SUMMARY OF APPLICATION

This is OPG's first application for an order of the Ontario Energy Board approving payment amounts for certain generating facilities prescribed by regulation under the *Ontario Energy Board Act, 1998*. This summary provides background on the regulatory framework governing the prescribed facilities, an overview of the key drivers of cost in OPG's business and addresses certain timing considerations associated with the Application.

By way of background, OPG is different from other electricity generators in Ontario in at least three significant respects. First, OPG is the largest generator of electricity in Ontario and its prescribed facilities represent a large proportion of Ontario’s total electricity generation. In 2006, the output from the prescribed facilities met approximately 45 percent of total annual demand in the IESO - administered electricity market. Further detail with respect to the prescribed facilities is provided in Ex. A1-T4-S2 and Ex. A1-T4-S3. Second, OPG is subject to a Memorandum of Agreement with its shareholder, the Province of Ontario, as well as directives from its shareholder which substantially influence the nature and manner of OPG’s operations. Information with respect to the Memorandum of Agreement is found at Ex. A1-T4-S1. OPG has, for example, been directed by the Province to examine both refurbishment of existing nuclear generating units and the approval of new nuclear units at an existing site. Third, in 2006 approximately 72 percent of the output from the prescribed facilities was produced by nuclear generation. The nuclear industry stands apart from most other regulated businesses due to the complexity of the technology and the overarching importance of safety. All of OPG’s nuclear operations are comprehensively regulated by the CNSC. Further details on nuclear regulation of OPG is found at Ex. A1-T6-S1.

REGULATORY FRAMEWORK GOVERNING THE PRESCRIBED FACILITIES

OPG is prescribed by Ontario Regulation 53/05, as amended, as a generator for the purposes of section 78.1 of the Act. Under section 78.1, OPG receives payments for units at generating facilities in amounts that are prescribed by the Regulation until at least April 1, 2008 and, following the first order of the OEB, in the amounts the OEB determines to be just and reasonable.
Section 6 of the Regulation establishes rules governing the determination of payment amounts by the OEB. The rules authorize the OEB to establish the methodology for determining payment amounts. The OEB engaged in consultations on the methodology for determining payment amounts for OPG beginning on March 21, 2006 and on November 30, 2006 issued a report in EB-2006-0064 entitled “A Regulatory Methodology for Setting Payment Amounts for the Prescribed Generation Assets of Ontario Power Generation Inc.” In this report, the OEB concluded that the regulatory methodology to be used to set initial payment amounts for the prescribed generation facilities would be a cost of service review, focusing on operations, maintenance, and administration costs and rate of return on equity as well as the particular matters required to be addressed by the Regulation.

Apart from the specific items prescribed by the Regulation, it is clear from section 78.1 of the Act that the OEB is charged with determining payment amounts that are just and reasonable. The concept of just and reasonable rates (or, in this case, payment amounts) is a familiar one in the field of utility regulation. Sections 36 (gas distribution, transmission, and storage) and 78 (electricity distribution and transmission) of the Act also establish the requirement that rates for those services be just and reasonable. Ontario is but one of many jurisdictions in Canada and the United States which has adopted the just and reasonable standard for rate setting.

It is well established at common law that the phrase “just and reasonable” in the context of setting payment amounts means payments which are fair to the consumer on one hand and which will yield fair compensation to the utility on the other. These two principles are also embodied in the OEB’s objects regarding the regulation of electricity: 1) the protection of consumer interests and 2) facilitating a financially viable electricity industry.

Fair compensation to the utility encompasses two key elements: first, the right to recover all prudently incurred costs of providing the service (where prudence is evaluated without the benefit of hindsight but on the basis of information that was reasonably available to management at the time the relevant decisions were made); and, second, the right to a fair
return on invested capital. A fair return on capital, in this context, means that the company will be allowed the opportunity to recover in its rates a return on the capital invested in its enterprise equivalent to the return which shareholders would receive from investing in other securities possessing an attractiveness, stability, and certainty equal to that of the company’s enterprise.

The dual requirement that OPG recover prudently incurred costs and a fair return is essential to the preservation of its financial integrity. This is because OPG must be able to raise the money it needs to safely and reliably operate, maintain, and develop the prescribed facilities.

**FUNDAMENTAL COST DRIVERS FOR OPG**

1. **A Financially Sustainable and Commercial Enterprise**
   In accordance with the Memorandum of Agreement from its shareholder, OPG is required to operate as a financially sustainable and commercial enterprise. OPG requires significant financial resources to fund required capital improvement projects and related maintenance programs at the prescribed facilities. OPG is, therefore, seeking a fair rate of return on the prescribed assets. The current payment amounts were established on the basis of a forecast five percent return on equity. At the time, it was acknowledged that a five percent return on equity was significantly less than the appropriate return for regulated utilities in North America\(^1\). A move to a commercial rate of return is required for OPG to operate as a financially sustainable and commercial enterprise in accordance with the Memorandum of Agreement and to raise the money it needs to discharge its obligation to operate, maintain, and expand the prescribed facilities safely and reliably.

2. **The Cost of Operating and Maintaining the Prescribed Facilities**
   The prescribed facilities play a key role in supplying the Province’s electricity needs and thus are fundamental to a stable, reliable electricity supply for residential, commercial, and industrial consumers. Accordingly, payment amounts set by the OEB must be sufficient to cover the cost of operating, and maintaining the prescribed assets so they can continue to

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\(^1\) *Ontario Government Announces Prices on Electricity from Ontario Power Generation*, Ministry of Energy Backgrounder, Feb. 23, 2005
fulfill this essential role and provide the greatest benefit to the people of Ontario. Because the prescribed assets provide baseload generation, they are part of the fundamental underpinning to the Ontario Power Authority’s Integrated Power System Plan, which is currently before the OEB. In this context, the efficient, cost-effective, and reliable operation of the prescribed assets is critical to the reliability and security of the electricity system.

OPG is required to meet stringent nuclear safety requirements pursuant to the *Nuclear Safety and Control Act* as well as to meet all requirements of the nuclear regulator, the Canadian Nuclear Safety Commission. With respect to the regulated hydroelectric facilities, OPG is required to comply with a myriad of complex and overlapping legislative regimes satisfying both federal and provincial regulators as detailed in Ex. A1-T6-S1 and Ex. A1-T4-S2.

Beyond this, OPG is mandated by the Memorandum of Agreement to operate in accordance with the highest corporate standards, including corporate governance, social responsibility, and corporate citizenship, as well as environmental stewardship.

The task of operating within the confines of the extensive regulatory environment and the Memorandum of Agreement is made even more complex by the fact that the prescribed facilities are aging. For example, OPG’s nuclear stations contain the first large-scale commercial CANDU units ever built, the result being that many of the technological issues OPG faces are being addressed for the first time ever in the nuclear industry.

In addition, although all ten of OPG’s nuclear units are CANDU reactors, they reflect three generations of design philosophy and technology, as the reactors were each built in a different decade (Pickering A in the 1960’s; Pickering B in the 1970’s, and Darlington in the 1980’s). Each station, therefore, differs from the others with respect to technology and design. Again, this adds complexity and attendant cost to station operations, while limiting OPG’s ability to integrate operations and achieve economies in the operation and maintenance of these facilities.
Another aspect of nuclear operations creating cost pressures is the need to fund OPG’s long-term used fuel and plant decommissioning obligations. OPG has specific contractual obligations to the Province of Ontario to fund the safe long-term storage of used fuel and nuclear plant decommissioning. Increased production forecasts and updated financial assumptions required by applicable accounting standards have caused the cost of OPG obligations to the Province in this area to increase. Details of OPG’s nuclear waste management and decommissioning obligations are at Ex. H1-T1-S1.

OPG’s regulated hydroelectric stations are also aging, with the result that there is an increased need for work programs to maintain, improve, and refurbish these facilities over their life cycle. Specific examples include:

- Saunders is 49 years old and requires extensive instrumentation and ongoing monitoring of concrete “growth” associated with alkali-aggregate reaction at the station.
- Sir Adam Beck I is 85 years old and the “power train” equipment is reaching end of life. It requires rehabilitation or replacement.
- Sir Adam Beck Pump Generating Station, in addition to its role in pumping water for use during peak periods, is used to control the cross over elevation of the Sir Adam Beck canals, to assist in automatic generation control, as well as to provide flexibility and optimization of operations at the Sir Adam Beck complex. This complex and unique role leads to wear and tear resulting in increased maintenance costs.
- DeCew Falls I is 108 years old and a major overhaul of some of the units is required.

OPG is also experiencing aging workforce demographics and a shortage of skilled workers. Over 30 percent of OPG’s workforce is expected to retire in the next four years. OPG’s business operations require a highly skilled workforce. OPG simply cannot wait until one worker retires before another is hired. The lead time for training skilled workers can extend, in some cases, up to eight years. OPG must, therefore, actively manage its need for skilled, fully-trained workers to replace the significant numbers of employees expected to retire over the next few years.

Approximately 90 percent of OPG’s workforce is unionized. Much of OPG’s labour costs for
the test period are determined by existing contracts. The details of what OPG is doing to manage labour costs are set out in Ex. F3-T4-S1.

The demographics of OPG’s large workforce also creates significant financial obligations for the funding of employee pension and benefit plans, both of which are subject to the collective bargaining regime. In addition, changes in investment return and interest rate assumptions required by applicable actuarial standards are having a significant impact on the cost of these funding obligations during the test period.

3. Developing Additional Supply

OPG is also pursuing major projects to increase output or generating capacity at the prescribed facilities. For example, on June 16, 2006 OPG was directed by the Province to begin feasibility studies on refurbishing its existing nuclear units, including an environmental assessment on Pickering B, and to begin a federal approvals process, including environmental assessment, for new nuclear units at an existing site. In addition, OPG is undertaking a refurbishment of one of the older generating units at Sir Adam Beck I to increase both its capacity and output.

4. Safety

OPG places an extremely high priority on safety. OPG’s Board of Directors has approved policies in the areas of health and safety, nuclear safety, and dam safety all of which have a direct impact on the operation of the prescribed facilities. These Board mandated safety policies emphasize OPG’s commitment to a culture of safety, with the goal of ensuring the health and safety of its employees, contractors performing work on behalf of OPG and members of the public.

In the nuclear context, safety is a cost driver. OPG is required to meet stringent nuclear safety requirements as a condition of its operating licenses at the nuclear facilities. In addition, OPG has established a positive safety culture which ensures that nuclear plant safety is the overriding priority and that prudent and necessary resources are devoted to ensuring the safe operation of its nuclear facilities. With respect to radiation protection, for
example, OPG operates under the “ALARA” principle which requires that radiation exposure be controlled, not only to regulatory requirements, but to a level that is As Low As Reasonably Achievable.

**RECOVERY PURSUANT TO ONTARIO REGULATION 53/05**

The Regulation specifies a number of costs that must be recovered through the payment amounts (see Exhibit J). These include:

- Any balance recorded in the variance account for differences in regulated hydroelectric electricity production due to differences between forecast and actual water conditions, to the extent that the Board is satisfied that the costs recorded in the account were prudently incurred and are accurately recorded in the account (section 6 (2) 1).

- Any balance in the Pickering A Generating Station Return to Service deferral account (section 6 (2) 3).

- Any balance in the nuclear liability deferral account (section 6 (2) 7).

- Costs and firm financial commitments incurred for investments to increase the output of, refurbish or add operating capacity to a nuclear or regulated hydroelectric generating facility if they were within the budgets approved for the projects by the OPG Board of Directors or, if not, where the OEB is satisfied that they were prudently incurred (section 6 (2) 4).

- Costs and firm financial commitments made in the course of planning and preparation for the development of proposed new nuclear facilities, where the OEB is satisfied they were prudently incurred (section 6 (2) 4.1).

- All of the costs OPG incurs in connection with the Ontario Nuclear Funds Agreement (section 6 (2) 8).

- All of the costs OPG incurs with respect to the Bruce Generating Stations and the excess earnings over cost from the lease of the Bruce Generating Stations shall be applied to reduce the revenue requirement of the nuclear generating facilities (section 6 (2) 9, 10).

Finally, in addition to the specific costs referenced above, the OEB must accept the values from the most recently audited financial statements for assets and liabilities; the revenues earned and costs associated with the Bruce Generating Stations lease; capital cost
allowances; the revenue requirement impact of accounting and tax policy decisions; and
capital and non-capital costs and firm financial commitments to increase the output of,
refurbish or add operating capacity to a nuclear or regulated hydroelectric generating facility
(section 6 (2) 5, 6).

DRIVERS OF REVENUE DEFICIENCY

OPG has forecast a total revenue deficiency of $1029.2M for its prescribed facilities for the
21 month test period starting April 1, 2008 - December 31, 2009. This consists of $244.6M
for the regulated hydroelectric facilities and $784.6M for the nuclear facilities over the test
period. (Ex. A1-T3-S1 Tables 1 - 3). There are a number of key drivers of this revenue
deficiency which are discussed below.

1. Return on Equity

A major driver of total revenue deficiency results from the move to a commercial rate of
return and capital structure. OPG is seeking a return on common equity that reflects the
business risks associated with its regulated operations.

2. Nuclear Liabilities

A significant portion of the nuclear revenue deficiency is attributable to the revenue
requirement impact of increased nuclear liabilities. These costs relate to the handling and
storage of used fuel and low and intermediate level waste and the eventual safe shutdown
and decommissioning of OPG’s nuclear plants. During the fourth quarter of 2006, the liability
increased by $1,386M as a result of updated cost estimates under an Approved Reference
Plan under the Ontario Nuclear Funds Agreement. The Regulation established a deferral
account for the recovery of the revenue requirement impact of the increase in the liability
during the interim period. This revenue requirement impact of the nuclear liabilities is
considered in Ex. H1-T1-S2.

3. Operating Cost Increases

Other Post Employment Benefits Interest Cost

The OM&A expenses in the proposed revenue requirement reflect the inclusion of interest on
OPG’s OPEB obligations. Although the development of the current interim rates did not include this interest component; recognition of this expense in the revenue requirement is consistent with Generally Accepted Accounting Principles and OPG’s financial statements, which include the interest component in OPEB costs.

OM&A Costs
The chief contributors to these increases in connection with the nuclear facilities are escalation in labour costs, increased pension and other post-employment benefit costs, and additional expenditures for new initiatives such as:

- Planning and preparation for the development of proposed new nuclear facilities.
- Improving material condition of plants.
- Safe storage of Pickering A Units 2 and 3.
- Addressing the demographic challenges of OPG’s aging workforce and the shortage of skilled replacements for those scheduled to retire.
- Transitioning to a 36 month outage strategy at Darlington.

Many of the same issues are creating upward cost pressures on regulated hydroelectric OM&A costs, including escalating labour costs; increased pension and other post-employment benefits costs; expenditures to enhance civil works; and increased investment in hiring and training to address emerging demographic and skilled labour challenges.

Fuel and Gross Revenue Charges
Fuel and related costs increase primarily as a result of increased nuclear fuel costs due to increasing world prices for raw uranium.

Other Costs
Other costs consist of depreciation, interest, income, property and capital taxes, and are offset by other revenues. Decreases in these costs have reduced the revenue requirement in regulated hydroelectric and nuclear. The main contributors to these reductions are reductions in depreciation, interest and return on equity due a lower asset base; and reduced depreciation due to extended nuclear service lives. These are partly offset by reductions in
expected ancillary and net Bruce Lease revenues.

Mitigation of the revenue requirement increase during the test period is proposed through accelerated application of tax losses to reduce the test period revenue requirement, resulting in a decrease in payment amount increases from 19.0 percent to 14.8 percent (Ex. K1-T1-S2). The end result of OPG’s proposed increase in payment amounts is a less than three percent increase in consumer’s monthly electricity bills (Ex. K1-T1-S3).

**TIMING OF NEW PAYMENT AMOUNTS**

The revenue requirement for the test period is the forecast level of revenue that will provide OPG with an opportunity to recover its costs and to earn a fair return with respect to the prescribed facilities, thereby resulting in just and reasonable payment amounts for the 21 month period ending December 31, 2009. In order that the required revenue is available to offset the expected cost of service for the prescribed generating facilities during this period, the revised payment amounts must be effective beginning on April 1, 2008. OPG is therefore seeking an order of the OEB making OPG’s current payment amounts interim as of April 1, 2008 and an order setting payment amounts that will recover the full amount of OPG’s revenue requirement during the test period.

OPG operates on an accounting year ending December 31 for financial reporting purposes. In order to accommodate April 1, 2008 as the effective date of the OEB’s first order for payment amounts, OPG developed forecasts for the two-year period 2008 - 2009 and made adjustments to back-out costs and production for the period January 1 – March 31, 2008. The forecasts presented in this Application are all based on annual data to permit comparisons of year-over-year trends and are consistent with OPG’s business planning process and fiscal year. The adjustments from a 24 month forecast to a 21 month test period for determination of the requested payment amounts are presented in Exhibit K. OPG anticipates that future applications will be based on a two year test period beginning on January 1 of the first year and ending on December 31 of the second year. This will allow OPG to align its test period with its fiscal year.
To address OPG’s need for additional revenues and to smooth the implementation of the new payment amounts for consumers, OPG is seeking interim increases to current payment amounts, effective April 1, 2008, of approximately half of the full payment amount increases requested in this application.

OPG is planning on filing 2007 actual financial results in March 2008, once OPG’s 2007 audited financial statements have been approved by the Board of Directors. Additional information to update the application to reflect material changes may be provided at that time.