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FINAL REPORT

Prepared For:

Ontario Power Generation

Benefits of Integrating CWIP into Rate Base in Ontario

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TABLE OF CONTENTS

1. INTRODUCTION AND SUMMARY

In its January 15, 2010 Report of the Board in EB-2009-0152 ("Report"), the Ontario Energy Board ("OEB") approved consideration of alternative cost recovery mechanisms for investment driven by the Green Energy Act. In the Report, the OEB also stated that alternative mechanisms could be appropriate in certain circumstances for other types of investments. The OEB specifically noted that it will allow utilities to apply to include up to 100 percent of prudently incurred construction work in progress ("CWIP") costs in rate base and to expense prudently incurred pre-commercial costs. The OEB further noted that inclusion of CWIP in rate base is likely most suitable in relation to the construction of capital intensive multi-year projects.

The interest in innovative approaches is driven by the need for investment of substantial amounts of capital to replace aging infrastructure and serve new load. Given the magnitude of the funding required, Ontario's utilities need greater regulatory certainty prior to making significant capital investments, and new regulatory approaches for the cost recovery of these investments. The inclusion of CWIP in utility rate base, approved for case-by-case consideration by the OEB, has become common in the United States. This well-understood rate treatment greatly benefits ratepayers whenever there is the need for large-scale multi-year investments. Including CWIP in utility rates is an effective regulatory treatment to avoid a significant increase in rates and a decline in utility credit quality during a major construction program. Delaying until in service the rate recovery for significant new utility assets results in a sharp spike in rates, and violates the key regulatory objective of seeking "gradualism" in rates. Similarly, without inclusion of CWIP in rates, the funding needed for a major construction program leads to a decline in utility credit quality and a corresponding increase in utility borrowing costs and ultimately utility rates. The resulting greater regulatory certainty of placing CWIP in rate base mitigates the disincentive for utilities to construct the long-lead time projects needed.

Given these benefits and the current need for significant investment in transmission and base load generating capacity, the U.S. Federal Energy Regulatory Commission ("FERC") and many U.S. states have passed legislation and/or put in place regulations to allow for CWIP to be placed in rate base during the construction of these facilities. While cognizant of concerns regarding the inclusion of CWIP in utility rates, such as intergenerational transfers and passing risks of construction to ratepayers, these jurisdictions have become convinced that such concerns are outweighed by the significant benefits of including CWIP in rate base for large-scale multi-year construction projects.

A similar examination of the costs and benefits of implementing CWIP in rate base in Ontario will find that for significant multi-year investments projects, CWIP in rate base is beneficial to Ontario ratepayers given the need for substantial investment in new electricity infrastructure.

2. REGULATORY TREATMENT OF CWIP IN RATEMAKING

Construction Work in Progress ("CWIP") is a holding account that captures the expended costs incurred in the design and construction of facilities that meet general capitalization rules and thresholds. The current OEB regulatory approach for CWIP is to wait until the project is in-service to transfer the costs to rate base and commence recovery of the investment in rates. In turn, during the construction period, an Allowance for Funds Used During Construction ("AFUDC") is accumulated and included in CWIP. When the project goes into service, the capitalized expenditures and the associated AFUDC are included in rate base over the service life of the asset.

However, for utilities with significant expenditures on projects with multi-year construction periods, the amount of funding required without timely recovery in rates leads to decreased utility financial ratios, lower debt ratings, and in some cases financial distress. Moreover, the AFUDC accumulation becomes large enough that a significant increase in rates (i.e., a "rate shock") takes place when the assets are placed into service. Recovery of CWIP in rates is a common and effective means to mitigate these effects.

CWIP in rate base includes the recovery during the project construction period of financing costs. CWIP in rate base cannot result in a "double-counting" of costs. Any CWIP costs recovered in rates prior to a project being placed in-service are not included in the costs to be recovered after the project is placed in-service. Indeed, fewer total dollars are recovered in rates with CWIP in rate base, as project financing costs do not compound upon themselves as they do under current OEB ratemaking.

Like Ontario, the U.S. also faces a current need for significant investment in transmission and base load generating capacity. In response, the U.S. Federal Energy Regulatory Commission ("FERC") and a number of U.S. states have passed legislation and/or put in place regulations to allow for CWIP to be placed in rate base during the construction of these facilities, as summarized below.

2.1. FERC

Among other things, the FERC oversees electricity rates for U.S. transmission assets and the sale of wholesale power in the U.S. (i.e., "sale for resale"). Since 1987, the FERC has allowed 50% of CWIP to be included in rate base.[1] Recently, to spur the construction of urgently needed significant new transmission facilities throughout the U.S., the FERC adopted rules to allow for 100% inclusion of CWIP in rate base, among other incentives, for certain qualifying grid investments. The FERC noted that "we seek to remove an impediment – inadequate cash flow – that our current regulations can present to those investing in new

1 Order No. 679, FERC Docket RM06-4-000, Promoting Transmission Investment through Pricing Reform, Final Rule, July 20, 2006, paragraph 22.

transmission."[2] FERC further noted that allowing recovery of CWIP in rates removes a disincentive for utilities to construct projects with long lead times – an important benefit when significant new investment in projects with multi-year construction schedules is needed.

Under this new policy, a number of grid investments have since been granted 100% inclusion of CWIP in rate base by the FERC.[3]

The new policy also reaffirmed the FERC precedent of permitting companies to expense prudently-incurred pre-construction/pre-operating costs, contingent upon the company proposing project milestones, achievement of benchmarks and metrics proposed, and filing of annual informational reports.[4] FERC noted that permitting companies to expense, rather than capitalize, pre-construction/pre-operating costs associated with new transmission investment, relieves the pressures on utility cash flow associated with transmission investment programs.[5]

2.2. INDIVIDUAL U.S. STATES

State regulatory commissions regulate investor-owned electric utilities operating in their state, and set rates primarily based on cost-of-service principles for the retail electricity customers in their state.[6] Starting in the late 1960s, costs of both construction and capital began to increase significantly for many U.S. utilities, and construction periods for major utility projects were greatly extended. Confronted with severe cash flow problems and inadequate coverage ratios, many U.S. utility regulatory commissions began to permit all or part of CWIP in rate base.[7] As an example, Wisconsin has and continues to allow CWIP in rates.[8]

Today, the urgent need for large scale multi-year investment in large base load facilities, particularly nuclear facilities, has resulted in significant legislative and regulatory activity regarding the inclusion of CWIP in rate base in a number of states, as highlighted in Table 1.

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2 Ibid, paragraph 29.

3 For example, United Illuminating Company (ER07-653), Xcel Energy Services (ER07-1415), and PPL Electric Utilities Corporation (EL08-23).

4 Ibid, paragraphs 367-375

5 Ibid, paragraph 115, 117

6 In certain U.S. states, the rate for the generation component of retail electricity service is set at a competitive market rate, not by cost-of-service regulation. States sometime apply incentive ratemaking approaches that can differ from cost of service.

7 The Regulation of Public Utilities, Charles Phillips, 1993, page 354.

8 Annual Report of Wisconsin Electric Power Company, December 31, 2006.

As noted in Table 1, the recovery of CWIP during the construction period can include financing costs, pre-construction costs (such as siting and design), and construction costs.

Table 1: States with Recent CWIP in Rates Activity

State	Project Specific or Blanket?	Supporting Legislation and Regulations?	CWIP Recovered in Rates	Notes
Florida	Nuclear	Both	CWIP financing costs Pre-construction costs Plant-related transmission	June 2006 and June 2008 legislation, Feb. 2007 regulations
Georgia	Nuclear	Legislation	CWIP financing costs	April 2009 legislation
Kansas	Nuclear	Legislation	CWIP financing costs Pre-construction costs Construction costs	May 2008 legislation
Louisiana	Nuclear	Regulations	CWIP financing costs	Adopted May 2007
Mississippi	Nuclear	Legislation	CWIP financing costs Pre-construction costs	May 2008 legislation
Michigan	Large Capital Investments	Legislation	CWIP financing costs	October 2008 legislation
North Carolina	Coal and Nuclear	Legislation	CWIP financing costs Pre-construction costs	August 2007 legislation
South Carolina	Coal and Nuclear	Legislation	CWIP financing costs	May 2007 legislation
Virginia	Nuclear	Legislation	CWIP financing with ROE adder	April 2007 legislation

Each state in Table 1 is summarized in further detail below.

Florida. The Florida legislature passed a law in June 2006 encouraging utility investment in nuclear power plants. Subsequently, the Florida Public Service Commission ("Florida PSC") adopted regulations that allow for the inclusion of CWIP financing costs, site selection costs and pre-construction costs to be recovered through an annual Capacity Cost Recovery Clause proceeding.[9] Additional legislation was enacted in June 2008 that allows utilities to recover the cost of building transmission lines for new nuclear plants during construction.[10]

Under the regulations adopted in Florida, once a utility obtains an affirmative need determination for a nuclear power plant project, the utility may petition for cost recovery through the utility's existing Capacity Cost Recovery Clause ("CCRC") under an annual "nuclear cost recovery process". In 2008, the Florida PSC approved the affirmative need for

9 Order No. PSC-07-0240-FOF-EI, Nuclear Power Plant Cost Recovery, March 20, 2007.

10 SB 1544/HB 7135

four new nuclear units in Florida, two to be constructed by Progress Energy Florida and two by Florida Power and Light.

In November 2008, the Florida PSC completed its first annual review of nuclear projects under the nuclear cost recovery process. Included in that review were the two projects to construct four new nuclear units in Florida as well as two projects to increase the capacity (uprate) of five existing nuclear units in Florida. The Florida PSC approved recovery in the utilities' 2009 CCRC of site selection costs, pre-construction costs, and carrying charges on construction costs (i.e. CWIP in rate base) for the four new nuclear units. A determination of prudence on the expenditures associated with the four new nuclear units was deferred until the 2009 nuclear cost recovery cycle. The Florida PSC also approved the prudence and reasonableness of the expenditures on the nuclear uprate projects, and included in the 2009 CCRC the associated O&M charges and carrying charges on the construction costs for these projects.[11]

In October 2009, the Florida PSC found prudent the project management, contracting and oversight controls for the nuclear uprate and new nuclear unit projects. The Florida PSC further found that, based on the long-term project analyses provided by the utilities, completing the new nuclear units continued to be feasible. In addition, the Florida PSC approved the recovery in the 2010 CCRC of pre-construction costs and carrying charges on construction costs for the new nuclear units, as well as O&M and carrying charges on construction costs for the nuclear uprate projects.[12]

Georgia. In April 2009, the Georgia legislation enacted a law that provided for the recovery from customers of the costs of financing associated with the construction of nuclear generating plants certified by the Georgia Public Service Commission.[13] In March 2009, the Georgia Public Service Commission approved two new units at the Vogtle nuclear station and inclusion of CWIP for the two units in rate base.[14] The application noted that the Georgia Power share of the costs of the new units would decrease by about 30% (from $6.4 billion to $4.4 billion) if CWIP were included in rate base.[15]

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11 Order No. PSC-08-0749-FOF-EI, Final Order Approving Nuclear Cost Recovery Amounts for Florida Power & Light and Progress Energy Florida, Inc., November 12, 2008.

12 "PSC Votes on Nuclear Cost Recovery for Florida Power & Light Company and Progress Energy Florida," Florida Public Service Commission New Release, October 16, 2009. Order No. FPSC-09-0783-FOF-EI, November 19, 2009.

13 Georgia SB 31, enacted April 2001.

14 Docket No. 27800, Georgia Public Service Commission, Certification Order, March 17, 2009.

15 Georgia Power News Release, August 1, 2008, Georgia Power Files Diverse Energy Plan

Kansas. The Kansas legislature enacted a bill in May 2008 that eliminated the exclusion of nuclear power from facilities eligible for the recovery of CWIP in rates, and allows the costs of nuclear plant construction to be included in customer rates before the plant is operational. The bill specifically requires the recovery in rates of nuclear plant development costs.[16]

Louisiana. The Louisiana Public Service Commission established an incentive cost recovery rule for nuclear power generation that requires three phases of certification of a nuclear plant 1) siting and licensing, 2) design and development, and 3) construction to commercial operation. Once a phase is certified, costs are reviewed and approved on an annual basis for future recovery in rates. Cash earnings on CWIP are recovered in rates during the certified phase of nuclear plant development.[17]

Michigan. Legislation was passed in October 2008 which allows the Michigan Public Service to allow interest payments on CWIP to be passed through in rates during construction for projects granted certificates of necessity.

Mississippi. Legislation was passed in May 2008 to grant favorable rate regulation for the construction of a new nuclear plant. In part, the legislation gives the Mississippi Public Service Commission authority to allow recovery of pre-construction costs in rates, include CWIP in rate base, and provide for early determination of prudence and cost recoverability.[18]

North Carolina. Legislation was enacted in 2007 supporting the recovery of incurred costs in rates during the construction of baseload power plants. The financing costs associated with construction expenditures that have been reviewed and approved by the utilities commission during construction can be recovered through rates in a general rate case. Construction does not have to be complete for approved, incurred costs to be added to the rate base during a general rate case.[19] In December 2009, the North Carolina Utilities Commission allowed $715 million of CWIP in ratebase for a new coal plant under construction by Duke Energy.[20]

South Carolina. In May 2007, legislation was enacted in South Carolina which provides for the expedited recovery of prudently incurred capital and operating costs associated with new coal-fired or nuclear generating facilities. The legislation also provides for approval of initial prudence (of capitalized expenditures) and annual recovery of cost of capital on construction work in process (CWIP). Financing costs are reflected in rates with annual updates to the

16 Kansas SB 586, enacted May 2008.

17 Louisiana Public Service Commission, Docket No. R-29712, adopted May 2007.

18 Combined License Application, Grand Gulf Nuclear Station Unit 3, Part 1 General and Administrative Information, Section 3.2.4.

19 S.B. 3, enhanced August 2007.

20 Docket E-7 Sub 909, December 7, 2009.

recovery mechanism to reflect increases in financing costs as the projects advance through the construction phase. These annual updates are authorized by the Public Service Commission of South Carolina ("South Carolina PSC") and do not require a general rate case proceeding.[21]

In March 2009, the South Carolina PSC approved the application of South Carolina Electric & Gas Company for a Base Load Review Order for the construction and operation of a new two-unit nuclear facility. Under South Carolina law, a Base Load Review Order is a final and binding determination that a plant is used and useful for utility purposes and the plant's capital costs are properly included in rates (contingent only upon the construction of the plant within the parameters of the approved construction schedule and approved capital costs estimates). The utility is required to provide the South Carolina PSC with a yearly status report on its progress and other significant developments. [22] As part of this review process, in July 2009, the utility requested approval of updated milestone and capital costs schedules for the two units.[23]

Virginia. Under Virginia Code § 56-585.1.A.6 enacted in April 2007, a utility that constructs a nuclear generation facility has the right to recover the costs of the facility through a rate adjustment clause. Allowable costs include planning, development and construction costs, life-cycle costs, and costs of associated infrastructure. Return on CWIP can be recovered prior to the date the facility begins commercial operation. As an incentive to undertake a nuclear generation facility, the statute allows an enhanced rate of return on common equity of 200 basis points above the utility's general rate of return on common equity. This enhanced rate of return on common equity is applied to CWIP during construction. It is also applied to the nuclear facility from the date of the commencement of commercial operation and continuing for a period of 12 to 25 years.[24]

In sum, there has been considerable recent legislative and regulatory activity at the U.S. state level to encourage the construction of large multi-year utility investments through the inclusion of CWIP in rate base.

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21 Combined License Application, V.C. Summer Nuclear Station, Units 2&3, Part 1: General and Administration Information, page 4. Combined License Application, William States Lee III Nuclear Station, Part 1 Administrative and Financial Information, Section 1.6.

22 Public Service Commission of South Carolina, Order No. 2009-104(A), March 2, 2009.

23 Public Service Commission of South Carolina, Docket No. 2009-293-A.

24 Combined License Application, North Anna 2, Part 1: General and Administration Information, page 14.

2.3. CANADA

There has been recent activity regarding the inclusion of CWIP in rate base in two Canadian provinces as well.

Ontario. In August 2007, the Ontario Energy Board ("OEB") allowed Hydro One to expense, rather than capitalize, the AFUDC carrying costs associated with the Niagara Reinforcement Project. This transmission project was granted approval by the Board in 2005 and construction commenced shortly thereafter, but has since been delayed pending a resolution of underlying land claim issues. No explicit time limit was placed on the continued recovery of these costs.[25] Since that time, the OEB has indicated its willingness to consider alternate regulatory treatments in specific cases.

British Columbia. In British Columbia, a government directive allows the British Columbia Utilities Commission ("BCUC") to make findings that allow for the British Columbia Transmission Corporation ("BCTC") to recover in current rates expenditures for studies, design, planning, acquisition, construction and operation of proposed transmission facilities.[26] Additionally, in a recent order the BCUC noted that portions of the equity return on CWIP have been recovered in current BCTC rates.[27]

3. BENEFITS OF CWIP IN RATE BASE

As evidenced by the inclusion of CWIP in rate base by the FERC and various U.S. states, there are significant benefits to CWIP in rate base when faced with the need for large multi-year investments. Including CWIP in rate base provides two primary benefits. The first is the avoidance of rate shock and the second is a reduction in borrowing costs. As the Louisiana Public Service Commission noted recently: "The Commission recognizes the recovery of a current cash return on CWIP may be needed to protect a utility's financial integrity, to maintain an acceptable credit rating, to prevent an undue increase in the utility's cost of capital and/or to accomplish the phasing in of the cost of a large capital project for the benefit of customers." [28]

25 Ontario Energy Board, EB-2006-0501, Hydro One Network, Inc., For 2007 and 2008 Electricity Transmission Revenue Requirements.

26 Special Direction No. 9 to the British Columbia Utilities Commission, B.C. Reg. 157/2005, deposited March 22, 2005.

27 British Columbia Utilities Commission, Order G-64-07, June 12, 2007, Appendix A.

28 Louisiana Public Service Commission, Order No. U-30192, November 8, 2007.

3.1. RATE SHOCK

In a stable environment, new plant to serve existing and additional customers along with inflation in operating costs will offset the depreciation of existing assets and lead to utility rates, excluding fuel, that grow roughly at inflation over time. This relatively benign state of affairs is disrupted by the need for a large construction program, particularly for large baseload plants or major transmission projects with long construction periods.

Because the cost of a new plant placed into service has yet to be depreciated, the revenue requirement under standard cost-of-service ratemaking associated with the recovery of the capital expended on a new plant is said to be "front end loaded". That is, the plant's revenue requirement is relatively high in the early years of the plant's life as the plant's net book value is high, and the revenue requirement declines over time as the net book value of the plant declines.

While long-lived utility assets are expected to provide ratepayer benefits over their operating lifetimes, front end loading of cost recovery causes rates to increase significantly when the new asset is placed into service. Moreover, for a utility that has not constructed significant base load generating capacity for a number of years, the cost of a new plant represents a significant percentage of the remaining net book value of the utility's existing asset base. As such, rate base increases significantly when the new plant is placed in service, resulting in a sharp spike in rates.

The impact is exacerbated when CWIP is not included in rate base during the construction phase. At its most basic level, CWIP in rate base simply results in a portion of project costs to be recovered from ratepayers during project construction, resulting in less cost to be recovered when the asset is placed in service. In effect, CWIP in rate base provides a smoothing, or phase-in effect on rates, and thereby mitigates the rate shock that would take place when the large new plant is placed into service.

As the National Regulatory Research Institute has noted: "Sudden jumps in rates for a commodity product produced through large fixed costs with long lives make customers skeptical of the sellers and the regulators. Methods of pre-approval and cost recovery that give weight to gradualism without distorting economic efficiency deserve regulatory attention."[29] CWIP in rate base mitigates such "jumps in rates" while maintaining the same utility decision process for investing in new assets.

29 "Pre-Approval Commitments: When and Under What Conditions Should Regulators Commit Ratepayer Dollars to Utility-Proposed Capital Projects," National Regulatory Research Institute, November 2008.

3.2. BORROWING COSTS

The major credit rating agencies evaluate the ability of a utility to meet its debt obligations.[30] Generally, utilities are required to obtain ratings from these agencies to gain access to capital markets. The credit ratings are used by investors when evaluating the likelihood that the debt will be repaid. The lower the credit rating, the higher the interest rate needed by investors to assume the risk that the debt will not be repaid. The credit rating agencies use a variety of financial ratios to determine ratings, along with qualitative assessment of factors such as the regulatory environment faced by the utility.

The provision of CWIP financing costs in current rates is an important consideration for the ratings agencies, particularly for those utilities with large assets under construction. Fitch Ratings notes in a discussion of nuclear plant construction financing: "Like any other large capital program, Fitch assesses the capital requirements of a nuclear construction program relative to the available financial resources to determine the effect on credit quality. Fitch also considers whether regulatory support, non-resource financing, federal load guarantees or fixed-price construction contracts are available to reduce construction risk. *For regulated U.S. utilities, the availability of a cash return on construction work in progress (CWIP) would reduce the construction risk.*" [31]

Generally, the rating agencies are concerned with the amount of cash generated from continuing operations and the associated funds available to pay the interest on the debt. Key financial ratios include funds from operations ("FFO") interest coverage ratio and funds from operations as a percent of total debt. AFUDC is a non-cash item which is not reflected in funds from operations. These key financial ratios will decrease when utility AFUDC becomes significant, as would take place during the construction of large utility assets in the absence of the inclusion of CWIP in rates. All else equal, this decrease will lead to a decrease in the utility's credit rating. The resulting increase in interest charges will lead to higher costs for customers.

For example, the yield on corporate bonds as of November 5, 2009 for 20-year AA-rated bonds was 5.08% and for 20-year A-rated bonds was 6.12%.[32] A decrease from an AA to an A rating on $2 billion in debt, for example, would result in an increased interest cost charged to customers of $20 million per year. Even for utilities with governmental support for their financing, a significant mismatch between utility cash flow and revenues can lead to credit quality concerns. Stand-alone consideration of the utility's operation and risk is an important control mechanism for maintaining credit quality.

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30 The major rating agencies include Fitch Ratings, Moody's, and Standard and Poor's.

31 Fitch Ratings, U.S. Nuclear Power: Credit Implications, November 2, 2006. Emphasis added.

32 finance.yahoo.com/bonds/composite_bond_rates

3.3. ADDITIONAL BENEFITS

In addition to avoiding rate shock and decreased borrowing costs, there are other benefits of including CWIP in rate base. Earlier cash returns on assets with long construction periods provide more certainty to investors which should encourage a greater willingness to invest. And these investments provide a benefit to ratepayers, even while under construction, in that they provide an assurance that future needs will be met.

Similarly, a more favorable, i.e., less uncertain, rate treatment likely would make the cost of borrowing lower for the affected utility allowing investment in assets that may not be economic under less favorable regulatory treatment. The resulting investment also reduces risk to customers as longer-term prices will tend to equilibrate at lower levels when low-cost supplies are under construction regardless of the short-term supply and demand balance.

3.4. ARGUMENTS AGAINST CWIP IN RATES

The main arguments against inclusion of CWIP in rates fall into two major areas. Inclusion of CWIP in rates is said to:

1. Make current ratepayers pay for an asset that will serve only future ratepayers.

2. Shift risks of plant construction to ratepayers.

Each of these arguments is discussed in turn below.

3.4.1. Current vs. Future Ratepayers

Recovery of CWIP in rates is sometimes said to cause an inter-generational transfer of wealth, in that current ratepayers are paying for assets that will serve only future ratepayers. It is correct that CWIP in rates does require current ratepayers to pay a portion of the costs of an asset designed for future service. But it is also correct that current ratepayers are enjoying the benefits of assets predominately paid for (through front end loaded revenue requirements) by past ratepayers. That is, certain valuable assets that are fully or nearly fully depreciated are relied upon by current ratepayers, but were largely paid for by prior ratepayers. In short, intergenerational transfers are embodied throughout the ratemaking process and the inclusion of CWIP in rates would simply be another component to be taken into account by the regulatory agencies in setting rates.

The National Regulatory Research Institute has similarly noted: “Early cost recovery requires customers taking service during the period of construction work in progress to pay for plant investments, the use of which they may never enjoy, or will enjoy for only part of the project’s life. It also means that customers paying towards the investment during the construction period may pay more for the plant than customers who paid nothing during the construction, even if they are on the system for the same length of time. Yet this problem is not unique. A city collects taxes from today’s parents for buildings that will benefit future students.

Taxpayers pay today for mass transit projects that will benefit tomorrow's riders. Intergenerational equity need not be a requirement for each project if there is intergenerational sharing overall."[33]

Moreover, there are other rate impacts associated with the new assets while under construction. The utility, for example, may not enter into the same amount of longer-term contracts, or may not build as many shorter-term assets given that a baseload plant will be coming into service. That is, the new plants will affect actual utility costs and rates during the construction period with or without CWIP in rates. As noted above, the construction of the new plants, absent CWIP in rates, increases financing costs for all utility activities, thereby impacting current rates. As such, when the benefits of CWIP in rates are significant, there is no compelling reason that current ratepayers should not pay for some portion of the assets during construction.

3.4.2. Risks of Construction

Recovery of CWIP in rates is sometimes said to transfer risk from the utility to its customers. By waiting until the new asset is providing service, customers can ensure themselves that they are paying for a prudently-incurred useful (i.e., "used and useful") asset prior to placing the asset in rate base. This argument perhaps has more validity if regulatory agencies are not reviewing utility investment plans prior to construction. With such reviews in place, the utility is unlikely to proceed with construction without regulatory agency guidance. This process mitigates the risk that the utility is planning construction of an asset that the customers may not want or is not expected to be economic.

The used and useful standard was considered further by the FERC in July 2006 at the time it issued Order 679 in which it permitted full inclusion of CWIP in rate base for qualifying grid investments. The FERC noted that "the argument that CWIP treatment violates the used and useful doctrine is not supported by Commission and court precedent. As we found in Order No. 298, there are 'widely recognized exceptions and departures from this [used and useful] rule, particularly when there are countervailing public interest considerations.' The Commission also emphasized the importance of economic equities when we found that: 'In light of lengthening construction cycles, relatively high inflation, and the proportional significance of capital financing costs in relation to overall project costs, this Commission – as well as many state regulatory authorities – have examined the basis for the inclusion of CWIP from rate base and have often disregarded the used and useful concept when the reliability of future service is in doubt … it must be reemphasized that the used and useful concept, if

33 "Pre-Approval Commitments: When and Under What Conditions Should Regulators Commit Ratepayer Dollars to Utility-Proposed Capital Projects," National Regulatory Research Institute, November 2008.

administered inflexibly and without regard to other equitable and policy considerations may fail the interests of both the electric utility industry and its ratepayers.' " [34]

If necessary, disallowances can also be used by regulatory agencies regardless of whether CWIP has been put into rates. Prudence disallowances are typically for much less than the full amount of a new baseload plant. CWIP in rate base will only recover a portion of the new plant during the construction period, leaving a large portion to be placed into rate base at the time of in service. Thus, the regulatory agency will continue to have a large amount of control and flexibility in deciding the ultimate rate treatment for a new asset.

As such, when there is regulatory oversight in place during the project's construction construction risk faced by ratepayers is mitigated and would be outweighed considerably by the significant benefits of CWIP in rate base. The resulting greater regulatory certainty of placing CWIP in rate base mitigates the disincentive for utilities to construct the long-lead time projects needed to benefit ratepayers.

4. REGULATORY OVERSIGHT

To allow for the inclusion of CWIP in rates for these types of project, the OEB in its January 15, 2010 Board Report noted that the rate treatment proposed must be tailored to address the risks and challenges faced by the applicant. To make this determination, the Board stated that it would evaluate such factors as:

1. The need for the project;
2. The total cost of the project;
3. The cost of the project relative to the current rate base of the utility;
4. The risks or particular challenges associated with completion of the project.
5. Whether the utility is obligated to undertake the project, and
6. The reasons that conventional rate treatments may not be suitable for the project.

The OEB further noted in its Report that upon approval of including CWIP in rate base it might monitor project progress and whether a utility is meeting its milestones. A recent example of a construction monitoring program in the U.S. is the Georgia Public Service Commission certification of new nuclear units at the Vogtle site in 2009 and inclusion of CWIP

34 FERC Docket EL06-54-000, Order Granting Petition for Declaratory Order and Denying Motion to Defer Consideration, June 20, 2006.

in rate base. As part of the approval, status reports and monitoring reports on the project must be filed.[35]

5. DARLINGTON REFURBISHMENT PROJECT

The four 881 MW nuclear units at the Darlington site came on-line from 1990 to 1993. The planned refurbishment of these units would allow them to continue to operate safely, reliably and economically and with minimal environmental impact for an additional 25-30 years. During this process, key major components, such as the steam generators, will be replaced and long-term outages of the units will be required.

The Darlington refurbishment project easily fits the OEB definition of a non-routine incremental project, namely "an investment that represents an extraordinary and unanticipated capital spending requirement – in other words, something other than the normal course of business". Moreover, the risks of the project are similar to those noted by the OEB for green energy projects, which include risks related to project delays, public controversy, and the recovery of costs.

The OEB agreed that including CWIP in rate base is most suitable in relation to the construction of capital intensive multi-year projects, like the Darlington Refurbishment Project. As OEB noted, CWIP in rate base for these types of projects will provide greater up-front regulatory predictability, rate stability and improved cash flow, thereby benefiting OPG's customers.

The Darlington Refurbishment Project is a significant investment relative to the OPG asset base, will entail the management and implementation of a challenging and complex construction program, and is well outside of the "normal course business" for a utility. In sum, inclusion of CWIP in rate base for the Darlington refurbishment is consistent with OEB guidelines and would provide significant benefits to OEB customers.

6. CONCLUSION

Given the need for significant large-scale multi-year investments in Ontario, inclusion of CWIP in rate base should be instituted by the OEB for significant multi-year transmission and generation construction projects, such as OPG's Darlington Refurbishment Project. Inclusion of CWIP in rate base has been instituted in a number of jurisdictions faced with a similarly need for significant investment in electric infrastructure. In the absence of CWIP in rate base, these investments require significant construction period financing leading to borrowing concerns and also lead to undesirable jumps in rates when the project is placed in service. Concerns regarding the inclusion of CWIP in utility rates, such as intergenerational transfers

35 Docket No. 27800, Georgia Public Service Commission, Certification Order, March 17, 2009.

and passing risks of construction to ratepayers, are outweighed by the significant benefits of including CWIP in rates for large-scale multi-year construction projects.