Ontario Energy Board

Report of the Board

Incentive Rate-making for Ontario Power Generation's Prescribed Generation Assets

EB-2012-0340

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1. Introduction

Under section 78.1 of the *Ontario Energy Board Act, 1998,* the Board sets payment amounts for the output of those of Ontario Power Generation Inc.'s ("OPG") generation facilities that are prescribed by regulation. Ontario Regulation 53/05 (Payments under Section 78.1 of the Act) ("Regulation 53/05") sets out the OPG assets that are subject to the Board's payment-setting jurisdiction; specifically, the nuclear generating stations operated by OPG (Pickering and Darlington) and OPG's baseload hydroelectric generation facilities (De Cew I, De Cew II, Sir Adam Beck I, Sir Adam Beck II, Sir Adam Beck pump storage generating station and R.H. Saunders) (the "prescribed generation assets").

While Regulation 53/05 establishes certain rules that the Board must follow in setting payment amounts, it otherwise empowers the Board to establish the "form, methodology, assumptions and calculations" to be used in setting payment amounts for OPG's prescribed generation assets. To date, the Board has set payment amounts for those assets twice. In both cases, the Board has set payment amounts for both the nuclear and the hydroelectric assets at the same time using a cost of service ("CoS") approach.[1]

Since it began setting payment amounts for the prescribed generation assets, the Board has expressed a commitment to move to an incentive rate-making methodology ("IR") for OPG.[2] That commitment was reiterated in the Board's second and most recent payment-setting proceeding, where the Board concluded that IR should be considered for 2015 and confirmed that work would be undertaken to facilitate that approach.[3]

In furtherance of that commitment, Board staff commissioned Power Advisory LLC to prepare a report on IR options for OPG's prescribed generation assets. Power Advisory's April 12, 2012 report, entitled "Incentive Rate Making Options for Ontario Power Generation's Prescribed Generation Assets" (the "Power Advisory Report"),

[1] EB-2007-0905 and EB-2010-0008.
[2] See "Board Report: A Regulatory Method for Setting Payment Amounts for the Prescribed Generation Assets of Ontario Power Generation Inc.", November 30, 2006 (EB-2006-0064).
[3] March 10, 2011 Decision with Reasons (EB-2010-0008).

served as a starting point for stakeholder consultations that took place in the latter part of 2012.[4] Details of those consultations are set out in Appendix A to this Report.

The Board remains of the view that a move to IR for the purposes of setting payment amounts for OPG's prescribed generation assets is appropriate. IR can further the Board's statutory objectives of protecting the interests of consumers and promoting economic efficiency while providing a stable planning environment for OPG. It is also consistent with the approach and objectives underlying the Board's renewed regulatory framework for electricity, including the promotion of cost-effective planning and operations and a longer-term view.[5]

This Report sets out the Board's policy direction on a number of issues associated with implementing IR for OPG's prescribed generation assets, and identifies next steps in developing an IR regime.

2. A Path Forward for Incentive Regulation for OPG

2.1 One Approach or Two?

As noted above, to date the Board has set payment amounts for all of OPG's prescribed generation facilities at the same time using a CoS approach.

During the consultations, OPG indicated that it plans to apply to the Board to set payment amounts for its prescribed hydroelectric assets in 2013 based on a two-year CoS methodology for 2014and 2015 payments. This proceeding would establish base payment amounts for the purposes of IR. OPG also indicated plans to file a further application in 2015 to set payment amounts for those assets based on an IR structure with "building blocks". That IR structure appears to be similar to the "H7" option recommended by OPG's consultant, London Economics International LLC ("London

[4] The Power Advisory report was issued under cover of a letter dated May 11, 2012, in which the Board also gave notice of its intention to consult stakeholders on issues related to the implementation of IR for OPG.
[5] See "Report of the Board: Renewed Regulatory Framework for Electricity Distributors: A Performance-based Approach", October 18, 2012.

Economics").[6] That option is a variation on a price cap approach, with a price trajectory over the IR term that is based on an embedded productivity target over the revenue requirement. OPG's plan for setting payment amounts for the prescribed nuclear assets was less certain, but is likely to involve an application in 2014 based on a two-year CoS approach for 2015 and 2016 payment amounts.

The issue of whether payment amounts would be better set through separate approaches (and possible separate applications) for each of the two different generation technologies was addressed by participants in this consultation and their policy experts.

The Power Advisory Report presented separate IR options for the nuclear and hydroelectric assets. In Power Advisory's view, the future operating environments for the two technologies are fundamentally different. Nuclear facilities will most likely see years of high capital investment and potential reductions in capacity. By contrast, the hydroelectric assets are in a more "steady state" environment. The hydroelectric assets may therefore be more amenable to a traditional price cap approach to IR, while the nuclear assets may be best addressed through a price cap with incremental targeted incentives. London Economics was in substantial agreement with Power Advisory that the two technologies warrant separate applications and IR methodologies.

A majority of stakeholders echoed Power Advisory's views in support of separate approaches. Stakeholders were more supportive of an IR regime for OPG's hydroelectric assets than for the nuclear assets. Many cited the existing Hydroelectric Incentive Mechanism as an example of an IR-like regime, with market price incentives to operate the Beck pump storage facility efficiently. Stakeholders expressed a number of concerns about proceeding with IR for the nuclear assets. Some were sceptical that IR would ever be appropriate for the nuclear assets. Others accepted OPG's position that IR may be more appropriate and effective after the Darlington Refurbishment Program ("DRP") and Pickering Nuclear station closures have been completed. One stakeholder supported a multi-year CoS process as an effective interim regime.

[6] See London Economics' presentation "Considering Incentive Rate Making Options for OPG's Prescribed Generation Assets", presented at the August 28, 2012 stakeholder meeting.

The Board agrees that the cost and rate base issues associated with the two generation technologies are sufficiently distinct to justify separate approaches (and potentially separate applications). Moreover, as highlighted by both Power Advisory and London Economics, an appropriate IR regime for the hydroelectric assets may differ substantially in content and timing of implementation from one that is appropriate for the nuclear assets, and therefore separate applications would also be appropriate. Separate applications will allow the Board, OPG and intervenors to focus resources more effectively on the important issues associated with each class of generation assets.

However, the Board notes that the generic issue of how to allocate corporate service costs will persist regardless of the scope of an application. The Board expects that OPG will reconcile the corporate service cost allocations to a common forecast or business plan to ensure consistency and facilitate regulatory review.

2.2 Determining Base Rates

Both Power Advisory and London Economics supported using a CoS approach for determining the base rates that would be the starting point for an IR regime. Power Advisory specifically recommended a CoS approach to determining the cast-off prices for a nuclear IR regime. The consultation revealed that stakeholders have divergent views on what constitutes an adequate CoS-determined base for IR. Most stakeholders supported at least one more round of CoS proceedings before moving to an IR regime for the hydroelectric assets. As noted above, a number of stakeholders suggested that the CoS approach continue indefinitely for the nuclear assets.

The Board reiterates its belief, first expressed in 2006,[7] that a CoS approach should be used to establish the base rates, or starting points, for an IR regime. The Board notes that separate applications for each generation technology may promote a more

[7] See "Board Report: A Regulatory Method for Setting Payment Amounts for the Prescribed Generation Assets of Ontario Power Generation Inc.", November 30, 2006 (EB-2006-0064).

focussed review of OPG's operating and financial costs in relation to each technology, and hence provide a better basis for IR-based payment amounts in the future.

2.3 Total Factor Productivity

The usefulness of total factor productivity (TFP) studies in the development of a formulaic IR methodology for the prescribed generation assets was an issue for many stakeholders. Both Power Advisory and London Economics suggested that there were viable alternatives to TFP which may be more appropriate in the context of OPG's generation assets. Some stakeholders expressed scepticism about whether the data necessary to support an adequate TFP study is available or can be collected. The Power Advisory Report notes that a TFP study would require a larger reference population than just the CANDU operators, as well as more detailed data than was required for the Scott-Madden benchmarking study that was filed by OPG in the last payment-setting proceeding. Power Advisory also noted the difficulty of specifying an appropriate cost function for nuclear assets.

The Board acknowledges that there may be difficulties in gathering the data necessary for a TFP-type approach for nuclear generation, and that those difficulties may have implications for the viability of a TFP-type approach to IR for OPG. The Board also accepts that the alternatives to TFP, such as the targeted IR and the "building blocks" approaches suggested by Power Advisory and London Economics, may be more practical and efficient for the purposes of implementing IR in the context of OPG's prescribed assets.

Nonetheless, the Board continues to expect that OPG will file a proposed work plan and status report for an independent productivity study with its next application to set payment amounts, as requested by the Board in the most recent payment-setting proceeding.

3. Next Steps in the Development of an IR Regime

3.1 OPG's Prescribed Hydroelectric Generation Assets

As noted above, there is general support for IR in the context of the hydroelectric assets, and OPG's stated intention is to move to IR-based payment amounts for those assets. The Board notes that, with the completion of OPG's major hydroelectric capital project (the Niagara tunnel), the capital investment schedule for the hydroelectric assets will now more closely resemble the "steady state" that is desirable for IR-based payment setting. The Board concludes that an IR mechanism for OPG's prescribed hydroelectric assets is appropriate. The Board understands that OPG intends to file a CoS application to set the payments for two years for the hydroelectric assets. Following completion of that proceeding, the Board will strike a Hydroelectric Working Group to develop recommendations on the details of the IR mechanism that should be used in determining payment amounts for OPG's hydroelectric assets. The Board expects to establish its IR policy for those assets in early 2014, in time for OPG's next payments application. Appendix B sets out an illustrative timeline for the development of the hydroelectric payments setting policy.

3.2 OPG's Prescribed Nuclear Generation Assets

As noted above, stakeholder support for IR in connection with the nuclear assets is limited. The Board accepts that the large capital expenditures and reduced production associated with the DRP and the Pickering closure do not favour the implementation of a "pure IR" regime (i.e., one based on TFP with input cost indices, Z-factors and off-ramps) in the immediate future. The Board also accepts that introducing an IR regime for the nuclear generation assets will be a longer-term process than is the case for the hydroelectric assets given the greater degree of uncertainty and risk inherent in the nuclear capital investment program. However, the Board believes that moving to an IR regime, or a methodology that achieves some of the same objectives as IR, need not wait until the DRP and the Pickering closure are complete.

The Board is also not persuaded that a short-term (two-year) CoS approach is appropriate. In the capital investment environment that exists for OPG's nuclear operations, the Board is of the view that a longer term approach is better suited to ensuring comprehensive cost estimates and an appropriate examination of potential recovery mechanisms to provide incentives to manage costs and customer impacts.

The Board concludes that an alternative to a short-term CoS approach should be explored for use in setting payment amounts for the prescribed nuclear assets in the near to mid-term. The Board will therefore consult on the development of an approach to payment-setting that focuses on longer-term cost accounting (3 to 5 years forward), brings clarity to risk sharing, provides tangible benefits and consequences for operating and capital project performance and enhances transparency in operations and in project planning and execution.

To that end, the Board will establish a working group to develop a proposal for the methodology to be used in setting payment amounts that is based on multi-year CoS principles (along the lines of the custom IR rate-setting option developed for electricity distributors as part of the renewed regulatory framework) and that incorporates elements of option "N2" from the Power Advisory Report (a price cap with future price based on specific target achievement). In recognition of the environment that is expected to prevail in relation to the prescribed nuclear assets over the next decade, the Board expects Board staff and stakeholders to consider alternative rate structures (fixed payments only vs. fixed/variable) and approaches to cost allocation (segmenting refurbishment, shutdown and operating costs). In its January 2010 *Report of the Board: The Regulatory Treatment of Infrastructure Investment in Connection with the Rate-regulated Activities of Distributors and Transmitters in Ontario*, the Board identified several mechanisms that could be used to manage the impact on rates of large investments. The possibility that some of the alternative approaches may be applicable to other types of large investments was acknowledged by the Board. The Board expects staff and stakeholders to consider the possibility of applying new approaches to cost recovery for the large planned expenditures associated with the DRP and the Pickering closure. The Board expects to then establish its payment-setting policy for the prescribed nuclear assets by late 2013, in time for OPG to make a multi-year payments application. Appendix B sets out an illustrative timeline for the development of the nuclear payments setting policy.

The Board acknowledges stakeholder concerns about the potential for IR incentives to affect the safety and reliability of nuclear operations. The Board notes that OPG has much experience in operating nuclear facilities and in developing business plans that incorporate metrics for safety and reliability. The Board will ensure that its payment-setting policies consider OPG's obligations to meet its safety requirements. As the payment setting policy is being developed, the Board will consult with the Canadian Nuclear Safety Commission.

Appendix A

Overview of Consultation Process

The following is an overview of the consultation process that has informed this Report. All materials pertaining to the consultation are available on the Board's website,[8] including a recording of the August 28, 2012 stakeholder meeting.

May 11, 2012	Consultation initiated and Power Advisory Report released
August 28, 2012	Stakeholder meeting to discuss Power Advisory Report and hear stakeholder views, including presentation by London Economics in response to Power Advisory Report 21 stakeholders participated
October 1, 2012	Date for receipt of written comments on the issues discussed at the stakeholder meeting. Comments were received from: • Consumers Council of Canada • Canadian Manufacturers & Exporters • Energy Probe • Green Energy Coalition • London Property Management Association • Ontario Power Generation • Power Workers' Union • Retail Council of Canada • School Energy Coalition • The Society of Energy Professionals
October 31, 2012	Date for receipt of written comments in response to first round of stakeholder comments. Comments were received from: • Energy Probe; • Independent Electricity System Operator • London Property Management Association • Ontario Power Generation • Power Workers' Union • School Energy Coalition

8 http://www.ontarioenergyboard.ca/OEB/Industry/Regulatory%20Proceedings/Policy%20Initiatives%20and%20Consultations/OPG%20-%20Payment%20Amounts.

Appendix B

Illustrative Timeline for Development of IR for OPG Prescribed Generation Facilities

(Subject to Change)

Nuclear Process	
Mid-2013 to end 2013	Working Group meetings to develop report to the Board on parameters for a multi-year CoS application
Early 2014	Board Report on policy and methodology
	OPG multi-year CoS application, i.e., 2015-20
Hydroelectric Process	
Mid-2013	OPG files CoS application, 2014-15 test years
End - 2013	Board decision on payments
End-2013	Board strikes Hydroelectric Working Group after decision
Early-2014	HWG reports to Board
Mid-2014	Board Report on hydroelectric IR methodology
2015	OPG files IR application based on Board Report