VIA RESS, EMAIL AND COURIER

April 24, 2008

Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
P.O. Box 2319, 27th Floor
2300 Yonge Street
Toronto, ON M4P 1E4

Dear Ms. Walli:

Re: Ontario Power Generation, Payment Amount Increases for Prescribed Generating Facilities, AMPCO Evidence
Board File No. EB-2007-0905
Exhibit M Tab 2

Pursuant to Procedural Order #2, issued March 20, 2008, attached please find AMPCO's evidence in the above proceeding.

As noted in the evidence, some information sought from OPG by way of interrogatories is still subject to negotiations. Should negotiations fail, it is AMPCO's intention to present a motion seeking a Board order. Once additional information is available, AMPCO intends to update this evidence during evidence-in-chief.

Please contact me if you require additional information.

Sincerely yours,

Adam White
President

Copies to:
Applicant and Intervenors

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AMPCO'S EVIDENCE FOR EB-2007-0905

ONTARIO POWER GENERATION INC.

PAYMENT AMOUNT FOR PRESCRIBED GENERATING FACILITIES

EXHIBIT M TAB 2

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Filed: 2008-04-24
EB-2007-0905

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Ontario Power Generation Inc.

Payment Amount Increases for Prescribed Generating Facilities

AMPCO Evidence

1. Overview of AMPCO

AMPCO is a consumer interest advocacy organization that serves the interests of Ontario's major industries: forestry, chemical, mining and minerals, steel, petroleum products, cement, automotive and other manufacturing industries and business consumers in general.

AMPCO advocates for the reliable supply of electricity at affordable prices to promote the competitiveness of Ontario industry through sound economic and energy policy, cost-effective regulation of the electricity sector and flexible compliance mechanisms.

AMPCO's membership currently comprises 41 of the largest power consumers in Ontario with total annual average consumption of 21 TWh representing total commodity expenditures exceeding $ 1 billion per year. AMPCO's membership represents approximately 14% of total Ontario demand and 50% of total industrial demand. AMPCO members are major investors, major employers (AMPCO members employ approximately 50,000 people in Ontario) and play a major role in the communities in which they operate, across Ontario.

2. AMPCO's Evidence

a) Cost of Capital

In developing a recommended capital structure OPG's evidence places considerable emphasis on the role of risk. "The capital structure should be consistent with the business risks of the specific entity for which the capital structure is being set" (Ex C2-Tab1-Schedule 1, p.54). Nevertheless it neglects to take into consideration a distinguishing feature of this particular entity, namely that its shareholder is the Province of Ontario. This is important enough that both DBRS and Standard and Poor's address it specifically in the determination of OPG's credit rating (Ex A2-Tab 3-Schedule 1, DBRS Rating Report p.1 and Standard & Poor's Canadian Ratings, p.2).

In fact, the application fails to draw any connection between the Province as policy maker and the Province as OPG's shareholder, "With the electricity market environment still in flux, the regulated operations of OPG remain subject to political risk". (Ex C2-Tab3-Schedule 1, p.64). As the maker of rules the Province can and does introduce measures that protect its interest in OPG. The following will provide a review of some measures the Province has introduced to pass the risk it faces as an investor on behalf of Ontario taxpayers on to consumers. This capacity to alter the rules is germane to an assessment of the assumptions about risk underling the application's capital structure proposal.

The Transition from Ontario Hydro to OPG

While both Hydro One and OPG were established at the same time, during the restructuring of Ontario Hydro, their circumstances were significantly different. At the time of its creation the value assigned to Hydro One was very close to its book value. Consequently, there was no need for a significant revaluation of fixed

assets and no unique additional burdens were created for consumers. The case of OPG, however, was different. Large scale asset revaluations occurred which had important implications for consumers. The following will review the nature of these obligations to the extent possible from publicly available information.

Establishing the Generation Assets' Value and OPG's Financial Structure

Table 1 illustrates the values assigned to generation assets immediately prior to and after the creation of OPG.

Table 1

	Ontario Hydro[1] Dec. 31, 1998	OPG[2] April 1, 1999
	($ Billions)	
Net book value of generation fixed assets	26.9	12.9

The reduction in the book value of total generation assets was $14.0 billion. The valuation of OPG was established as illustrated in Table 2;

Table 2

	April 1, 1999[2]
NBV fixed assets	12.9
Current assets	1.4
Other assets	0.6
Sub-total	14.9
Current liabilities	- 1.1
Other liabilities	- 5.3
Value of OPG	8.5

The OEFC transferred the assets and liabilities shown in Table 2 to OPG and in return received $8.5 b in OPG debt. The Province subsequently assumed $5.1 b of OPG's debt to the OEFC and in return received shares in OPG in the same amount.

[1] OPG Annual Report, 1999 p 36. Appendix II
[2] OPG Annual Report, 1999, p. 39. Appendix II

The Determination of Stranded Debt

The initial estimate of stranded debt was prepared by the Ministry of Finance. It was defined as the difference between the total debt and liabilities of Ontario Hydro which were passed on to the OEFC less the sum of the valuations of OPG and Hydro One. That is, $38.1 b - $17.2 b = $20.9 b[3] This is shown in the OEFC's balance sheet as an Unfunded Liability. The breakdown of the initial estimate can be approximated as shown in Table 3.

Table 3
Stranded Debt
April 1, 1999
($ Billions)

Revaluation of OPG assets (Table 1)	14.0
NUG contracts[4]	4.3
Nuclear risk funding[4]	2.4
Total	20.7

As can be seen all of this relates to OPG. The OEFC subsequently adjusted the stranded debt estimate to account for certain deferred debt costs which resulted in an initial Unfunded Liability on its books of $19.4 b.

The OEFC described the provisions of the Electricity Act for the servicing of the stranded debt. It stated, "The Electricity Act 1998 requires that dedicated electricity revenues must be paid by the successor entities and the municipal electric utilities (MEUs) to the OEFC to service the stranded debt"[5] and "The Electricity Act 1998 also provides for a Debt Retirement Charge (DRC) to be paid to the OEFC to retire residual stranded debt"[6]. Residual stranded debt was defined as the stranded debt less the present value of the revenue stream from the successor companies and the MEUs.

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[3] Ontario Financing Authority Bulletin, April 1, 1999, Electricity Sector Restructuring: Update, p.3. Appendix II

[4] OEFC Annual Report, 2000, p. 21. Appendix II
[5] OEFC Annual Report, 2000, p.8. Appendix II
[6] OEFC Annual Report, 2000, p.8. Appendix II

More specifically, the revenue stream directed towards the servicing of stranded debt consists of Payments in Lieu of taxes (PILs) paid by each of OPG, Hydro One and the municipally-owned distribution companies, dedicated Income which consists of "the combined net incomes of OPG and HOI in excess of the Province's cost of its investment in its electricity subsidiaries"[7] and the DRC.

The Impact of Government Ownership on Risk

In response the CCC/VECC Interrogatory #25, section b) OPG acknowledges the difference between Ontario taxpayers and Ontario ratepayers. The measures described above related to stranded debt effectively shift the risks related to the operation of Ontario Hydro (and subsequently OPG) generation assets from taxpayers, the owners, to ratepayers. This contrasts with the conventional expectation that owners would be expected to bear the burden of operating risks.

The Province's capacity to shift such risks is not limited to the initial structuring of the successor companies. Despite the fact that the so-called NUG liabilities were part of the initial estimate of stranded debt, or Unfunded Liability on the OEFC's balance sheet, which was to be serviced by the revenue sources outlined above, the Province introduced an additional source of revenues related to the NUG contracts. In the May 2004 Provincial Budget the Province introduced an additional charge to cover any losses on NUG contracts effective January 1, 2005. As a result the liability for NUG contracts, which was assumed by the OEFC and estimated at $3.8 Billion as of March 31, 2005, was effectively eliminated.[8] Again a risk which originated with the operation of generation assets was shifted from taxpayers to ratepayers. In this case it appears to have been shifted twice, although no compensating adjustment was made to the DRC.

[7] OEFC Annual Report, 2000, p.8. Appendix II
[8] OEFC Annual Report, 2006, p.6. Appendix II

In 2004 the Provincial government introduced Bill 100 which included changes to the OEB Act and also Regulation 53/05 that provided for the regulation of OPG prescribed assets. This regulatory environment assured OPG of prices on its prescribed assets that covered operating costs and provided for a return to capital. The inclusion of various deferral and variance accounts protected OPG against various risks. Again the Province as maker of rules introduced legislation that ensured OPG, one of its government enterprises would achieve certain financial objectives. Risks related to the operation of these assets are largely shifted to consumers.

As recently as February 13, 2008 the Provincial government issued Regulation 27/08 which amended Regulation 53/05, extending the protection to OPG, another example of risk shifting.

Indeed the Province has stated quite clearly its intent to protect taxpayers (the shareholder) from risk. In describing the reforms to the electricity sector the Province stated, "The intent of these proposed changes is to have consumers pay the true cost of electricity without taxpayers paying part of the cost. The projected impact on the fiscal plan would be that sufficient revenues are received from the electricity sector to pay for the interest on the Province's investment in OPG and Hydro One and to ensure that the debt and other liabilities of the old Ontario Hydro are serviced and retired by the electricity consumer, not the taxpayer".[9] This statement not only clarifies the Province's intent with respect to shifting risk from the shareholder to consumers but also describes its expectations for returns from OPG.

[9] Ontario Budget 2004: Budget Paper A: Ontario's Finances; Fiscal Implications of Electricity-Sector Reforms.

These examples reaffirm the position taken by the rating agencies, namely that the ownership of OPG makes a difference. It reduces the risks faced by OPG and should be taken into consideration in setting both the allowed ROE and the capital structure of OPG.

Conclusions and Recommendations:

The evidence presented by OPG on the relative risk faced by its shareholder is insufficient (that is, both incomplete and as will be shown in the course of the hearing overstated) to justify changing its capital structure. The Board should reject OPG's proposal to increase significantly the share of equity in its capital structure. The 2007 capital structure described in Ex C1-Tab2-Schedule 1, Table 4, column (b) of 55% debt and 45% equity currently allows the shareholder to meet the revenue objective quoted above and is appropriate for OPG during the test years.

b) Nuclear Cost Control and Need for Performance Incentives

Introduction and Overview: Ontario's History of Nuclear Improvement Promises

This report reviews OPG requested relief for matters directly related to nuclear productivity. The report then compares the current promises of improvement, justifying the proposed budget increases and payment structure changes relative to historic promises issued by OPG and its predecessor. Actual outcomes from previous improvement initiatives are then examined. Similarities between failed historic improvement promises and the current promises are identified. This report recommends maintaining the structure where consumers pay only for power produced and generation capacity made available to serve consumers. In

addition the report recommends a transparency mechanism designed to promote accountability and incent generation performance.

Overview of Nuclear Relief Sought

OPG's application contains several key elements directly related to nuclear productivity. OPG is seeking an increase in nuclear OM&A. OPG is forecasting a significant nuclear production recovery. Although forecasting an improvement in nuclear production, OPG is also seeking to transfer nuclear production risk to consumers by requesting a change in payment structure whereby approximately 25% of its claimed nuclear fixed costs would be recovered by way of fixed charges.

In describing the drivers of increased operating costs, OPG identifies a number of features including, "Improving material condition of plants" and "Transitioning to a 36 month outage strategy at Darlington." [10]

OPG is forecasting a substantial improvement in nuclear output.

Table # 4: OPG Nuclear Station Output: Actual (2005-2007) and Forecast (2008-2009)

Station	2005	2006	2007	2008	2009
Pickering A	3.6	6.4	3.6	7.1	7.3
Pickering B	13.9	13.5	13.4	15.7	16.0
Darlington	27.6	27	27.2	28.6	26.9
Total Nuclear	45	46.9	44.2	51.4	49.9
Reference	Up. E2/1/1 T1	Up. E2/1/1 T1	Up. E2/1/1 T1	Up. A1/4/3 T2	Up. E2/1/1 T1

[10] Prefile: A1/3/1 p.9

OPG is also planning to stabilize the operating cost per unit of production below the cost realized in 2007.

Table # 5 OPG Nuclear O&M and Production				
Year	production (TWh)	non-fuel o&m ($M)	Corp. O&M (N)	Unit Cost ($/MWh)
2005	45	1726.2	356.2	$46.28
2006	46.9	1,917.50	423.2	$49.91
2007	44.2	2,023.80	446.8	$55.90
2008	51.4	2,184.60	457	$51.39
2009	49.9	2,168.70	430.2	$52.08
Sources:	E2-1-1	F2-1-1	F3/1/1 T2	
Notes	2005 excludes $120M P2/3 impairment charge			

OPG is seeking approval of a payment amount for the nuclear facilities of $58.2M/month irrespective of output (up from zero under existing government direction) plus $41.50/MWh (down from $49.50/MWh under existing government direction) plus a rate rider.

Since 2004, OPG Nuclear claims to have been focused on increased investment in the material condition of the units, while maintaining the focus on safety performance, with an expectation that over the long-term, performance and reliability of the stations will improve resulting in increased production.[11]

[11] Prefile: A1/4/3 p. 9.

In anticipating a turnaround in nuclear production, OPG is proposing various business activities it calls "Key Initiatives" which it describes as "A number of measures and initiatives have been undertaken or are in the process of starting up, in support of the objectives". These include:

- Increasing the effort to reduce elective and corrective maintenance backlogs and focus additional resources on preventive maintenance programs.
- Improving outage planning and execution processes to minimize unanticipated production shortfalls and transition OPG to a more sustainable, reliable, and predictable performance state
- Improved project review and monitoring process.
- Ongoing review of key processes (using an industry based peer team approach), to increase efficiency and effectiveness.[12]

OPG's approach to nuclear performance incentives appears counterintuitive. The trend of nuclear performance incentives payments is upward: $24.6 million in 2005 to $28.6 million in 2006 to $29 million in 2007[13] while, as documented later, nuclear output has fallen far below forecast notwithstanding many spending initiatives to reverse the decline.

History of Ontario's Recent Nuclear Productivity Challenge

Ontario's recent nuclear history has recently seen three distinct periods of productivity failure – each resulting in its own financial challenges. These three challenging periods were events leading to Ontario Hydro's insolvency in 1997, events leading to the revenue bailout of OPG in 2005, and OPG's current application. The first and second of these events were full-blown financial crises,

[12] Prefile: A1/4/3 p. 11-12, parentheses as per original.
[13] Prefile: F3/1/1 T2.

whereas the current application is part of a deteriorating trend that does not yet threaten the capacity of OPG to carry on business.

Each of these challenge periods are unique in terms of their gravity, but some key contributing factors leading up to each event are common. An additional similarity between the two crises now completed is that both resulted in bailouts, although both left in place strong incentives to avoid a repeat performance.

Contributors to Ontario Hydro's 1997 Crisis

Considering only internal factors, Ontario Hydro became insolvent in 1997 because of five main business factors: the poor operational condition of Pickering "A" following retubing, plus the cost of this retubing in the 1980s, the steady decline of the Bruce A reactors, Darlington's legacy of debt, the cost consequences of the NUG and DSM programs. Although knowledgeable authorities might debate the relative importance of these factors, the order presented here represents my opinion of the relative importance of these factors.

The historical record makes it abundantly clear that nuclear operational and investment planning leading up to Ontario Hydro's insolvency was characterized by a pervasive atmosphere of unrealistic optimism. This problem became prominent more than 10 years before Ontario Hydro's ultimate collapse.

Ontario Hydro's attempts to respond to this problem mirror closely the efforts OPG has outlined for the test period to respond to its nuclear production challenges.

Ontario Hydro recognized as early as 1987 that its nuclear problems were becoming serious.

> "There is some concern that the future performance of some of the older nuclear generating units, such as Pickering 3 and 4, and Bruce 1 and 4, may be affected by the deterioration of pressure tubes. Although 1987 does indicate some improvement, there is major concern regarding the deteriorating trend in performance over the past few years. To address this concern, enhanced operation and maintenance programs are being established to restore levels to standard by the mid-1990s."[14]

The following excerpt from "Ontario Hydro Corporate Strategy for the 1990s" expressed increasing concern.

> "There is a need to focus considerable attention on existing facilities which are not meeting some of these (flexibility, reliability, social and environmental acceptability, value) criteria. Over the last five years, performance has gradually deteriorated in generation and delivery facilities, partly because of constraints on maintenance.[15]

The same document identifies the utility's response approach, which it referred to as "Strategic Thrusts."

> "Restore system performance and reliability and capability to optimum levels.
> Rehabilitate and/or redevelop aging facilities in an orderly and cost-effective manner."[16]

The subsequent year's edition of the plan -- "Ontario Hydro Business Plan for the period 1989-1998" – revisited the themes of the previous two plans.

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[14] "Ontario Hydro Business Plan for the period 1988-1997" p. 12 Jan. 1988
[15] Ontario Corporate Strategy for the 1990s OEB Exhibit HR 17 Ex. 1.1.17, Approved by the Ontario Hydro Board of Directors, May 16, 1988, pp. 10-11. Chapter 3 "Supply Management: The Right Mix"
[16] Ibid., p 11 .

Planned results: "Restore long-term nuclear generation performance and achieve a 21% incapability factor, averaged over the next 10 years."[17]

"Nuclear plant performance has declined in recent years, as illustrated by incapability factor. There has been relatively poor performance since 1984, independent of the effect of retubing Pickering Units 1 and 2. To arrest this trend and to restore performance to an optimal level, significant increases in nuclear OM&A costs were approved in 1988." [18]

Nuclear Major Programs: restore nuclear stations to optimal performance levels (e.g. reduce backlog of OM&A-funded work, increase preventive maintenance work, improve documentation and configuration control), beginning in 1988." [19]

The next business plan -- "Ontario Hydro Business Plan for the period 1990-1999" – continued the same approach.

"The decline in nuclear plant performance since 1984, is illustrated in Figure 3.5. This decline is independent of the effect of retubing Pickering Units 1 and 2 and largely reflects the effect of aging system components coupled with resource constraints in past years. To arrest this trend and to restore performance to a desired level, significant increases in nuclear OM&A funds have been provided in recent business plans, and again in this one." [20]

[17] Ontario Hydro Business Plan for the period 1989-1998, p. 2. Jan 1989
[18] Ibid., p. 21 The referenced graph shows nuclear restoration O&M peaking in 1988 at about $55 million declining to steady levels from 1990-1992 of about $45 million, and rising in 1993 to about $60 million all in 1988 dollars.
[19] Ibid., p. 22, parentheses as per original.
[20] Ontario Hydro Business Plan for the period 1990-1999, p. 14. Jan 1990

> "The major restoration program initiated last year continues, and additional resources have been allocated this year to address new areas of improvement identified during 1989. This includes rehabilitation of recently identified degraded equipment, and new programs to establish the present condition of equipment, and new programs to determine future preventative maintenance requirements. Programs have also been initiated to maintain performance, once acceptable levels have been achieved. These include improved inspections, predictive and selective maintenance, and enhanced information systems. The additional OM&A funds provided in this business plan for restoration and maintenance programs over the 1990-1993 period total about $200 million."[21]

Like the current case, external regulatory demands were identified as a challenge.

> "There are also new regulatory demands being placed on nuclear generation, and an additional $30 million over the 1990-1993 period have been provided in this plant to fund programs to ensure compliance."[22]

Again like the current case, staffing was also identified as a challenge.

> "A key factor in achieving the return to standard operating performance will be the supply of trained staff. It is expected that required staff levels will be achieved by 1991; however, a vigorous hiring and training program will be required."[23]

> "Nuclear Major Programs": "Continue programs started in 1988 to restore reliability and reduce backlogs of work to acceptable levels, and initiate

[21] Ibid., p. 15.
[22] Ibid., p. 15.
[23] Ibid., p. 15.

programs to address newly discovered degraded equipment. Enhance programs for detailed assessment of plant and equipment condition, to help predict future maintenance needs and reduce uncertainty on equipment degradation and remaining service life. Increase hiring and training programs to provide required staff levels."

Although performance continued to fall short of expectations, "Ontario Hydro's Business Plan for the period 1991-2000" broke no new ground in addressing the issues.

"Restoration of nuclear generation performance continues to be a priority." [24]

"The forecast for nuclear performance has deteriorated from last year's plan, and the focus of this business plan is to curb the deterioration in performance...Nuclear performance has deteriorated at an increasing rate over the past nine years, with nuclear incapability growing from 10% in 1981 to an estimated 38% in 1990.This deterioration since the early 1980s has had a significant impact on costs. The significantly worse than planned performance in 1990 was due primarily to unexpected and longer than planned outages at the older 'A' stations...Programs are in place to correct this decline in performance. To restore nuclear performance to desired levels and respond to increasing regulatory and environmental requirements, significant increases in funding have been provided in recent business plans, and to a lesser degree in this one. The impact of the growth in funding has not yet been apparent in performance. This lag is not unexpected, given the lead time necessary for the new programs to reach their full potential. Gradual improvement is expected over the next

[24] Ontario Hydro's Business Plan for the period 1991-2000, Business Plan at a Glance, printed on the overleaf. Jan .1991

few years as the current hiring and development programs deliver the necessary qualified staff to essential station programs."[25]

"Recently introduced initiatives to establish the present condition of equipment and determine future preventive maintenance requirements, such as the Maintenance Strategy and Nuclear Plant Life Assurance programs, are expected to contribute to improved nuclear performance. In order to ensure the most effective use of resources, a nuclear Quality Improvement Plan is being implemented over the new few years. The availability of trained staff continues to be a major concern."[26]

One graphic illustration of the ultimately unwarranted optimism presented directly to the OEB as a reassurance after many previous years of failure to live up to nuclear performance promises comes from the HR 22 case. The following is from June 6th, 1994, excerpted from the examination in chief of the General Manager of Ontario Hydro Nuclear, Don Anderson.

"Ontario Hydro Nuclear has developed a fairly significant strategic approach to turning our business around, and clearly, a turnaround was necessary, based on past appearances before this Board.

We have a short-term goal that is defined in our business plan, which is Exhibit 4.1.5. The short-term goal - that is, in the period of this business plan - is to achieve a performance turnaround by maintaining a strong business focus and by adhering to good basic operating practice and safety practice.

Our longer-term goal, out to the year 2000, is we will achieve competitive returns for our owners and

[25] Ibid., p. 15.
[26] Ibid., p. 16.

> investors, whoever they may be, in a potentially open, competitive electricity market.
>
> Our vision in Ontario Hydro Nuclear which was developed by the leadership team is that the customers and employees will be proud of Ontario Hydro Nuclear because of its competitive performance, its superior safety, and its contribution to a sustainable environment.
>
> We are not there yet, but we are on the right track, and I believe the evidence that will come forth in this hearing will show that the turnaround has taken effect."[27]

Provided in Appendix 1 is a chart with supporting documentation detailing some of the nuclear production forecasts with the actual nuclear production, starting in 1989, Actual production numbers were obtained from an IAEA database for all nuclear plants in Ontario. We have also included various production forecasts from publications issued by Ontario Hydro and OPG. AMPCO submitted an interrogatory to OPG seeking forecasts relating to 2005 – 2007, but continue to seek this data at the time of filing this evidence. We submit this chart as incomplete to be completed later by way of evidence-in-chief.
Notwithstanding the assurances that the corner had been turned and recovery was underway, Table 1 also shows that in fact performance decline continued, ultimately resulting in Ontario Hydro's insolvency in 1997 and its dissolution in 1999.

The salient financial details of the 1999 restructuring that are directly relevant to this case are described in the evidence of Dr. Murphy. For the purposes of this evidence, the following facts are significant. OPG was given custody of a large fleet of generation and relieved of most of the debt associated with those assets.

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[27] OEB HR 22 Transcript Volume 15, p. 2912-3.

In return for this relief, OPG became subject to the Market Power Mitigation Agreement, which capped OPG's revenue at $38/MWh on about 70% of the overall generation fleet it then controlled.

OPG's 2005 Revenue Bailout

As Ontario Hydro morphed into Ontario Power Generation, sweeping claims that a nuclear turnaround was underway persisted.

Ontario Hydro's final Annual Report (January1998 - March 1999) expounded at length on this theme:

> The Nuclear business made substantial progress towards its multi-year goal of moving performance back to the top quartile of world nuclear industry standards. When Ontario Hydro's generating portfolio was assumed by Ontario Power Generation Inc. (OPG) on April 1, 1999, nuclear production and capability factors were up; forced outages were down; most performance targets were exceeded; and new agreements with our unions gave us more operational flexibility to speed the recovery to excellence and help position the company to seize more quickly the growing opportunities in the U.S. power marketplace.
>
> Ontario Hydro Nuclear (OHN) made substantial progress during the last 15 months towards its multi-year goal of bringing its operations back into the top quartile of global nuclear industry performance.[28]

[28] Ontario Hydro's Annual Report Jan 1998 – March 1999 p. 15 - 16

Early in 1998, the Board of Directors approved the Integrated Improvement Program (IIP), the operational underpinning of the Nuclear Asset Optimization Plan (NAOP) that had been recommended in 1997 by the Nuclear Performance Advisory Group. The NAOP called for the temporary lay-up of eight reactor units at Pickering A and Bruce A and the concentration of OHN resources on the remaining 12, four each at Pickering B, Bruce B and Darlington.

By the end of April 1998, the major elements of the IIP had been identified, including milestone dates and key deliverables. A team from the World Association of Nuclear Operators (WANO) visited Pickering, Bruce and Darlington in the spring of 1998 and confirmed that the IIP was a comprehensive statement of the problems needing correction in OHN and that the program was sound. Key areas for performance improvement included the planning and execution of planned outages; the implementation of standardized policies, procedures and processes; and the establishment of an organization needed to achieve all objectives.

By March 1998, the four Pickering A units were safely laid up, following some 100,000 hours of work. Most of the staff were then transferred to Pickering B to work on IIP projects on those four reactors. In March as well, the Board reconfirmed its August 1997 decision to temporarily lay up Bruce A units 3 and 4 in order to free up more resources for the IIP.

The Bruce lay-up work began in April 1998 and will be completed in 1999. Some of the Bruce A staff moved over to the Bruce B units; others have been deployed to Darlington. The most fundamental indicator of nuclear performance improvement is a composite index based on nine measures specified by WANO:

- Capability Factor

- Safety System Performance
- Chemistry Performance
- Unplanned Capability Loss Factor
- Thermal Performance
- Collective Radiation Exposure
- Reactor Trip Rate
- Fuel Reliability
- Industrial Safety Accident Rate

Ontario Hydro was encouraged.

> "While these numbers were very encouraging, Nuclear is determined to accelerate IIP progress during the remainder of 1999, to improve its ability to supply competitively priced power in the Ontario and North American energy marketplaces as they open to competition."

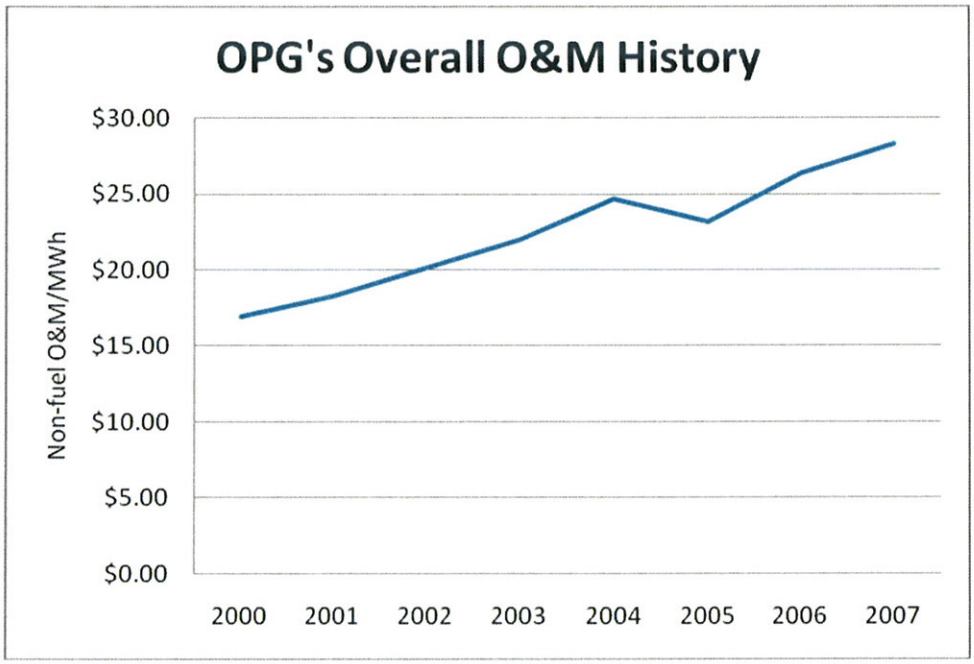
In its 2000 Annual Report, OPG claimed that it had achieved a nuclear turn around. Under a heading "Improved Nuclear Performance" OPG claimed:

> "Our outage program should result in higher capacity levels going forward. Through our Nuclear Performance Improvement program, OPG has made significant strides over the past three years to narrow the performance gap with industry-leading U.S. nuclear units. While much remains to be accomplished, OPG has achieved clear performance improvements since we began the Nuclear Performance Improvement program." [29]

Far from recovering, OPG was actually heading into another steep decline in performance. Since it was created, OPG has allowed operating costs to grow at a

[29] OPG Annual Report 2000 p. 15

compound annual rate of approximately 8% per year. The worst period of cost escalation occurred during the period up and until the end of 2004.



Net income declined from $881 million in 2000 to $83 million in 2003, during a period when average revenue per unit production was reasonably stable.

As KPMG noted in the report "Ontario Power Generation Inc.: Financial Review of Operations" March 15, 2004, the key drivers for OPG's growing financial problems in 2003 were as follows:

> "The underperformance of OPG' s nuclear assets had a cascading negative financial impact on OPG' s overall operations. The cost overruns and delays on Pickering A, and the increased outages experienced by the nuclear fleet in general, caused OPG to rely much more heavily than expected on relatively expensive fossil generation." [30]

[30] KPMG, Ontario Power Generation Inc.: Financial Review of Operations, p. 4.

By 2005, OPG's financial strength had been lost to rampant cost growth. Notwithstanding the previous debt bailout which had created OPG, the company was again declining in the direction of insolvency. With the passage of O.Reg. 53/05, OPG received a significant boost in its revenue outlook, which took effect April 1, 2005.

During the three years leading up to the passage of O.Reg. 53/05, OPG's average energy revenue per unit of production was relatively stable at an average of $44.44/MWh. During the three years starting in 2005, average revenues have become relatively stable but at $52.18/MWh. In effect, O.Reg. 53/05 increased OPG's overall average revenue by 17.4%. By comparison, should OPG's proposal be approved, the overall increase in its revenues, leaving aside the recognition of tax losses, would be 12.1%. This calculation assumes that there is no change in unregulated income, and that OPG's nuclear units produce as forecast, and that the relative fraction of overall generation that is regulated tracks the 2006/2007 average. If nuclear production fails to reach the forecasted level, under OPG's proposal the average revenue will be higher.

Conclusion and Recommendations

Virtually every word of OPG's assurances in this case -- whether the claim that it has recognized the deficiencies in its nuclear programs and is addressing them, or that it is switching from corrective maintenance to preventative maintenance, or that new organizational structures are in place, or that it has improved the project review and monitoring process – repeats 20 years of assurances. The historical record affords little reason to have confidence in these claims.

The last two times that the Ontario government's nuclear power program became financially unstable, the replacement structure put in place featured strong

incentives for the nuclear operation to produce. Until now, OPG only has been paid for power produced. OPG is proposing to lessen the existing incentive.

Under OPG's proposed payment structure of a fixed payment unrelated to production plus a variable payment, any production shortfall will automatically translate into higher effective prices for consumers. OPG's proposal would transfer some of the consequences of production shortfalls from its own shoulders, where it has direct influence, to consumers who have no way to influence the decisions that might impact production.

The Ontario Energy Board should reject OPG's proposed payment structure. Instead, only energy generated from the nuclear program or capacity made available to the market should attract payments.

The Board should require quarterly public reporting by OPG to the OEB on how its nuclear performance tracks its plans, including a detailed explanation of any departures from the plan.

APPENDIX 1

Actual Nuclear Output		1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Ontario Hydro			68.0	60.5	73.7	66.9	80.9	92.9	87.9	79.4	71.4	60.7	61.9								
OPG														60.3	63.5	42.1	38.0	42.4	44.9	46.9	44.0
Bruce																21.0	24.7	33.8	33.0	36.6	35.5
Forecast Source	Forecast Date																				
OH Business Plan	Jan-88	69.2				98.2					99.7										
OH Business Plan	Jan-89	67.5	72				96.6					96.5									
OH Demand/Supply Plan	Dec-89		70	76	82	88	94	100	100	100	100	100	100	100	100	100	100	100	100	100	100
OH Business Plan	Jan-90		65.8	72.7				98.8					104.3								
OH Business Plan	Jan-91			59.5	76.4				89.4					100.5							
OH Business Plan	Jan-93					66.2	79.8														
CES 93-4	Fall 1993							86.2	88.6	86.5											
OHN Business Plan	Nov-93							88.8	86.9	87.2											
OH Corp Plan 1998-2000	Feb 17, 1998											56.3	59	62.7							
NAOP/IIP	May-99												57				83				
O.Reg 53/05	Fall 2004																		45.2	50.6	53
OPG Response to AMPCO #29															Data subject to ongoing negotiations with OPG						

Notes on sources

Actuals are taken from IAEA Power Reactor Information System (http://www.iaea.org/dbpage/) except 2007 for Bruce Power taken from BP's Year in Review. Note that the IAEA includes commissioning energy, while production forecasts typically include only energy from in-service units.

Ontario Hydro DSP forecast is read from Table 4.19 of the DSP and is approximate.

The NAOP/IIP (Nuclear Asset Optimization Plan/Integrated Improvement Plan) data were referenced in KPMG's 2004 OPG review.

Evidence referenced by footnotes available upon request.

APPENDIX II

Consolidated Balance Sheets

(millions of dollars)	DECEMBER 31 1999	ACQUIRED BUSINESS *(Notes 1 and 3)* DECEMBER 31 1998
Assets		
Current assets		
Cash and cash equivalents *(note 5)*	243	123
Accounts receivable	907	638
Income taxes recoverable *(note 4)*	23	–
Fuel	424	455
Materials and supplies	201	295
	1,798	1,511
Fixed assets *(note 6)*		
Property, plant and equipment	13,285	39,016
Less: accumulated depreciation	383	12,166
	12,902	26,850
Other assets		
Deferred pension asset *(note 16)*	516	723
Nuclear waste management and asset removal fund *(note 7)*	367	–
Long term accounts receivable and other assets	27	62
Deferred debt costs	–	978
	910	1,763
	15,610	30,124

See accompanying notes to financial statements

1. Incorporation, Acquisition of Business and Commencement of Operations

Ontario Power Generation Inc. (the "Corporation") was incorporated on December 1, 1998 pursuant to the *Business Corporations Act* (Ontario). As part of the reorganization of Ontario Hydro, under the *Electricity Act, 1998* and the related restructuring of the electricity industry in Ontario, the Corporation and its subsidiaries purchased and assumed certain assets, liabilities, employees, rights and obligations of the electricity generation business of Ontario Hydro (the "Acquired Business") on April 1, 1999 and commenced operations on that date.

In connection with the reorganization of Ontario Hydro, four other successor entities were created in addition to Ontario Power Generation Inc. Hydro One and its subsidiaries is the successor company to Ontario Hydro's electricity transmission, distribution and energy services businesses. Other successor corporations to Ontario Hydro include the Independent Electricity Market Operator ("IMO"), which is responsible for directing the operations and reviewing the reliability of the Ontario electricity market, and the Electrical Safety Authority ("ESA"), which has the responsibility for electrical equipment and wiring installation inspection functions. Ontario Hydro has continued as Ontario Electricity Financial Corporation ("OEFC"), responsible for managing and retiring Ontario Hydro's outstanding debt and other obligations.

In consideration of the transfer of assets, liabilities, officers, employees, rights and obligations of the electricity generation business of Ontario Hydro, the Corporation issued to OEFC notes payable in the aggregate principal amount of $8,526 million, including a note in the principal amount of $5,126 million (the "Equity Note") and assumed a capital lease obligation of Ontario Hydro in the amount of $30 million on April 1, 1999. The Province has assumed all of the Corporation's obligations under the Equity Note and OEFC has released the Corporation from its obligations thereunder and in connection therewith the Corporation issued to the Province 256,300,000 common shares as fully paid and non-assessable shares. OEFC has agreed that without the consent of the Corporation, it will not sell its $3,400 million of notes of the Corporation. The Corporation's long term debt on April 1, 1999 was $3,430 million.

The Corporation has recorded the purchase of the Acquired Business at its fair value as of April 1, 1999 as follows:

(millions of dollars)	FAIR VALUE AS AT APRIL 1, 1999
Assets	
Current assets	1,465
Fixed assets	12,872
Other assets	598
	14,935
Liabilities	
Current liabilities	1,073
Liabilities and capital leases	5,336
	6,409
Net assets acquired	8,526

- The OEFC will be governed by a board of directors, chaired by the Deputy Minister of Finance. The CEO and vice-chair of the Ontario Financing Authority will be the CEO and vice-chair of the OEFC.

- The OEFC will rely on dedicated revenue streams to extinguish its obligations. The $38.1 billion of outstanding Ontario Hydro debt and other legacy liabilities held by the OEFC will be serviced as follows:

  - Debt from the successor companies: $8.2 billion.

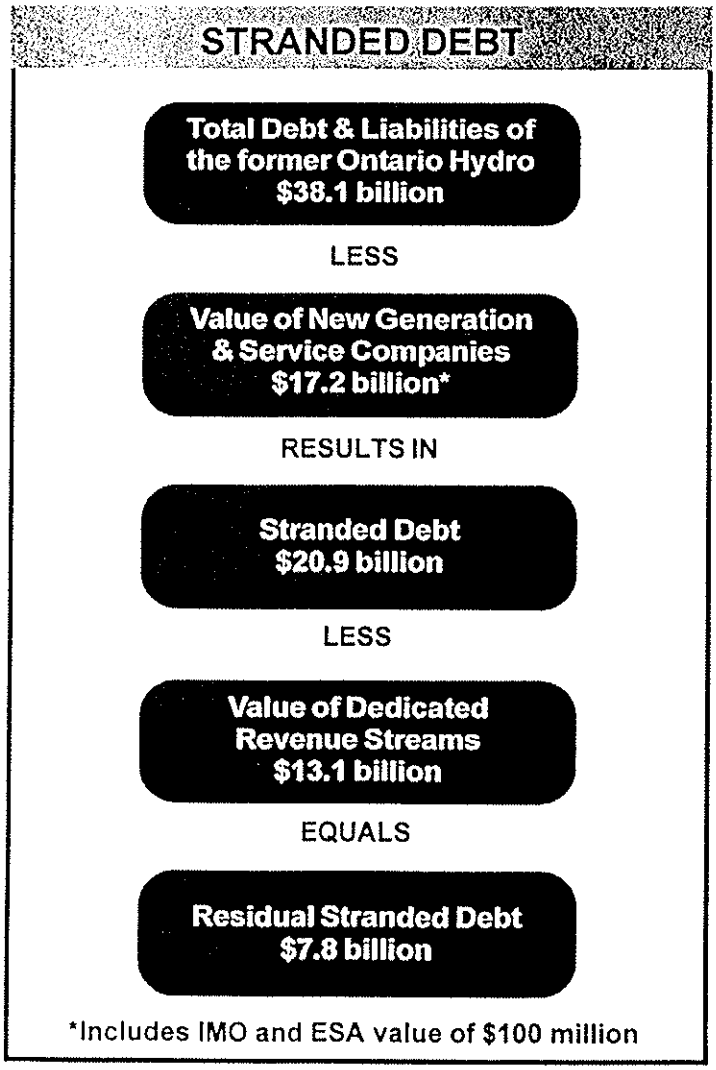
  - Debt from the Province under the debt-for-equity swap: $8.9 billion.

  - Payments-in-lieu of taxes from the successor companies and Municipal Electric Utilities.

  - A Competition Transition Charge (CTC), if needed, to service residual stranded debt.

- The OEFC will finance any cashflow timing differences between debt servicing payments and dedicated revenue receipts.

- Since the OEFC will not have its own credit rating, the Province of Ontario will borrow on its behalf. The OEFC will in return issue securities to the Province bearing like terms and conditions.



Any residual stranded debt remaining after the debt servicing payments and payments-in-lieu of taxes would be serviced by a CTC. Under the CTC, a portion of ratepayers electricity bills would be put aside to service the residual stranded debt. The precise size of any CTC will be adjusted to reflect actual price and cost performance in the competitive electricity market.

Financial restructuring will put the new companies on a sound financial footing with investment grade capital structures.

The steps taken to date will allow Ontario Hydro's outstanding debt to be paid off efficiently, fairly and expeditiously, while protecting both Ontario taxpayers and ratepayers.

NEXT STEPS...

- The credit ratings for the new companies are expected to be determined in the near future, at which time the OHSC and OPGI will be able to borrow in the public markets on their own, without a Provincial guarantee.

- Competition will be introduced into Ontario's electricity market starting in the year 2000.

For more information, please contact the Investor Relations Unit, Ontario Financing Authority, One Dundas Street West, Suite 1400, Toronto, Ontario, M7A 1Y7, Canada. Telephone: (416) 325-0918 / Fax: (416) 204-7946 / Email: investor@ofina.on.ca. This document is available at the Ontario Financing Authority website: **www.ofina.on.ca**

Ontario Electricity Financial Corporation

Consolidated Balance Sheet as at March 31, 2000

(with comparative figures at April 1, 1999)

($ Millions)

	March 31 2000	April 1 1999
ASSETS		
Current Assets (Note 3)		
Cash and temporary investments (Note 4)	$ 2	$ 19
Accounts receivable	134	76
Interest receivable	119	
Current portion of notes receivable (Note 6)	1,533	650
	1,788	745
Electricity sector dedicated income due from Province (Note 5)	383	
Notes and loans receivable (Note 6)	15,894	16,756
Deferred debt costs	914	1,157
	$ 18,979	$ 18,658
LIABILITIES		
Current Liabilities		
Accounts payable	$ 101	$ 197
Interest payable	726	744
Short-term notes payable (Note 7)	3,446	2,751
Current portion of long-term debt (Note 7)	2,226	1,569
	6,499	5,261
Long-term debt (Note 7)	25,666	26,166
Power purchase contracts (Note 8)	4,286	4,286
Nuclear risk funding (Note 8)	2,515	2,378
UNFUNDED LIABILITY (Note 9)	(19,987)	(19,433)
	$ 18,979	$ 18,658

Approved on behalf of the Board of Directors:

Bob Christie
Chair

Gadi Mayman
Vice-Chair

See accompanying notes to financial statements.

Debt Repayment Plan

Pursuant to the *Electricity Act, 1998* and consistent with the principles of electricity sector restructuring, the government has a long-term plan to retire debt from within the electricity industry. The OEFC's obligations of $38.1 billion will be repaid by cash flows from the following sources:

- *Notes receivable* from the Province ($8.9 billion), OPG ($3.4 billion), HOI ($4.8 billion), and IMO ($0.1 billion), for a total of $17.2 billion;
- *Payments-in-lieu (PILs)* of corporate income, property and capital taxes, made by OPG, HOI and municipal electric utilities (MEUs);
- *A Debt Retirement Charge (DRC),* to be paid by electricity consumers;
- *Electricity Sector Dedicated Income.* Consistent with the government's commitment to keep electricity income in the electricity sector, the combined net incomes of OPG and HOI in excess of the Province's cost of its investment in its electricity subsidiaries will be set aside for the retirement of OEFC's debt.

Two commercial companies, Hydro One Inc. (HOI), formerly the Ontario Hydro Services Company Inc., and Ontario Power Generation Inc. (OPG), together with their subsidiaries, received the majority of Ontario Hydro's assets and in return issued $17.1 billion of debt to the OEFC. To ensure fairness, reliability and safety in the new electricity market, the Independent Electricity Market Operator (IMO) and the Electrical Safety Authority (ESA) were also established. The IMO issued $0.1 billion of debt to OEFC in return for Ontario Hydro's central market operator and regulatory assets.

To achieve commercially viable capital structures, HOI and OPG entered into debt-for-equity swaps with the Province of Ontario. In exchange for $3.8 billion of equity in HOI and $5.1 billion of equity in OPG, the Province of Ontario assumed $8.9 billion of the debt issued to the OEFC by the successor corporations. The Province is the sole shareholder of the two commercial companies.

Stranded Debt and Residual Stranded Debt

Stranded debt is defined by the *Electricity Act, 1998* as "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."

At April 1st 1999, the OEFC assumed approximately $38.1 billion in total liabilities from the former Ontario Hydro. The OEFC received a total of $17.2 billion represented by notes owing to it from the Province, OPG, HOI, and the IMO. The difference of approximately $20.9 billion represents "stranded debt", defined under the *Act* as the amount of debt and other liabilities of the OEFC that cannot reasonably be serviced and retired in a competitive electricity market. The opening Unfunded Liability ("stranded debt") of $19.4 billion of the OEFC is comprised of these liabilities of $38.1 billion less notes receivable above of $17.2 billion, less other loans receivable of $200 million, less other assets of $1.3 billion.

The *Electricity Act, 1998* requires that dedicated electricity revenues must be paid by the successor entities and municipal electric utilities (MEUs) to the OEFC to service stranded debt. As of April 1, 1999, the present value of these revenue streams was estimated at $13.1 billion, resulting in an estimated $7.8 billion of residual stranded debt. The *Electricity Act, 1998* also provides for a Debt Retirement Charge (DRC) to be paid to the OEFC to retire residual stranded debt.

The restructuring plan implemented on April 1, 1999 met the government's objectives of providing Ontario Hydro's successor companies with a solid financial footing while ensuring a structure that will allow electricity prices to remain as low as possible in a competitive market. The establishment of the OEFC ensures that the debt and liabilities of the former Ontario Hydro can be serviced and retired efficiently and prudently.

Management's Discussion and Analysis

Implications of Electricity Sector Reforms

The *Ontario Electricity Restructuring Act, 2004*, which came into effect January 1, 2005, is the legislative framework which reorganized Ontario's electricity system to address the critical need for new supply, promote conservation and increase price stability for consumers across Ontario. The *Ontario Electricity Restructuring Act* and related electricity reform measures impact the OEFC financially.

Electricity Pricing

A key impact of the reforms is that the OEFC is no longer responsible for financing the difference between the prices paid by residential and other low volume and designated consumers and prices paid to suppliers.

Effective April 1, 2005, a Regulated Price Plan (RPP), established by the Ontario Energy Board (OEB), provided more stable prices to residential, low-volume and designated consumers, with periodic adjustments to ensure consumers pay a price that reflects the blended price of electricity over time. The Ontario Power Authority became responsible for financing differences in the RPP prices and those paid to suppliers, with differences recovered from RPP customers in the prices set for the subsequent period.

Electricity prices are set through a variety of mechanisms. Effective April 1, 2005, the electricity generated by OPG's nuclear and baseload hydroelectric generation assets received regulated prices. Other generators receive contract prices, while other generating stations, including OPG's non price-regulated plants, receive prices set in the market. Consumers' bills reflect a blend of all prices.

Under this structure, OPG's regulated prices will be adjusted periodically by the OEB. Until the OEB assumes this responsibility, prices are set by government regulation. Effective April 1, 2005, the price for electricity generated by OPG's price-regulated nuclear and baseload hydroelectric plants was set at 4.95 cents/kilowatt hour (kWh) and 3.3 cents/kWh, respectively.

The government also set a transitional revenue limit of 4.7 cents/kWh on 85 per cent of the output from OPG's non price-regulated assets, excluding the Lennox generating station and volumes covered by existing forward contracts as at January 1, 2005. The transitional revenue limit was initially scheduled to be in place from April 1, 2005 to April 30, 2006.

On February 9, 2006, the government announced an initiative to improve price stability for consumers by extending and initially lowering the transitional revenue limit as follows:

- 4.6 cents/kWh from May 1, 2006 to April 30, 2007;
- 4.7 cents/kWh from May 1, 2007 to April 30, 2008; and
- 4.8 cents/kWh from May 1, 2008 to April 30, 2009.

Power Purchase Agreements

- Effective January 1, 2005, the OEFC started to receive actual contract prices for power sold under legacy Ontario Hydro Power Purchase Agreements (PPAs) with the non-utility generators (NUGs), as well as related administrative costs, and is no longer incurring losses on these contracts, effectively eliminating this liability to the OEFC.
- The government determined that the most cautious and prudent accounting treatment is to eliminate the liability over time.
- The NUG contracts expire at various dates up to 2048. The Ministry of Finance estimates that the bulk of the liability would be eliminated over 12 years as existing electricity contracts expire.
- Total capacity of the NUGs portfolio is about 1,700 megawatts (MW), or about six per cent of Ontario's generating capacity.