ANNUAL INFORMATION FORM

FOR THE YEAR ENDED DECEMBER 31, 2009

ONTARIO POWER GENERATION INC.

MARCH 31, 2010

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PRESENTATION OF INFORMATION

References in this Annual Information Form ("AIF") to the "Company" or "OPG" are made to Ontario Power Generation Inc. Unless otherwise noted, the information contained in this AIF is given at or for the year ended December 31, 2009. Amounts are expressed in Canadian dollars unless otherwise indicated. Financial information is presented in accordance with Canadian generally accepted accounting principles.

ADDITIONAL INFORMATION

The Company's Management's Discussion and Analysis ("MD&A") for the year ended December 31, 2009, and the Company's Audited Consolidated Financial Statements for the year ended December 31, 2009, provide additional information. Copies of these documents are available on SEDAR at www.sedar.com or on the Company's website at www.opg.com.

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 including those set out under the heading "Risk Factors", and, therefore, could be inaccurate to a material degree. In particular, forward-looking statements may contain assumptions such as those relating to OPG's fuel costs and availability, asset performance, nuclear decommissioning and waste management, closure of coal-fired generating stations, refurbishment of existing facilities, development and construction of new facilities, pension and other post-employment benefit obligations, income taxes, spot market electricity prices, proposed new legislation, the ongoing evolution of the Ontario electricity industry, environmental and other regulatory requirements, health, safety and environmental developments, business continuity events, the weather and the impact of regulatory decisions by the Ontario Energy Board ("OEB"). 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.

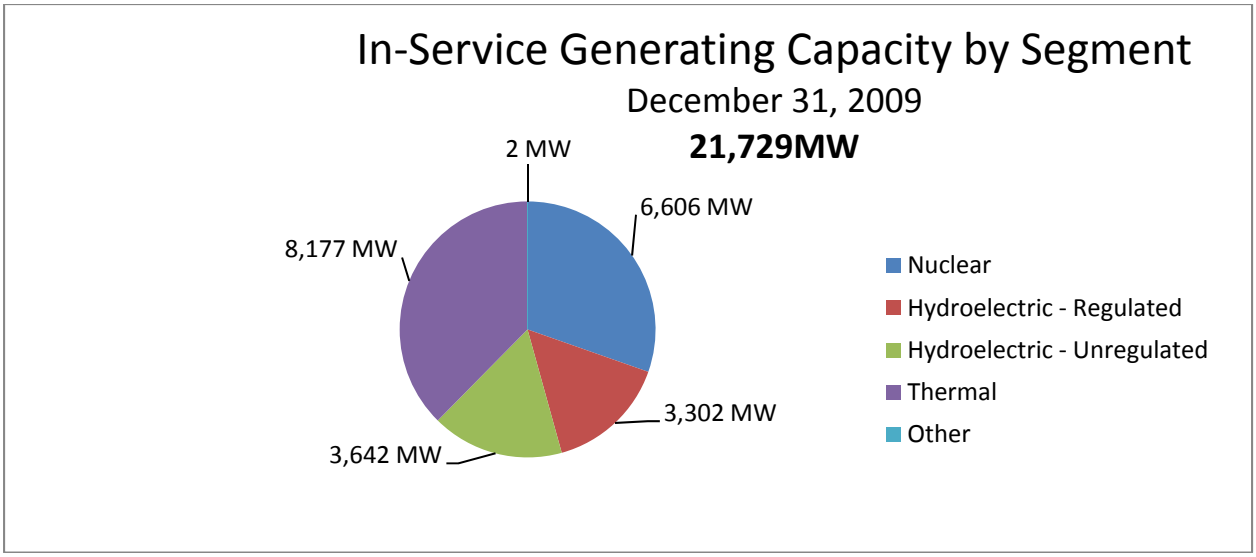
CORPORATE STRUCTURE

Summary

OPG is an Ontario-based electricity generation company focused on the efficient production and sale of electricity from its generating assets, while operating in a safe, open and environmentally responsible manner. OPG was established under the *Business Corporations Act* (Ontario) ("*OBCA*") and is wholly owned by the Province of Ontario (the "Province"). OPG's head and registered office is located at 700 University Ave, Toronto, Ontario, M5G 1X6.

OPG's principal business is the generation and sale of electricity that is sold into the markets administered by the Independent Electricity System Operator ("IESO"). As of December 31, 2009, OPG's electricity generating portfolio had a total in-service capacity of 21,729 megawatts ("MW"). This consists of three nuclear generating stations, 65 hydroelectric generating stations, five thermal stations and two wind power turbines. In addition, OPG and TransCanada Energy Ltd. co-own the Portlands Energy Centre gas-fired generating station. OPG, ATCO Power Canada Ltd. and ATCO Resources Ltd. co-own the Brighton Beach gas-fired generating station. OPG also owns two other nuclear generating stations,

which are leased on a long-term basis to Bruce Power L.P. ("Bruce Power"). These co-owned or leased facilities are not reported as part of OPG's generation portfolio.



Operating Principles

Vision, Core Business & Strategy

OPG's mandate is to cost-effectively produce electricity from its diversified generating assets, while operating in a safe, open, and environmentally responsible manner. OPG's vision is to be a leader in clean energy generation and to play a major role in leading Ontario's transition to a more sustainable energy future. OPG has three corporate objectives: performance excellence; generation development; and developing and acquiring talent.

Performance Excellence Strategy
Performance excellence at OPG is measured by its achievements in the areas of generation, safety, the environment, and fiscal performance.

Generation Development Strategy
OPG is pursuing a number of generation development opportunities, including capacity expansion or life extension opportunities where possible. Increasing the production potential of existing infrastructure and leveraging of existing assets would enable OPG to realize additional benefits from existing assets and reduce the environmental impact of meeting Ontario's electricity demands compared to the construction of new generating stations. OPG's major generation development projects currently in progress or under consideration include nuclear station refurbishment, new nuclear generation, new hydroelectric generation and plant upgrades, and the conversion of some of the coal-fired generating units.

Developing and Acquiring Talent Strategy
OPG's ability to sustain on-going operations and the successful delivery of the portfolio of planned projects is dependent on developing and maintaining a talented and engaged workforce, and a strong leadership capability. OPG's resource strategy is to develop and acquire talent to offset projected attrition in critical skill areas and any forecast skilled labour shortages.

GENERAL DEVELOPMENT OF THE BUSINESS

The following is a summary of key developments in OPG's business since January 2007.

Green Energy and Green Economy Act

In May 2009, Ontario's *Green Energy and Green Economy Act, 2009* ("*Green Energy Act*") received Royal Assent. The *Green Energy Act* takes a two-pronged approach to creating a green economy: bring more renewable energy sources to Ontario and create more energy efficiency measures to help conserve energy.

Under the *Green Energy Act*, the amount of intermittent renewable generation that can be added is not capped. Intermittent generators have a fuel source such as wind or sun that cannot, in bulk, be economically stored or controlled and must be used when and where available. This may contribute to a situation known as surplus baseload generation ("SBG") where the supply of generation exceeds the market demand.

Recent Electricity Market Conditions

SBG was a significant concern to OPG and the Ontario electricity marketplace on a number of occasions in 2009, typically occurring in the off-peak periods. Low electricity demand, combined with the output from hydroelectric and nuclear baseload generating stations and an increase in electricity generated from wind and gas, resulted in SBG conditions. Potential consequences of SBG are: an increase in the amount of water "spilled" (unutilized water flow) by hydroelectric generators, the reduction of output or shutdown of nuclear units operated by Bruce Power and/or OPG, and extremely low market prices. The IESO is working with stakeholders to determine how best to manage SBG conditions going forward. The IESO has made some progress in managing SBG including producing an SBG forecast and utilizing flexibility in current electricity supply contracts. The IESO is pursuing curtailment capability with existing wind generators. Future FIT wind projects include compensation for curtailment. A Bruce Power contract with the Ontario Power Authority ("OPA") was modified in July 2009 such that Bruce Power is compensated for generation reduction when requested by the IESO.

OEB Report on Cost of Capital

In December 2009, the OEB released its *Report on the Cost of Capital for Ontario's Regulated Utilities*, establishing a new cost of capital policy for regulated utilities in Ontario. The new policy will be effective for all utilities filing cost of service applications for rates commencing in 2010. The new policy refines the methods the OEB will use to determine both debt and equity costs. As outlined in the report, the OEB continued the use of an equity risk premium approach to set return on equity ("ROE"). Based on September 2009 data, the cost of capital or ROE is 9.75 percent, based on an equity risk premium of 5.50 percent and a Long-Canada bond yield of 4.25 percent. OPG's current regulated prices are based on an allowed ROE of 8.65 percent. The OEB also refined its ROE adjusting formula to capture changes in both Long-Canada and corporate bond rates.

A copy of the OEB's report can be found on the OEB's website at www.oeb.gov.on.ca.

For additional details, see "*DESCRIPTION OF THE BUSINESS - Regulation*"; and "*Highlights – Recent Developments – OEB Report on Cost of Capital*" in the Company's MD&A for the year ended December 31, 2009.

Nuclear

Darlington Refurbishment & Pickering B Continued Operations

In June 2006, the Province directed OPG to undertake feasibility studies on refurbishing and extending the life of the nuclear units at the Pickering B and Darlington sites. OPG initiated projects to review the option of refurbishing the Pickering B and Darlington nuclear generating stations.

In February 2010, OPG announced its decision to commence the detailed planning phase for the refurbishment of the Darlington nuclear generating station. The refurbishment is expected to extend the service life of the Darlington nuclear station to provide an additional 30 years of nuclear generation.

In the detailed planning phase, all regulatory work will be completed including the Environmental Assessment ("EA"), the Integrated Safety Review ("ISR"), and the Integrated Improvement Plan ("IIP"). As part of the definition phase, OPG will also complete engineering and detailed project planning, establish the project management organization, develop required infrastructure, and prepare a detailed cost and schedule estimate for project approval in 2014 with construction expected to start in 2016.

In February 2010, OPG also announced its decision to continue the safe and reliable operation of its Pickering B nuclear generating station. Pickering B nuclear generating units are currently predicted to reach their nominal end of life between 2014 and 2016. OPG is undertaking a coordinated set of initiatives to evaluate the opportunity to continue safe and reliable operations of Pickering B for an additional four to six years. When continued operations end, OPG will place the units in safe storage and then begin the long-term decommissioning process.

For additional details, see "*DESCRIPTION OF THE BUSINESS - Generation Operations - Nuclear - Darlington Refurbishment*" and "*DESCRIPTION OF THE BUSINESS - Generation Operations - Nuclear - Pickering B Continued Operations*".

Hydroelectric

Niagara Tunnel

OPG is building an additional tunnel to increase the generation output from its Sir Adam Beck stations in Niagara Falls. OPG's Board of Directors has approved a revised project cost estimate of $1.6 billion and a revised anticipated completion date of December 2013. As of December 31, 2009, the tunnel boring machine had advanced 5,481 metres, which is 54 percent of the tunnel length.

For additional details, see "*DESCRIPTION OF THE BUSINESS - New Generation Development - Hydroelectric Expansion and Development - Niagara Tunnel*".

Upper Mattagami

OPG is replacing generating stations on the Upper Mattagami and Montreal Rivers increasing the total installed capacity of these facilities from 23 MW to 44 MW. Total project costs are expected to be $300 million and the facilities are expected in-service by April 2011.

For additional details, see ""*DESCRIPTION OF THE BUSINESS - New Generation Development - Hydroelectric Expansion and Development - Upper Mattagami and Hound Chute*".

Lower Mattagami

OPG is also planning to increase the capacity of facilities on the Lower Mattagami River by 450 MW to 933 MW.

For additional details, see "*DESCRIPTION OF THE BUSINESS - New Generation Development - Hydroelectric Expansion and Development - Lower Mattagami*".

Thermal

Carbon Dioxide ("CO_2") Strategy

In August 2007, the Province made a regulation that requires OPG to end the use of coal to generate electricity by December 31, 2014. In May 2008, the Province announced new annual targets and limits on CO_2 emissions from OPG's coal-fired generating stations to ensure that such emissions are reduced by two-thirds of the 2003 levels by 2011.

Current Operations
OPG has limited, on a forecast basis, the CO_2 emissions arising from its coal-fired generating stations to not more than 19.6 million tonnes for 2009. For the year ended December 31, 2009, CO_2 emissions were 10 million tonnes compared to 23 million tonnes for 2008. This reduction was primarily attributable to lower generation from OPG's coal-fired stations due to lower demand and increased production from non-OPG natural gas-fired generation in Ontario. OPG continues to employ its CO_2 implementation strategy to meet the emissions reduction targets for 2010 of 15.6 million tonnes and 11.5 million tonnes for the period 2011 to 2014.

For additional details on GHG regulations, see "*REGULATION - Environmental Matters - Air*". Also, see "*DESCRIPTION OF THE BUSINESS - Generation Operations - Thermal*".

Unit Conversion
OPG is pursuing a strategy to convert coal-fired generating units to alternate fuels. Detailed design engineering work on the conversion of the Atikokan Generating Station to biomass is progressing. OPG is also conducting concept phase engineering for possible conversion of other coal-fired units at other stations. Before OPG can proceed with unit conversions, a mechanism is required for recovery of capital and on-going costs. OPG is in discussions with the Province for an appropriate cost recovery mechanism.

Unit Closure at Lambton and Nanticoke
Pursuant to a decision by OPG and an announcement by the Province in September 2009, OPG will permanently shut down two coal-fired units at each of the Lambton and Nanticoke coal-fired generating stations. This decision was based on the impact of a shareholder resolution on CO_2 emission reductions, declining economic conditions, forecast capacity and demand profiles, resulting in savings to electricity consumers through reduced payments to OPG from the Ontario Electricity Financial Corporation ("OEFC") under the Contingency Support Agreement, and OPG's commitment to operations, maintenance and administration expense reduction. The closures are expected to occur in October 2010.

Lennox Generating Station
The Lennox Generating Station operated under annual reliability must run ("RMR") contracts approved by the OEB for the period October 1, 2005 to September 30, 2009, providing OPG reimbursement of the expenses of running Lennox, net of related revenue. The IESO had concluded that all four units at the Lennox Generating Station were required for the purpose of system reliability during these periods. OPG continues to operate the facility. In January 2010, the Province issued a directive to the OPA to contract with OPG for the Lennox generating capacity for the period beyond September 30, 2009 on a similar basis as the RMR contracts. OPG is in discussions with the OPA regarding this contract.

For additional details, see "*REGULATION - Environmental Matters - Air – Thermal Operations*" and "*DESCRIPTION OF THE BUSINESS - Generation Operations - Thermal – Thermal Generation Overview".*

DESCRIPTION OF THE BUSINESS

The Electricity Industry

The electricity industry is principally made up of four components: generation, transmission, distribution and marketing of energy and other services in wholesale and retail markets. Generation is the production of electricity at generating facilities. 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 with 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 at the facility, (ii) capacity, typically expressed in MW, and (iii) dispatch mode (being whether or not the electricity generated by a particular generating 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 during which the facility operates, typically in terms of megawatt hours ("MWh").

Electricity is an essential commodity that cannot be stored in large volumes. Generation of electricity in an electricity system must instantaneously match demand if the stability and reliability of the system is to be maintained. Consequently, it is important to coordinate 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 not only enhance system reliability, but also permit the economic purchase and sale of electricity between electricity markets.

North American Electricity Industry

Historically, the North American electricity industry was characterized by regulated, vertically integrated monopolies. During the late 1980s, several jurisdictions began a process of restructuring by moving away from vertically integrated monopolies towards more competitive market models. The need for new supply, increasing electricity rates, technological advances and other concerns prompted governments to encourage the supply of electricity from independent power producers. The drivers for electricity restructuring have included policy objectives of decreasing government investment in the electricity sector and increased competition, so as to reduce customer rates.

As part of the restructuring process, vertically integrated regulated utilities were unbundled to separate their generation, transmission and distribution components, with the generation and sale of electricity being opened to competition.

The Ontario Electricity Industry

Until April 1999, Ontario Hydro was 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 Inc. ("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 Independent Electricity System Operator ("IESO"), which was formed to act as both the independent electricity system operator and market operator, 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 OEFC, which remains responsible for managing Ontario Hydro's debt and certain other obligations not transferred to other successor companies of Ontario Hydro, including the non-utility generator contracts.

In 2004, the OPA was established by the *Electricity Restructuring Act, 2004* (Ontario) with a mandate to contribute to the development of a reliable and sustainable electricity system.

Overview of OPG

OPG is the largest generator of electricity in Ontario and one of the largest generators in North America with a total in-service capacity of 21,729 MW. In 2009, OPG generated 92.5 TWh, about 65 percent, of Ontario's primary electricity demand. All of OPG's electricity generation is sold into the real-time energy

spot market in Ontario administered by the IESO. As described below, OPG receives a regulated price established by the OEB for generation output from all of its nuclear facilities and prescribed hydroelectric facilities. The price received for generation output from OPG's thermal facilities and certain of its hydroelectric facilities is not regulated but may be subject to other revenue mechanisms that set the price for generation output of the facility.

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

- Nuclear Generation
- Hydroelectric Generation (regulated and unregulated)
- Thermal Generation
- Nuclear Waste Management

Regulation

OPG receives a regulated price for most of its baseload hydroelectric generation and all of its nuclear generation. This comprises electricity generated from the Sir Adam Beck 1, 2 and Pump Generating Station, DeCew Falls 1 and 2, and R.H. Saunders hydroelectric facilities, and the Pickering A and B and Darlington nuclear facilities.

OPG's regulated prices were established by the OEB effective April 1, 2008 after a cost of service review conducted as a public hearing. Previously, the regulated prices were established pursuant to a regulation issued under the *Ontario Energy Board Act, 1998*.

For additional details on OPG's regulated prices and relevant OEB developments, see "*GENERAL DEVELOPMENT OF THE BUSINESS - OEB Report on Cost of Capital*"; and "*Highlights – Recent Developments – OEB Report on Cost of Capital*" in the Company's MD&A for the year ended December 31, 2009.

The production from OPG's other generating assets remains unregulated and continues to be sold at the Ontario spot market electricity price.

Ontario Electricity Market Activities

OPG offers its production into the IESO administered real time energy market, or spot market, in order to be dispatched by the IESO. For additional details, see "*REGULATION - Ontario Electricity Regulation".*

OPG receives the regulated rate for the quantity of energy injected into the market from the prescribed facilities and the Hourly Ontario Energy Price ("HOEP") for the quantity of energy injected into the market from the non-prescribed facilities. A portion of OPG's energy production from non-prescribed facilities is not hedged and is fully exposed to market-based HOEP. Energy production from other non-regulated facilities is hedged by bilateral contracts with the OPA and the OEFC.

In addition, OPG receives revenue from the operating reserve markets and other ancillary services that are contracted with the IESO including automatic generation control, reactive support/voltage control and black start facilities.

OPG is subject to 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 prescribed facilities and manage its business. For additional details, see "*REGULATION*".

Interconnected Markets

The interconnected markets are those 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 markets are interconnected with the northeastern quadrant of North America, including the U.S. northeast and midwest, Manitoba and Québec. Market intermediaries wishing to sell electricity into the interconnected markets are required to purchase the electricity out of the IESO administered spot market for resale into the interconnected markets. OPG participates in the interconnected market.

Interconnection transmission capabilities between Ontario and these interconnected markets are subject to physical limitations that are also impacted by seasonal variations. Weather and physical aspects of the transfer of power can also limit transmission capability and scheduling.

Generation Operations

Nuclear

Nuclear Generation Overview

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: i) it is a relatively low marginal-cost production technology, and ii) it produces virtually no sulphur dioxide ("SO_2"), nitrogen oxide ("NOx"), carbon dioxide or mercury emissions. The latter advantage has become more significant as governments implement stricter air emission standards.

In contrast to other facilities, nuclear generating stations incur nuclear waste management and decommissioning costs, and greater operating and maintenance expenses. In addition, the development of nuclear generating stations entails greater initial capital development costs than other generation technologies. The higher initial development costs reflect the complexity of the technical processes that underlie nuclear electricity generation and the additional design and safety precautions that are taken to protect the public from potential risks associated with nuclear operations. Offsetting these cost factors is the relatively low cost of nuclear fuel compared with thermal fuel. OPG's nuclear fuel is supplied by Canadian-based manufacturers that process uranium ore from both domestic and foreign sources. In general, OPG's nuclear stations have a lower operating cost per megawatt hour of electricity produced than thermal facilities.

Consistent with the Memorandum of Agreement ("MOA") between OPG and its sole shareholder, the Province of Ontario (the "Shareholder"), and OPG's corporate objectives, the mission of nuclear operations is to generate clean, safe, low-cost electricity through dependable performance. With the use of external benchmarking, aggressive yet balanced targets have been set under the four cornerstones areas of safety, reliability, human performance and value for money.

For additional details, see "*Discussion of Operating Results by Business Segment – Regulated – Nuclear Generation Segment*" in the Company's MD&A for the year ended December 31, 2009.

Generating Facilities

OPG currently owns and operates nuclear generating stations at Pickering A (two in-service units and two units being placed into safe storage), Pickering B (four in-service units) and Darlington (four in-service units).

The four Pickering A units were laid-up in 1997 under Ontario Hydro's Nuclear Recovery Plan. Units 4 and 1 were restarted in September 2003 and November 2005, respectively. Units 2 and 3 are currently in the process of being placed in a safe storage state for the remaining life of the station. For additional details, see "*DESCRIPTION OF THE BUSINESS - Generation Operations - Nuclear - Safe Storage Project*".

OPG also owns the Bruce A and Bruce B nuclear generating stations that have been leased on a long-term basis to Bruce Power.

The performance of OPG-operated nuclear generating stations during 2007, 2008 and 2009 is as follows:

Nuclear Generating Facilities and Performance (2007 to 2009)

Station	No. of In-Service Units	Net In-Service Capacity (MW)	Net Electricity Generation[1] (TWh)			Capability Factor[2] (%)		
			2009	2008	2007	2009	2008	2007
Darlington	4/4	3,512	26.0	28.9	27.2	85.9	94.5	89.5
Pickering A	2/4[3]	1,030	5.7	6.4	3.6	64.2	71.8	41.3
Pickering B	4/4	2,064	15.1	12.9	13.4	84.0	71.4	75.0
Total	10/12[3]	6,606	46.8	48.2	44.2			

Notes:
(1) Net electricity generation is the energy produced by the station less energy consumed by the station, as measured by the revenue meter.
(2) Capability factor is the amount of energy capable of being produced by a generating unit as a percentage of its maximum output assuming no external constraints such as transmission limitations.
(3) Pickering A Units 2 and 3 are in the process of being placed in a safe storage state.

CANDU Technology

All of OPG's nuclear generating stations use CANDU reactors. CANDU is a pressurized-heavy-water, natural-uranium power reactor first designed in the 1960's by a consortium of Canadian government agencies and private industry. All nuclear power reactors in Canada use the CANDU technology, and it is also the power-reactor product marketed by Canada abroad. CANDU reactors are currently operating in Ontario, Québec, New Brunswick, Argentina, Romania, South Korea and China.

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 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 which may require a planned outage every 18 to 24 months.

Nuclear Generating Station Life Extension

Service life predictions are developed by assessing the impacts of a number of operating, technical and regulatory considerations on both unit and station economics. A decision to remove a unit from service will be primarily an economic decision that becomes more likely as the number of components requiring replacement grows and the frequency and duration of inspections required to make certain a unit's fitness for service increases. End-of-service life predictions are continually reviewed as new inspection information and knowledge of possible degradation mechanisms becomes available and future production levels are revised.

Darlington Refurbishment

The Darlington nuclear station units are currently predicted to reach the ends of their service lives in 2019 and 2020. The objective of the refurbishment project is to extend the service life of the units by an additional 30 years. The refurbishment would involve an outage for replacement of life-limiting components, as well as maintenance or replacement of other components which are most effectively done during the refurbishment outage period.

OPG began the initiation phase of this project in late 2007. In June 2008, based on a review of the expected life of the critical components and their current life cycle plans, OPG approved the reference outage scope and schedule as an initial planning assumption for the refurbishment project, based on a refurbishment of the first unit commencing in October 2016.

In 2008 and 2009, a number of technical studies and a full station component condition assessment were undertaken to support the refinement of the project scope and cost. A preliminary feasibility assessment has been completed based on the anticipated Darlington station refurbishment project scope and the expected post-refurbishment operating life.

In February 2010 OPG announced its decision to commence the detailed planning phase for the refurbishment of the Darlington nuclear generating station. The refurbishment is expected to extend the service life of the Darlington nuclear station to provide an additional 30 years of nuclear generation.

In the detailed planning phase, all regulatory work will be completed including the EA, the ISR, and the IIP. As part of the definition phase, OPG will also complete engineering and detailed project planning, establish the project management organization, develop required infrastructure, and prepare a detailed cost and schedule estimate for project approval in 2014 with construction expected to start in 2016.

Pickering B Continued Operations

The Pickering B units were initially placed in service between 1983 and 1986. The nominal expected life for each unit was 30 years, though the life of a unit may be extended by the replacement of major components. Units 5, 6, and 7 are currently predicted to reach the ends of their respective service lives in 2014, and Unit 8 is currently predicted to reach the end of its service life in 2016.

OPG began the initiation phase of this project in 2006. On January 26, 2009, the CNSC issued their acceptance of the Environmental Assessment Screening Report. The report concluded that, taking into account the identified mitigation measures, the refurbishment and continued operation of the Pickering B nuclear station is not likely to cause significant adverse environmental effects.

In September 2009, OPG submitted its final ISR report for the Pickering B nuclear generating station to the CNSC. The report concluded that the station demonstrates a high level of compliance with modern codes and standards, and can be operated safely today and in the future. OPG anticipates the CNSC will complete its review of this report by mid-2010.

OPG has completed the feasibility assessment of refurbishing and continuing to operate Pickering B for an additional 30 years beyond its current predicted nominal end of service life.

In February 2010 OPG announced its decision to invest $300 million to continue the safe and reliable operation of its Pickering B nuclear generating station. OPG is undertaking a coordinated set of initiatives to evaluate the opportunity to continue safe and reliable operations of Pickering B for an additional four to six years beyond the currently predicted service lives. When continued operation ends, OPG will place the units into safe storage and then begin the long-term decommissioning process. The refurbishment of the Pickering B station will not be pursued.

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 supply contracts for uranium concentrates with suppliers located in uranium producing regions across the world.

Ancillary Operations

Heavy Water Management

OPG's nuclear generating units contain approximately 6,000 tonnes of radioactive deuterium oxide, or "heavy water", not including heavy water contained at the leased Bruce stations. This heavy water is required to operate OPG's CANDU reactors. OPG also owns an inventory of approximately 2,000 tonnes of heavy water of which 950 tonnes is non-radioactive. OPG's heavy water in this inventory was produced by Ontario Hydro at two heavy water stations at the Bruce site between 1973 and 1997. In 1997, Ontario Hydro ceased the operations at the two heavy water stations and by 2006 demolition of both stations had been completed by OPG. Follow-up environmental monitoring and site remediation continue in accordance with CNSC regulations. OPG believes that its inventory of heavy water will be sufficient to replenish supplies as a result of normal operating losses at its nuclear generating stations, including the possible life extensions of the Pickering B and Darlington stations. Additional quantities of heavy water are also available for changes in operating conditions or new nuclear generating facilities. OPG has in the past sold, and intends to continue to sell, surplus heavy water.

Tritium Removal

Tritium is a radioactive substance that is released into the heavy water systems of CANDU reactors as a byproduct of the nuclear fission process. OPG operates a facility at its Darlington site that removes tritium from the heavy water used at its nuclear generating stations in order to control the occupational dose exposure to its staff and the release of tritium oxide to the environment. The extracted tritium is chemically immobilized and placed in special containers that are safely stored in a vault. The tritium removal facility will also be used to detritiate heavy water during the decommissioning of OPG's nuclear generating stations. Some tritium is sold to government-approved organizations for authorized commercial and health industry uses.

Cobalt

Cobalt 60 produced by OPG is used mainly in the health industry to sterilize surgical and medical supplies. OPG cobalt is produced at Pickering B, units 6, 7 and 8. Cobalt 60 can be produced in reactors which, like the CANDU, use adjuster rods to regulate power. The stainless steel rod is replaced by a cobalt 59 rod, which after having been exposed to the atomic reaction in the reactor core, turns into cobalt 60. After 2 years, the rods are removed, cut and packaged for selling and new rods are inserted in the reactor.

Safe Storage Project

In August 2005, OPG announced that it would not return Units 2 and 3 at Pickering A to service. The preliminary decommissioning plan for Pickering A specifies that the units are to be placed in a safe storage state after they are permanently shut down and prior to being dismantled. Accordingly, the goal of the Safe Storage Project is to remove the fuel and heavy water from Units 2 and 3 and to place them in a safe storage state for the remainder of the operating life of Pickering A plus a nominal period of 30 years prior to dismantling. This will be done in such a manner as to minimize the future operating and maintenance costs associated with Units 2 and 3. Units 1 and 4 will continue to operate safely with Units 2 and 3 in a safe storage state.

The project is expected to be completed in 2010 at an estimated cost of $349 million.

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 are used to determine the activities necessary to sustain and improve unit performance.

A structured program modelled on the best practices identified by the Electric Power Research Institute ("EPRI"), Institute for Nuclear Power Operations ("INPO") and World Association of Nuclear Operators ("WANO") is used to optimize the maintenance of the nuclear generating stations and assess the health

of the facilities. These practices are audited regularly by WANO and identified areas for improvement are acted upon with the highest priority.

Predictive maintenance programs based on best practices identified by EPRI and INPO have been utilized to evaluate and maintain the health of the nuclear generating stations. Predictive maintenance is a process combining technologies and skills to perform analysis on equipment performance, maintenance, and design data to make timely decisions about maintenance requirements of 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 and defines the scope and timing of inspections and maintenance. Life cycle management plans have been prepared for critical components and are updated annually to incorporate operating experience and new knowledge. These life cycle plans define the inspection and maintenance programs required to ensure these components perform per their design basis.

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 in order to improve system performance. System performance is assessed by collecting data from station sources that is then trended, analyzed, and reported as part of the system health report. System health reports are updated, at a minimum, annually.

Hydroelectric

Hydroelectric Generation Overview

Hydroelectric generating stations use the potential energy of water to drive hydraulic turbines that generate electricity. OPG's hydroelectric stations provide one of OPG's competitive advantages: a reliable, low-cost source of renewable energy that is free of air emissions. Through significant capital reinvestment, station automation, efficiency improvements and effective station maintenance, OPG's hydroelectric generating stations have low operating and maintenance costs.

Hydroelectric generating stations are classified as either regulated or unregulated. OPG receives a regulated price for electricity generated from the Sir Adam Beck 1, 2 and Pump Generating Stations, the DeCew Falls 1 and 2 hydroelectric facilities, and the R.H. Saunders hydroelectric facility. Pricing for the generation from OPG's regulated stations was established by the OEB in an order issued on December 2, 2008, which was implemented effective April 1, 2008. All other hydroelectric stations, classified as unregulated, receive the spot electricity market price, subject to other revenue mechanisms (such as bilateral contracts with the OPA) which hedge the price of OPG's production.

Consistent with the MOA and OPG's corporate objectives, hydroelectric operations have the following objectives:

- sustain and improve the existing hydroelectric assets for the long-term;
- operate and maintain hydroelectric facilities in an efficient and cost effective manner;
- maintain and improve reliability performance where practical and economical;
- maintain existing excellent employee safety record (top quartile performance);
- strive for continuous improvement in the areas of dam and waterways public safety and environmental performance;
- seek to expand and/or develop existing hydroelectric generation where feasible; and
- build and improve relationships with Aboriginal communities.

Generating Facilities

OPG's hydroelectric generating stations are operated on a river system basis rather than as stand-alone units and have been grouped geographically into five plant groups: Niagara, Central Hydro, Ottawa St. Lawrence, Northeast and Northwest. OPG's 65 hydroelectric generating stations and 231 associated dams are located on 24 river systems in Ontario comprising 6,943 MW of capacity.

Three Year Regulated and Unregulated Hydroelectric Capacity, Energy, Availability and Equivalent Forced Outage Rate ("EFOR")

	Regulated Hydro			Unregulated Hydro			Total Hydro		
	2009	2008	2007	2009	2008	2007	2009	2008	2007
Capacity (MW)	3302	3332	3332	3642	3631	3639	6944	6963	6971
Net Electricity Generation (TWh)	19.4	18.8	18.3	16.8	17.6	13.8	36.2	36.4	32.1
Availability (%)	93.6	93.8	94.1	92.4	94.6	93.9	92.8	94.3	94.0
EFOR (%)	1.0	1.5	1.8	1.6	0.9	1.5	1.4	1.1	1.6

Electricity generation from hydroelectric facilities depends primarily upon the availability of water which is affected largely by natural factors such as precipitation and evaporation.

The regulated business segment of OPG's hydroelectric generating facilities consists of the six generating stations described above, with 27 dams spread across three river systems, comprising 3,302 MW of generating capacity. A significant portion of OPG's hydroelectric production, representing 48 percent of total hydroelectric capacity and 54 percent of hydroelectric energy production in 2009, is produced at OPG's regulated stations located on the Niagara and St. Lawrence Rivers. In 2009, Sir Adam Beck 1 and 2 stations on the Niagara River provided, respectively, 1,916 MW of capacity, representing 28 percent of OPG's hydroelectric capacity, and 12 TWh of energy production, representing 34 percent of OPG's hydroelectric energy produced. On the St. Lawrence River, the R.H. Saunders station provided 1,045 MW, or 15 percent, of hydroelectric capacity and 7 TWh, or 20 percent of hydroelectric energy produced in 2009.

OPG continues to refurbish and upgrade its hydroelectric facilities, which has helped to increase its hydroelectric capacity. OPG expects to spend approximately $610 million on this reinvestment program over the next five years.

OPG's hydroelectric generating stations range in age from one to over 110 years and are the oldest assets in its power generation portfolio. 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 extend station service lives for very long periods, especially for facilities built after 1925.

OPG operates eight staffed control rooms providing remote control and monitoring of all of OPG's hydroelectric generating facilities.

Facility Planning

OPG uses a structured portfolio approach to identify and prioritize projects for its hydroelectric investment program. Annual engineering reviews and station condition assessments, conducted on a cycle of approximately five to ten years, are performed to determine short-term and long-term expenditure requirements to sustain or improve 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 requiring significant expenditures relative to the value of the facility. This planning approach is designed to identify necessary capital, operating and maintenance expenditures for each facility, and direct corporate funds at the facilities that can best maintain or enhance the value of the hydroelectric business and OPG. The cornerstone of this approach is that safety, environmental, and other regulatory programs are of the highest priority.

OPG utilizes a process known as streamlined reliability-centred maintenance to optimize the preventive maintenance program at its hydroelectric facilities. This process provides a consistent method of identifying, scheduling and executing maintenance activities at its facilities. The concept of streamlined reliability-centred maintenance dictates that the type and frequency of preventive maintenance applied to an individual component is determined based on the nature and consequences of failure (i.e., balance of cost versus risk).

Aboriginal Program

OPG is proceeding in accordance with the Aboriginal policy approved by the OPG Board of Directors with a focus on past grievance settlements, investment opportunities for Aboriginal communities, business development opportunities for Aboriginal communities, employment opportunities, individual capacity building and community relations.

OPG's first partnership with an Aboriginal community was established in early 2009 as part of the Lac Seul Generating Station project. In this partnership, Lac Seul First Nation ("LSFN") owns 25 percent of the Lac Seul Generating Station and shares the benefits and risks associated with the operation of the station.

For additional details, see "*DESCRIPTION OF THE BUSINESS - New Generation Development - Hydroelectric Expansion and Development - Lac Seul".*

Water Payments and Special Charges on Hydroelectric Generating Stations

Hydroelectric generation requires ongoing access to an adequate water supply. OPG's rights to use the water at its hydroelectric stations are established through various international treaties, federal and provincial legislation and the common law. Other related operating rights are contained in leases, licences and agreements with the federal government, the Province, neighbouring provinces, municipalities, other utilities and other water users. For additional details, see "*REGULATION - Regulation of Water Rights*".

OPG makes payments to the Province for the use of Crown lands. These consist of gross revenue charges ("GRC") calculated based on electricity produced at the relevant facility that results from the use of water. Most of OPG's hydroelectric stations pay GRC. Other stations are covered by separate agreements with various parties with payments made according to the terms specified in such agreements. The federal government receives such payments for stations on federal canals and waterways; the St. Lawrence Seaway Management Corporation receives lease payments in respect of water transported through the Welland Canal; and the Government of Québec receives payment for sites that span the Ottawa River. OPG operates ten stations for which no such payments are required.

Since 2001, OPG has been paying GRC based on the gross revenue derived from the annual generation of electricity from its hydroelectric generating stations. These charges are calculated on a station-by-station basis and consist of a graduated portion, paid to the OEFC, and an additional 9.5 percent portion, paid to the Province, that replaced the water rental payments under a previous system. The graduated portion consists of four tiers at rates that range from 2.5 percent to 26.5 percent of gross revenue from electricity generation at the generating station. The additional gross revenue charge of 9.5 percent is levied on the gross revenue of the Company's hydroelectric generating stations that are located on provincial Crown lands.

OPG's aggregate water-related payments including the GRC for 2009 were $366 million for all of its hydroelectric stations.

Property tax on land and buildings not used in connection with the hydroelectric generating station continues to apply and is paid by OPG directly to the relevant municipality; these amounts have not been significant.

Water Management

The physical availability of water is affected by variations in precipitation and evaporation. OPG uses hydrological and meteorological data to manage head, flow and water storage and to schedule water use in a manner which minimizes unutilized water flow. OPG's water management strategy is to optimize available water while meeting legal, environmental and operational requirements. Safety requirements are also an important aspect of water management.

Dam Safety and Waterways Public Safety Programs

OPG's dam safety 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 practice. OPG is one of the first dam owners in Canada to have developed and implemented a dam safety program and is seen to be an industry leader in many aspects of the program.

In 2007, an Independent Panel on Dam Safety consisting of internationally recognized experts was established to conduct annual independent reviews of OPG's dam safety program. The panel has consistently found that that risks associated with dams owned and operated by OPG are being managed in alignment with industry best practices and guidelines.

Since 2002, OPG has developed a number of technical documents concerning public safety around dams, as well as materials to educate the public and raise awareness of the hazards associated with the operation of its dams and hydroelectric facilities. This work was undertaken in advance of government requirements/guidelines or industry standards in this emerging area to ensure continued due diligence in public safety. Both the Ministry of Natural Resources ("MNR") and Canadian Dam Association are presently in the process of developing guidelines for public safety around dams which are founded on the work developed by OPG. OPG is actively participating in both of these initiatives.

OPG has developed a public safety program including the development of guidelines and the installation of physical control measures in the form of safety booms, buoys, fencing, signage and audible alerts. In addition to the safety program, OPG has worked diligently to entrench a "Stay Clear - Stay Safe" message as part of its public education program for public safety around dams. OPG actively engages other agencies such as the MNR, Ontario Provincial Police, St. John's Ambulance, Life Saving Society, the Ontario Waterpower Association, and numerous other stakeholders in water safety education to partner in delivering this message to the public.

For additional details on the relevant regulatory regime, see "*REGULATION - Regulation of Water Rights*"

Thermal

Thermal Generation Overview

OPG's fossil-fuelled generation was re-named Thermal. The name change is reflective of the changing operating environment in Ontario including the regulated phase-out of coal-fired generation, potential conversion to alternative fuels such as biomass, natural gas, and gas-biomass dual-fuel, potential new gas generation, and the impact of the *Green Energy Act*.

Thermal capacity provides the system flexibility required to enable expansion of Ontario's renewable generation portfolio. This requires the continued maintenance and staffing of coal and other thermal generating plants in a manner which is appropriate to their role and mode of operation. Coal generating assets will be positioned to produce the required volume of electricity and ancillary services from all fossil generating assets while operating in a reliable, cost effective, safe, open, and environmentally responsible manner.

In May 2008, the Province announced new annual targets and limits on CO_2 emissions from OPG's coal-fired generating stations to ensure that such emissions are reduced by two-thirds of the 2003 levels by 2011. In accordance with a shareholder declaration dated May 15, 2008 ("Shareholder Declaration"), and a shareholder resolution dated May 16, 2008 ("Shareholder Resolution"), OPG is required to stage the reduction measures to meet, on a forecast basis, the interim CO_2 emission target of 15.6 million tonnes in 2010 and 11.5 million tonnes for the period 2011 to 2014.

The Shareholder Resolution states that the Province will ensure that an appropriate cost recovery mechanism is established to enable OPG to recover the costs of its coal-fired generating stations following the implementation of the CO_2 reductions. OPG entered into an agreement ("Contingency

Support Agreement" or "CSA") with the OEFC for contingent support for ongoing costs and the recovery of net book value of the Nanticoke and Lambton Generating Stations during the period from 2009 to 2014. Additionally, the Province requires that coal-fired generation cease by December 31, 2014. For additional details, see "*DESCRIPTION OF THE BUSINESS - Generation Operations - Thermal - Support Agreements*"

Pursuant to a decision by OPG and announcement by the Province in September 2009, the closure of two coal-fired units at each of the Lambton and Nanticoke coal-fired generating stations is expected to occur on October 1, 2010. For further details, see "*GENERAL DEVELOPMENT OF THE BUSINESS - Thermal - CO_2 Strategy - Unit Closure at Lambton and Nanticoke*".

In the longer term, OPG will cease coal-fuelled operations by 2014 and is exploring options and the feasibility to move to lower emission fuels such as biomass, natural gas and gas-biomass dual-fuel. Thermal generating stations have the potential to provide the Province with load-following ramp capability to complement non-dispatchable renewable energy sources. In the meantime, all of OPG's thermal generating stations will be maintained and staffed to be available when they are needed.

OPG's long-term thermal asset strategy includes pursuing the feasibility of converting selected coal units to lower emission fuels such as biomass, natural gas and gas-biomass dual-fuel. The conversion of the Atikokan unit to biomass is currently in the definition phase. OPG is also conducting concept phase engineering for possible conversion of other coal fired units at other plants. Before OPG can proceed with unit conversions, a mechanism is required for recovery of capital and on-going costs. OPG is in discussions with the Province for an appropriate cost recovery mechanism.

Generating Facilities

OPG currently owns and operates five thermal generating stations. A total of 19 thermal generating units were in-service during 2009 with a combined net in-service capacity of approximately 8,177 MW, representing approximately 38 percent of OPG's total in-service capacity in 2009. Coal-fired generating units located at Nanticoke, Lambton, Thunder Bay and Atikokan account for approximately 6,077 MW of net in-service capacity. Dual-fuelled (i.e., capable of burning either oil or natural gas) generating units at Lennox account for approximately 2,100 MW of net in-service capacity.

	2009	2008	2007
Net Capacity (MW)	8,177	8,525	8,581
Net electricity generation (TWh)	9.5	23.2	29.0
Thermal EFOR (%)	8.5	12.8	11.5

Thermal Fuel Procurement

Until the cessation of coal use on December 31, 2014, OPG coal-fired generation will be limited in order to meet CO_2 emissions reduction requirements. OPG's fuel program is designed to conform with these CO_2 emissions requirements respecting the relevant policies and procedures to manage the process. Coal is procured for coal-fired plants primarily through short or medium term supply contracts, with the remainder supplied through spot-market purchases as required to meet the requirements of the fuel program.

Due to the relatively low capacity factor of Lennox generating station, both oil and natural gas are purchased on the spot market, other than a small volume of fixed term natural gas required for operation purposes. Fuel switching is based on market and fuel economics.

Facility Planning

OPG's facility planning approach is designed to identify necessary capital, operating and maintenance expenditures for each thermal facility in order to optimize returns from station reinvestment within constraints imposed by technical, financial and system requirements as well as regulatory and voluntary emissions limits.

Large temperature and pressure variations experienced during cycling operation (i.e., stopping and starting the units frequently) of thermal units to meet system peaks cause more mechanical wear than continuous operation. In light of the requirement to cease output from coal-fired generating stations by December 31, 2014, OPG modified its strategy for these stations to ensure units are available when they are required while managing equipment damage from frequent starts and stops. In addition, due to recent lower demand for thermal-fuelled generation, OPG has extended the length of outages, where warranted, to reduce maintenance related expenditures, including overtime. Commensurate with the decision for the planned permanent shutdown of some units, the scope of outages on these units has been reduced to encompass regulatory requirements and shutdown maintenance issues only. Notwithstanding this strategy, OPG's first priority is to make appropriate investments to ensure continued safe and environmentally responsible operation of its coal-fired generating stations. Should cost recovery contracts be executed for units converted to alternate fuels, some investment in existing equipment will be required to fit the future operating profile as defined by the engineering risk assessment for these units.

OPG has recognized, and carries on its balance sheet, a liability to cover future expenditures to decommission and dismantle each of its thermal stations. This provision is valued at approximately $123 million on a net present value basis as at December 31, 2009, and is not currently funded. The provision is estimated on the basis of station closure; however, certain safe shutdown costs included in the provision will be incurred as a result of the advanced closure of four units in 2010. The basis of the provision will be reassessed for any units converted to use alternate fuels.

Support Agreements

As a result of the Shareholder's Resolution and regulations pertaining to CO_2 emissions reductions, plant equipment investments are required to assure the reliability and availability of the Lambton and Nanticoke Generating Stations through to closure to meet expected operating requirements. OPG and the OEFC have entered into the CSA to ensure these stations receive sufficient revenue to recover their actual costs, and ensure OPG will continue to economically maintain these stations for supply adequacy and system reliability following the implementation of CO_2 emissions targets/caps. The CSA with the OEFC which expires December 31, 2014, provides reimbursement of capital expenditures through the recapture of depreciation. The cost of the conversion of units to alternate fuels is specifically excluded from the agreement.

The Lennox Generating Station operated under annual RMR contracts approved by the OEB for the period October 1, 2005 to September 30, 2009. OPG is in discussions with the OPA to enter into a contract for the Lennox generating capacity for the period beyond September 30, 2009 on a similar basis as the RMR contracts. For additional details, see "*GENERAL DEVELOPMENT OF THE BUSINESS - Thermal – Lennox Generating Station*".

Nuclear Waste Management

As they operate, OPG's nuclear reactors produce a variety of radioactive waste materials: used nuclear fuel bundles (high-level radioactive waste); other material that has come in close contact with the reactors but is less radioactive than used fuel, such as ion exchange resins and other structural material and reactor equipment, including pressure tubes (collectively, intermediate-level radioactive waste); and other material used in connection with station operation that is not highly radioactive, such as tools and protective clothing (collectively, low-level radioactive waste). OPG is responsible for the ongoing long-term management of these wastes. In addition, OPG will have to manage radioactive waste associated with decommissioning of its nuclear generating stations after the end of their useful lives. The handling and disposal of radioactive material in Canada is subject to federal legislation. For additional details, see "*REGULATION - Nuclear Regulation*"; and "*Discussion of Operating Results by Business Segment – Regulated – Nuclear Waste Management Segment*" in the Company's MD&A for the year ended December 31, 2009.

Federal Government Policy

The *Nuclear Fuel Waste Act* (Canada) ("*NFWA*") came into force in November 2002. The *NFWA* requires the owners of nuclear fuel waste in Canada to establish a waste management organization, incorporated as a separate legal entity, with a mandate to manage and coordinate the full range of activities relating to the long-term management of nuclear fuel waste. In response to the *NFWA*, in 2002 OPG and other Canadian nuclear waste producers incorporated the Nuclear Waste Management Organization ("NWMO"). The NWMO completed a study of the options available for the long-term management of used fuel in 2005, as required by the *NFWA*. In 2007, the federal government approved the Adaptive Phase Management program as the long-term solution for Canada's nuclear fuel waste. At the core of this program is the eventual long-term permanent disposal of radioactive nuclear fuel waste in a deep repository 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 *NFWA* also requires the nuclear fuel waste owners to establish and make payments into trust funds for the purpose of funding the implementation of the long-term management plan. Accordingly, OPG has established the Ontario NFWA Trust. For additional details, see "*DESCRIPTION OF THE BUSINESS - Nuclear Waste Management - Provisions for Future Nuclear Related Costs*".

Current Practices

Bundles of used nuclear fuel from OPG's reactors and leased reactors at the Bruce site are temporarily stored in water-filled pools known as "wet bays" at the nuclear generating stations, 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 wet bays corresponding to approximately 15 to 20 years of operation.

After bundles of used nuclear fuel have been stored for their cooling-off period and water-filled pools near their capacity, they are transferred from the wet bays to above-ground concrete canisters ("dry storage") at the corresponding nuclear station site. Currently, used nuclear fuel is in storage at the Pickering, Darlington and Bruce sites.

OPG's low and intermediate-level radioactive waste is stored at its radioactive waste management facility at the Bruce site, the Western Waste Management Facility. This facility, which continues to be owned and operated by OPG following the lease of the Bruce stations, operates under separate licences issued by the CNSC.

OPG's planning assumptions for nuclear fuel waste and decommissioning liabilities are that a deep geological disposal facility for used nuclear fuel will be available in 2035 and a low and intermediate level radioactive waste disposal facility will be available by 2018. In August 2000, OPG submitted a management plan to the CNSC which revised the reference date for an in-service used fuel disposal facility from 2025, as included in the previous reference plans, to 2035. This forms part of the plans for nuclear waste management and decommissioning liabilities that have been accepted by the CNSC to meet requirements under the *Nuclear Safety and Control Act* (Canada) ("*NSCA*") for a financial guarantee, which was established in July 2003.

OPG has adopted a deferred dismantling strategy for the decommissioning of its nuclear generating stations. Under this strategy, OPG intends to defuel each station immediately after it has ceased operations and prepare the station for safe storage and monitoring. Thereafter, OPG intends to monitor the station for approximately 30 years, after which it will dismantle the station over a period of approximately ten years. This deferred dismantling strategy has been communicated to the CNSC through preliminary decommissioning plans for all of OPG's nuclear generating stations and operating licences have been issued based on, among other things, its review of this strategy. Financial guarantees required for decommissioning liabilities are also based on this strategy.

Deep Geologic Repository for Low and Intermediate Level Waste

In December 2005, OPG submitted a project description to the CNSC for a low and intermediate level waste Deep Geologic Repository ("L&ILW DGR") at the Bruce site in the Municipality of Kincardine,

Ontario. This initiated the EA process, which is the first step in the regulatory approval process for the site preparation, construction and operation of a L&ILW DGR facility for the management of low and intermediate level waste. The L&ILW DGR would be designed to manage low and intermediate waste produced from the continued operation of OPG-owned nuclear generating stations.

Under the *NSCA*, OPG will require 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 this proposal, an EA must be conducted in compliance with the requirements of the federal *Environmental Assessment Act*. The purpose of an EA is to identify the possible environmental effects of a proposed project, determine whether the project should be allowed to proceed or whether there is a need to incorporate mitigation measures into the project before it is allowed to proceed.

In June 2007, the federal Minister of the Environment announced that the proposed L&ILW DGR project has been referred to a review panel. The next steps include the preparation of a final scope and guidelines for the EA, and agreement on the panel review process.

Provision for Future Nuclear Related Costs

On April 1, 1999, the obligation for nuclear waste management and decommissioning was transferred to OPG. The responsibility for funding these liabilities is described in the Ontario Nuclear Funds Agreement ("ONFA") between the Province and OPG. The key provisions of the ONFA are: (i) for OPG to establish two segregated funds, the Used Fuel Segregated Fund (to fund future costs of nuclear used fuel waste management) and the Decommissioning Segregated Fund (to fund the future costs of nuclear fixed asset removal and low and intermediate level waste management); (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; (iii) for the Province to limit OPG's financial exposure in relation to the cost of used fuel management; and (iv) for the Province to provide financial guarantees to the CNSC, if required by the CNSC, for OPG's nuclear waste management and decommissioning liabilities. Although the ONFA is dated April 1, 1999, it did not take effect until July 24, 2003, when OPG established the Used Fuel Segregated Fund and the Decommissioning Segregated Fund.

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

The limits to OPG's financial exposure under the ONFA with respect to the cost of long-term storage and disposal of 2.23 million bundles of used fuel are as follows (all amounts are present value as at January 1, 1999): (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 responsible for any costs above $10 billion. As a result, OPG's liability for these used fuel costs will be capped at $5.94 billion, assuming 2.23 million bundles of used fuel waste are produced. OPG will, however, be responsible for all incremental costs relating to the management of used fuel bundles in excess of 2.23 million. As at December 31, 2009, 1.98 million bundles of used fuel waste had been produced.

Under the ONFA, the Province guarantees the cumulative annualized rate of return earned in the Used Fuel Segregated Fund at 3.25 percent per annum plus the rate of change in the Ontario consumer price index, compounded annually for funding related to the first 2.23 million used fuel bundles. Therefore, the Province is obligated to make additional contributions to the Used Fuel Segregated Fund if this fund earns a rate of return that is less than the rate of return guaranteed by the Province. If the return on the assets in the Used Fuel Segregated Fund exceeds the Province's guaranteed rate, the Province is entitled to the excess.

OPG's required contributions to the Used Fuel Segregated Fund and the Decommissioning Segregated Fund are determined based on reference plans, as approved under the ONFA, which are prepared by

OPG and the NWMO, with the assistance of external consultants and are based on external practices and benchmarks. Under the reference plan, OPG has estimated the total present value of its future nuclear waste management and decommissioning costs based on cost estimates and assumptions as to the remaining useful lives of the nuclear stations and proposed methods of nuclear waste disposal. Cost estimates reflect management's views, supplemented by external advice as well as international benchmarks.

OPG is currently working on an update to the current five year ONFA reference plan that expires at the end of 2011. This work requires long lead time activities such as the re-estimation of all of the waste management programs that form part of the liability (decommissioning, low and intermediate level nuclear waste ("L&ILW") long-term management, used fuel disposal, used fuel storage, L&ILW operations) and updates to the many economic indices that are inherent in the present value calculation.

For purposes of the ONFA, the Ontario NFWA Trust forms part of the Used Fuel Segregated Fund.

Contributions to the Used Fuel Fund and the Decommissioning Fund

The Used Fuel Segregated Fund is funded in accordance with the ONFA, using the reference plans and associated cost estimates, which have been approved by the Province and may be adjusted from time to time in accordance with the ONFA.

In regard to the Ontario NFWA Trust, a funding formula was approved by the federal Minister of Natural Resources in early 2009 and sets out the contribution requirements of OPG and the other nuclear fuel waste owners in Canada.

Under the ONFA, if there is a surplus in the Decommissioning Segregated Fund beyond a minimum over-funding ratio, OPG may direct 50 percent of the surpluses to the Used Fuel Segregated Fund and the OEFC is entitled to the remaining 50 percent of such surplus. OPG bears the risk and liability for cost estimate increases and fund earnings in the Decommissioning Segregated Fund.

OPG's contributions to the Used Fuel Segregated Fund or to the Decommissioning Segregated Fund are deductible under the proxy tax regime. In addition, investment income earned on these funds is treated by OPG as being exempt from both proxy income tax and taxes payable under the *Income Tax Act* (Canada) and the *Taxation Act, 2007* (Ontario). If the investment income earned on these funds is deemed taxable, OPG will bear the entire additional cost of the tax and its required contributions to the funds would increase accordingly. For additional details, see "*INTEREST OF MANAGEMENT AND OTHERS IN MATERIAL TRANSACTIONS*" and "*RISK FACTORS - Nuclear Operations*".

Changes to the estimated level of contribution to the funds will depend on any changes to the reference plans and associated cost estimates and tax treatment. OPG's required contributions could increase, for example, if cost estimates increased, if the operating life of the nuclear stations decreased, if the funds became subject to tax or if the NWMO is unable to receive the same sales tax treatment that OPG would be entitled to receive if the NWMO had not been established (see "*INTEREST OF MANAGEMENT AND OTHERS IN MATERIAL TRANSACTIONS - Taxation of Provisions for Future Nuclear Related Costs*"). Under the Ontario Nuclear Funds Agreement, payments to the funds are recalculated each time there is a new reference plan and in certain other events. Any new reference plan must be approved by the Province. Reference plans are required to be prepared at least every five years and more frequently if required by the CNSC or 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 in mid cycle.

In the case of the Bruce A and Bruce B nuclear generating stations leased to Bruce Power, OPG has the long-term responsibility for the managed storage of used nuclear fuel and of the L&ILW waste generated by Bruce Power, and for the future decommissioning of the generating stations. Funding of these obligations on the part of OPG is recovered from Bruce Power through annual rent payments, and through volume based payments in the case of low and intermediate level radioactive waste.

Provincial Guarantee

The CNSC requires obligations for nuclear waste and decommissioning to be subject to financial guarantees. Under the ONFA, the Province provides a guarantee to the CNSC in relation to OPG's obligations. The provincial guarantee bridges the shortfall between OPG's financial guarantee to the CNSC for long-term liabilities associated with nuclear waste and decommissioning and the value of the Used Fuel Segregated Fund and the Decommissioning Segregated Fund. The CNSC process requires a reference plan to be set 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. In December 2009, the CNSC approved OPG's fulfillment of its financial guarantee obligation through the value of the segregated funds and a provincial guarantee of $1.545 billion effective March 1, 2010.

For further details, see "*Balance Sheet Highlight – Nuclear Fixed Asset Removal and Nuclear Waste Management Funds*" in the Company's MD&A for the year ended December 31, 2009.

Other

Brighton Beach Venture

OPG has a 49.95 percent partnership interest in Brighton Beach Power L.P. ("Brighton Beach"), a limited partnership formed with ATCO Power Canada Ltd. (39.96 percent), ATCO Resources Ltd. (9.99 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), ATCO Power Canada Ltd. (40 percent) and ATCO Resources Ltd. (10 percent). Brighton Beach is a 580 MW combined cycle gas turbine electricity generating facility on the site of the former J.C. Keith Generating Station site in Windsor, Ontario. The station started commercial operation in July 2004. Brighton Beach operates under a tolling arrangement with Shell Energy North America (Canada) Inc. ("Shell Energy") under which Shell Energy owns and trades the electricity produced by the facility in return for the supply of gas and the fees payable under a tolling agreement. Shell Energy's financial obligations are guaranteed by Shell Energy North America (U.S.), L.P. ("Shell L.P.") and Shell L.P.'s obligations are in turn guaranteed by Shell Oil Company.

Portlands Energy Centre Venture

OPG has a 49.95 percent partnership interest in Portlands Energy Centre L.P. ("Portlands"), 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). Portlands is a 550 MW combined cycle co-generation natural gas turbine electricity generating facility on the former R. L. Hearn Generating Station site in the port area of downtown Toronto. The station was declared in-service in a combined cycle mode in April 2009, earlier than its contractual in-service date of June 1, 2009. Portlands is operating under an Accelerated Clean Energy Supply contract with the OPA and trades electricity in the Ontario electricity market.

Energy Trading Activities

OPG is engaged in wholesale energy trading activities for the purpose of generating incremental revenues. This activity is limited to physical and financial trading of power in Ontario and at the interconnection points between Ontario and neighbouring markets. A wholly-owned Canadian subsidiary of OPG is engaged in US-based wholesale energy trading activities from Canada. These activities are limited to physical and financial trading of power, predominately in the northeastern United States.

New Generation Development

Nuclear Development

As directed by the Minister of Energy in June 2006, OPG initiated a federal approvals process in September 2006 by filing an Application for a Site Preparation Licence with the CNSC for new nuclear generating units at the Darlington nuclear generating site. In March 2008, the Minister of Energy announced a two-phase competitive RFP process to select a nuclear reactor vendor to provide 2,000 to 3,500 MW of additional baseload generation capacity to the Ontario electricity grid. In June 2008, Infrastructure Ontario announced the selection of Darlington as the site for this new nuclear station, which would be operated by OPG. A commercial team directed by Infrastructure Ontario and supported by OPG, Bruce Power L.P., and the Ministries of Energy and Infrastructure, and Finance, managed the procurement process to select a nuclear reactor vendor. However, in June 2009, the Province suspended the RFP process, indicating that the process had not provided Ontario with a suitable option at the time. The bids that were received during this process have subsequently expired. The Government has not yet announced its revised plans for procurement of two new nuclear reactors. In order to support future decisions, OPG continued with two initiatives that were underway – the environmental assessment process and obtaining a Site Preparation Licence. As a result, in September 2009, OPG submitted the Environmental Impact Statement ("EIS") and an updated application for the "Licence to Prepare Site" to the Canadian Environmental Assessment Agency and the CNSC. On November 16, 2009, the Joint Review Panel ("JRP") announced the start of the six month public review period for the EIS and the "Licence to Prepare Site". On February 3, 2010, the JRP requested additional information in support of the EIS and application for the Licence to Prepare Site.

Hydroelectric Expansion and Development

OPG has initiated the following new hydroelectric generation initiatives in order to enhance OPG's sustainable energy component.

Niagara Tunnel

The total flow of water available to the Sir Adam Beck stations pursuant to treaties between Canada and the United States exceeds the combined capacities of OPG's existing water diversion facilities (i.e., the Sir Adam Beck power canal and two tunnels) about 65 percent of the time. To capitalize on this potential, a third tunnel is being constructed to divert additional water from the Niagara River to the Sir Adam Beck stations. The additional water provided by the Niagara Tunnel Project is expected to increase the efficient utilization of the existing capacity of the stations at the Sir Adam Beck complex, thereby increasing energy production by an average of 1.6 TWh per year.

In May 2009 OPG's Board of Directors approved a revised cost estimate of $1.6 billion with a revised in-service date of December 2013. The revised cost estimate and schedule take into account the difficult rock conditions encountered and the concurrent tunnel excavation and liner installation work required for completion of the tunnel. The contract includes incentives and disincentives related to achieving the target cost and schedule.

The capital project expenditures for the year ended December 31, 2009 was $214 million. The life-to-date capital expenditures are $649 million.

The project is debt financed through the OEFC. OPG is in the process of pursuing an amendment to the Niagara Tunnel Project credit facility with the OEFC, consistent with the revised cost estimate of $1.6 billion and the revised schedule.

Lac Seul

The Lac Seul Generating Station, the first new OPG hydroelectric facility to be built in the province in over 30 years, was declared in-service in February 2009. The station has a capacity of 12.5 MW. The total project expenditures were $55 million.

OPG has entered into a partnership agreement with the LSFN, and in July 2009, OPG transferred ownership of the station to the partnership. OPG has a 75 percent ownership interest in the partnership, while the LSFN have a 25 percent interest. The station continues to perform reliably and efficiently without interruption with the exception of scheduled outages for inspections.

Upper Mattagami and Hound Chute

Design and construction activities to replace three existing hydroelectric generating stations on the Upper Mattagami River and the Hound Chute Generating Station on the Montreal River continued through to the end of 2009. Upon completion of the project, the total installed capacity of the four stations will increase from 23 MW to 44 MW, and the expected annual energy will increase from 134 GWh to 223 GWh. The generating stations are expected to be in-service by April 2011.

Project financing by UMH Energy Partnership was completed in May 2009 by issuing $200 million in senior secured notes. UMH Energy Partnership is a general partnership between OPG and UMH Energy Inc., a wholly-owned subsidiary of OPG. These notes are recourse to OPG during the construction period, and non-recourse thereafter. Life-to-date expenditures as of December 31, 2009 were $196 million. Total project costs are expected to be $300 million.

Lower Mattagami

OPG is proceeding with a development plan to increase the generating capacity of four hydroelectric generating stations on the Lower Mattagami River by 450 MW to 933 MW, and expected yearly energy production by 0.9 TWh to 3.2 TWh. In January 2010, a design-build contract was finalized which will allow engineering and other preparations to continue in parallel with securing final regulatory approvals and negotiating a HESA with the OPA.

OPG is engaged in consultation discussions with Aboriginal communities regarding the project. A comprehensive agreement has been negotiated with the local First Nation that resolves grievances attributed to the construction and subsequent operation and maintenance of OPG facilities in the area. The new agreement will also provide the First Nation with an ability to purchase up to a 25 percent equity interest in the project. Discussion with other Aboriginal groups are ongoing.

Thermal Development

OPG is currently reviewing options to convert its existing coal units to use alternative fuels such as wood and agricultural biomass, natural gas or dual gas-biomass. Over the past three years, there has been considerable effort to investigate the potential to fuel the coal-fired generating stations with 100 percent biomass. The conversion of coal units to biomass, gas or dual-fuel has potential to meet system needs for generation in specific locations (e.g., northwestern Ontario), and to supply dispatchable “ramping” capacity to enable renewable generation, such as wind power.

The biomass fuel would be expected to be supplied in pellet form and procured through a competitive RFP process. OPG will require the biomass fuel to be sustainably harvested and will complete a GHG lifecycle analysis to demonstrate carbon neutrality. Advanced fuel supply options such as torrefied or carbonized biomass are being studied.

Before OPG can proceed with unit conversions, a mechanism is required for recovery of capital and on-going costs. OPG is in discussions with the Province for an appropriate cost recovery mechanism.

Human Resources

OPG’s ability to sustain on-going operations and to successfully deliver the portfolio of planned projects is dependent on its ability to acquire, develop and retain the necessary talent. Guided by integrated workforce planning, OPG plans for the necessary resources to meet the demand that will be generated by forecasted attrition. OPG enjoys a strong brand in the labour market and continues with targeted

recruitment and outreach strategies designed to attract top qualified talent. OPG is committed to a strong leadership culture and strengthens its leadership capability through a focus on leadership accountability, assessment, development, and succession planning. OPG continues to invest in its employees through engaging work, professional growth and personal fulfillment.

As of December 31, 2009, OPG had approximately 12,100 full-time employees and approximately 1,000 contract, casual construction and non-regular staff. The majority of OPG's full-time employees are represented by two unions, the Power Workers' Union ("PWU") and the Society of Energy Professionals ("Society"). In addition to the regular workforce, construction and contract maintenance is conducted through 22 craft unions with established bargaining rights on OPG facilities. These bargaining rights are either through Electrical Power Systems Construction Association ("EPSCA") or directly with OPG.

Power Workers' Union

The PWU represents 58 percent of OPG's regular workforce. Union membership includes most workers beneath the level of first line manager – from clerical staff to technicians and trades staff and station operators. The current collective agreement between OPG and the PWU has a three-year term (April 1, 2009 – March 31, 2012).

The Society of Energy Professionals

The Society represents 31 percent of OPG's regular workforce. Union membership includes supervisors, professional engineers, scientists and professionals. The current collective agreement between OPG and the Society has a five-year term (January 1, 2006 – December 31, 2010).

Construction Unions

OPG has relationships with 22 construction unions, either directly or indirectly, through an employer association.

There are currently three direct trade agreements covering construction work and contract maintenance at OPG. These single trade agreements are with the Canadian Union of Skilled Workers, the Brick and Allied Craft Union and the Machinists.

There are currently 19 agreements under EPSCA covering work performed by OPG, Bruce Power and Hydro One, as well as numerous contractors in the electrical power systems sector of the construction industry. EPSCA is a voluntary association of owners and contractors who perform work in the electrical power systems sector. EPSCA was formed in 1972, with the primary purpose of negotiating collective agreements on behalf of contractors and owners performing work on Ontario Hydro generation and transmission sites. EPSCA is currently comprised of 82 employers, and is governed by a Board of Directors. The Board is comprised of 12 representatives, one from each of OPG, Bruce Power and Hydro One plus nine other contractors.

All the construction agreements will expire in April 2010. OPG, in conjunction with EPSCA, is actively involved in all aspects of negotiations.

Health and Safety

Occupational Health and Safety

OPG is committed to achieving excellent safety performance, striving for continuous improvement and the ultimate goal of zero injuries. Safety performance is measured using two primary indicators, the Accident Severity Rate ("ASR") and the All Injury Rate ("AIR"). Overall, OPG's safety performance is consistently one of the best among Canadian electrical utilities, being awarded the Canadian Electricity Association's President's Safety Award (Groups I and II) in six out of the last nine years, recognizing OPG's top quartile safety performance in ASR and AIR.

OPG is also a leader in contractor safety performance with a best-in-class contractor management program. OPG expects its contractors to maintain an equivalent level of safety to that of OPG's employees, positively contributing to OPG's safety culture.

OPG is committed to achieving its goal of zero injuries through further development of its strong safety culture and continuous improvement in OPG's safety management systems and risk control programs. One of the key strategies used to achieve this improvement has been through maintenance of formal safety management systems based on the British Standard Institution's Occupational Health and Safety Assessment Series 18001. These systems exist at both the corporate and site levels, and serve to focus OPG on proactively managing safety risks and developing targeted risk mitigation programs.

Oversight and reporting by corporate and site safety functions provides senior management with regular information on the effectiveness of the safety management efforts, compliance to legal and corporate requirements, and safety performance trends. Oversight activities include internal and external safety management system audits and audits on specific operational risks. OPG also has a rigorous incident management system, which requires that all incidents, including near misses, be reported and investigated, and that corrective action plans are developed to ensure that reoccurrences are prevented.

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. The ICRP is widely recognized as the main source of expert advice regarding protection from the harmful effects of ionizing radiation. This agency periodically issues recommendations concerning principles of radiation protection. The recommendations of the ICRP are usually adopted without significant change by most countries and are incorporated into their laws. In Canada, the CNSC is the federal agency that regulates radiation protection. The Canadian Radiation Protection Regulations are based on the recommendations of the ICRP, and OPG's nuclear facilities conform to these regulations.

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

As a condition of receiving operating licences for its nuclear facilities, OPG has developed comprehensive emergency plans which detail its 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 their skills and to continuously improve response capability for such events.

Waterways Public Safety

See "*DESCRIPTION OF THE BUSINESS - Generation Operations - Hydroelectric - Dam Safety and Waterways Public Safety Programs*".

Sustainable Development Initiatives

OPG defines sustainable development as the adoption of business strategies and activities that meet the needs of the enterprise and its stakeholders today, while protecting and enhancing the human and natural resources that will be needed in the future. OPG is committed to the principles of sustainable development, including minimizing our impact on the environment; operating our facilities safely, reliably and responsibly and being an engaged and productive member of our host communities.

OPG's Environmental Policy commits the Company to meeting all legislative requirements and voluntary environmental commitments with the objective of moving beyond compliance; maintaining ISO 14001-2004 certified environmental management systems for all generating facilities; integrating environmental and social factors into planning, decision-making, and business practices; advance environmental stewardship through environmental protection, pollution prevention, conservation of biological diversity, and energy/resource use efficiency; and measuring and communicating OPG's progress towards achieving sustainable development.

Additional information on OPG's sustainable development initiatives is included in the *2008 Sustainable Development Report* which is available on the Company's website at www.opg.com.

For additional details, see "*REGULATION - Environmental Matters*".

Intellectual Property

In connection with the reorganization of Ontario Hydro, Ontario Hydro's patents and certain other transferable intellectual property assets, including trade-marks, copyrights and industrial design and technical information were transferred to certain successor corporations, including OPG. Certain of the intellectual property assets of OPG have, in turn, been licensed by OPG to Hydro One, the Electrical Safety Authority, and other entities. Licences of intellectual property assets among OPG, Hydro One and the Electrical Safety Authority are generally non-exclusive, royalty free and perpetual and cannot be terminated without the written consent of the other party.

Insurance

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

OPG purchases insurance coverage as required by statute, namely owned and leased automobile and nuclear energy liability. OPG believes and has been advised by insurance professionals that the coverages, amounts and terms of its insurance agreements are consistent with prudent Canadian industry practice.

As required by the *Nuclear Liability Act* (Canada) ("*NLA*"), OPG maintains $75 million per incident of nuclear liability insurance for each of its nuclear generating stations (Pickering A and B are considered to be one station), for which there is no deductible amount. The *NLA* is currently under review, which will likely result in a requirement for increased insurance coverage. For additional details, see "*REGULATION - Nuclear Regulation*".

REGULATION

Ontario Electricity Regulation

From the opening of the competitive electricity market in May 2002 until March 2005 all of OPG's production was sold at the Ontario electricity market spot price established by the IESO.

Pursuant to the *Ontario Energy Board Act, 1998* and its regulations, the prices for most of OPG's baseload hydroelectric generation and all of its nuclear generation are regulated. This comprises electricity generated from the Sir Adam Beck 1, 2 and Pump Generating Station, the DeCew Falls 1 and 2 stations, and the R.H. Saunders station, and the Pickering A and B and Darlington nuclear stations. Effective April 1, 2008, the OEB approved regulated prices are $36.66/MWh and $54.98/MWh for production from OPG's regulated hydroelectric and nuclear facilities, respectively. These regulated prices reflect the OEB's decision with respect to the recovery of variance and deferral account balances recorded prior to April 1, 2008. In order to reflect the recovery of these balances, the nuclear regulated price of $54.98/MWh includes a rate rider of $2.00/MWh.

Regulated hydroelectric generation is subject to an incentive mechanism based on market signals to encourage optimization of hydroelectric production. The current mechanism became effective on December 1, 2008. Under this mechanism, OPG receives the approved hydroelectric payment amount for the actual average hourly net energy production from the prescribed hydroelectric facilities in that month. In the hours when the net actual energy production in Ontario is greater or less than the average hourly net volume, OPG's revenues are adjusted by the difference between the average hourly net volume in the month and the actual net energy production multiplied by the market price.

OPG also maintains certain variance and deferral accounts authorized by the OEB to capture deviations from the approved forecast information upon which the regulated prices are based.

Nuclear Regulation

The *NSCA* created the CNSC and authorized it to make regulations governing all aspects of the development and application of nuclear energy. The most significant powers given to the CNSC are for making regulations, standards and guides and for issuing licences. A person or organization may only possess or dispose of nuclear substances, or construct, operate and decommission its nuclear facilities in accordance with the terms of a licence issued by the CNSC. The licence specifies conditions that licencees must satisfy in order to demonstrate that the licencee is qualified to carry out the activities authorized by the licence. International and national standards in relation to matters such as safeguards and radioactive emissions are examples of conditions incorporated into station licences.

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

The *NSCA* is the product of an update of regulatory requirements by the federal government in relation to the effective regulation 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, to require financial guarantees for nuclear waste management and nuclear facility decommissioning as a condition of granting a licence, order-making powers and the right 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. The *NSCA* also provides for increased emphasis on

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 new operators, the renewal of existing licences and amendments to existing licences.

The *NLA* imposes absolute liability on a licenced operator of a nuclear generating station for any damage to property of, or personal injury to, the public arising from a nuclear incident other than damage resulting from sabotage or acts of war. As such, the *NLA* protects suppliers of nuclear fuel and components used in nuclear reactors.

The *NLA* requires all operators of nuclear generating stations in Canada to purchase nuclear liability insurance from the Nuclear Insurance Association of Canada in specified amounts. Currently, the *NLA* requires a nuclear operator to maintain, for each of its nuclear stations, insurance up to a limit of $75 million per incident against the liability imposed under the *NLA*. Under Part I of the *NLA*, an operator is liable for all damages resulting from a nuclear incident. If in the opinion of the Governor in Council, an operator's liability could exceed $75 million in respect of a nuclear incident, or it would be in the public interest to do so, the Governor in Council must proclaim Part II of the *NLA* as applicable in respect of a nuclear incident. Under Part II of the *NLA*, an operator's liability would be effectively limited to the amount of such insurance and the Governor in Council may authorize additional funds to be paid by the federal government as may be specified in an order. The *NLA* is currently under review, which could result in a requirement for increased insurance coverage (see "*DESCRIPTION OF THE BUSINESS - Insurance*").

Since the regulation of nuclear energy could have 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 entered into a five-year, 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.

All of OPG's nuclear power reactor operating licences were reissued as of April 1, 1999 when OPG acquired the generation business of Ontario Hydro. All nuclear power reactor operating licences have since been renewed pursuant to the NSCA by the CNSC. During 2008, the CNSC granted five year renewals of operating licences for the Darlington and Pickering B Generating Stations. A five year licence renewal is currently in progress for Pickering A Unit 1 and 4 with renewal hearings scheduled with the CNSC in February and May of 2010. Renewal of these licences is expected, subject to various terms and conditions relating to the operation of the facilities.

For additional details, see "*DESCRIPTION OF THE BUSINESS - Generation Operations - Nuclear", "DESCRIPTION OF THE BUSINESS - Nuclear Waste Management*" and "*INTEREST OF MANAGEMENT AND OTHERS IN MATERIAL TRANSACTIONS - Taxation of Provisions for Future Nuclear Related Costs".*

Regulation of Water Rights

OPG's management of available water resources directly affects its ability to maximize production and efficiency, and ultimately its return on investment. However, the watersheds on which OPG's hydroelectric generating facilities are located are shared by many users and subject to various governance requirements (e.g., international, federal, and provincial treaties, agreements, water power leases and regulations). Accordingly, OPG must balance the economic, environmental, social, and legal requirements associated with the watersheds while optimizing production.

The current regulatory framework requires the development of Water Management Plans ("WMPs") for all watersheds/rivers in Ontario except international or inter-provincial rivers. While WMPs generally have ten year review terms, they will be subject to change as certain conditions change.

International Rivers

Five of OPG's hydroelectric generating stations 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 United States relating to water use. Those stations represent approximately 48 percent of OPG's 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*. Both of these treaties continue in perpetuity but are terminable by either party on 12 months prior written notice. Given the significant importance of these treaties, OPG does not expect Canada or the United States to exercise their termination rights in the foreseeable future.

While the *Niagara Parks Act* (Ontario) gives the Niagara Parks Commission the authority to grant certain rights to use 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.

The DeCew Falls Generating Stations use water that is transported along the Welland Canal from Lake Erie by the St. Lawrence Seaway Management Corporation under an agreement between OPG and the St. Lawrence Seaway Management Corporation, that has been renewed through June 30, 2038.

The Province has granted to OPG the right to use water from the International Rapids section of the St. Lawrence River for power generation at the R.H. Saunders Generating Station, subject to an agreement between Canada and the Province. Canada has the right, upon notice and after unsuccessful arbitration, to take over the operation of and title to, the R.H. Saunders station in the 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. Three of OPG's Ottawa River stations are subject to 999 year leases with each of the Province and the Province of Québec and the fourth is subject to a water power lease with the Province which is renewable, subject to certain conditions, through to 2031. OPG's use of water from the Ottawa River basin is subject to guidelines established by a board comprised of government and industry representatives.

Interior Rivers

54 of OPG's 65 hydroelectric stations, representing approximately 38 percent of OPG's in-service hydroelectric capacity are located on 21 other Ontario river systems. OPG holds water power leases, Crown leases and licences with the Province on the river systems that supply 36 of these stations. These leases and licences have expiry dates (including renewals) ranging between 2010 and 2075. Certain of these leases provide that the leased property and any fixed improvements, including the generating stations and the dams, will revert to the Province on the expiry of the lease. Eight of these stations are located on the Trent and Rideau Canals and are operated pursuant to licences from the federal government.

OPG's use of Ontario's interior watersheds is constrained by restrictions contained in certain water power leases and licences. OPG also operates within voluntary guidelines and formal WMPs under the *Lakes and Rivers Improvement Act* (Ontario), established on a watershed basis in consultation with the MNR, federal fisheries authorities and stakeholders, such as recreational and commercial users, local communities, environmental and Aboriginal groups.

The operations of certain of OPG's stations in northwestern Ontario can impact users in Manitoba and are subject to guidelines and directions provided by a board comprised of Ontario and Manitoba government representatives.

Dams and Waterways

In Canada, dams come under the jurisdiction of the provinces, with the exception of dams situated in boundary waters and those owned by the Government of Canada. The majority of OPG's dams fall within the jurisdiction of the Province. The International Joint Commission has an oversight role in regards to dams and associated works on boundary waters, including the St. Lawrence and Niagara Rivers.

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

In 2009, the MNR introduced draft technical guidelines for the life cycle management of dams. Based on OPG's preliminary review of these draft guidelines, OPG does not anticipate that major capital improvements will be required for the dams or hydraulic structures associated with regulated hydroelectric facilities. However, there may be some major improvements required for certain hydraulic structures associated with unregulated facilities.

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 the facilities. The *Navigable Waters 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, see "*DESCRIPTION OF THE BUSINESS - Generation Operations - Hydroelectric - Dam Safety and Waterways Public Safety Programs*".

Environmental Matters

Overview

OPG's Environmental Policy states that OPG will strive to continually improve its environmental performance by committing to a number of requirements, including:

- meeting or exceeding all legal requirements;
- advancing environmental stewardship;
- maintaining ISO 14001 certified Environmental Management Systems;
- integrating environmental considerations into decision-making; and
- communicating OPG's results openly.

OPG's President and CEO is accountable for the requirements set out in the Environmental Policy.

OPG's activities involve risk of adverse consequences to the environment and are therefore subject to extensive governmental regulation.

OPG monitors emissions into the air and water and regularly reports the results to various regulators, including the Ministry of the Environment ("MOE"), Environment Canada and the CNSC. OPG has implemented internal monitoring, assessment and reporting programs to manage environmental risks such as air and water emissions, discharges, spills, radioactive emissions and radioactive wastes. Further, OPG makes regular reports to the MOE with respect to its contaminated land remediation program.

In addition to the regular reports made to various regulators, the public receives frequent communications from OPG regarding OPG's environmental performance through community-based advisory groups representing communities surrounding OPG's major generating stations, annual sustainable development and environmental performance reports, community newsletters, open houses and the Company's website.

The generation of electricity can also directly and indirectly contribute to ecosystem stresses and potential biodiversity losses through, for example, loss and fragmentation of terrestrial habitat or the modification of water flow regimes. In recognition of such potential impacts, OPG has implemented a Biodiversity Policy with the goal of demonstrating that OPG can co-exist with nature without causing or contributing to the long-term decline of species, or the habitats upon which they depend, on a regional basis.

OPG is committed to sustainable development, and engages in a number of "beyond compliance" initiatives that demonstrate this commitment, including an extensive award winning biodiversity program, an internal energy efficiency program and numerous other station community oriented environmental programs. For more information about these initiatives, see OPG's *2008 Sustainable Development Report* which is available on the Company's website at www.opg.com.

For additional details, see "*DESCRIPTION OF THE BUSINESS - Sustainable Development Initiatives*".

Air

OPG is an emitter of GHGs, primarily as a result of OPG's thermal operations. OPG will be subject to the regulatory requirements ultimately developed by the federal and provincial governments to limit GHG emissions. As a result of the Province's regulation ceasing coal-fired generation, OPG is positioned to significantly reduce its emissions of GHG's post-2014 and is unlikely to be at risk in terms of compliance with the GHG regulations that are expected.

Greenhouse Gas Regulation – Federal and International

The federal government, in January 2010, announced targets for reducing GHG emissions. The federal government has reaffirmed its association with the Copenhagen Accord by setting a final economy-wide GHG emissions target that is aligned with the United States. The federal government has committed to reducing final economy-wide GHG emissions 17 percent below the 2005 baseline by 2020. The federal government has indicated that it will take aggressive action to achieve this target and is believed to be moving towards a cap-and-trade system that aims to both align Canada with the policy direction in the United States and position Canada to be a clean energy superpower.

Provincial Climate Change Plan

In July 2008, the Province joined the Western Climate Initiative, committing to implement a cap-and-trade regime by 2012. The *Greenhouse Gas Emissions Reporting Regulation*, made under the *Environmental Protection Act* (Ontario), came into force on December 1, 2009. The regulation requires facilities that emit 25,000 tonnes of CO_2 or more per year to monitor, measure and annually report emissions. On December 15, 2009, amendments to the *Environmental Protection Act* came into force which authorize the making of regulations relating to emissions trading and other economic and financial instruments and market-based approaches, enabling the development of a cap-and-trade regime. OPG does not believe that its operations will be adversely affected by these regulations. In the event that the Province establishes a cap-and-trade system, OPG may need to purchase GHG allowances via auction to offset GHG emissions from coal, oil and natural gas combustion.

Thermal Operations

Historically, air emissions resulting from the operation of OPG's coal-fuelled generating assets have been managed through the use of lower sulphur fuels, installation of emission control technologies and good operating practices. The Province's regulation to cease burning coal by the end of 2014 and the Shareholder Declaration to reduce CO_2 emissions in the interim period, limit the amount of energy that will be produced by coal-fired generation assets. This results in significant reductions of all emissions to air, including NOx, SO_2 and CO_2, as well as mercury. The operating strategy for these assets going forward will focus on the safe and reliable operation of the coal fired units such that they are available when needed. As air emissions from thermal operations will continue to decline with lower levels of production, existing air emission control devices will be maintained in good operating condition and the

units will be operated in the most efficient manner. There are no additional capital investments identified specifically for the control of air emissions.

With a view to leveraging the infrastructure of the coal-fired generating stations post-2014, studies assessing the conversion of some coal-fired units to burning biomass and/or a combination of biomass and natural gas are currently underway. Biomass is recognized as a "carbon neutral" fuel and as a climate change mitigation option. The use of these fuels also reduces other emissions of concern. The studies currently focus on:

- managing the technical, including safety, aspects associated with unit conversions and operating on a new fuel source;
- development of a reliable biomass supply chain;
- development of an adequate cost recovery mechanism for capital and on-going costs; and
- review of proposals through a public consultation process.

Nuclear Operations

As a condition of licensing, all nuclear operations are equipped with radiation emission monitors to ensure that emissions are below regulated limits. All nuclear operating licences stipulate limits on the rates at which radionuclides may be emitted to the air from each nuclear site. These derived release limits are site-specific and approved by the CNSC. Since being commissioned, radiological air emissions from OPG's nuclear facilities have remained a small fraction of the regulatory limit.

OPG reports annually on the results of its radiological environmental monitoring programs at each nuclear generating station by estimating the radiation exposure to persons who live or work in locations or occupations potentially impacted by emissions from each facility. This theoretical dose has consistently been a small fraction of the regulatory limit for public dose set by the CNSC. The results of these monitoring programs are reported on an annual basis to the CNSC, the MOE and the municipalities in which the nuclear stations are located. They are also reported quarterly in the nuclear report cards that are made available to the public.

Ozone Depleting Substances

OPG has a corporate policy to manage ozone depleting substances in a safe, environmentally responsible and cost-effective manner. Ozone depleting substances, specifically chlorofluorocarbons ("CFCs"), are used in refrigeration systems and can damage the ozone layer if emitted to the atmosphere.

The MOE's refrigerant regulation prohibits refilling of chillers with CFC refrigerants after any major equipment overhaul, effective January 1, 2009, unless notice has been submitted prior to that date committing to discontinue use of the chiller or convert it to non-CFC refrigerant by December 31, 2011. On and after January 1, 2012, chillers using CFC refrigerants are prohibited. OPG has CFC-based equipment that will be removed or converted in accordance with the regulation. OPG is in the process of reducing the volumes of CFC's held in its refrigerant bank to reduce the liability associated with maintaining such a bank.

Water

OPG is required to comply with federal, provincial and municipal water quality and quantity regulations in connection with the use of lake water and the discharge of condenser cooling water and other water effluents from OPG's generating stations.

Thermal Operations

OPG has implemented programs to manage the water effluent from its thermal generating stations and is in material compliance with Ontario's Municipal / Industrial Strategy for Abatement ("MISA") program and terms and conditions identified in Certificates of Approval issued by the MOE. Any incidents of non-compliance are reported forthwith to regulatory authorities, are thoroughly investigated to determine root cause and corrective action plans are developed accordingly.

Nuclear Operations

OPG has implemented programs to manage the water effluent from its nuclear generating stations. OPG has taken measures, including the installation of new equipment at its nuclear generating stations, to achieve compliance with the power sector MISA regulation.

To deal with copper/zinc emissions resulting from the erosion of its brass condensers, OPG has replaced the condensers at Pickering A and B nuclear stations with more durable materials. Additional modifications have been approved to the Active Waste Management system at the Darlington station to provide even further assurance of its ability to comply with MISA requirements.

To reduce the impingement of fish associated with the operation of the Pickering nuclear facilities OPG installed a barrier net in 2009. This is expected to have additional economic benefits to the Pickering facilities by preventing the ingress of algae which periodically reduces electrical output of the facility.

Land

Contaminated Land

In 1997, in response to a Director's Order from the MOE, Ontario Hydro introduced a program to assess and remediate historical contamination on properties occupied by its generating facilities. The contaminants of concern were fuel oil, transformer oil, waste lubricants and tritium. Sites were assessed and ranked as high, medium and low in reference to the need for remediation. The first Site Assessment Plan, filed with the Ministry in 1998 and each year thereafter, identified 50 high priority sites with known or potential contamination. OPG has completed all of the assessments required by the Director's Order, and the Director's Order was closed out by the MOE in March 2004. Assessment of medium and low priority sites continues under OPG's voluntary site assessment program.

At the end of 2009, remediation of 39 sites had been completed. Remediation was ongoing at eight sites and planned for two additional sites starting in 2011. By the end of 2011, remediation of all medium and low priority sites is expected to be complete. Monitored natural attenuation of contamination at one site is expected to continue to approximately 2019.

OPG estimates the present value of assessment and our remediation plan for contaminated sites at approximately $32 million over the next several years, and such amount is fully reserved under the OPG environmental and decommissioning provisions.

Any contaminated land issues which might arise during decommissioning of facilities will be addressed as part of the overall decommissioning program as described under "*DESCRIPTION OF THE BUSINESS - Generation Operations - Thermal - Facility Planning*" and "*DESCRIPTION OF THE BUSINESS - Nuclear Waste Management*".

Management of Polychlorinated Biphenyls ("PCBs")

PCB manufacture has been prohibited in North America since 1977. Prior to this prohibition, PCBs were widely used for a number of industrial applications, including as a coolant and insulating fluid in electrical equipment. New federal PCB regulations were introduced in September 2008. These regulations mandate phase-out dates and reporting for various classes of PCB equipment. OPG's existing PCB phase-out program provided the Company the basis to address the new regulatory requirements.

Biodiversity

Endangered Species

The *Endangered Species Act, 2007* (Ontario), came into force in June 2008, replacing an earlier statute, with a more robust regime administered by the MNR. In the event an endangered species is affected by the operation of a facility, compliance with the regime may potentially involve long-term commitments, including agreements as prescribed by regulation.

RISK FACTORS

OPG's portfolio of generation assets and electricity trading operations are subject to inherent risks, including operational, financial, regulatory and environmental risks. The risks disclosed below could have a material adverse effect on OPG's business, reputation, financial condition, operating results and prospects, as the context requires. However, 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 its performance or financial condition.

For additional information, see "*Risk Management*" in the Company's MD&A for the year ended December 31, 2009.

Ontario Electricity Market
OPG's ability to compete and retain electricity market share depends upon many external factors including: the entrance of new participants in the Ontario market; the competitive actions of market participants; the extent of self-generation; compliance with market power mitigation obligations; changes in the regulatory environment such as the *Green Energy Act*; supply, demand and the cost of power in the interconnected markets; weather-related electricity demand levels; regulated, wholesale and spot market electricity prices; and the Ontario economy.

Nuclear Operations
Operating nuclear stations exposes OPG to unique risks, such as the greater-than-anticipated deterioration to its nuclear generating assets, the risk of a nuclear accident and, the handling, storage and disposal of nuclear waste. The primary unfavourable impacts of these factors are higher operating costs, safety, and the potential derating of a generating unit, resulting in lower than expected production and reduced revenues.

The uncertainty associated with the electricity volume produced by OPG's CANDU nuclear generating units is primarily driven by the condition of the station components and systems, which are subject to the effects of aging. Significant factors identified to date include steam generation tube corrosion, feeder pipe wall thinning and pressure tube-calandria tube contact. Because no nuclear generating station utilizing CANDU technology has yet completed a full life cycle, there is a risk that additional unforeseen technological or equipment issues could materialize.

In February 2010, OPG announced its decision to continue the safe and reliable operation of OPG's Pickering B nuclear generating station. Pickering B nuclear generating units are currently predicted to reach their nominal end of life between 2014 and 2016. OPG is undertaking a coordinated set of initiatives to evaluate the opportunity to continue safe and reliable operations of Pickering B for an additional four to six years. Risk factors include discovery of unexpected conditions, equipment failures, requirement of significant plant modifications, and obtaining CNSC approval. Inability to achieve Pickering B Continued Operations could reduce OPG's revenue due to shutdown of the Pickering B generation station earlier than planned and could lead to discontinuation of Pickering A operations.

Although reserves of natural uranium are relatively abundant, the market price and available supply of uranium concentrates may be volatile from time to time. OPG currently uses one contractor to convert its uranium concentrates into uranium dioxide and one independent manufacturer to process uranium dioxide into finished nuclear fuel bundles. These advanced stages of the nuclear fuel supply chain are more susceptible to supply security, price and quality risks.

Management of nuclear waste also poses unique risks. For example, changes in federal regulation could result in costs in addition to the substantial costs currently incurred by OPG for nuclear waste management.

A major accident at a nuclear installation anywhere in the world could impact the regulation of OPG's activities or the future prospects for nuclear generation.

Nuclear Waste Obligations
There is no facility for the permanent disposal of nuclear waste currently in operation in Canada, nor has the CNSC licensed any such facility. Community opposition to geologic disposal of used fuel and potential station community opposition to prolonged on-site used fuel storage may impede the ability of the NWMO to develop plans acceptable to major stakeholders. In addition, community support for the centralized storage and disposal of L&ILW waste at the Western Waste Management Facility at the Bruce site may erode due to reduced OPG presence at the site and concerns for low level emissions.

Similarly, OPG's nuclear waste management and decommissioning obligations are subject to numerous factors, including: assumptions regarding implementation schedules, cost estimates, discount rates and the rate of return earned on segregated funds established to satisfy these obligations; the tax-deductibility of OPG's contributions paid to the segregated funds should OPG's tax-exempt status change; the tax-exempt status of income earned on the segregated funds; the sales tax treatment of expenditures incurred by the NWMO; changes in federal policy or regulation regarding nuclear waste management and decommissioning (including, but not limited to, financial assurance requirements, program standards, the method of and future availability of long-term waste management and other assumptions under OPG's nuclear waste management and decommissioning programs); and the degree of control OPG will have over the scope and implementation of its programs. Many of these factors relate to matters which are untested or for which there is no significant degree of certainty.

Employment Benefit Obligations
OPG's employment benefit obligations include pension, group life insurance, health care and long-term disability benefits and are subject to numerous factors, including: changes in actuarial assumptions, future investment returns, changes in benefits, changes in inflation and interest rate movements, changes in the pension plan or regulatory environment; divestitures; and the measurement uncertainty incorporated into the actuarial valuation process.

Major Projects
OPG is undertaking numerous projects designed to enhance and expand its fleet of generating stations. These projects are capital intensive and require significant investments in terms of resources. There may be an adverse effect on the Company if OPG is unable to effectively manage these projects, if it is unable to borrow the necessary capital, or if it does not receive full recovery of its capital costs. Each individual project also has its own set of risk factors. These include, but are not limited to, inherent risks associated with the potential construction of nuclear reactors (as it pertains to the Darlington New Nuclear Project), inherent risks associated with tunneling (as it pertains to the Niagara Tunnel Project), cost escalation, availability of raw materials and equipment, and the receipt of permits and approvals. These projects may also have a significant impact on OPG's borrowing capacity and credit rating. Some projects may be ultimately reassessed as being uneconomic.

Demographics
OPG's success is dependent on attracting and retaining qualified personnel, the ability of staff to work together as a cohesive team, and the effective transfer of knowledge from soon-to-be retirees to new recruits and future leaders. The demographics of OPG's workforce poses a challenge with a significant percentage of OPG's personnel eligible for retirement. Although the short-term impacts of the recent recession would indicate improved ability to attract and retain personnel, there can be no assurance that OPG will be able to attract and retain qualified personnel in the future.

Regulatory Compliance
OPG is subject to federal, provincial and municipal environmental regulation. Failure to comply with such laws can subject OPG to significant liabilities, including fines and other penalties.

OPG is also subject to regulation by entities including the OEB, the IESO, and the CNSC. The risks that arise from being a regulated entity include the potential inability to recover costs, reductions in revenue, increases in the cost of operations, and unexpected outages.

The measurement of regulatory assets and liabilities is subject to certain estimates and assumptions, including assumptions made in the interpretation of the OEB's decisions and the regulation. These estimates and assumptions will be reviewed as part of the OEB's regulatory process.

The prices for most of OPG's baseload hydroelectric generation and all of its nuclear generation are determined by the OEB based on a forecast cost of service methodology. The regulated prices remain in effect until the effective date of the OEB's next payment amounts order. As with any regulated price established using a forecast cost of service methodology, there is an inherent risk that the prices established by the regulator may not provide for recovery of all actual costs incurred by the regulated operations, or allow the regulated operations to earn the allowed rate of return.

As an electricity generation owner and operator, OPG is also subject to reliability standards as set out by the North American Electric Reliability Corporation ("NERC"), Northeast Power Coordination Council ("NPCC"), Reliability First Corporation and the IESO. NERC, NPCC and IESO are standards authorities that have the capability to create or modify reliability standards that are binding on OPG pursuant to the electricity market rules. Failure to comply with these reliability standards may result in financial penalties.

The uncertainty associated with nuclear regulatory requirements is primarily driven by plant aging, technology risks and changes to technical codes. Proactively addressing these requirements adds to the cost of operations, and in some instances, may result in a reduction in the productive capacity of a plant, or in the earlier than planned replacement of a plant component.

Financial Risk

OPG is exposed to a number of capital market-related risks that could adversely impact its financial and operating performance. Many of these risks arise due to OPG's exposure to volatility in commodity, equity, foreign exchange, and interest rate markets.

OPG's foreign exchange risk exposure is attributable to two primary factors: US dollar denominated transactions such as the purchase of thermal fuels, and the influence of US dollar denominated commodity prices on Ontario electricity spot market prices. The magnitude and exposure to the US dollar is affected by generation reliability and the price volatility of US dollar denominated commodities.

The majority of OPG's existing debt is at fixed interest rates. Interest rate risk arises with the need to refinance existing debt and/or undertake new financing, and with the potential addition of variable rate debt.

OPG operates in a capital-intensive business. Substantial financial resources are required to fund capital improvement projects and related maintenance programs at generating stations. In addition, OPG has other significant disbursement requirements including investment in new generating capacity, annual funding obligations under the ONFA, pension funding and continuing debt maturities with the OEFC. OPG's ability to arrange debt financing is dependent on a number of factors including: general economic and capital market conditions; its debt rating, credit availability from banks and other financial institutions; and the maintenance of acceptable credit ratings.

OPG transacts with counterparties in Ontario and neighbouring markets for hedging and trading activities. These activities could result in losses, cash outflows and counterparty claims.

Hydroelectric Operations

OPG's ability to operate its hydroelectric generation facilities depends upon the availability of water. Approximately 48 percent of OPG's in-service hydroelectric capacity depends on water rights derived from treaties between Canada and the United States which are terminable upon 12 months' notice. Although OPG does not expect that Canada or the United States will exercise their termination rights under those treaties in the foreseeable future, there can be no assurance that such termination will not occur which could result in the loss of the ability to generate power at some or all of its facilities. Variations in precipitation also affect water supplies, which in turn, affect OPG's generating capacity by limiting OPG's ability to utilize its low-cost hydroelectric generating assets. Significant variances in

weather or water levels, including climate change, could also affect water supplies and hydroelectric generation capacity.

OPG's hydroelectric generating stations vary in age, with a majority of the hydroelectric generating capacity built over 50 years ago. Due to the variability and age of some of the equipment and civil components, there is a risk that some facilities will require significant investment to sustain their reliability. Dam safety legislation does not currently exist in Ontario, although the MNR is currently considering introducing dam safety legislation. The MNR has developed a draft regulation governing dam safety which is expected to be enacted in 2010. The regulation may ultimately result in expenditures for structural enhancements to several of OPG's hydroelectric facilities.

The occurrence of dam failures at any of OPG's hydroelectric generating stations could result in significant liability for damages and a loss of generating capacity; repairing such failures could require OPG to incur significant expenditures of capital and other resources. There can be no assurance that OPG's dam safety program will be able to detect potential dam failures prior to occurrence, or eliminate all adverse consequences in the event of a failure.

Thermal Operations

OPG's ability to operate its coal and gas/oil-fired generation facilities is dependent on the condition of the equipment. Engineering risk and equipment condition assessments are used as the basis for a maintenance work program appropriate to the operating profile of a particular unit. If these work programs are not properly executed, equipment failures and extended forced unit outages may result.

OPG's ability to operate its coal and gas/oil-fired generation facilities is also dependent on a secure, reasonably priced supply of coal, natural gas and oil. A number of factors, including mine production problems, rail transportation problems and shipping schedule disruptions could lead to temporary shortages in the supply of coal or increases in the price of coal. Similarly, gas and oil prices and availability can be affected by numerous factors. Supply issues could cause a reduction in OPG's coal and gas/oil fired generation.

Although the Province confirmed the requirement to eliminate coal-fired generation by the end of 2014, OPG is, however, required to have certain coal-fired generating stations available, if and when needed. OPG negotiated an agreement with the OEFC to secure financial recovery of ongoing maintenance and operations costs of the Nanticoke and Lambton coal-fired stations. Given that these stations have not previously been operated on the basis of being ready only when needed, there is significant uncertainty around the ongoing reliability of their production.

Thermal's capability to move to cleaner fuels like biomass will depend on obtaining Shareholder approval of coal unit conversion and achieving cost recovery agreements with the OPA. There is also uncertainty around the resolution of technical, safety and fuel supply issues.

Transmission and Interconnection Systems

OPG depends on the capacity and reliability of the transmission and interconnection systems that connect its generators with customers in Ontario and in interconnected markets. In Ontario, the capacity of such transmission systems is limited under certain conditions, and OEB approval is required for its expansion. OPG may also face transmission constraints in interconnected markets. The capacity and operating reliability of such interconnection, transmission and distribution systems are factors beyond OPG's control, and any capacity limitations, restrictions on access or reductions in operating reliability could affect the supply of power by OPG to customers in Ontario and interconnected markets.

Ownership by the Province

The Province owns all of OPG's issued and outstanding common shares. Accordingly, the Province has the power to determine the composition of OPG's Board of Directors and thus influence major business and corporate decisions. The Province's interests may compete with those of OPG in a broad range of matters, including the regulation of Ontario's electricity industry, the regulation of environmental matters, the allocation between OPG and the Province of the costs involved in nuclear waste management, the

reduction of the stranded debt from the revenues of the electricity industry, any future sale by the Province of all or any of the Company's assets or common shares, and the determination of the amount of payments to be made by the Company to the Province by way of dividends or taxes.

Government Legislation and Regulation Changes
OPG's operations are subject to government regulation that may change from time to time. Matters that are subject to regulation include: structure of the electricity market, nuclear operations, nuclear waste management and decommissioning, water rentals, dam safety, gross revenue charges, environmental matters including air emissions, and taxation. Operations that are not currently regulated may become subject to regulation in the future. In that legal requirements can be subject to change and are subject to interpretation, OPG is unable to predict the impact of such changes on OPG and its operations.

Labour Relations
The substantial majority of OPG's employees are represented by either the PWU or the Society. Complex collective agreements exist for both unions. Significant changes in these agreements or corporate restructuring could strain the labour relations of the Company. In the event of a labour dispute, OPG could face operational risk related to continued compliance with OPG's licence requirements of providing service to customers.

Credit Risk
OPG's credit risk exposure is comprised of two major components: the first is derived from its sales of electricity and the second from its purchases of services and products. The majority of OPG's sales to counterparties are through the IESO-administered spot market. OPG's second element of credit risk relates to the exposures created counterparties that are contracted to provide services or products.

Information Technology
OPG's ability to operate effectively is in part dependent upon OPG developing or subcontracting and managing a complex information technology systems infrastructure. Failure to meet information technology requirements could result in future system failures, or an inability to keep information technology systems aligned with changing market conditions and strategic business objectives.

Suppliers
OPG's ability to operate effectively is also in part dependent upon OPG's access to equipment, material and service suppliers. Loss of key equipment, material and service suppliers, particularly for the nuclear business, could affect OPG's ability to operate effectively.

Interconnected Electricity Markets
OPG's ability to penetrate interconnected electricity markets depends upon many external factors, including: the cost to transmit electricity to these markets; the price of electricity in these markets; the competitive actions of other generators and power marketers; the state of deregulation in Ontario and state of deregulation in the interconnected markets; currency exchange rates; any new trade limitations; OPG retaining a FERC licence; and costs to comply with environmental standards imposed in these markets. There can be no assurance that OPG will continue to compete successfully in interconnected markets.

Leases and Partnerships
OPG has leased its Bruce nuclear generating stations to Bruce Power and is a party to a number of partnerships which operate generating stations such as Brighton Beach and Portlands. Each of these generating stations is subject to numerous operational, financial, regulatory, and environmental risk factors. Although OPG may not be involved in the day to day operations of these stations, it could be subject to counterparty claims, defaults, reduction in lease revenue or other risk factors.

Aboriginal Communities
OPG may be subject to claims by Aboriginal Communities stemming from generation development, the historic operations of Ontario Hydro and related to Aboriginal title or rights, or the absence of permits, rights-of-way, easements or similar rights in respect of lands held for First Nation bands or bodies under

the *Indian Act* (Canada) and similar past grievances. Precedents created by court rulings may also impact negotiations and resolution of past grievances.

Natural or Unexpected Events
OPG is exposed to incidents or developments, such as natural disasters or an influenza pandemic that could threaten the safety of various stakeholders as well as the continuity of OPG's business operations. OPG may be exposed to a significant event that is not fully insured or indemnified against, or to a party that fails to meet its indemnification obligations.

DIVIDENDS

OPG's Board of Directors has established a dividend policy to pay a dividend of 35 percent of net income after taxes. Under OPG's bylaws, the declaration and payment of dividends remains at the sole discretion of OPG's Board of Directors and are dependent on OPG's results of operations, financial condition, cash requirements, securities legislation, and other factors considered relevant by the Board in exercising its discretion and judgment on an ongoing basis. OPG has not paid any dividend to the Shareholder in the last three years.

There are no restrictions in the articles of the Company that could prevent the Company from paying dividends. Current covenants in banking agreements restrict the ability of the Company to pay dividends in certain circumstances. In addition, the declaration and payment of dividends are subject to financial tests set forth in the *OBCA*.

DESCRIPTION OF CAPITAL STRUCTURE

General 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, 2009, 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

The following information relating to credit ratings is based on information made available to the public by the rating agencies.

Rating Agency	Commercial Paper	Long-Term Debt
Standard and Poor's Rating Agency Inc. ("S&P")	A-1 (low)	A-
DBRS Limited ("DBRS")	R-1 (low)	A (low)

Credit ratings are intended to provide investors with an independent measure of the credit quality of an issue of securities. The rating agencies rate long-term debt instruments by rating categories ranging from a high of "AAA" to a low of "D". Long-term debt instruments which are rated in the A category by S&P

mean the obligor has a strong capacity to meet its financial commitments, but are considered somewhat more susceptible to the adverse effects of changes in circumstances and economic conditions than obligations in higher rated categories. However, the obligor's capacity to meet its financial commitments and obligations is still strong. S&P utilizes a "+" or a "-" modifier to indicate the relative standing within the rating category. Long-term debt instruments which are rated in the A category by DBRS are considered to be of a satisfactory credit quality, with substantial protection of interest and principal. Entities in the "A" category, however, are considered to be more susceptible to adverse economic conditions and have greater cyclical tendencies than higher-rated securities. The "low" modifier indicates relative standing within this rating category by DBRS.

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

The ratings mentioned above are not a recommendation to purchase, sell or hold OPG's debt securities and do not comment as to market price or suitability for a particular investor. There can be no assurance that the ratings will remain in effect for any given period of time or that the ratings will not be revised or withdrawn entirely by either S&P or DBRS at any time in the future if in their judgment circumstances so warrant.

MARKET FOR SECURITIES

As at December 31, 2009, none of the Company's securities are listed and posted for trading or quoted on any exchange or quotation system.

DIRECTORS

See "*Corporate Governance*" in the Company's MD&A for the year ended December 31, 2009.

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 31, 2010:

Name and Municipality of Residence	Principal Occupation	Executive Officer Since
Jake Epp Calgary, Alberta	Chairman of the Board of Directors of OPG	December 2003
Tom Mitchell Whitby, Ontario	President and Chief Executive Officer of OPG	December 2006
Bruce Boland Toronto, Ontario	Senior Vice President – Corporate Affairs	June 2004
Rob Boguski Toronto, Ontario	Senior Vice President – Business Services and Information Technology	May 2008
David Brennan Oakville, Ontario	Senior Vice President – Law & General Counsel	September 2006

Name and Municipality of Residence	Principal Occupation	Executive Officer Since
Frank Chiarotto Toronto, Ontario	Senior Vice President – Thermal	December 2008
Donn Hanbidge London, Ontario	Senior Vice President and Chief Financial Officer	July 2004
Catriona King Richmond Hill, Ontario	Vice President and Corporate Secretary	February 2005
John Murphy Pickering, Ontario	Executive Vice President - Hydro	January 2003
Wayne Robbins Oshawa, Ontario	Chief Nuclear Officer	June 2009
W. R. (Bill) Robinson Locust Hill, Ontario	Executive Vice President, Nuclear Refurbishment, Projects and Support	March 2010
Albert Sweetnam North York, Ontario	Executive Vice President, Darlington New Nuclear Project	March 2010
Colleen Sidford Toronto, Ontario	Vice President, Treasurer	June 2005

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. Mitchell was Senior Vice President of Pickering B Nuclear Plant for OPG from January 2004 to November 2006 and Chief Nuclear Officer for OPG from December 2006 to June 2009.
- Mr. Boguski was Managing Partner of Epilog Services Inc. from April 2003 to May 2005 and Vice President, Nuclear Supply Chain at OPG from May 2005 to April 2008.
- Mr. Brennan was Vice President and General Counsel of General Electric Canada Inc. from March 2001 to August 2006.
- Mr. Chiarotto was the Lambton Plant Manager for OPG from July 1997 to February 2007 and was the Nanticoke Plant Manager for OPG from February 2007 to November 2008.
- Ms. King was the Assistant Board Secretary at OPG from February 1999 to February 2005 and was Acting Corporate Secretary from February 2005 to June 2005.
- Mr. Murphy was Executive Vice President, Human Resources at OPG from May 2000 to November 2005. He has been the President of EPSCA since May 2000, and the President of UMH Energy Inc. since April 2008.
- Mr. Robinson worked at Pickering A, RTS at OPG from October 2002 to November 2005. He worked in Nuclear Programs & Training at OPG from December 2005 to October 2008, and has been working in Nuclear Refurbishment since November 2008.
- Mr. Sweetnam was a Senior Executive at SNC Lavalin from August 1977 to December 2008.
- Ms. Sidford was Assistant Treasurer at OPG from September 2003 to June 2005.

COMMITTEES OF THE BOARD OF DIRECTORS

See *"Committees of the Board of Directors"* in the Company's MD&A for the year ended December 31, 2009.

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, except for:

- Mr. Sheffield was prohibited from trading in securities while serving as a director of Royal Group Technologies Ltd. pursuant to a management cease trade order issued by the Ontario Securities Commission in connection with the delay in filing of certain of Royal Group Technologies Ltd.'s financial statements from April 2006 to May 2006. The order is no longer in effect.

AUDIT COMMITTEE INFORMATION

See "*Audit/Risk Committee Information*" in the Company's MD&A for the year ended December 31, 2009.

EXTERNAL AUDITOR SERVICE FEES

See "*Audit/Risk Committee Information*" in the Company's MD&A for the year ended December 31, 2009.

CORPORATE GOVERNANCE

See "*Corporate Governance*" in the Company's MD&A for the year ended December 31, 2009.

EXECUTIVE COMPENSATION

The Statement of Executive Compensation (form 51-102F6) for the year ended December 31, 2009 has been filed and can be found on the SEDAR website at www.sedar.com.

INTEREST OF MANAGEMENT AND OTHERS IN MATERIAL TRANSACTIONS

Relationship with the Province and Others

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 of Ontario, 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.

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. The MOA serves as the basis of agreement between OPG and the Shareholder regarding OPG's mandate, governance, performance and communications. Under the MOA, OPG's core mandate is to generate electricity from its diversified portfolio of generating assets as efficiently and cost-effectively as possible within its legislative and regulatory framework, while operating in a manner that mitigates the Shareholder's financial and operational risk. A copy of the MOA can be found on the Company's website at www.opg.com.

Transfer Orders

On April 1, 1999, pursuant to transfer orders made by Order-in-Council under the *Electricity Act, 1998* (Ontario) ("*Electricity Act*"), OPG purchased and assumed all of the interest of Ontario Hydro in all

officers, employees, assets, liabilities, rights and obligations of Ontario Hydro directly or indirectly used in or relating in any manner to the activities carried on by Ontario Hydro as a generator as at April 1, 1999. The transfer orders included schedules specifically listing and describing assets, liabilities, rights and obligations transferred to OPG. Under the transfer orders, all officers, employees, assets, rights, liabilities and obligations of Ontario Hydro that were not transferred by a transfer order to another transferee, or that were not specifically retained by the OEFC, or that were not clearly related to another successor's business, were also transferred to OPG.

Under the *Electricity Act* and pursuant to the transfer orders, the OEFC was released from liability in respect of all assets and liabilities transferred by the transfer orders. However, the OEFC retained certain specific liabilities, as described in the transfer orders, including, as at April 1, 1999, approximately $30.5 billion aggregate principal amount of publicly-held debt obligations of Ontario Hydro.

The transfer orders also provide that if they fail for any reason to fully and effectively in law transfer any asset, right, liability or obligation or that if such transfer would constitute a breach of the terms of such 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.

Shareholder Directives

OPG's Shareholder may at times direct OPG to undertake special initiatives. Such directives are communicated as written declarations by way of a unanimous shareholder agreement or declaration in accordance with section 108 of the *OBCA*. Copies of each of the Shareholder Directives may be found on the Company's website at www.opg.com. The unanimous shareholder agreements or declarations issued by the Shareholder to date are listed below in reverse chronological order**:**

- Request for Expressions of Interest (RFEI) 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);
- 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

OPG and the Province have executed the Ontario Nuclear Funds Agreement, under which OPG has established a Used Fuel Segregated Fund and a Decommissioning Segregated Fund. The Province has agreed to limit OPG's financial exposure in relation to certain used fuel management costs. For additional details, see "*DESCRIPTION OF THE BUSINESS – Nuclear Waste Management – Provision for Future Nuclear Related Costs".*

Provincial Authority over the Electricity Industry

The OEB, the principal regulator of Ontario's electricity industry, is an independent quasi-judicial tribunal continued by the *Ontario Energy Board Act, 1998*, reporting to the Ontario legislature through the Minister of Energy and Infrastructure. The OEB is obligated to implement policy directives approved by the Province.

The IESO is a not-for-profit corporate entity established by the *Electricity Act*. It is governed by an independent board of directors appointed by the Province.

The OPA was established in 2004 by the *Electricity Restructuring Act, 2004* (Ontario) with a mandate to contribute to the development of a reliable and sustainable electricity system. The OPA plans for the long-term and procures and coordinates conservation and electricity supply from diverse sources. The OPA's

board members are appointed by the Minister of Energy and Infrastructure, in accordance with the *Electricity Act*.

The OEFC is a continuation of Ontario Hydro under a new name and remains responsible for managing Ontario Hydro's debt and certain other obligations not transferred to other successor companies to Ontario Hydro and for the administration of non-utility generator contracts in a manner compatible with the market design. The OEFC's board of directors is appointed by the Province and is accountable to the Minister of Finance for supervising the management of the OEFC.

For additional details, see "*REGULATION – Ontario Electricity Regulation*".

OPG Debt Held by the OEFC

OPG's long-term debt has been financed predominantly by the OEFC. As at December 31, 2009, the OEFC held $3.7 billion of OPG's long-term debt with maturities ranging from three months to ten years.

See Note 8 to the Company's Annual Financial Statements for the year ended December 31, 2009.

Proxy Tax

OPG and its Canadian subsidiaries are exempt from tax under the *Income Tax Act* (Canada) and *Taxation Act, 2007* (Ontario) because the Province is the sole shareholder of OPG, OPG owns not less than 90 percent of the shares or capital of its subsidiaries, and no non-government entity has an option or other right to acquire more than 10 percent of such shares. The *Electricity Act*, however, requires each corporation to pay to the OEFC, for each taxation year, an amount equal to the amount of tax that it would be liable to pay if it were not exempt from tax under the *Income Tax Act* and *Taxation Act, 2007*, commonly referred to as "proxy tax". Under the regulations to the *Electricity Act*, contributions to a nuclear decommissioning fund or nuclear used fuel fund are deductible in computing income subject to proxy tax. In addition, any related investment income earned on these funds is treated by OPG as being exempt from proxy tax and tax under the *Income Tax Act* and under the *Taxation Act, 2007*.

The *Electricity Act also* provides that OPG and certain of its Canadian subsidiaries are required to make payments in lieu of property tax to the OEFC on their non-hydroelectric generating station buildings and structures each year. These payments generally equal the difference between property taxes otherwise payable if these assets were privately-owned, and the amount payable to municipalities as determined under the *Assessment Act* (Ontario). As with other hydroelectric generators in Ontario, OPG's hydroelectric generation operations do not make payments in lieu of property taxes because they are subject to the gross revenue charge regime.

One of the purposes of the proxy tax and the payments in lieu of property tax is to create a level playing field, from a tax perspective, between OPG and other generators seeking to sell electricity in the Ontario market.

Stranded Debt

One of the OEFC's purposes under the *Electricity Act* is to manage its outstanding liabilities, including "stranded debt". The *Electricity Act* defines stranded debt as the amount of the debt and other liabilities of the OEFC that, in the opinion of the Minister of Finance, cannot reasonably be serviced and retired in a competitive electricity market. Although OPG has no obligations in connection with the stranded debt, the *Electricity Act* does provide for participants in the electricity sector, including OPG, Hydro One and the local distribution companies to make payments to the OEFC, which the OEFC uses in managing its debt and other obligations. These payments include proxy taxes, debt retirement charges levied on electricity consumers, and other amounts that may be payable by municipal electricity utilities on the transfer of their electricity business.

Taxation of Provisions for Future Nuclear Related Costs

OPG treats any investment income earned by the Used Fuel Segregated Fund and the Decommissioning Segregated Fund as being exempt from proxy income tax (see "*INTEREST OF MANAGEMENT AND OTHERS IN MATERIAL TRANSACTIONS – Proxy Tax"*). Such income is also tax exempt under the *Income Tax Act* (Canada) and *Taxation Act, 2007* (Ontario). However, because the Company established a trust pursuant to the *NFWA* to fund part of its long-term management of used fuel, this trust is taxable as a separate entity under the *Income Tax Act*. As a taxable entity, the trust would normally be required to pay tax on any related investment income earned because such funds remain in the trust. However, the federal government has indicated to the Provinces of Ontario, Quebec and New Brunswick, that it will take appropriate measures to ensure that such income is exempt from taxation under the *Income Tax Act* if the beneficiaries of the trust are a province, the federal government, or a Crown-owned nuclear energy corporation that is exempt from taxation under the *Income Tax Act*. Since the Ontario NFWA Trust meets these conditions, its income should be tax-exempt under the *Income Tax Act*.

OPG is currently entitled to recover its goods and services tax ("GST") under the *Excise Tax Act,* (Canada) paid on its purchases and expenses related to its nuclear waste operations. Under the *NFWA*, the long-term management of used fuel will be performed by the NWMO. In addition, each member had to establish a trust fund for the purpose of funding the preferred approach to manage the nuclear fuel waste. There was some concern at the time that NWMO may not be able to recover the GST that they paid. In 2004, the NWMO submitted a ruling request seeking clarification on the proper GST treatment between NWMO, the trust fund and OPG. Canada Revenue Agency ("CRA") responded favourably by confirming that NWMO would be entitled to recover the GST paid for Phase I activities, that is, doing a study on the long-term management of the nuclear fuel waste. However, CRA was unable to provide a ruling in relation to Phase II activities, that is, implementing the selected approach. Instead, CRA recommended that the NWMO provide a submission once an approach has been selected. CRA will then review the submission and provide a ruling at that time.

LEGAL PROCEEDINGS AND REGULATORY ACTIONS

OPG is presently, and also from time to time, a party to various legal proceedings covering a wide range of matters that arise in the ordinary course of its business activities, including proceedings in which OPG is a party as a successor to Ontario Hydro. OPG continues to assess the merits of the various legal proceedings, however, no pending proceeding is expected to have any material impact on the Company's operations or financial position.

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 on OPG and Bruce Power by British Energy Limited and British Energy International Holdings Limited ("British Energy"). The British Energy claim against OPG pertains to corrosion in the Bruce Unit 8 Steam Generators. The claim amount includes $65 million due to an extended outage to repair some of the alleged damage. The balance of the amount claimed is based on an increased probability the steam generators will have to be replaced or the unit taken out of service prematurely.

British Energy is involved in arbitration with the current owners of Bruce Power regarding an alleged breach of British Energy's representations and warranties to the current owners when they purchased British Energy's interest in Bruce Power. If British Energy is successful in defending against the arbitration claim, they will not have suffered any damages to attempt to recoup from OPG. This arbitration was scheduled to be heard between November 30 and December 18, 2009 but was adjourned with dates to now be set in 2010. The arbitrator may take some time to come to a decision following the conclusion of the arbitration.

British Energy previously indicated that they did not require OPG or Bruce Power to actively defend the court action until the conclusion of the arbitration. Although the arbitration has not been heard, British Energy has now requested that OPG file a statement of defence. OPG and Bruce Power advised British Energy that if British Energy wishes the court action to proceed prior to the conclusion of the arbitration, the defendants would bring a motion for a stay of proceedings, a dismissal of the current action or, in the alternative, a motion to extend the time for service of the statement of defence until the conclusion of the arbitration. Subsequently, British Energy noted the defendants in default for not filing the defence. The above noted motion was scheduled to be heard March 5, 2010 but has been adjourned to a date yet to be determined. The motion will also seek to set aside the noting in default.

First Nation Claim
In September 2008, the Wabaseemoong Independent First Nation served a Notice of Action filed with the Ontario Superior Court of Justice against the Government of Canada, the Province, OPG and the OEFC claiming damages in the amount of $200 million arising from breach of contract, fiduciary duty, trespass to property, negligence, nuisance, misrepresentation, breach of riparian rights and unlawful and unjustifiable infringement of the aboriginal and treaty rights, and $0.5 million in special damages. No Statement of Claim has yet been filed.

The First Nation also served a Notice of Arbitration upon OPG and the OEFC that is related to, and may affect the proceeding of, the court action. The arbitration concerns whether OPG breached an agreement to use its "best efforts" to engage the Province in discussion with the First Nation concerning the sharing of benefits related to hydro development. The arbitration hearing has concluded and the parties are waiting for the decision of the arbitrator.

INTERESTS OF EXPERTS

The auditors of the Company are Ernst & Young LLP, Chartered Accountants, 222 Bay St., P.O. Box 251, Toronto, Ontario M5K 1J7. Ernst & Young have been the Company’s auditors since OPG was formed in 1999.

GLOSSARY

AIF	Annual Information Form
AIR	All Injury Rate
ancillary service	a service necessary to maintain the reliability of the IESO-controlled grid
ASR	Accident Severity Rate
automatic generation control	the process that automatically adjusts the output from a generation facility based on automated, electronic signals in order to provide frequency control and to maintain the balance between load and the output from generation facilities
availability	when used in reference to a generating unit, is 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
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
black start facility	a generation facility with the demonstrated potential (as established by tests in accordance with the provisions of an ancillary service contract) to start without electrical system supply whose energy the IESO intends to use to energize a defined portion of the IESO-controlled grid
Brighton Beach	Brighton Beach Power L.P.
British Energy	British Energy Limited and British Energy International Holdings Limited
Bruce Power	Bruce Power L.P. and its subsidiaries
CANDU	an acronym for Canadian Deuterium Uranium, a family of nuclear fission reactors developed in Canada which use pressurized heavy water coolant or deuterium as a moderating agent and natural uranium (uranium dioxide) as fuel
capability factor	the amount of energy capable of being produced by a generating unit as a percentage of its maximum output assuming no external constraints such as transmission limitations
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 (usually one year) 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
CFC	chloroflourocarbons

CNSC	Canadian Nuclear Safety Commission, the federal authority responsible for the regulation of nuclear facilities in Canada.
CO_2	carbon dioxide
Company	Ontario Power Generation Inc.
Contingency Support Agreement	the agreement between OPG and the OEFC for contingent support for ongoing costs and the recovery of net book value of the Nanticoke and Lambton Generating Stations during the period from 2009 to 2014
CRA	Canada Revenue Agency
CSA	see Contingency Support Agreement
DBRS	DBRS Limited
decommissioning	actions taken in the interest of health, safety, security and protection of the environment to retire a nuclear facility permanently from service and render it to a predetermined end-state (final or interim) condition
Decommissioning Segregated Fund	the segregated fund established by OPG, pursuant to the ONFA, for the purpose of funding the future costs of nuclear fixed asset removal and low and intermediate level waste management
decontrol	the mandated transfer of effective control in respect of output, being control over the timing, quantity and bidding into the Ontario market of such output
deuterium oxide	see heavy water
EA	environmental assessment
EFOR	Equivalent Forced Outage Rate
EIS	Environmental Impact Statement
Electricity Act	*Electricity Act, 1998* (Ontario)
EPRI	Electric Power Research Institute
EPSCA	Electrical Power Systems Construction Association
FIT	Feed-in Tariffs for wind, solar, biomass and small hydro developments
FERC	Federal Energy Regulatory Commission, the independent regulatory agency with the U.S. Department of Energy that regulates the transmission and wholesale sale of electricity in interstate commerce

forced outage	the removal from service availability of a generating unit, transmission line, or other facility for emergency reasons or unanticipated failure
GHG	greenhouse gas
GRC	gross revenue charges
Green Energy Act	*Green Energy and Green Economy Act, 2009* (Ontario)
GST	goods and services tax
GWh	a gigawatt hour, equal to 1,000,000 kWh
head	the difference between water levels at the intake and outflow of a hydroelectric generating station
heavy water (deuterium oxide)	water containing significantly more than the natural proportion of heavy hydrogen (deuterium) atoms to ordinary hydrogen atoms, used a moderator in CANDU reactors
HOEP	Hourly Ontario Energy Price
Hydro One	Hydro One Inc. and its subsidiaries
ICRP	International Commission on Radiological Protection
IESO	Independent Electricity System Operator
IIP	Integrated Implementation Plan
INPO	Institute for Nuclear Power Operations
in-service unit (capacity)	the portion of installed capacity that has not been removed from service
installed capacity	the highest level of output which a generating unit is designed to maintain indefinitely without damage to the unit
interconnection	a transmission line which carries power across the service area boundary of geographically adjacent jurisdictions
ISR	Integrated Safety Review
kilowatt (kW)	1,000 watts
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)
L&ILW	low and intermediate level nuclear waste
L&ILW DGR	low and intermediate level nuclear waste deep geological repository

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
LSFN	Lac Seul First Nations
market power mitigation	a framework composed of a combination of a price cap and rebate mechanism and decontrol of capacity obligations that was approved by the Province in order to protect the interests of consumers while ensuring an orderly and gradual transition to a long-run industry structure in which OPG's generating capacity available to the Ontario market is substantially reduced
marketer	a profit-motivated entity that acts as an intermediary in arranging transactions between or on behalf of generators and customers
MD&A	Management's Discussion and Analysis
megawatt (MW)	1,000,000 watts or 1,000 kilowatts
megawatt hour (MWh)	1,000 kWh
MISA	Municipal/Industrial Strategy for Abatement program (Ontario)
MNR	Ministry of Natural Resources (Ontario)
MOA	the Memorandum of Agreement entered into by OPG and the Shareholder on August 17, 2005
MOE	Ministry of the Environment
MW	see megawatt
MWh	see megawatt hour
NERC	North American Electric Reliability Corporation
net electricity generation	the energy produced by a station less energy consumed by the station, as measured by the revenue meter
NFWA	*Nuclear Fuel Waste Act* (Canada)
NLA	*Nuclear Liability Act* (Canada)
NOx	nitrogen oxide
NPCC	Northeast Power Coordination Council
NSCA	*Nuclear Safety and Control Act* (Canada)
NWMO	Nuclear Waste Management Organization
OBCA	*Business Corporations Act* (Ontario)

OEB	Ontario Energy Board
OEFC	Ontario Electricity Financial Corporation
Ontario NFWA Trust	a trust established by OPG pursuant to the *NFWA* for the purpose of funding the implementation of its long-term nuclear fuel waste management plan
ONFA	Ontario Nuclear Funds Agreement
OPA	Ontario Power Authority
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
OPG	Ontario Power Generation Inc.
PCB	polychlorinated biphenyls
planned outage	the removal of equipment from service availability for inspection and/or general overhaul of one or more major equipment groups, usually scheduled well in advance
Portlands	Portlands Energy Centre L.P.
Province	the Province of Ontario
proxy tax	pursuant to the *Electricity Act*, an amount payable to the OEFC in each taxation year in lieu of taxes under the *Income Tax Act* (Canada) and *Taxation Act, 2007* (Ontario)
PWU	Power Workers' Union
radionuclides	radioactive isotopes or unstable forms of elements
reactive support/voltage control	the control and maintenance of prescribed voltages on the IESO-controlled grid
refurbishment	the work needed to extend the life of each reactor unit by replacing the major life-limiting components (such as pressure tubes, steam generators, etc.).
reliability must run (RMR) contract	an agreement between the IESO and a generator which allows the IESO to call on a generator's facility, at times when the facility may not otherwise be available for production, in order to maintain the reliability of the electrical system
RFP	request for proposal
RMR	reliability must run; see reliability must run (RMR) contract
ROE	return on equity
S&P	Standard and Poor's Rating Agency Inc.

SBG	see surplus base load generation
Shareholder	the sole shareholder of OPG, the Province of Ontario
Shareholder Declaration	the declaration made by the Province, as sole shareholder of OPG, regarding carbon dioxide (CO_2) emissions arising from the use of coal at its coal-fired generation stations, dated May 15, 2008
Shareholder Resolution	the resolution by the Province, as sole shareholder of OPG, addressing carbon dioxide (CO_2) emissions arising from the use of coal at its coal-fired generation stations, dated May 16, 2008
Shell Energy	Shell Energy North America (Canada) Inc.
Shell L.P.	Shell Energy North America (U.S.), L.P.
SO_2	sulphur dioxide
Society	Society of Energy Professionals
stranded debt	the amount of debt and other liabilities of the OEFC that, in the opinion of the Minister of Finance, cannot reasonably be serviced and retired in a competitive electricity market
surplus baseload generation (SBG)	a condition that occurs when electricity production from baseload facilities is greater than Ontario demand
sustainable development	the adoption of business strategies and activities that meet the needs of the enterprise and its stakeholders today, while protecting and enhancing the human and natural resources that will be needed in the future
tonne	1,000 kilograms or 2,204.6 pounds
tritium	a radioactive substance that is released into the heavy water systems of CANDU reactors as a by-product of the nuclear fission process
TWh	a terawatt hour, equal to 1,000,000 MWh
unit	an electrical generator, together with its driving turbine and auxiliary equipment
Used Fuel Segregated Fund	the segregated fund established by OPG, pursuant to the ONFA, for the purpose of funding the future costs of nuclear used fuel waste management
WANO	World Association of Nuclear Operators
watt	a scientific unit of electric power representing the rate of work of one joule per second
WMP	Water Management Plan