end-user and a market intermediary.
biomass	plant material from agricultural and forest sources that can be used to produce energy, including beneficiated biomass, which includes torrefied, carbonized, and steam exploded biomass.
CANDU	an acronym for CANada Deuterium Uranium, a family of nuclear fission reactors developed in Canada which use pressurized heavy water coolant or deuterium oxide as a moderating agent and natural uranium (uranium dioxide) as fuel.
capacity factor	the ratio (usually specified as a percentage) of the amount of energy that a generating asset actually generated over a period of time divided by the amount of energy that the generating asset would have produced over the same period of time if it had operated continuously at full capacity.
decommissioning	actions taken in the interest of health, safety, security and protection of the environment to retire a facility permanently from service and render it to a predetermined end-state condition.
detritiation	the removal of tritium from heavy water.
deuterium oxide	see heavy water.
equivalent forced outage rate	the hours of unit failure given as a percentage of the total hours of the availability of that unit.
government business enterprises	Government organizations that are separate legal entities with the power to contract in their own name, have the financial and operating authority to carry on a business, are principally focused on the selling of goods and services to individuals and non-government organizations, and are able to maintain their operations and meet their obligations through revenues generated outside the government reporting entity.
heavy water (deuterium oxide)	water containing significantly more than the natural proportion of heavy hydrogen (deuterium) atoms to ordinary hydrogen atoms, used as a moderator in CANDU reactors.
in-service capacity	the portion of installed capacity (the highest level of output which a generating unit is designed to maintain indefinitely without damage to the unit) that has not been removed from service.

interconnection	a transmission line which carries power across the service area boundary of geographically adjacent jurisdictions.
kWh	a kilowatt hour, the commercial unit of electric energy (the amount of electricity consumed by ten 100 watt light bulbs burning for one hour).
load	the quantity of electricity consumption measured as either the energy consumed over a given period of time or the rate of energy consumption at a given time by a particular customer or group of customers.
MW	a megawatt, equal to 1,000,000 watts or 1,000 kilowatts.
MWh	a megawatt hour, equal to 1,000 kWh.
OEFC	an acronym for the Ontario Electricity Financial Corporation, the legal continuation of the former Ontario Hydro. The OEFC is responsible for managing the debt and certain other obligations not transferred to other successor companies of Ontario Hydro.
ONFA	an acronym for the Ontario Nuclear Funds Agreement between OPG and the Province that sets out the responsibility for funding the liabilities for the decommissioning of OPG's nuclear stations and the long-term management of OPG's used nuclear fuel and other nuclear waste.
Ontario NFWA Trust	a trust established by OPG pursuant to the *Nuclear Fuel Waste Act* (Canada) for the purpose of funding the implementation of Canada's long-term nuclear fuel waste management plan.
operating reserve	the capacity that can be called upon on short notice by the IESO to replace scheduled energy supply that is unavailable as a result of an unexpected outage or to augment scheduled energy as a result of unexpected demand or other contingencies.
reactive support	the control and maintenance of prescribed voltages on the IESO-controlled grid.
refurbishment	the work needed to extend the life of a reactor unit by replacing the major life-limiting components (such as pressure tubes, steam generators, etc).
Shareholder	the sole shareholder of OPG, the Province of Ontario.
surplus baseload generation	a condition that occurs when electricity generation from baseload facilities is greater than the electricity market demand.
tonne	1,000 kilograms or 2,204.6 pounds.
tritium	a radioactive substance that is created within CANDU reactors as a result of heavy water in the reactor moderator and heat transport systems.
TWh	a terawatt hour, equal to 1,000,000 MWh.
unit	an electrical generator, together with its driving turbine and auxiliary equipment.
watt	a scientific unit of electric power representing the rate of work of one joule per second.

APPENDIX A

ONTARIO POWER GENERATION INC.

AUDIT AND RISK COMMITTEE CHARTER

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 securities regulators.
   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.
h) 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 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 Risk and 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 annually 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 additional audit services and fees to be provided by the external auditors if such services are required further to the annual compensation approved by the Board. 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.
i) rotation of the lead audit partner and other audit partners every seven years, and consider regular rotation of the audit firm.
j) 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 and Audit Executive.
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) periodic 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, including anti-bribery and corruption
    iv. Enterprise Risk Management Policy
    v. Cyber Security Policy

<u>Organization</u>

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 Risk and Audit Executive 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.