

ONTARIO POWER GENERATION INC.
TORONTO, ONTARIO

ASSESSMENT OF REGULATED
ASSET DEPRECIATION RATES AND
GENERATING STATION LIVES
DECEMBER 2011



Gannett Fleming
Valuation and Rate Division

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December 16, 2011

Ontario Power Generation Inc.
700 University Avenue
Toronto, Ontario
M5G1X6

Attention:
Mr. David Bell
Manager, Corporate Accounting
Ontario Power Generation Inc.

Pursuant to your request, we have conducted a review and assessment of the Regulated Asset Depreciation Rates and Generating Station Lives of Ontario Power Generation Inc. ("OPG"). Our report presents a description of the methods used in the estimation of service life and our recommendations for average service life estimates.

We gratefully acknowledge the assistance of OPG personnel in the completion of the review.

Respectfully submitted,
GANNETT FLEMING INC.

LARRY E. KENNEDY
Director, Canadian Services
Valuation and Rate Division

LEK/hac
Project: 054762

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PART I. INTRODUCTION

ONTARIO POWER GENERATION

ASSESSMENT OF REGULATED ASSET DEPRECIATION RATES AND GENERATING STATION LIVES

PART I. INTRODUCTION

SCOPE

This report sets forth the results of the Gannett Fleming, Inc. (“Gannett Fleming”) review of the Ontario Power Generation Inc. (“OPG” or “the Company”) average service life estimates. The average service life estimates are used to establish asset depreciation rates and generating station lives for the Property, Plant and Equipment (“PP&E”) of the Prescribed Facilities, and directly assigned corporate PP&E balances as of December 31, 2010, for regulatory purposes. As the depreciation and amortization expense is calculated for revenue requirement purposes, the assets for which average service lives were developed include intangible assets.

The Prescribed Facilities for which average service lives were analyzed are as follows:

- Sir Adam Beck I Hydroelectric Generating Station
- Sir Adam Beck II Hydroelectric Generating Station
- Sir Adam Beck Pump Generating Station
- DeCew Falls I Hydroelectric Generating Station
- DeCew Falls II Hydroelectric Generating Station
- R.H. Saunders Hydroelectric Generating Station
- Pickering Nuclear Generating Station
- Darlington Nuclear Generating Station

REPORT STRUCTURE

Part I, Introduction, contains statements with respect to the scope and plan of the report and the basis of the study. Part II, Methods Used in the Estimation of Average Service Life, presents the methods used in the estimation of average service lives. Part III, Results of Study, presents a summary of the service life estimates and the comparable peer data used in the development of the average service life estimates. Schedule 1 of this report summarizes the average service life estimates for all accounts and also separates the nuclear Asset Retirement Costs (“ARC”) which are depreciated over station lives.

BASIS OF THE STUDY

Background. In March 2007, Gannett Fleming submitted a report titled “Review of the Ontario Power Generation Inc. Depreciation Review Process”. The 2007 report presented a summary of the findings of a review of the processes, procedures and methods used by OPG to review its depreciation expense. The 2007 report indicated that “Gannett Fleming has found that the processes, procedures and methods followed by Ontario Power Generation Inc. adequately meet regulatory objectives regarding depreciation generally accepted by Canadian regulatory authorities.”¹ Additionally Gannett Fleming found that “OPG’s current Depreciation Review Process results in the depreciation expense component of the revenue requirement that reasonably and appropriately reflects the consumption of the average service life of OPG’s regulated assets. Gannett Fleming also views that, overall, the DRC process is adequate in meeting the generally accepted regulatory objectives regarding depreciation for

¹ Cover Letter to the March 2007 Gannett Fleming Report

regulated North American utilities.”² Overall the March 2007 report issued by Gannett Fleming concluded that the procedural foundation upon which the Depreciation Review Committee (“DRC”) has developed average service life estimates is robust and appropriate. The March 2007 Gannett Fleming report led, in part, to the Ontario Energy Board Decision EB-2007-0905 finding that the approach employed by OPG in the development of its depreciation expenses is reasonable.

The DRC has continued to follow the methods as outlined in the Gannett Fleming report in the four years since the issuance of the 2007 report and has modified and adapted its processes to address key recommendation points in the report. As such, the currently approved average service life estimates are based on a procedurally sound and reasonable DRC process. Given this previously-reviewed DRC process, and the prior Gannett Fleming findings regarding this process, Gannett Fleming, to a large extent, found much of the work prepared over the past few years by the DRC to be a reliable information source.

With the exception of minor fixed assets, which represent approximately 3% of OPG’s total regulated investment excluding ARC, OPG currently depreciates its assets using a straight line method of depreciation, with the depreciation rates being calculated based on the Average Life Group – Whole Life Procedure. The Average Life Group – Whole Life procedure has been used by OPG for a number of years and has previously been approved by the Ontario Energy Board (“OEB”).

Service Life Estimates. The service life estimates presented herein are based on commonly accepted methods and procedures for determining average service life

² March 2007 Gannett Fleming Report , page III-2

estimates for electric utility plant. The service life estimates were based on data through December 31, 2010, a review of the Company's practices and outlook as they relate to plant operation and retirement, and the service life estimates for other electric generation companies.

The average service life estimates for each depreciable group were reviewed based on the professional judgment of Gannett Fleming. In reviewing the average service lives, Gannett Fleming gave consideration to the average service lives currently approved for use by OPG, the approved service life estimates for a peer group of electric generation companies (as discussed at page II-8 of this report), the experience of internal OPG Operating and Management staff, and the experience of Gannett Fleming in selecting average service lives for similar plant.

Depreciation Policy. As discussed later in this report, Gannett Fleming has recommended that only one new account be created. In the review of account structure, Gannett Fleming considered the expectation of the diversity of asset retirement ages within each account in the development of the average service life estimate for each account. It should also be noted that the use of the Average Life Group - Whole Life Procedure applies the same annual accrual rate to all vintages of plant, which is calculated by dividing 100% by the average service life estimate. As such, a common life estimate is applied to each of the asset vintages, and each of the assets within each vintage. This procedure is widely used by a number of regulated electric utilities throughout North America, and results in a reasonable recovery of capital investment.

Depreciation related to the nuclear asset classes is based on the lesser of the generation station life or asset class life. Hydroelectric generating stations' lives are considered to be limited by the service lives of the dams; however, since the dams have service lives that exceed those of most other asset classes, Gannett Fleming is of the view that they are not a significant limiting factor at this time.

Gannett Fleming also notes that through the process of implementing Internal Financial Reporting Standards ("IFRS"), OPG reviewed its listing of accounts in order to comply with the componentization requirements of the International Accounting Standard No. 16. OPG determined that no changes to the accounts were required.

RECOMMENDATIONS

The average service life estimates set forth herein apply specifically to the PP&E of the Prescribed Facilities, including directly assigned corporate PP&E as of December 31, 2010, including intangible assets. The average service life recommendations contained in this report should be applied to all assets within each group of assets. As described in the Results section of this report, Gannett Fleming is recommending three changes to the average service life estimates as follows:

- Account 10400 – Hydroelectric – Turbines and Governors – from the currently approved 75 years to 70 years;
- Account 10210 – Hydroelectric – Service and Equipment Buildings – from the currently approved 50 years to 55 years;
- New Account – Hydroelectric – Security Systems – Create a new plant account with an average service life estimate of 10 years.

Continued surveillance and periodic revisions are required to maintain use of appropriate average service lives and depreciation rates. Each account should be subjected to a complete depreciation study which re-evaluates its average service life estimates periodically. Gannett Fleming notes that the practice of OPG to review its various asset accounts over a five-year cycle meets this common depreciation practice. In addition, a company-wide review of the depreciation service lives should also be undertaken approximately every five years in order to ensure that the depreciation recovery policies align with the consumption of the service value of the assets.

The Company is undertaking a detailed assessment of the nuclear plant pressure tubes which may result in a significant amount of additional information regarding future economic life. Following this detailed review of the pressure tubes, a renewed period of five-year cycles for the review of all major plant accounts is recommended.

PART II. METHODS USED IN THE ESTIMATION OF AVERAGE SERVICE LIFE

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DEPRECIATION

Depreciation, in public utility regulation, is the loss in service value not restored by current maintenance, incurred in connection with the consumption or prospective retirement of electric generation plant in the course of service from causes which are known to be in current operation and against which the utility is not protected by insurance. Among the causes to be given consideration are wear and tear, deterioration, action of the elements, inadequacy and obsolescence.

Depreciation, as used in accounting, is a method of distributing fixed capital costs, less net salvage, over a period of time by allocating annual amounts to expense. Each annual amount of such depreciation expense is part of that year's total cost of providing utility service. Normally, the period of time over which the fixed capital cost is allocated to the cost of service is equal to the period of time over which an item renders service, that is, the item's service life. The most prevalent method of allocation is to distribute an equal amount of cost to each year of service life. This method is known as the Straight Line method of depreciation.

As described in earlier sections of this report, the recommendations of this report are to continue to incorporate the depreciation practices historically used at OPG - namely that the depreciation expense be calculated in accordance with the Straight Line method of depreciation, incorporating the Average Life Group - Whole Life procedure in the calculation of the depreciation rate. The calculation of annual depreciation expense based on the Straight Line - Average Life Group - Whole Life procedure requires the estimation of average life as discussed in the sections that follow.

AVERAGE SERVICE LIFE

The use of an average service life for property groups that include large numbers of similar assets implies that the various units in the group have different lives. Thus, the average life may be obtained by determining the separate lives of each of the units, or by constructing a life estimate that considers the retirements of units which survive at successive ages. The average service life estimates reviewed by Gannett Fleming were based on judgment which considered a number of factors, including:

- Understanding of the processes used in the development of the currently used average service life estimates through the completion of a prior review of the DRC process filed in EB-2007-0905;
- Understanding of the assets currently in service through discussions with company staff and through representatives of the nuclear and hydroelectric generation operating units;
- Physical site tours of nuclear and hydro generation sites;
- Review of current accounting practices and procedures applied and their consistency with those in place during the review submitted in EB-2007-0905;
- Review of the analysis and results of prior reviews by the OPG Depreciation Review Committee;
- Average service life estimates from other peer electric generation companies; and,
- The general experience and professional judgment of Gannett Fleming.

Prior Assignments and Review of the DRC Process. Gannett Fleming had been previously retained in 2007 to review the practices and procedures used by the DRC in the completion of prior depreciation studies. The 2007 review resulted in a report of the findings of Gannett Fleming which were submitted to the management of OPG in 2007. This prior review provided Gannett Fleming with an understanding of the processes used by OPG in the determination of average service life estimates, a general understanding of the type of generation plant in service at OPG and an understanding of the regulatory oversight of the Ontario Energy Board.

Operating Discussions and Site Tours. Discussions with operating representatives and the physical site tours undertaken by Gannett Fleming provided Gannett Fleming with an understanding of the type of assets in service for both nuclear and hydroelectric service. The site tours provide Gannett Fleming with the necessary background to make an assessment of the physical installations of the OPG plant, and to understand the type of plant in service and the operating conditions of the facilities. The operating interviews are undertaken to understand the historic operating conditions that have led to retirement of plant in the past and to understand the current condition of the assets which may impact future retirement plans. The operating interviews were conducted both during the Gannett Fleming tour of the physical facilities, immediately following the tours and again after Gannett Fleming completed an initial analysis of the average service life expectations.

Gannett Fleming toured the following generation sites in the conduct of this assignment:

- R.H. Saunders Hydroelectric Generating Station

- Sir Adam Beck I Hydroelectric Generating Station
- Sir Adam Beck II Hydroelectric Generating Station
- Darlington Nuclear Generating Station.

Tours of the above Hydroelectric and Nuclear Generating Stations provided Gannett Fleming with the necessary background to complete this assignment. During and immediately following each of the above site tours, interviews of the operational representatives were undertaken by Gannett Fleming. These interviews were conducted at the time of the site tours and covered the following topics:

- Operating history of both the plant being toured and of other similar plant not toured;
- Replacement history of major plant components and review of significant retirement programs;
- General operating experience of the major plant components;
- Review of any life restricting operational issues;
- Review of any issues that have emerged during the last DRC;
- Review of changes where advancements in technology may cause changes to average service life indications; and
- Discussions of the manner in which the OPG Hydro plants may be different than other peer Hydroelectric generation plants.

Interviews following the Darlington Nuclear plant tour involved considerable discussion regarding the Pickering Generating Station. In addition the discussions were conducted following the plant tours through a number of telephone interviews held between Gannett Fleming and operational representatives of OPG.

Review of Accounting Policies. Gannett Fleming had discussions with management representatives during the early phases of this assignment to discuss depreciation and accounting policies and practices. An understanding of the accounting policies is required to:

- Understand the accounting entries associated with the retirement of plant. In particular, Gannett Fleming required an understanding of the accounting entries associated with gains and losses on retirement;
- Understand any thresholds or policies with regard to capitalization of major component as compared to the replacement of minor components of plant through operating and maintenance budgets; and
- Determine if a review of the adequacy of the accumulated depreciation reserve is required.

Gannett Fleming notes that, with the exception of IFRS which did not exist at the time of the prior review, the current DRC policies and practices are the same as those that existed in EB-2007-0905 as modified to address the findings and recommendations from that report. Gannett Fleming also notes that the gains and losses on retirement transactions are normally booked to the income statement in the year of the retirement transaction. In this manner, the accumulated depreciation account does not include any significant embedded gains or losses from previous retirement transactions. Gannett Fleming understands that the total cumulative undepreciated value of embedded past losses, which OPG removed from the net book value of fixed and intangible assets in 2011, is less than \$1M. Gannett Fleming also notes that any amount of cost of removal (that is not associated with the retirement of an asset for which an Asset Retirement

Obligation ("ARO") is established) is charged directly to the income statement in the year of the transaction. Both the recording of gains and losses to income and the charging of cost of removal to income is in accordance with provisions of IFRS. Gannett Fleming notes that while these are not the traditional practices of regulated utilities, the nature of the large plant components and small amount of retirement transactions have made these policies viable and reasonable for OPG. Additionally, because the accumulated depreciation account does not include any of the significant adjustments for past retirement transactions, the need to test the adequacy of the accumulated depreciation accounts is eliminated.

Analysis and Results of Prior DRC reviews. OPG is the world's largest operator of CANada Deuterium Uranium ("CANDU") nuclear units, has some of the oldest CANDU units, and has the most extensive operational knowledge of all CANDU operators in the world. OPG is heavily involved in technical exchanges with other CANDU operators, and closely monitors equipment degradation issues in order to assess potential impacts on OPG's units. OPG is often the "lead" utility in terms of the knowledge of degradation issues, which may impact unit and component lives. In the particular circumstance of the CANDU nuclear installations, OPG internal staff is recognized as experts in the technology.

Over the last five-year period, the DRC has completed a detailed review of the average service life expectations for the plant accounts that comprise in excess of 90% of the company's regulated investment. The DRC's technical reviews were conducted by internal and external experts in the specific areas associated with a number of accounts. As indicated above, the OPG operational staff is considered to be the world

experts in the operational aspects of the CANDU units. Gannett Fleming reviewed this analysis which provided a significant background on the physical condition of the assets, a meaningful history of the manner in which plant assets have provided electric generation service over the past many years, and identified major upcoming replacement or retirement programs.

Peer Analysis. In order to provide a comparison for each account grouping, Gannett Fleming selected a peer group of companies to use in the development of average service lives. The companies selected for comparison were all companies for which Gannett Fleming has recently completed depreciation studies relating to Canadian electric generation plants. As such, Gannett Fleming is able to make a meaningful comparison giving consideration to factors such as capitalization and retirement policies, maintenance practices, and general operational practices. The companies selected for comparison were:

- BC Hydro
- Manitoba Hydro
- New Brunswick Power
- Newfoundland and Labrador Power Corporation (Nalcor)
- Northwest Territories Power Corporation
- Nova Scotia Power
- SaskPower

Asset service lives for the OPG hydroelectric asset classes lend themselves to comparison with other utilities due to the similar nature of the technology used in hydroelectric energy production. As such, the above utilities provided Gannett Fleming

with a comparable base of average service life estimates to use in the development of the service life estimates for OPG hydroelectric asset classes.

Professional Judgment. The use of professional judgment in the development of average service life estimates is a practice that is appropriate and has been used for many years before North American regulatory jurisdictions. When available, the use of statistical analysis of the historic retirement transactions combined with the use of professional judgment which includes the physical site inspections, review of accounting procedures and practices, use of operational staff interviews, review of prior studies, and review of the approved life estimates of peer companies, provides the most complete method of service life analysis. However, the use of professional judgment alone also provides an appropriate basis for developing average service life estimates, when appropriate factors are considered, and has been accepted as a valuable depreciation analysis tool in many North American jurisdictions.

In the specific circumstances of the OPG average service life estimation, the volume of historic retirement transactions available to be analyzed is not sufficient to undertake a detailed study of retirement history. As such, a retirement rate analysis was not completed by Gannett Fleming. However, all of the remaining life estimate tools were available and were used to develop appropriate average service life estimates.

Life Span Dates. Life expectancy of electric generation plant assets are impacted not only by physical wear and tear of the assets but also by economic factors including the feasibility of the economic replacement of major operating components or the economic viability of the plant as a whole. In circumstances where the replacement

of major operating components is not economically feasible, the life of the major component can be the determining factor of the generation plant and all of the assets within the plant. As such, the remaining depreciation life of electric generation plant assets is the lesser of the physical life expectation of the asset or the period to the end of the life span of the generation plant.

The use of life span dates for determining depreciable lives for regulated electric generation plant are common throughout many North American Regulatory jurisdictions. The basis for the determination of the life span date is usually based on one or all of the following:

- The physical life estimation of the major and vital components of the generating plant;
- The duration of operating licenses;
- Precedent and policy of the regulatory jurisdiction;
- Expiration of the supply source for which the generation plant is dependent; and
- Expiration of market demand upon which the generation plant is dependent.

In prior depreciation reviews, OPG has determined a life span date for each of the regulated nuclear plants. The life span dates have been determined through a review of the expected life of the significant components at each nuclear site. Additionally, the life span date has historically been influenced by the period through to any required major site refurbishment, as the continued operation of the plant is dependent upon the ability to economically refurbish the plant for continued use. It is the experience of Gannett Fleming that the depreciation schedules for most North

American nuclear generation plants are dependent upon appropriately developed life span dates. Furthermore, it is the view of Gannett Fleming that the use of life span dates is appropriate for the OPG nuclear generation plants.

Internal OPG reviews of the physical operating conditions of the regulated nuclear electric generation plants were last conducted as part of the 2010 DRC review. That review concluded that the following life span dates, which were approved by the OEB in its Decision EB-2010-0008, are appropriate:

- Pickering A - December 31, 2021;
- Pickering B - September 30, 2014;
- Darlington - December 31, 2051.

Gannett Fleming has reviewed the analysis made by the DRC which established the above dates, and has concluded they are reasonable for the continued use in this study. Gannett Fleming is of the view that the factors considered and methods used by the DRC continue to be appropriate and consistent with common regulatory practices and should continue to be used in future reviews.

In the review of the life span dates related to the two Pickering plants, it is noted that the technical and economic viability considerations of Pickering A Units 1 and 4 may not result in these units operating past the end of life of the last two Pickering B units. The operation of the Pickering A plant requires the joint operation of certain components of both Pickering A and B plants. As such, both physical and economic considerations may result in the circumstance that should the Pickering B units be shut down before the Pickering A units, there is a significant likelihood that the operation of the Pickering A units would not be viable.

Gannett Fleming believes that until the review of the Pickering B plant is completed it is premature to adjust the life span date of Pickering A from the current date of December 31, 2021. Gannett Fleming also believes that the use of a life span of September 30, 2014 for Pickering B is appropriate until such time as reviews to determine the economic feasibility of a major pressure tube program are completed, which Gannett Fleming understands is expected in 2012. In the circumstance that the assessment of the condition of the Pickering B pressure tubes results in a decision that the Pickering B plant cannot continue operations, future depreciation reviews may be required to adjust the life span date of the Pickering A units.

As recognized in the prior DRC review, a major refurbishment program is expected to be undertaken at the Darlington nuclear site. As a result, in the 2009 DRC review, OPG extended the life span date by 30 years to December 31, 2051, effective January 1, 2010. Given that the major operating components at the Darlington plant are expected to be refurbished in the near future, Gannett Fleming finds the December 31, 2051 date as being reasonable.

The regulated hydroelectric plant dams are considered to be the life-limiting component, but since the dams have service lives that exceed that of most other classes, Gannett Fleming is of the view that they are not a significant limiting factor at this time.

PART III. RESULTS OF STUDY

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QUALIFICATION OF RESULTS

The review of the reasonableness, and recommended alternative average service life estimates related to plant in service as of December 31, 2010 is the principal result of the study. Continued surveillance and periodic revisions are required to maintain continued use of appropriate average service lives. An assumption that life estimates can remain unchanged over a long period of time implies a disregard for the inherent variability in service lives and for the change of the composition of property in service.

SUMMARY OF RESULTS

Gannett Fleming has reviewed the life span dates and average service life estimates for all regulated generation plants and asset categories, considering the factors as identified in Part II of this report. While this review included analysis of all asset categories, additional focus was made on the investment categories that comprise the majority of the plant in service.

Gannett Fleming recommends the continuation of the life span dates as approved for use in OEB Decision EB-2010-0008 pending the technical results of a pressure tube study, expected in the latter part of 2012, as discussed earlier in the report. Furthermore, Gannett Fleming recommends the continued use of the currently approved average service life estimates for all accounts with only the following exceptions:

- Account 10400 – Hydroelectric – Turbines and Governors – from the currently approved 75 years to 70 years.

- Account 10210 – Hydroelectric – Service and Equipment Buildings – from the currently approved 50 years to 55 years;
- New Account – Hydroelectric – Security Systems – Create a new plant account with an average service life estimate of 10 years.

A detailed discussion of the reasons and factors considered leading to the recommended change for the above three accounts is provided in the Appendix to this report.

DESCRIPTION OF APPENDIX

The Appendix to this report provides a summary of the factors considered in the review of each of the major accounts in which Gannett Fleming is recommending a change. While Gannett Fleming did review all accounts, the Appendix only provides detailed analyses of the accounts in which a change to the average service life estimate is recommended.

ONTARIO POWER GENERATION INC.
SCHEDULE 1. SUMMARY OF THE NET BOOK VALUE, CURRENTLY APPROVED AVERAGE SERVICE LIFE ESTIMATES AND
GANNETT FLEMING RECOMMENDED AVERAGE SERVICE LIFE ESTIMATES

ASSET CLASS #	ASSET CLASS DESCRIPTION	CURRENTLY APPROVED LIFE ESTIMATE (Years)	GANNETT FLEMING RECOMMENDED LIFE ESTIMATE (Years)	ASSET CLASS		ASSET CLASS		% COVERAGE OF TOTAL REGULATED NBV (Note 1)
				NUCLEAR (\$)	NBV FOR NUCLEAR (\$)	HYDRO REGULATED (\$)	NBV FOR HYDRO REGULATED (\$)	
10503100	HYDROELECTRIC - REVENUE METERING - HIGH VOLTAGE SWITCHING CONTROL SWITCH BOARDS	30	30			4,530,975	4,530,975	0.07
16550000	ADMINISTRATION AND SERVICE BUILDINGS - LAN CABLE	10	10	1,640,945		1,558,074	3,199,019	0.05
15400000	NUCLEAR - TURBINES, AUX. EQUIP., STEAM REHEATER TUBE	40	40	3,049,671			3,049,671	0.04
15370000	NUCLEAR - TRITIUM REMOVAL FACILITY	40	40	2,583,781			2,583,781	0.04
16540000	ADMINISTRATION & SERVICE BUILDINGS ADMINISTRATIVE TELECOM EQUIPMENT	7	7	2,119,057			2,119,057	0.03
10531000	HYDROELECTRIC - CIRCUIT BREAKERS	50	50			2,099,359	2,099,359	0.03
10315000	HYDROELECTRIC - STEEL RACKS	40	40			1,974,365	1,974,365	0.03
15530000	NUCLEAR - BUILDING ELECTRICAL SERVICES SUPPLY	40	40	1,679,840			1,679,840	0.02
15352000	NUCLEAR - S/D COOLING HEAT EXCHANGERS - PICKERING	25	25	1,539,221			1,539,221	0.02
18500000	COMMUNICATIONS - RADIO EQUIPMENT	15	15	1,383,218			1,383,218	0.02
New	HYDROELECTRIC - SECURITY SYSTEMS	New	10			1,116,391	1,116,391	0.02
16230000	ADMINISTRATION AND SERVICE BUILDINGS - BUILDINGS- FRAME & METAL CLAD	25	25	986,575			986,575	0.01
16311000	ADMINISTRATION AND SERVICE BUILDINGS - NUCLEAR SIMULATORS - DESIGN UPGRADES	10	10	924,845			924,845	0.01
15540000	NUCLEAR - ELECTRICAL AUXILIARY SYSTEM	40	40	831,866			831,866	0.01
16630000	ADMINISTRATION AND SERVICE BUILDINGS - BUILDING SYSTEMS & EQUIPMENT	20	20	674,272			674,272	0.01
90000000	HYDROELECTRIC MISCELLANEOUS ASSETS	100	100			586,741	586,741	0.01
18633000	COMMUNICATIONS - OPTICAL WIRE - REVENUE METERING	30	30	49,342		391,082	440,424	0.01
15311000	NUCLEAR - FUEL CHANNEL ASSEMBLIES - PICKERING	25	25	188,331			188,331	0.00
16100000	ADMINISTRATION AND SERVICE - LANDS	0	0			141,758	141,758	0.00
18460000	COMMUNICATIONS - DATA ACQ. EQUIP, MAN. MACH. INTF EQUIPMENT	15	15	35,859		62,723	98,582	0.00
15430000	NUCLEAR - EXCITERS	30	30	92,779			92,779	0.00
18200000	COMMUNICATIONS - BUILDINGS	50	50			48,469	48,469	0.00
10302100	HYDROELECTRIC - PUBLIC SAFETY/WARNING BOOMS	15	15			35,967	35,967	0.00
18630000	COMMUNICATIONS - OPTICAL WIRE	25	25	18,506			18,506	0.00
16220000	ADMINISTRATION AND SERVICE BUILDINGS - BUILDINGS	10	10	16,134			16,134	0.00
18600000	COMMUNICATIONS - WOOD POLE, COMM. CAB, APPAR. & BOOTHS	40	40			1,796	1,796	0.00
	MINOR FIXED ASSETS (MFA)	*	*	170,769,026		887,997	171,657,023	2.50
GRAND TOTAL ASSET CLASSES REVIEWED				1,623,120,898	3,750,358,530	5,373,479,428	78.13	
Add:								
ASSET RETIREMENT COSTS (ARC)				1,504,390,796			1,504,390,796	21.87
TOTAL FIXED ASSETS AND INTANGIBLES PER 2010 OEB RATE BASE SCHEDULE				3,127,511,694	3,750,358,530	6,877,870,224	100.00	

Note 1

Represents percentage of each asset class reviewed in 2011 over total assets for regulated business based on year-end 2010 NBV's.

* Average service lives have not been modified in this report.

APPENDIX

ONTARIO POWER GENERATION INC.
Detailed Discussion Related To Accounts Where An
Average Service Life Change Is Recommended

Account 10400 – Hydroelectric – Turbines & Governors

Net Book Value - \$ 112,402,258

Current Average Service Life Estimate – 75 years

Recommended Average Service Life Estimate – 70 years

Average of Peer Average Service Lives – 56 years (Range from 45 to 75 years)

Discussion:

This account includes the investment related to two major components of the Hydro Generating Plant. The Hydro Turbine investment included in this account relates primarily to the turbine shaft and casings as the investment in the turbine runner is contained in Account 10405 – Hydroelectric Turbine Runners. The second major component of Account 10400 is the Governor which includes a hydraulic pumping unit, accumulator tanks and computerized governor controls.

A review of peer companies has indicated average service life estimates ranging from 45 years to as long as 75 years. The peer companies at the lower end of this range also include the investment in the turbine runner in their comparable accounts. This has had a life reducing impact on their life estimates, as the turbine runners are a shorter life component of the overall hydro Turbine than are the components in this account for OPG. Additionally, Gannett Fleming has noted the peer companies at the longer end of the range of life estimates do not have investment in Governors in their comparable account.

Discussions with the OPG operating staff have indicated that the investments in this account related to Turbine assets comprise approximately 95% of the investment. Additionally, it is the view of the operational staff that the expected life of this turbine equipment is at least 75 years. In the view of Gannett Fleming this expectation is consistent with typical industry practice for Turbine assets, although at the longer end of the peer estimates.

The discussions with operating staff have also indicated that investment in this account related to the Governor is approximately 5%, and would have a life expectation of approximately 40 years. However, it is also noted that the Governor technology is changing to a more digital based platform. Additionally the controls used with the

Governor are now much more computerized. This shift in technology to a more digital and computerized platform will have a life shortening influence in the overall average service life estimate. Given the small level of investment in this account related to Governors as compared to the investment in Turbines, Gannett Fleming is not recommending creation of a separate account at this time. However, future depreciation studies may find that further componentization is required.

The recommended 70-year average service life estimate has been developed giving consideration to all of the above influences. A weighting of average life expectations for both of the components was made based on the results of the peer analysis and comments from the operational staff as follows:

Turbines	75 years x 95% = 71.25 years
Governors	40 years x 5% = <u>2.00</u> years
Total	73.25 years

The weighted average was adjusted slightly to recognize that the 75-year estimated life for Turbines was at the long end of the peer average service lives and to recognize the technology changes to a more digital platform with regard to the Governor equipment. Gannett Fleming views that the adjustment of the weighted average age from 73.25 years to 70 years is an appropriate recognition of these factors.

ONTARIO POWER GENERATION INC.
Detailed Discussion Related To Accounts Where An
Average Service Life Change Is Recommended

Account 10210 – Hydroelectric - Service and Equipment Buildings

Net Book Value - \$ 67,339,549

Current Average Service Life Estimate – 50 years

Recommended Average Service Life Estimate – 55 years

Average of Peer Average Service Lives – 49 years (Range from 40 to 60 years)

Discussion:

This account includes the OPG investment related to the physical building structure, fencing, concrete lining of access tunnels and shafts. The building related costs include all excavation, building, and costs of services. This account is similar in nature to similar accounts in the nuclear asset classes with a 55-year life.

A review of the peer companies has indicated average service life estimates ranging from 40 to 60 years with an overall average of 49 years. Therefore, based on a peer analysis, the average service life would not require modification. However, Gannett Fleming does not see any indication that the average life expectation of this asset category should be less than the same classes within the nuclear asset groupings. Gannett Fleming also notes that a 55-year life estimate would also be within the range of lives used by the comparable peer group.

ONTARIO POWER GENERATION INC.
Detailed Discussion Related To Accounts Where An
Average Service Life Change Is Recommended

NEW ACCOUNT – Hydroelectric Security Systems

Net Book Value - \$ 1,116,391

Current Average Service Life Estimate – N/A

Recommended Average Service Life Estimate – 10 years

Average of Peer Average Service Lives – 15 years (Range from 5 to 25 years)

Discussion:

The investment in this account is related primarily to the electronic surveillance and security systems at the Hydro sites. This equipment is all based on digital technologies and will have a short life expectation.

Comparisons to peer companies are not relevant in the circumstances of this account, as virtually all of the peer companies have a divergent mix of assets in this account, with a wide range of technologies.

Gannett Fleming views that the digital nature of the assets in this account is consistent with a 10-year average life expectation.