

AMPCO
EB-2010-0008
CROSS-EXAMINATION OF
OPG PANEL 10

COMPENDIUM OF MATERIAL

DAVIS LLP
DAVID CROCKER

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AMPCO Interrogatory #006

Ref: Ex. D4-T1-S1

Issue Number: 2.2

Issue: Is OPG's proposal to include CWIP in rate base for the Darlington Refurbishment Project appropriate?

Interrogatory

- a) Please identify the cost to OPG for CRA's services with respect to regulatory matters, including without limitation the costs of preparing the report included as evidence.
- b) Please provide a curriculum vitae for Mr. Luciani. Please include copies of all testimony or other publications Mr. Luciani has authored or co-authored dealing with CWIP in rate base.
- c) For Mr. Luciani, please identify all the jurisdictions in the US that currently prohibit CWIP in rate base for the purposes of electric utility regulation.
- d) For Mr. Luciani, with reference to the accelerating decline in load since 2005, please comment on the element of your opinion that rests on the view that CWIP in rate base is justified by the need to "serve new load".
- e) For Mr. Luciani, with reference to OPG's status as a government-owned enterprise, the role of government regulations and directives in driving regulatory and business decisions of OPG and the OEB, and OPG's specific financing experience whereby large projects are directly financed by government entities with provincial-backed credit, please comment on the element of your opinion that rests on the view that CWIP in rate base is justified by a need for utilities to have "greater regulatory certainty".
- f) For Mr. Luciani, please provide a quantitative estimate with all assumptions documented to support your opinion that CWIP in rate base is "beneficial to Ontario ratepayers."
- g) For Mr. Luciani, in considering arguments against including CWIP in rate base, please comment on the concern that CWIP in rate base, by allowing utilities to potentially profit from delays and cost overruns, invites a moral hazard.
- h) For Mr. Luciani, with regard to your reliance in your opinion on the rate smoothing attributes of CWIP in rate base, please comment on how the phased in-service dates of the Darlington refurbishment project naturally smooth rates under a conventional regulatory approach to investment cost recovery.

Witness Panel: Deferral and Variance Accounts, Payment Amounts and Regulatory Treatments

Response

- a) The cost of preparing the report and evidence was \$31k. As the regulatory proceeding is currently in progress the cost of all regulatory services will not be known until the proceeding is completed.
- b) Please see Attachment 1 for Mr. Luciani's curriculum vitae. Mr. Luciani has not produced previous testimony or authored or co-authored any publications dealing with Construction Work in Progress ("CWIP") in rate base.
- c) Mr. Luciani has not specifically researched the CWIP in rate base activity for states other than those specifically discussed in the CRA paper, but that it is his general understanding that CWIP in rate base is not generally permitted in these other states.
- d) In Mr. Luciani's opinion, as a general matter, a decrease in the rate of load growth will lead to fewer generation additions being required. However, to the extent that refurbishments and new investments are still needed, the benefit of CWIP in rate base for these investments continues to apply. Further, in the absence of new load, the issue of inter-generational equity becomes less of a concern.
- e) It is Mr. Luciani's understanding that OPG has a commercial mandate from its shareholder to operate on a financially sustainable basis and maintain the value of its assets. Inclusion of CWIP in rate base is consistent with this commercial mandate. As noted in the CRA paper (page 10), even for utilities with governmental support for their financing, a significant mismatch between utility cash flow and revenues can lead to credit quality concerns, and, as such, stand-alone consideration of the utility's operation and risk is an important control mechanism for maintaining credit quality. To the extent that greater regulatory certainty is important for a privately-owned utility, it is important for a government-owned enterprise to have such a commercial mandate.
- f) Mr. Luciani has not performed a quantitative analysis for Ontario. His conclusion is based on the regulatory activity in the United States as discussed in the CRA paper in which CWIP in rate base has been deemed beneficial to customers in supporting the construction of significant capital investments.
- g) As Mr. Luciani noted in the CRA paper:

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.

- 1 In short, institution of CWIP in rate base does not decrease regulatory control of the rate
2 recovery process, and the construction monitoring program that might be instituted by the
3 regulatory body in conjunction with CWIP in rate base could well improve the oversight
4 process.
5
- 6 h) Mr. Luciani has not seen the specifics of the Darlington refurbishment costs and timing.
7 Phased in in-service dates can provide some smoothing of the rate increases needed for
8 a large project. However, there can continue to be a long construction period with
9 significant financing needs prior to the first project in-service date. In effect, each in-
10 service project date can be considered an individual large project, the impact of which
11 would be additionally and beneficially "smoothed" through inclusion of CWIP in rate base.

SB 228	Modifies the construction-work-in-progress (CWIP) law for construction of certain new power plants and creates the Missouri Clean and Renewable Energy Construction Act		
Sponsor:	<i>Scott</i>	<i>Co-Sponsor(s)</i>	
LR Number:	1109S.06C	Fiscal Note:	1109-06
Committee:	Commerce, Consumer Protection, Energy and the Environment		
Last Action:	5/15/2009 - S Informal Calendar S Bills for Perfection--SB 228-Scott, with SCS, SS for SCS, SA 12, SSA 1 for SA 12 & SA 1 to SSA 1 for SA 12 (pending)	Journal Page:	
Title:	SCS SB 228	Calendar Position:	
Effective Date:	August 28, 2009		

[Full Bill Text](#) | [All Actions](#) | [Available Summaries](#) | [Senate Home Page](#) | [List of 2009 Senate Bill](#)

Current Bill Summary

SS/SCS/SB 228 - The act creates the Missouri Clean and Renewable Energy Construction Act

The act modifies the construction work in progress (CWIP) law to allow costs associated with the planning and construction of certain types of power plants to be recoverable by an electric company through its customer rates prior to plant start-up. Eligible power plants include plants that generate electricity from renewable sources and plants that meet certain large capacity criteria that are also intended to reduce carbon emissions.

Subsidiary corporations created by an electric company for the purpose of building or operating an eligible power plant shall be considered and treated as the electric company under the act.

No later than 30 days after August 28, 2009, the Public Service Commission (PSC) shall begin an evaluation of the relative merits of various financing methods that an electric company may use to build new power plants and shall issue a report of its findings to the Governor and General Assembly by August 28, 2010.

The PSC may include prudently incurred preconstruction costs for eligible power plants in an electric company's rate base in a general rate proceeding.

Electric companies may apply to the PSC for a project development order, which is an order issued by the PSC establishing the prudence of an electric company's decision to incur preconstruction costs for an eligible power plant. Prudently incurred preconstruction costs may be included in the company's rate base. The PSC shall respond to an application for a project development order or amended project development order within one year of the application's

date of filing. If the electric company decides not to build the power plant after a project development order has been issued, the associated preconstruction costs are still recoverable through customer rates, provided that the decision to abandon the project is reasonable and that the costs to ratepayers would be less than if the company completed the project.

The act requires an electric company to seek approval from the PSC to sell, transfer, or encumber any interest it has in an eligible power plant. If such interest involves a license issued by the U.S. Nuclear Regulatory Commission and any of the costs to acquire the license were recovered from ratepayers, then the PSC shall prescribe how any proceeds arising from the transfer of interest shall be refunded to ratepayers.

Electric companies may apply to the PSC for a facility review order, which is an order issued by the PSC that establishes the prudence of the decision to construct an eligible power plant. The act requires the PSC to develop the requirements for a facility review order application by September 1, 2010. An electric company may only apply for a facility review order after it has received all necessary licenses or permits for the proposed plant. The PSC must respond to a facility review order application no later than 11 months after its date of filing. Under a facility review order, the PSC may require quarterly expedited rate revisions or the company may request expedited rate revisions. An electric company may petition the PSC to modify a facility review order.

Provided that the electric company adheres to the construction schedule and costs listed in the facility review order, the facility review order is a binding determination of the prudence of the company's capital costs associated with construction. Such capital costs may be recovered in rates through expedited revised rate reviews or through general rate proceedings. The PSC can disallow any capital cost that it determines to have been imprudently incurred. Cost deviations caused by forces or factors beyond the company's control shall not be considered imprudence on the part of the company.

The act provides that if the Clean and Renewable Energy Construction Act is modified in the future in such a way as to limit or prohibit construction costs to be recovered through rates, any costs incurred by an electric company up to that point shall still be recoverable, even in the event that the plant is not constructed.

The act allows the PSC to require electric companies that have been issued a facility review order to file periodic reports. The PSC shall monitor the construction of and expenditure of capital associated with building a power plant under a facility review order.

The act provides procedures for an electric company to request to revise its rates in an expedited manner as it incurs additional construction costs. The PSC shall respond to an expedited rate request within 6 months of its filing. The PSC staff shall audit any revised rates for compliance with the facility review order. If the PSC finds that any previously approved rates resulted in an excess of revenue above the amount approved in the facility review order, the electric company shall credit its customers' bills over the subsequent 4 monthly billing cycles.

Electric companies shall promptly notify their customers of any increase in rates approved by the PSC in a revised rate order.

If construction of the power plant gets cancelled, the associated construction costs may still be recovered through rates, provided that the decision to cancel the construction is reasonable and

the company demonstrates that the cost to ratepayers would be less than the cost of completing the project.

Once a power plant under a facility review order is constructed, the PSC shall audit the company's finances in relation to the project and its cost recovery for purposes of determining compliance with the facility review order. Any over- or under-recovery of costs shall be credited or charged, respectively, to the customers.

Procedures for re-hearing a PSC order are provided in the act. Procedural requirements for general PSC rate proceedings shall apply to rate proceedings under the act, however, form and content requirements shall only apply to proceedings that are combined with a general rate proceeding.

The act limits courts from reviewing any matter over which the act expressly gives the PSC jurisdiction except as provided under current law for appealing a re-hearing request or decision. Except for permits required by the Department of Natural Resources, the act restricts any state, regional, or local government from requiring any additional approval for the construction of an eligible power plant under the act.

If an electric company subsequently sells a license acquired for an eligible power plant or sells the eligible power plant itself after having recovered costs from ratepayers under the act, the PSC shall require the company to refund the ratepayers.

This act is similar to HB 554 (2009).

ERIKA JAQUES

SB 228	Modifies the construction-work-in-progress (CWIP) law for construction of certain new power plants and creates the Missouri Clean and Renewable Energy Construction Act
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1/22/2009	S First Read--SB 228-Scott, et al	S163
1/27/2009	Second Read and Referred S Commerce, Consumer Protection, Energy and the Environment Committee	S191
2/10/2009	Hearing Conducted S Commerce, Consumer Protection, Energy and the Environment Committee	
3/31/2009	SCS Voted Do Pass S Commerce, Consumer Protection, Energy and the Environment Committee (1109S.06C)	
3/31/2009	Reported from S Commerce, Consumer Protection, Energy and the Environment Committee to Floor w/SCS	S830
4/7/2009	SS for SCS S offered (Scott)--(1109S.09F)	S922-923
4/7/2009	SA 1 to SS for SCS S offered (Cunningham)--(1109S09.31S)	S923
4/7/2009	SA 1 to SA 1 to SS for SCS S offered & withdrawn (Days)--(1109S09.57S)	S923-924
4/7/2009	SA 2 to SA 1 to SS for SCS S offered & adopted (Callahan)--(1109S09.59S)	S924
4/7/2009	SA 1 to SS for SCS, as amended, S adopted	S924
4/7/2009	SA 2 to SS for SCS S offered (Mayer)--(1109S09.17S)	S924
4/7/2009	SA 1 to SA 2 to SS for SCS S offered & defeated (Callahan)--(1109S09.01F)	S924
4/7/2009	SA 2 to SS for SCS S defeated	S924
4/7/2009	SA 3 to SS for SCS S offered & defeated (Crowell)--(1109S09.53S)	S925-927
4/7/2009	SA 4 to SS for SCS S offered (Bray)--(1109S09.65S)	S927-928
4/7/2009	SSA 1 for SA 4 to SS for SCS S offered (Bray)--(1109S09.66S)	S928
4/7/2009	SA 1 to SSA 1 for SA 4 to SS for SCS S offered & defeated (Bray)--(1109S09.67S)	S928-929
4/7/2009	SSA 1 for SA 4 to SS for SCS S defeated	S929
4/7/2009	SA 4 to SS for SCS S defeated	S929
4/7/2009	SA 5 to SS for SCS S offered & defeated (Ridgeway)--(1109S09.69S)	S929
4/7/2009	SA 6 to SS for SCS S offered (Rupp)--(1109S09.70S)	S929
4/7/2009	SA 1 to SA 6 to SS for SCS S offered & adopted (Scott)--(1109S09.02F)	S929-930
	SA 2 to SA 6 to SS for SCS S offered & adopted (Smith)--	

4/7/2009	(1109S09.74S)	S930
4/7/2009	SA 6 to SS for SCS, as amended, S adopted	S930
4/7/2009	SA 7 to SS for SCS S offered & defeated (Callahan)--(1109S09.10S)	S930
4/7/2009	SA 8 to SS for SCS S offered & withdrawn (Scott)--(1109S09.76S)	S930
4/7/2009	SA 9 to SS for SCS S offered & defeated (Mayer)--(1109S09.20S)	S930-931
4/7/2009	SA 10 to SS for SCS S offered & adopted (Crowell)--(1109S09.52S)	S931
4/7/2009	SA 11 to SS for SCS S offered (Bray)--(1109S09.03F)	S932
4/7/2009	SSA 1 for SA 11 to SS for SCS S offered (Callahan)--(1109S09.12S)	S932
4/7/2009	SA 1 to SSA 1 for SA 11 to SS for SCS S offered & defeated (Mayer)--(1109S09.81S)	S932-933
4/7/2009	SSA 1 for SA 11 to SS for SCS S defeated	S933
4/7/2009	SSA 2 for SA 11 to SS for SCS S offered & adopted (Scott)--(1109S09.04F)	S933-934
4/7/2009	SA 12 to SS for SCS S offered (Bray)--(1109S09.83S)	S934
4/7/2009	SSA 1 for SA 12 to SS for SCS S offered (Bray)--(1109S09.84S)	S934
4/7/2009	SA 1 to SSA 1 for SA 12 to SS for SCS S offered (Bray)--(1109S09.85S)	S934-935
4/7/2009	Bill Placed on Informal Calendar	S935
5/15/2009	S Informal Calendar S Bills for Perfection--SB 228-Scott, with SCS, SS for SCS, SA 12, SSA 1 for SA 12 & SA 1 to SSA 1 for SA 12 (pending)	

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Construction Work in Progress (CWIP)

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UPDATE 4/24/09

CWIP bills SB 228 and HB 554 appear dead. Opponents and supporters of the controversial measures couldn't reach agreement. As a result, AmerenUE announced on April 23 that it has asked the sponsors of the measures to withdraw them from consideration by the General Assembly. If that's truly the case, then it would effectively scuttle plans to build its second nuclear reactor in Callaway County, at least for the moment. MVC and our partners are keeping close watch until the end of the session.

[Read Ameren's press release](#)

CWIP IS UNFAIR TO RATEPAYERS

AmerenUE, along with other Missouri utilities, is asking the Missouri General Assembly to repeal an important consumer protection law referred to as the No-CWIP law.

What is CWIP?

CWIP stands for "construction work in progress." It is a financing mechanism that gives a utility the right to earn a profit on funds spent on a new power plant before it is built and able to deliver any power. Ordinarily customers can only be charged after a plant starts generating power — after it becomes "fully operational and used for service" or "used and useful" in utility jargon. CWIP allows a utility to include planning, permitting and construction costs for a power plant into their ratebase long before ratepayers receive even a single watt of electricity. CWIP allows customers to be charged even if the plant is never built or operational.

What is the No-CWIP law?

In 1976 Missouri voters by a 2–1 margin passed a ballot initiative banning CWIP financing. This initiative overturned the Missouri Public Service Commission's (PSC) decision, in December 1975, to allow CWIP. The No Construction Work In Progress (No-CWIP) law, in place for more than 30 years, is a consumer protection statute that prevents utilities from charging rate-payers for power plants before they are "fully operational and used for service" and keeps utilities from building excess, unnecessary, or excessively expensive generating capacity at customer expense (useful).

Why is CWIP unfair to ratepayers?

1. CWIP would allow electric utilities to charge current customers for future projects that are not yet providing any service.

2. CWIP shifts the risk of building power plants from the shareholders to the ratepayers. Essentially, CWIP gives the utility a no-bid, cost-plus contract to build whatever they like. It requires that ratepayers pay for 100% of an investment for which they have no ownership stake, and if the project fails ratepayers absorb 100% of the loss.

CWIP unfairly shifts the risk to ratepayers without adjusting the guaranteed rate of return a utility already receives for bearing the risk. (See "Who should bear the risk" below) If utilities prefer to have ratepayers bear all of its big risks, then their guaranteed rate of return should be eliminated or reduced significantly.

When risk is shifted from the utility to the ratepayer - imprudent decisions generally follow because the same caution utilities exercise to protect their shareholders, they do not exercise for their captive customers: the ratepayers. For example, AmerenUE has admitted publicly that the risk of building a huge new nuclear power plant is not prudent for the company's shareholders "We just couldn't do it. The risk would be too great. We don't think people would lend us the money. We don't think our board of directors would approve it. And we don't think our stockholders would think it's prudent."

3. CWIP encourages overbuilding by offering an incentive for utilities to build more capacity than ratepayers need, which grows the ratebase for which a utility gets a fixed rate of return. In addition, the excess capacity that ratepayers finance can then be used to increase the utility's sales on the open market.

4. CWIP passes on the risk and cost to ratepayers of high cost, high risk, large energy supply projects when ratepayers might benefit more from investments in lower cost, lower risk alternatives like energy efficiency and clean renewable energy. These low cost, low risk energy solutions can be implemented incrementally as needed, eliminating the risk of overbuilding.

5. CWIP removes the opportunity for scrutiny and oversight of utility decisions and expenses. Under No-CWIP utility expenditures are carefully examined before an expense is added to the utility's rate-base and there is opportunity for PSC staff, the public counsel and consumer groups to challenge the legitimacy of expenditures or the prudence of a planned investment. Under CWIP oversight happens after the expenditure, not before.

What will be the impact of CWIP on rates?

CWIP will, by definition, raise rates (immediately in Ameren's case) while removing any incentive the utility might have to control costs or choose the lowest cost option for providing for electrical needs. It essentially gives utilities a blank check to build whatever they want - requiring that ratepayers pay in advance for something they are not currently getting, may never get, don't necessarily need, and for which the utility cannot provide the ultimate cost.

Beyond that, paying in advance is inequitable because some people and businesses that later relocate out of a utility's service territory will be paying for something in advance that they will never receive. Given the time value of

money, paying in advance with incremental rate increases over the next ten years will actually cost ratepayers more over the long run. In any case, ratepayers would be better off holding onto their money now. They could even be investing the money to make their home or business more energy efficient, (more insulation, better lighting, more efficient appliances, etc.), not only lowering present utility bills, but reducing future demand for additional power. And finally, investing the same dollars in efficiency allows us to look forward to smaller electric bills. CWIP guarantees larger bills.

WHO SHOULD BEAR THE RISK?

How do utilities pay for power plants now?

Utilities have historically sold stocks and bonds to private investors to pay for the construction of new power plants. The finance charges incurred for the use of this money were included in the cost of the project and added to the ratebase after the plant was producing electricity. CWIP would require ratepayers to pay the finance charges with increases to their monthly bill while the plant is being built — and get nothing, not one kilowatt of electricity in return.

Who should bear the risk of building new power sources?

Missourians for Fair Electric rates believes that the risks should be borne as they always have been by those that collect the profits. Investor-owned utilities are for-profit corporations with a special status. They are regulated monopolies, operating without competition. AmerenUE and other investor owned utilities have an exclusive franchise to provide electrical service in their defined service territory. In exchange for that privilege, they submit to regulation by the Missouri Public Service Commission (PSC). The PSC grants the utilities a generous guaranteed rate of return (currently 10.76% for AmerenUE) for prudent investments necessary to provide electrical service within specified performance parameters. The generous rate of return compensates the utility for bearing the risk of planning and financing their operations and service.

Even without CWIP, don't customers still end up paying for new power plants?

Yes, but if the risk is on ratepayers, utilities will be less concerned about overbuilding, cost overruns and holding down costs generally. In fact, Missouri utilities have a financial incentive to increase electric demand (increase their sales) and build to meet the demand rather than to decrease demand and avoid building expensive new supply sources. With CWIP, if they overbuild supply or choose the highest cost energy option (For example: nuclear vs. energy efficiency), customers still have to pay. If the cost of the project soars, or if the project is abandoned after billions are invested, ratepayers would end up paying the bill, while utility investors still get their guaranteed monopoly profits.

Doesn't the PSC regulate the process to make sure costs are prudent?

Investor owned utilities are required to justify the need and cost of a power plant before the cost can be included in the rates they charge customers. This process is regulated by the Missouri Public Utility Commission (PSC). The PSC reviews utility expenditures and allows them to go into the rate base only if they were "prudent." Full-scale audits after the fact are more exacting than periodic and limited reviews, and it is not likely that the utility would be required to unbuild a plant if it turns out to not be in the interest of

the ratepayer. In addition, for various reasons, the PSC may lack the will to earnestly regulate utilities in the public interest. They may also lack the staff and expertise to evaluate utility proposals and data appropriately. The PSC may also operate under an old energy paradigm that favors building big supply sources to meet projected demand rather than reducing demand growth and other strategies that are in the public interest but not necessarily aligned with the utility's interest.

NO-CWIP SERVES THE PUBLIC INTEREST

Has the current No-CWIP law served the public interest?

Yes! When the voters passed Proposition One in 1976, Ameren's predecessor, Union Electric, had already commenced construction on two huge 1150 megawatt reactors in Callaway County. CWIP financing allowed UE to build these two very costly reactors simultaneously.

When the new No-CWIP law pulled the plug on ratepayer financing, UE first announced a delayed construction schedule for Callaway 2, and then, several years later, canceled the "imprudent" multi-billion dollar project. History has revealed that UE was in fact overbuilding capacity. Callaway 1 was completed in 1984 at a cost of more than \$3 billion, and UE went to the PSC to request a 70 percent rate hike. Ameren's ratepayers would have been saddled with hundreds of millions of dollars in higher rates if CWIP financing had remained in place and construction on the unneeded plant continued.

More recently (Jan 09) Ameren's request to include a \$50 million expenditure associated with planning for the new Callaway 2 into their rate-base was denied due to the No-CWIP law.

Are there alternatives to CWIP financing available to utilities?

Yes. The Missouri Public Counsel recently petitioned the PSC to open a case to examine financing options for Callaway 2. Their filing includes an October 6, 2008 study by Russell Trippensee, which demonstrates that ratepayers would save nearly \$6 billion over the projected life of the plant if Cash Metric Regulation, the non-CWIP sort of regulatory regime used in recent KCP&L and Empire District cases, was applied to a new AmerenUE plant at Callaway. The PSC, on Jan 27th, voted to not open the requested case choosing not to investigate AmerenUE's financing options and their respective impact on ratepayers.

CWIP, CALLAWAY 2, AND OTHER ENERGY OPTIONS

How is the CWIP controversy related to nuclear power?

CWIP is an unfair ratemaking scheme that represents a massive give-away to corporate interests, regardless of a particular project a utility wants to invest in. Driving this current push to allow CWIP is AmerenUE's desire to build a second nuclear reactor at its Callaway plant - and the refusal of Wall Street investors to take on the risk of mistakes, delays, strikes, and shortages of materials and trained employees. The cost of Callaway 2 is expected to be \$9-\$12 billion. Of the handful of new nuclear plants under construction today, all of them are behind schedule and over-budget. Ameren's Chief Executive, Thomas Voss told the St. Louis Post-Dispatch that they would not build the new nuclear reactor at Callaway 2 without CWIP.

Why are nuclear power plants considered risky investments?

New nuclear power plants are among the most expensive energy options available. They are neither clean nor renewable and they have many externalized costs associated with the mining, transportation and storage of their radioactive fuel. Clean, renewable alternative energy technology is rapidly advancing that costs less, takes less time to deploy and has other public benefits like distributed energy and lower green house gas emissions associated with their lifecycle. Given nuclear power's track record of marketplace failure, including massive cost overruns and serious construction problems resulting in long and expensive delays, it's not surprising that Wall Street sees new nukes as unacceptably risky.

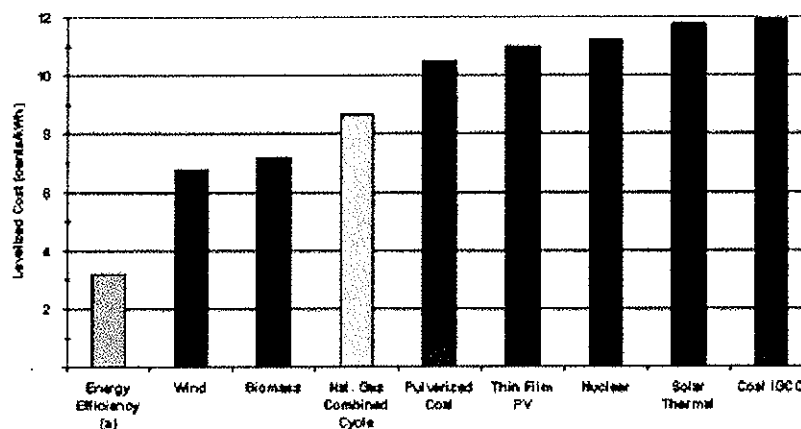
Past failures aren't easily forgotten. In the 1970s and 1980s more than 100 planned nuclear reactors were scuttled when demand projections didn't materialize. Some were just on the drawing boards, but others were in various stages of construction, with hundreds of millions, or in some cases billions of dollars that had to be written off. Forbes Magazine, in 1985, called it "the largest managerial disaster in business history, a disaster on a monumental scale."

Are there options other than nuclear for meeting future energy demand?

Amory Lovins of the renowned Rocky Mountain Institute tell us that nuclear buys less solution per dollar than any other alternative to fossil fuels. \$9 - \$12 billion would be better invested in wind turbines, solar panels, and energy efficiency improvements.

Accepting Ameren's plan to build a nuclear power plant assumes without examination that Ameren's demand projections are accurate, that no lower cost alternatives are available and that the plant itself is prudent and necessary. Recent trends in demand and advances in technology suggest these assumptions are false. In Ameren's case, the PSC has shirked its responsibilities by refusing a request to study the rate impacts of Ameren's plan to build a new 1600MW nuclear power plant.

Energy efficiency is the lowest cost energy source and the least utilized in Missouri. According to the American Council for an Energy-Efficient Economy (ACEEE) "energy efficiency and demand response are the lowest-cost resources available to meet this growing demand and the quickest to deploy for near-term impacts" indicating a huge economic opportunity for our state. And conservative Department of Energy (DOE) studies show that 80% of projected growth in electric demand could be offset by efficiency improvements alone.



The graph above, taken from a study on Virginia by the American Council for an Energy Efficient Economy, shows that efficiency, at 3 cents per kilowatt hour for electricity, is cheaper than any new supply-side resource. ACEEE ranks Missouri 45th among the 50 states and DC in what it is accomplishing through energy efficiency policy.

Can CWIP be used to help finance clean renewable energy projects?

CWIP is an unfair ratemaking scheme for any technology. Renewable power projects or energy efficiency programs don't need CWIP because they are modular and don't take decades long to build/implement. Wind farms, for example, can be built as needed in increments as small as 1 megawatt. For commercial purposes 100-150 megawatt wind projects are common.

If Ameren doesn't provide my electricity, why should I be concerned about all this?

Any change in regulatory status applies to all investor-owned utilities and their future projects. Many Missouri utilities (investor-owned, municipal and COOPs) have expressed interest in purchasing power from the new Callaway 2 nuclear plant which would put their ratepayers at risk.

WHO SUPPORTS RETAINING NO-CWIP CONSUMER PROTECTION?

Organizations supporting No-CWIP include AARP, Consumers Council of Missouri, Sisters of the Most Precious Blood, Butterfly Energy Works, Midwest Coalition for Responsible Investments, Missouri Association for Social Welfare, Missouri Sierra Club, Missouri Coalition for the Environment, GRO - Grass Roots Organizing. See updated list at NoCWIP.org.

MEDIA RELEASE

AmerenUE Requests Sponsors to Withdraw Missouri Clean and Renewable Energy Construction Bills in General Assembly

Apr 23, 2009

Company Appreciates Strong Support Offered by Courageous Legislators, Applauds Vigorous Debate about Energy Issues

ST. LOUIS, April 23 /PRNewswire-FirstCall/ -- Senior management of AmerenUE, the Missouri operating subsidiary of Ameren Corporation, today announced that they have asked the legislative sponsors of the Missouri Clean and Renewable Energy Construction Act (SB228/HB554) to withdraw the bills from consideration by the General Assembly.

"We want to thank the visionary leadership in both the Missouri House and Senate, where this legislation won strong initial support in committees in both bodies," said AmerenUE President and Chief Executive Officer Thomas R. Voss. "Many representatives and senators understood the need for acting now to secure Missouri's energy independence and security, agreeing with us that allowing these funding mechanisms is best for Missouri.

"As we were moving forward to preserve the option for nuclear energy for our state, we stressed that we needed financial and regulatory certainty before we could begin construction. However, the current version of the bill being debated in the Senate strips the legislation of the very provisions we needed most to move forward. As a result, AmerenUE is suspending its efforts to build a nuclear power plant in Missouri."

The legislation, as originally proposed, would have allowed regulators to authorize funding mechanisms for construction of clean energy plants in Missouri--including a nuclear power plant, which UE officials believe offered the best solution for providing reliable, low-cost energy with a reduced carbon footprint. A key element of the legislation, known as CWIP, or construction work in progress, is a funding plan used across the United States to allow utilities to recover financing costs from customers, while building a new plant. Current Missouri law prevents Missouri investor-owned utilities from recovering any plant development costs until an energy plant is operating. This law makes financing a new plant in the current economic environment impossible.

"We salute the strong leadership of the bill sponsors---Senators Delbert Scott and Frank Barnitz and Representatives Ed Emery and Gina Walsh; of individuals like Hugh McVey, of the AFL-CIO; of officials of cooperative and municipal utilities and associations; and of union, civic and environmental leaders who understood the benefits to customers of this legislation. They understood the importance of bringing 3,000 jobs and over \$6 billion in economic benefits, including significant tax revenues, to the state with this clean energy project. We also want to thank the hundreds of people who wrote letters supporting this legislation. These individuals are only some of the many who helped our elected officials understand that this legislation is an essential first step for development of clean energy sources in Missouri."

However, Voss said at this point the legislation does not provide the assurances needed for UE to take on a multi-billion dollar project. "A large plant would be difficult to finance under the best of conditions, but in today's credit constrained markets, without supportive state energy policies, we believe getting financial backing for these projects is impossible," he said. "Pursuing the legislation in its current form will not give us the financial and regulatory certainty we need to complete this project.

"While we are disappointed with the outcome of this legislative initiative, the Missouri Clean and Renewable Energy Construction Act sparked a vigorous debate about energy issues and caused everyone involved to think more deeply about energy policy," added Voss. "That debate has established a foundation for the constructive energy policy discussions we must continue to have with legislators, regulators, customers and other stakeholders to meet the energy needs of our children and grandchildren in decades to come." Energy demand in Missouri has increased 50 percent since 1990 and is projected to grow significantly in the next 20 years.

Voss added that UE has been a vital part of Missouri for over 100 years. "We illuminated the 1904 Worlds Fair. We built Bagnell Dam at the Lake of the Ozarks during the Great Depression, and since 1984, our Callaway Nuclear Plant has provided safe, reliable, affordable clean energy. AmerenUE turned on the power yesterday and today and will always work to keep the power on," he said. "Now, we will continue looking at options for providing the electricity Missourians will need in coming years."

With residential electric retail rates that are approximately 38 percent below the national average, AmerenUE provides electricity and natural gas to 1.2 million customers in Missouri. With assets of approximately \$23 billion, Ameren Corporation (www.ameren.com) serves 2.4 million electric customers and one million natural gas customers in a 64,000-square-mile area of Missouri and Illinois.

<http://ameren.mediaroom.com/index.php?s=43&item=634>

In considering a proposal for one or more alternative mechanisms, the Board will evaluate the following factors, among others:

- the need for the project (if not already demonstrated through another process as discussed in section 3.5 below);
- the public interest benefits of the project and of granting the alternative mechanism(s) requested;
- the overall cost of the project in absolute terms;
- the cost of the project in proportion to the current rate base of the utility;
- the risks or particular challenges associated with the completion of the project;
- the reasons given for not relying on conventional cost recovery mechanisms; and
- whether the utility is otherwise obligated to undertake the project.¹⁰

could rarely, if ever, be satisfied, particularly given that incentives are ordinarily sought before investment decisions are made and, hence, before any siting impediments are even confronted.” FERC Order No. 679-A, ¶ 61,345.

¹⁰ As noted by a representative of ratepayer groups, these matters are similar to the six characteristics of a project that the FERC identified in separate statements attached to decisions on transmission investment incentives. Specifically, in separate statements attached to decisions on transmission investment incentives and on the topic of the framework for judging incentive proposals when reviewing an applicant’s evidence, FERC identified six characteristics of any transmission project required to make reasoned and consistent decisions on requests for incentives for the project. FERC Commissioner Suede Kelly stated as follows: “The comments submitted in connection with Order Nos. 679 and 679-A, and the experience gained in working on individual incentive cases over the past year lead me to conclude that these particular characteristics are most relevant to deciding whether to award incentives”.

1 **DARLINGTON REFURBISHMENT CONSTRUCTION WORK IN**
2 **PROGRESS IN RATE BASE**

3
4 **1.0 PURPOSE**

5 This evidence provides a description of the proposed regulatory treatment of construction work in
6 progress ("CWIP") associated with OPG's Darlington Refurbishment project.

7
8 **2.0 OVERVIEW**

9 OPG seeks approval to include CWIP in rate base for the Darlington Refurbishment project,
10 effective March 1, 2011. This proposal to include CWIP in rate base for the Darlington
11 Refurbishment project results in rate base being \$125.5M higher in 2011 and 306.0M higher in
12 2012 as shown in Ex. B3-T1-S1 Table 1 and has a test period impact of \$37.9on the nuclear
13 revenue requirement. Additional information on this project is provided in Ex. D2-T2-S1.

14
15 Section 3 of this exhibit provides the background and context for OPG's proposal to include
16 CWIP in rate base for the Darlington Refurbishment project. Section 4 presents the proposed
17 regulatory treatment and its impact. Section 5 discusses OPG's proposal for performance
18 monitoring and reporting requirements.

19
20 This proposal is also supported in a study by Charles River Associates. The Charles River Study
21 provides information on other North American jurisdictions and regulators that have adopted
22 CWIP in rate base and the benefits that these jurisdictions saw flowing from its adoption. It also
23 assesses the common arguments for and against the use of this methodology. The study, which
24 concludes that CWIP in rate base should be adopted in Ontario for large-capital, multi-year
25 projects, is provided as Ex. D4-T1-S1.

26
27 **3.0 BACKGROUND**

28 On April 3, 2009, the Chair of the OEB issued a statement initiating a consultation process to
29 consider amendments to several existing regulatory constructs with the goal of removing barriers
30 to infrastructure investment in Ontario. In his Statement dated April 3, the Chair indicated:

1 The magnitude of current and future utility infrastructure investment has led me
2 to consider how the OEB could create conditions which would foster timely
3 investment by utilities in required infrastructure.
4

5 This was followed up with a second Statement from the Chair, a Staff Discussion Paper and
6 stakeholder submissions. On January 15, 2010, the OEB issued EB-2009-0152, a Report of the
7 Board on The Regulatory Treatment of Infrastructure Investment in connection with Rate-
8 regulated Activities of Distributors and Transmitters in Ontario (the "Report"). The Report
9 indicates that the OEB will consider, among other things, applications to include CWIP in rate
10 base on a case-by-case basis, in advance of a project being declared in-service. As concluded in
11 the Report, inclusion of CWIP in rate base is consistent with the Chair's stated objective above
12 and is an important mechanism that is widely used to reduce barriers to investment by utilities¹.
13

14 The Report, on page 6, defined CWIP in rate base to be a mechanism that would "...allow CWIP
15 to be included in rate base prior to the asset coming into service, thereby allowing the applicant
16 to recover the carrying cost on the capital investment, typically interest costs on debt and a
17 return on the investment." CWIP is defined in the Report as a temporary holding account that
18 captures the expended costs incurred in the design and construction of facilities that meet
19 general capitalization rules and thresholds.
20

21 On page 15 on the Report, the OEB explains how the CWIP in a rate base model would work
22 indicating that it would "...allow utilities to apply to include up to 100 percent of prudently incurred
23 CWIP costs in rate base. This approach allows utilities to recover the interest costs on debt and
24 a return on equity (i.e. the weighted cost of capital) during the construction period. The
25 depreciation or return of investment will continue to be recovered once the project goes into
26 service." OPG is proposing to adopt the CWIP in rate base model described above for its
27 Darlington Refurbishment project.
28

29 OPG engaged Charles River Associates to generally consider the question of the inclusion of
30 CWIP in rate base. In response, Charles River has provided a study that describes the other
31 North American jurisdictions and regulators that have adopted CWIP in rate base and the

¹ See Exhibit D4-T1-S1 for a discussion of the inclusion of CWIP in rate base in other jurisdictions.

benefits that these jurisdictions saw or expect from its adoption. It also assesses the common arguments for and against the use of this methodology. The study, which concludes that CWIP in rate base should be adopted in Ontario for large-capital, multi-year projects, is provided as Ex. D4-T1-S1.

4.0 PROPOSED REGULATORY TREATMENT

Inclusion of CWIP in rate base for the Darlington Refurbishment project is warranted since it meets the criteria for qualifying investments specified by the OEB in its Report. The project spans a number of years, has material costs associated with it (i.e., it is capital intensive) and it will form a significant portion of OPG's rate base once placed into service. 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. Additional details on these criteria are provided below.

OPG proposes to include the capital costs of the Darlington Refurbishment project in rate base during the construction period consistent with the methodology approved in the OEB's Report. The test period opening balance would include capital costs from January 1, 2010, the point at which project costs began to be capitalized. Additions to rate base over the test period would be based on OPG's capital expenditure forecast for the Darlington Refurbishment project as provided in Ex. D2-T2-S1. OPG proposes that 100 per cent of the forecast capital in rate base receive the OEB-approved weighted average cost of capital ("WACC") and that any recovery of depreciation on this capital be deferred until the assets come into service. Differences between forecast and actual expenditures for the Darlington Refurbishment project will be recorded in the existing Capacity Refurbishment Variance Account as described in Ex H1-T1-S1 section 6.5. This will ensure that both ratepayers and OPG are protected if actual project spending differs from forecast. As with all variance accounts, any disposition from this account would require a review and approval by the OEB.

As detailed in Ex. D2-T2-S1, the project is currently starting its definition phase. Work addressed within this phase includes detailed engineering and front-end project planning, including the development of the project cost and schedule baseline. The forecast of capital spending on the

1 project and the specific revenue requirement impacts that flow from this project are explained in
2 the exhibit.

3
4 On page 15 of the Report, the OEB indicates that it will also allow utilities to apply to expense
5 prudently incurred pre-commercial costs. The Report goes on to provide examples of these
6 costs, including preliminary surveys, plans and investigations made for the purpose of
7 determining the feasibility of projects. OPG would have incurred some of these costs prior to
8 January 1, 2010 when costs for the project began to be capitalised. To the extent that there are
9 variances between the actual costs for these activities and the costs included in the current
10 payment amounts these differences would also be captured in the existing Capacity
11 Refurbishment Variance Account. OPG's Darlington Refurbishment project has now progressed
12 to the definition phase, and accordingly, essentially all of the costs attributable to the project in
13 the test period will be capitalized.

14
15 In section 3.4 of the Report, the OEB sets out a number of factors that it will evaluate within the
16 context of considering a proposal for alternative regulatory mechanisms. These factors include:

- 17 • The need for the project
- 18 • The public interest benefits of the project
- 19 • The overall cost of the project in absolute terms
- 20 • The risks or particular challenges associated with the completion of the project
- 21 • The cost of the project in proportion to the current rate base of the utility
- 22 • The reasons given for not relying on conventional cost recovery mechanisms
- 23 • Whether the utility is otherwise obligated to undertake the project

24
25 The first four factors above are covered within Exhibit D2-T2-S1 and its associated attachments.

26 The last three are addressed below.

27 28 **4.1 Costs of the Project in Relation to Current Rate Base**

29 As indicated in Ex. D2-T2-S1, at this preliminary stage the projected cost of the Darlington
30 Refurbishment project is between the "low" bounding case of \$6B and the "high" bounding case
31 of \$10B (2009 dollars). OPG's nuclear rate base in 2012 is approximately \$4.0B as set out in Ex.

1 B1-T1-S1 Table 2. It is clear that the capital expenditures associated with the Darlington
2 Refurbishment project are significant within the context of OPG's nuclear rate base. Even in
3 comparison to OPG's combined regulated hydroelectric and nuclear rate base of approximately
4 \$7.8B, the Darlington Refurbishment project is substantial. Clearly the criterion associated with
5 the project being a significant proportion of rate base has been met.

6 7 **4.2 Reasons for Inclusion of CWIP in Rate Base**

8 As noted in the OEB's Report, including CWIP in rate base provides two principal benefits. First,
9 it provides a smoothing effect on rates and thereby mitigates the rate shock that might otherwise
10 occur when the new plant is placed into service. Second, it can reduce borrowing costs. Both of
11 these benefits are detailed more fully in Ex. D4-T1-S1. These benefits are also discussed in the
12 Charles River Study. Both of these benefits apply in the case of the Darlington Refurbishment
13 project.

14 15 **4.2.1 Impact on Rates during Test Period**

16 One of the primary benefits of including CWIP in rate base is that it avoids potential rate shock
17 and provides a smoothing of rates over time (see Ex. D4-T1-S1, section 3.1). Implicitly, this
18 means that rates will increase gradually during the construction period consistent with the
19 amount of expended CWIP capital that is included in rate base. This gradual increase mitigates
20 the sudden shock that is typically associated with a multi-year project being completed and
21 added to rate base as a single, large quantity. Capitalization of the Darlington Refurbishment
22 project began on January 1, 2010, the first unit is scheduled to be removed from service in 2016
23 and the last unit is scheduled to be returned to service in 2024.

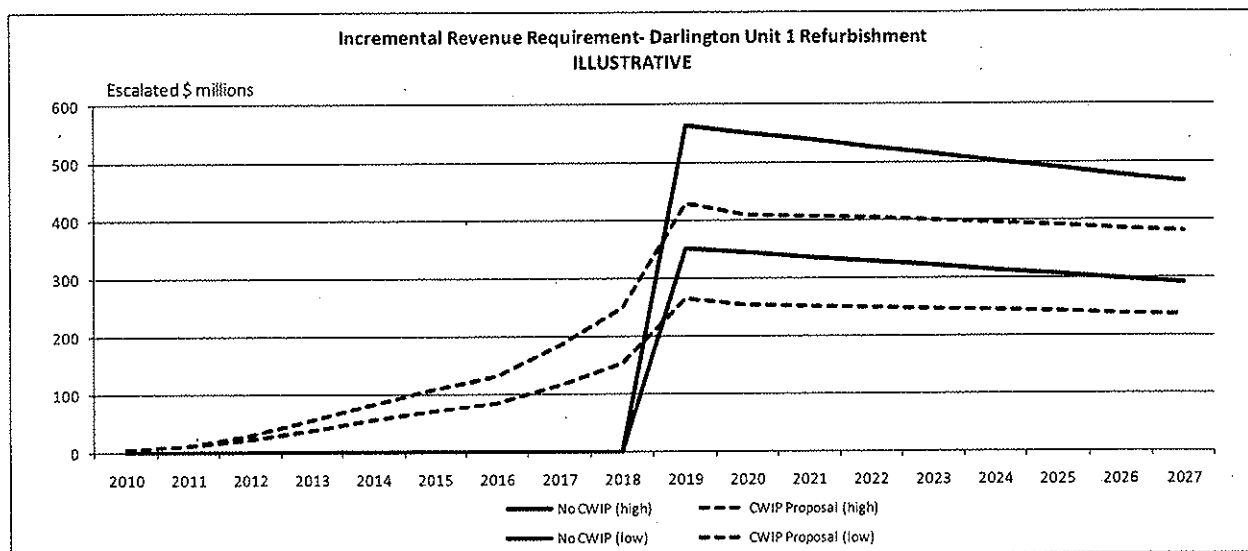
24
25 Table 1 in Ex. D2-T2-S2 and the graphs below illustrate the projected rate impact of including
26 CWIP in rates over the 2011/12 test period, and beyond for the Darlington Refurbishment
27 project. The information beyond the current test period is illustrative only, as elements of the
28 project scope, schedule and cost will only be fully defined at the conclusion of the project's
29 definition phase. It is also important to consider when assessing the analysis of rate impacts
30 provided below that this analysis looks solely at the rate impact of the Darlington Refurbishment

project. As with other utilities, OPG would be expected to have numerous other costs pressures during the project period that would also serve to increase rates.

Table 1 indicates that, over the test period, inclusion of CWIP associated with the Darlington Refurbishment project within rate base results in a modest impact of \$0.37/MWh on the nuclear payment amount. Further, graphs 1 and 2 below show an illustrative view of the incremental revenue requirement associated with the project in both a situation where conventional regulatory approaches are used and in the situation where CWIP is allowed in rate base in advance of project in-service.

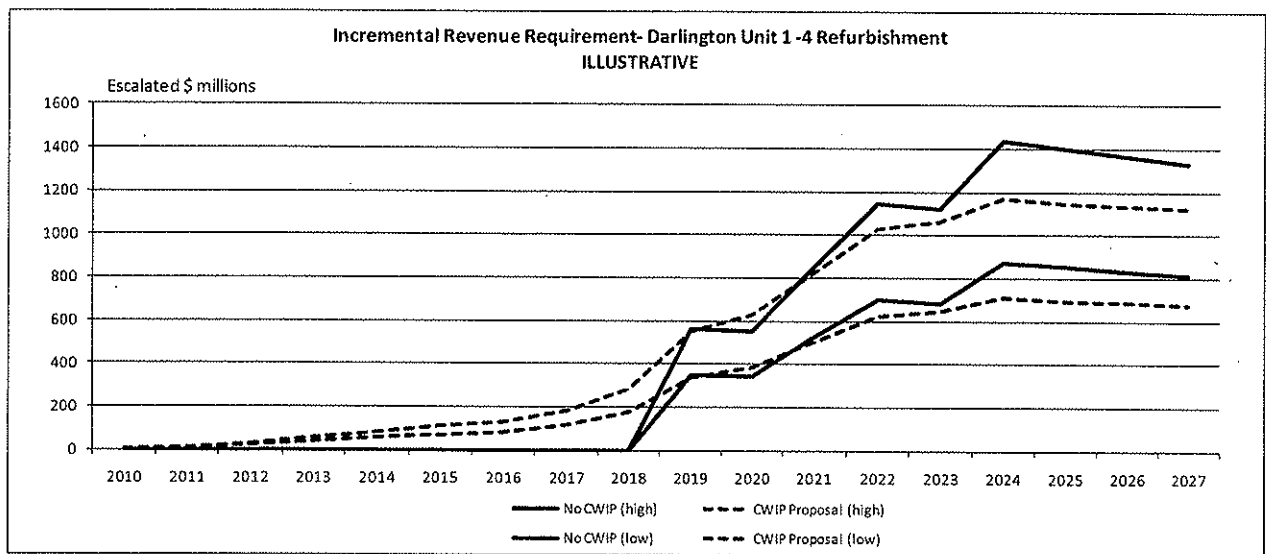
As expected, early recovery of refurbishment costs leads to smaller and more gradual rate increases compared to the rate shock associated with the traditional regulatory approach. Furthermore, there is a lasting benefit of lower rates post in-service date. In the illustrative analysis shown below in Graph 1 (First Darlington Unit), the rate shock associated with the traditional methodology of 2.5 per cent - 4.1 per cent at the in-service date is smoothed to an overall 2.0 per cent - 3.2 per cent rate increase spread over 10 years, with a maximum increase of 0.6 per cent – 1.0 per cent in 2019.

Graph 1
First Darlington Unit



Graph 2 below extends the illustrative analysis to the refurbishment of all four units at Darlington. The traditional regulatory approach leads to four separate rate shocks (2019, 2021, 2022, and 2024) leading to an overall 5.8 per cent - 9.5 per cent rate increase by 2024, the in-service date of the last refurbished unit. The CWIP in rate base proposal smoothes this to an overall 4.9 per cent - 8.4 per cent rate increase, spread over 2010 to 2024, with a maximum annual increase of 1.0 per cent - 1.6 per cent occurring in 2019.

Graph 2
All 4 Darlington Units



All the values shown above are consistent with the project information provided in Ex. D2-T2-S1.

These illustrative graphs demonstrate that inclusion of CWIP in rate base allows the regulator to phase-in the effects of a major capital project. Not only is the rate impact smoothed, but the overall increase is lower as a result of financing charges being recovered as the project is being constructed, as opposed to the typical approach where interest compounds until the project is placed in 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 sceptical

1 of the sellers and the regulators. Methods of pre-approval and cost recovery that give weight to
2 gradualism without distorting economic efficiency deserve regulatory attention.”² CWIP in rate
3 base mitigates such “jumps in rates” while maintaining the same regulatory oversight of, and
4 utility decision process for, investing in new assets.

5
6 4.2.2 Information on Project Financing

7 OPG has not yet determined the project financing specifics associated with the Darlington
8 Refurbishment project. Regardless of those specifics, the inclusion of CWIP in rate base will
9 serve to reduce borrowing costs for the utility. An entity's ability to access financing will be
10 evaluated based on the risks that they face, including the degree of financial leverage and its
11 standing on a number of standard financial risk metrics (e.g., interest coverage ratios).

12
13 In Ex. A2-T3-S1, both of the rating agencies that assess OPG (Standard and Poors and DBRS)
14 rated OPG's long-term credit rating in the low “A” range. Both agencies referenced OPG's
15 nuclear program and Standard and Poors specifically referenced weak cash flow metrics.
16 Clearly, inclusion of CWIP in rate base would help these ratings, and lower overall financing
17 costs. In fact, since no allowance has been made for achieving lower financing costs, it could be
18 said that OPG's illustrative information presented in section 4.2.1 has an added level of
19 conservatism.

20
21 Inclusion of CWIP in rate base is seen by financing entities as a mitigating factor when
22 evaluating the risk of a given project, thereby facilitating access to capital at reasonable interest
23 rates. Further, a utility's credit rating, as assessed by rating agencies, can be affected by such
24 considerations. Fitch Ratings notes in a discussion of nuclear plant construction financing: “Like
25 any other large capital program, Fitch assesses the capital requirements of a nuclear
26 construction program relative to the available financial resources to determine the effect on credit
27 quality. Fitch also considers whether regulatory support, non-resource financing, federal loan
28 guarantees or fixed-price construction contracts are available to reduce construction risk. For

² “Pre-Approval Commitments: When and Under What Conditions Should Regulators Commit Ratepayer Dollars to Utility-Proposed Capital Projects,” National Regulatory Research Institute, November 2008.

1 *regulated U.S. utilities, the availability of a cash return on construction work in progress (CWIP)*
2 *would reduce the construction risk.”³*
3

4 In recognition of the general positive benefit created by the inclusion of CWIP in rate base
5 (associated with the easing of project financing costs), OPG has calculated its forecast interest
6 coverage ratios for 2011 and 2012 for both the traditional regulatory approach and for the
7 approach whereby CWIP is included in rate base. The average improvement over the two-year
8 test period is approximately 1.5 per cent under the alternative regulatory approach. Not
9 surprisingly, this percentage will increase over subsequent test periods, as more capital is
10 expended.

11
12 **4.2.3 Obligation to Undertake the Project**

13 As indicated in Ex. D2-T2-S1, OPG received direction from the Province requiring OPG to
14 undertake feasibility studies on refurbishing its existing nuclear units in 2007. Further, on
15 February 4, 2010, the Province affirmed the November 2009 decision of OPG’s Board of
16 Directors to proceed with the definition phase of the project. See Ex. D2-T2-S1 for a full
17 discussion of the project.

18
19 **4.3 Performance and Reporting Conditions**

20 OPG expects to be before the OEB for several payment amount applications between this
21 application and the ultimate completion of the Darlington Refurbishment project. Accordingly, it
22 will provide regular updates on project scope, schedule and progress, any variances against
23 budget, and a forecast of future expenditures. As part of these applications, OPG will provide
24 information in both its capital exhibits and make annual entries to the Capacity Refurbishment
25 Variance Account, as detailed in Ex. H1-T1-S1 section 6.5, which will account for all capital over
26 or under spend associated with the project. This variance account approach will permit OPG to
27 true up its capital expenses to actual values, as determined by the OEB.

³ Fitch Ratings, U.S. Nuclear Power: Credit Implications, November 2, 2006. Emphasis added.

1 Since OPG uses a two-year test period, for years in which it does not file an application for
2 payment amounts, OPG proposes to provide to the OEB an annual monitoring report, indicating
3 project status.

4
5 Because of the staged approach to this project (i.e., beginning the definition phase, which is
6 scheduled to last until 2014), OPG expects to be in a position to provide the OEB with a more
7 comprehensive assessment of the project scope, cost and schedule as part of its next
8 application for payment amounts.

AMPCO Interrogatory #005

Ref: Ex. D2-T2-S2

Issue Number: 2.2

Issue: Is OPG's proposal to include CWIP in rate base for the Darlington Refurbishment Project appropriate?

Interrogatory

- a) Please indicate whether OPG considered a construction finance alternative to CWIP where the utility was simply allowed to expense interest for the project and not including return on investment for assets not yet in service.
- b) Please provide the NPV of the revenue requirements associated with the Darlington Refurbishment Project showing all calculations and assumptions based on the approach OPG proposes for accelerated recovery, expensing interest only during construction, and the standard regulatory recovery. Please calculate two scenarios, one using discount rates equal to OPG's WACC and another using a discount rate of 10%.

Response

- a) No.
- b) Please see response to the Interrogatory L-14-004. In that response OPG has provided the costs recovered from the ratepayers for two illustrative examples: \$6B and \$10B project cost (overnight 2009 dollars before interest during construction ["IDC"]) for the proposed Construction Work In Progress ("CWIP") and current regulatory options. That response also provided the present value ("PV") of recovered costs calculated at OPG's 7.6 per cent pre-tax weighted average cost of capital. Using the same assumptions as in Ex. L-14-004, the PV results at a 10 per cent discount rate as well as an additional case where OPG recovers IDC only are summarized in Table 1.

Table 1 – PV of Recovered Costs (in 2009 \$B)

Capital Cost (Before IDC) (\$B)	6.0		10.0	
Discount Rate (Pre-Tax) (%)	7.6	10.0	7.6	10.0
1. Proposed CWIP (\$B)	3.4	2.2	5.6	3.7
2. OPG Recovers IDC When Incurred (\$B)	3.3	2.1	5.4	3.5
3. Current Regulatory Treatment (\$B)	3.2	2.0	5.3	3.4

Witness Panel: Deferral and Variance Accounts, Payment Amounts and Regulatory
 Treatments
 Nuclear Refurbishment

1 MR. SHEPHERD: For the ratepayers?

2 MR. BARRETT: Sorry?

3 MR. SHEPHERD: At the ratepayer side?

4 MR. BARRETT: No, I think the discount rates were
5 assumed relative to the cash flows of OPG.

6 MR. SHEPHERD: So then the analysis in the
7 \$550 million number assumes that the ratepayers' cost of
8 capital is zero; is that correct?

9 MR. BARRETT: I don't think you can say that.

10 MR. SHEPHERD: Okay. It doesn't assume a cost of
11 capital for ratepayers?

12 MR. BARRETT: I'm sorry?

13 MR. SHEPHERD: It doesn't assume a cost of capital for
14 ratepayers?

15 MR. BARRETT: That's not the way the question is
16 focussed.

17 The question is focussed on the cash flows of OPG.

18 MR. SHEPHERD: Thank you.

19 MR. BARRETT: Part (c) of this question asks OPG how -
20 - to explain how CWIP amounts put into rate base over a
21 number of years could be wholly or partially disallowed
22 after the fact without raising questions of retroactivity
23 or intergenerational equity, in the event that OPG -- the
24 OEB, rather, did not find the expenses or project
25 management to have been prudent.

26 In our view, the situation is not that much different
27 from any other project. All prudence reviews take place
28 after the fact, after the project is completed and put in-

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and Infrastructure**

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Copy to: Wayne Robbins

Bill Robinson

Bruce Boland

Donn Hanbidge

OFFICE OF THE
PRESIDENT & CEO

FEB 08 2010

FEB - 4 2010

Mr. Tom Mitchell
President and CEO
Ontario Power Generation
700 University Avenue
Toronto ON M5G 1X6Dear Mr. Mitchell: *TOM*

I am writing in response to your letter of November 20, 2009, in which you provide detail of OPG's board decisions regarding the life management of two of its nuclear assets, as laid out in the company's business plan 2010-2014.

The overall plan implements several key strategic initiatives with the objective of providing the people of Ontario with a clean, reliable supply of electricity. One such initiative is the implementation of plans to refurbish the Darlington units and to continue to operate the units at Pickering B.

Implementation of these initiatives satisfies the government's directive of June 2006 in which OPG was directed to begin feasibility studies on refurbishment of existing nuclear units and to begin an environmental assessment on the refurbishment of the four units at Pickering B.

The nuclear fleet will continue to be of significant importance in the province's electricity supply in the future as we continue to reduce greenhouse gas emissions from electricity generating sources.

The government is satisfied that the detailed technical, regulatory and risk analyses performed by OPG resulted in the optimal decisions regarding refurbishment and future operation of the Darlington and Pickering B units respectively, and concurs with the November 19, 2009 decision by the OPG Board of Directors.

Sincerely,

A handwritten signature in black ink, appearing to read "Brad Duguid".

Brad Duguid
Minister

SEC Interrogatory #005

Ref: A2-T1-S1, Attachment 2, page 3

Issue Number: 2.2

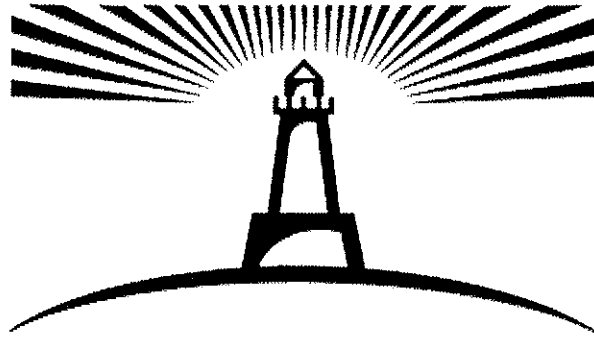
Issue: Is OPG's proposal to include CWIP in rate base for the Darlington Refurbishment Project appropriate?

Interrogatory

Please confirm that the decision to proceed with the refurbishment of the Darlington nuclear generating station was not, and is currently not, contingent on CWIP being included in rate base. Please provide all documents related to the February 2010 decision that relate in whole or in part to the connection between the decision to proceed and the proposal to include CWIP in rate base.

Response

Confirmed. OPG is unaware of any documents that address the stated connection.



National Regulatory
Research Institute

**Pre-Approval Commitments:
When And Under What Conditions Should Regulators
Commit Ratepayer Dollars to Utility-Proposed Capital
Projects?**

**Scott Hempling, Esq.
Scott H. Strauss, Esq.**

November 2008

08-12

two conditions on recovery. First, the costs must be for preliminary activities in connection with a nuclear generating plant. Second, the costs must be incurred before certain dates or events have occurred. The statute also contains a non-exclusive list of examples of the types of activities that are included in the term “preliminary activities.”⁴²

The North Carolina Commission has approved Duke Power Company’s requests for early approval of nuclear power development costs. The Commission approved a cost cap consistent with Duke’s estimate of the costs it would incur in the relevant year for development efforts recoverable under the statute.⁴³ The Commission found that if Duke did not incur those expenses now, then long-lead time items needed to build the facility might not be available to Duke in a timely manner.⁴⁴

7. Reduced ROE to reflect risk reduction

Some commissions have allowed early recovery where the utility’s weakened financial condition would otherwise preclude projected completion or trigger certain specific adverse financial events, such as a bond rating reduction below investment grade, reduction in interest coverage ratios below a specified level, or insufficient cash flow to ensure adequate service.⁴⁵ In other cases, early recovery has been denied.⁴⁶ Any approval based on claimed financial weaknesses should be based on specific evidentiary showings, including the likelihood that the requested relief will alleviate the utility’s financial problems.

Because pre-approvals reduce utility risk, commissions awarding some form of pre-approval cost recovery should consider whether a corresponding reduction in the utility’s authorized return on equity is appropriate.

located in North Carolina or (ii) issuance of a certificate by the host state for an out-of-state facility to serve North Carolina retail customers, including, without limitation, the costs of evaluation, design, engineering, environmental analysis and permitting, early site permitting, combined operating license permitting, initial site preparation costs, and allowance for funds used during construction associated with such costs.

⁴² As set out in the North Carolina statute, these can include the costs of evaluation, design, engineering, environmental analysis and permitting, early site permitting, combined operating license permitting, and initial site preparation costs, among others.

⁴³ These include: review by, and responses to, the NRC, purchases of land and rights-of-way, site preparations, project planning and engineering, and payments to fabricators to hold the utility’s place in line for obtaining long-lead-time material and equipment such as reactor coolant pumps, containment vessel, reactor pressure vessel, steam generators, control rod drive mechanisms, and condenser circulating water piping.

⁴⁴ *In re Duke Power Co.*, 256 P.U.R.4th 215 (N.C. Utils. Comm’n 2007).

⁴⁵ In *Sierra Pacific Power Co.*, Docket No. 959, Order issued July 21, 1977, the Nevada Commission allowed SPCC to include CWIP associated with the Valmy generation project in rate base once the capital costs exceeded \$27.7 million, in part on the theory that cash earnings would be higher quality earnings for the utility. In 1979, the Nevada Commission authorized SPPC to include \$ 31.966 million of Valmy 1 and any common facilities CWIP in to rate base. *In re Nev. Power Co.*, No. 06-06051, 2007 Nev. PUC LEXIS 22, at *114-15 n.12 (Nev. Pub. Serv. Comm’n 2007).

⁴⁶ See *Affiliated Interest Agreements* (Pennsylvania Commission denies request for early approval and cost recovery where the estimated expenditure was no more than 15% of the total capital expenditures of the utility applicants over the next ten years).

1 The section of the 2010-2014 Business Plan for Refurbishment, Projects and Support
2 relating to refurbishment is provided in Attachment 1.

3
4 OPG's capital expenditures for the Darlington Refurbishment project in the test period are
5 \$105.2M in 2011 and \$255.8M in 2012, as presented in Ex. D2-T2-S1 Table 3.

6
7 OPG is seeking the following approvals related to the Darlington Refurbishment project:

- 8 • Approval of test period OM&A costs (which form part of the nuclear revenue requirement)
9 of \$5.9M and \$4.5M in 2011 and 2012, respectively, for definition phase work for the
10 Darlington Refurbishment project as presented in Ex. F2-T7-S1 Table 1.
- 11 • Changes in rate base, return on rate base, depreciation expense, tax expense and Bruce
12 lease net revenues that result from the impacts of the service life extension, for purposes
13 of calculating depreciation, and the change in the nuclear liabilities associated with
14 Darlington Refurbishment. These changes are presented in Ex. D2-T2-S1 Tables 1 and
15 2.
- 16 • An increase in rate base to reflect the inclusion of CWIP for the Darlington Refurbishment
17 Project as presented in Ex. D2-T2-S2.
- 18 • The recovery of the difference between forecast 2010 non-capital costs associated with
19 the Darlington Refurbishment project and the costs underlying the payment amounts
20 established in EB-2007-0905, as explained in Ex. H1-T2-S1.

21
22 This evidence also describes the process that OPG will use to manage the Darlington
23 Refurbishment project, a process which received OPG Board approval in November 2009
24 (see Attachment 2). The Darlington Refurbishment project is a major undertaking that will
25 require several years of planning and preparation prior to the first outage in 2016. To mitigate
26 risk, the project is being managed in phases, requiring that certain milestones be achieved
27 before proceeding to a subsequent phase and before OPG Board authorization of the
28 expenditure of funds associated with activities in that phase.

29
30 Although a significant amount of work will be required to develop a "release quality" estimate,
31 OPG has high confidence that the project will have a Levelized Unit Energy Cost ("LUEC") of