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April 23, 2013

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

Dear Board Secretary,

RE:EB-2013-0066

Please find attached my comments on the above proceeding. I thank the Board for the opportunity to comment.

Respectfully submitted,

Russ Houldin

Independent Electricity System Operator (IESO) Licence Renewal, EB-2013-0066

Comments of Russ Houldin*

The renewal of the IESO licence is an opportune time to review the Ontario electricity system restructuring experiment that began in 1998 with the passing into law of *The Energy Competition Act (TECA)*. Ronald Reagan, when a candidate for the US Presidency, famously asked the American voter, “Do you feel better off than you were four years ago?” Now is a good time to ask a similar question to the Ontario electricity ratepayer, “Do you feel better off than fourteen years ago?”

In 1998 the average cost to Ontario consumers of their electricity use was \$68.3/MWh; in 2011 it was \$123/MWh. The difference represents an increase of 80%. During that period inflation as measured by the Canadian Consumer Price Index increased by 30 %. To put this in a longer term context, between 1971 and 1998 the real average annual increase in the cost of electricity was 1.6%. Between 1998 and 2011 the real average annual increase was 3.2%, i.e. a doubling of the real average rate of increase for the earlier period.¹

While the levels of electricity prices to the various classes of ratepayers are important, the main thrust of these comments is directed to a different aspect of the electricity ratepayer experience, i.e the transparency of what the ratepayer pays. Transparency of costs has been held to be the major advantage of the restructuring. It is against this benchmark that the system administered by the IESO must be judged a failure.

My comments are provided as a knowledgeable citizen not as a member of an interest group. I recognize that both the Ontario Energy Board (“Board”) and the IESO are circumscribed by their enabling legislation. Only the government can act to change the electricity system; it is to the government that these comments are mainly addressed. The various stakeholder groups and the general public may also have some interest in them.

The submission is organized as follows: the next section provides some necessary background; then the central issue of the “hybrid market” and the Global Adjustment (GA) and their unfortunate consequences for bill transparency is discussed.

¹ 1971 and 1998 costs are obtained from Ontario Hydro Annual Reports and Annual Statistics. 2011 costs are obtained from the IESO's monthly report for December, the IESO 18 month forecast and the Annual Yearbook published by the OEB.

Background

The origins of Ontario's electricity restructuring lie with the concept of "unbundling" of infrastructure costs. The primary economic feature of all infrastructure is the inescapability of "natural monopoly". The conceivable gains from market competition for, *inter alia*, the delivery of water and sewer services, natural gas, telecommunications and electricity are too small to outweigh the costs to society of duplication of pipes, wires, etc.. Consequently the dominant models for delivery of these and other infrastructure services for over 70 years throughout the Organization for Economic Co-operation and Development have been either public monopoly or regulated private monopoly. In either case, the goal was to set prices close to what a market would set them at, i.e. marginal costs. Starting about forty years ago economic theorists began to challenge these models. The central idea was that the actual service could be delivered competitively by "unbundling" the service from the supporting hard infrastructure which would remain a natural monopoly. Thus, methane molecules and the actual messages conveyed by telecommunications systems could be provided by a market-like process.² Thus unbundled, the markets created would set prices at marginal costs without undue administrative interference.

In the 1980s in Canada, natural gas was "deregulated" using the unbundling model and this was regarded generally as a success, especially by the industries that consumed large quantities. This perceived success led to the advocacy of a similar approach to electricity; electricity was viewed as a kind of "funky" natural gas.³ Unfortunately, there is an underlying flaw in the analogy. Elsewhere I have argued that electricity is much more like a public good than a private good and it is this characteristic that confounds all extant attempts to make electricity "look like" a private good.⁴

As already indicated, the Ontario electricity system was restructured by TECA which broke up the former integrated monopoly, Ontario Hydro, and reconstituted the municipal distributors as business corporations with the municipalities as sole

² See, for example: AE Kahn, **The Economics of Regulation: A Critical Introduction** MIT Press, Boston, 1988; WJ Baumol, "Contestable Markets: An Uprising in the Theory of Industry Structure", **The American Economic Review**, 72(1) (Mar., 1982), pp. 1-15; PL Joskow and R Schmalensee, **Markets For Power: An Analysis of Electric Utility Deregulation** MIT Press, Boston, 1988.

³ The influence of the natural gas model is very clear in the 1996 report of the Macdonald committee **A framework for competition: the report of the Advisory Committee on Competition in Ontario's Electricity System to the Ontario Minister of Environment and Energy (1996)**. The clearest legacy of this influence is the prevalence of "bilateral physical" contracts; these make no sense electrically but are direct models of the successful contracts between large natural gas users and suppliers.

⁴ R W Houldin, "Lost economies of integration and the costs of creating markets in electricity restructuring: evidence from Ontario" **The Electricity Journal (TEJ)**, 18(8) October 2005, 45-54 and "Find the public good: shedding light on a bulk electricity card trick" **The Electricity Journal (TEJ)**, 17(9) November 2004, 61-67 and "Excuse me but your false analogy is showing" **TEJ** 18(3) April 2005, 3-5.

shareholders. The centrepiece of TECA was the creation of a market for electricity.⁵ The key organization in this was the IESO's predecessor, the Independent Electricity Market Operator (IEMO). The market was designed by the Market Design Committee which also drafted the first version of the Market Rules. The key features were a two-schedule dispatch (unconstrained and then constrained by congestion), a separate market for operating reserve, separate procurement of ancillary services and operating reserve and a financial transmission rights market. The IEMO ("wholesale") market was set to open coincidentally with a retail market, governed by the Retail Settlement Code. In theory, the Ontario market was supposed to set prices that reflect the marginal costs of supply better than was the case under Ontario Hydro.

The markets were targeted to open on January 1, 2000 but this was delayed until May 1, 2002. The retail market was effectively closed in November, 2002 by the imposition of price caps for most consumers. Subsequently, the price caps were replaced with the current Regulated Price Plan (RPP) regime. At the same time, the IEMO was converted to the IESO and the market dubbed a "hybrid". The key change that created this hybrid nature is embodied in Ontario Regulation 429/04 under *The Electricity Act* which instituted the Global Adjustment (GA).

The GA adjusts the hourly spot price (Hourly Ontario Energy price or HOEP) by the combined value of three sets of supply sources: the regulated payments to Ontario Power Generation (OPG) for its "prescribed facilities" (Pickering and Darlington nuclear stations and the RH Saunders, Sir Adam Beck and DeCew Falls hydraulic plants); payments to a group of Non-Utility Generators (NUGs) under Power Purchase Agreements signed by Ontario Hydro in the early 1990s; and, payments under approximately 50 Ministerial Directives to the Ontario Power Authority (OPA) plus several other contracts either inherited by OPA from the Ministry when it was created or issued under Requests for Proposals (RfPs) by OPA. At the current time, supply under the GA umbrella represents more than 90% of the electricity consumed in Ontario. Figure 1 shows the relationship of HOEP and the GA for the period from market opening (May 1, 2002) to the end of 2010.

⁵ For an excellent account of the restructuring process, see R Hrab and M JTrebilcock, "Electricity Restructuring in Ontario" **The Energy Journal** 26(1) p123-146, 2005.

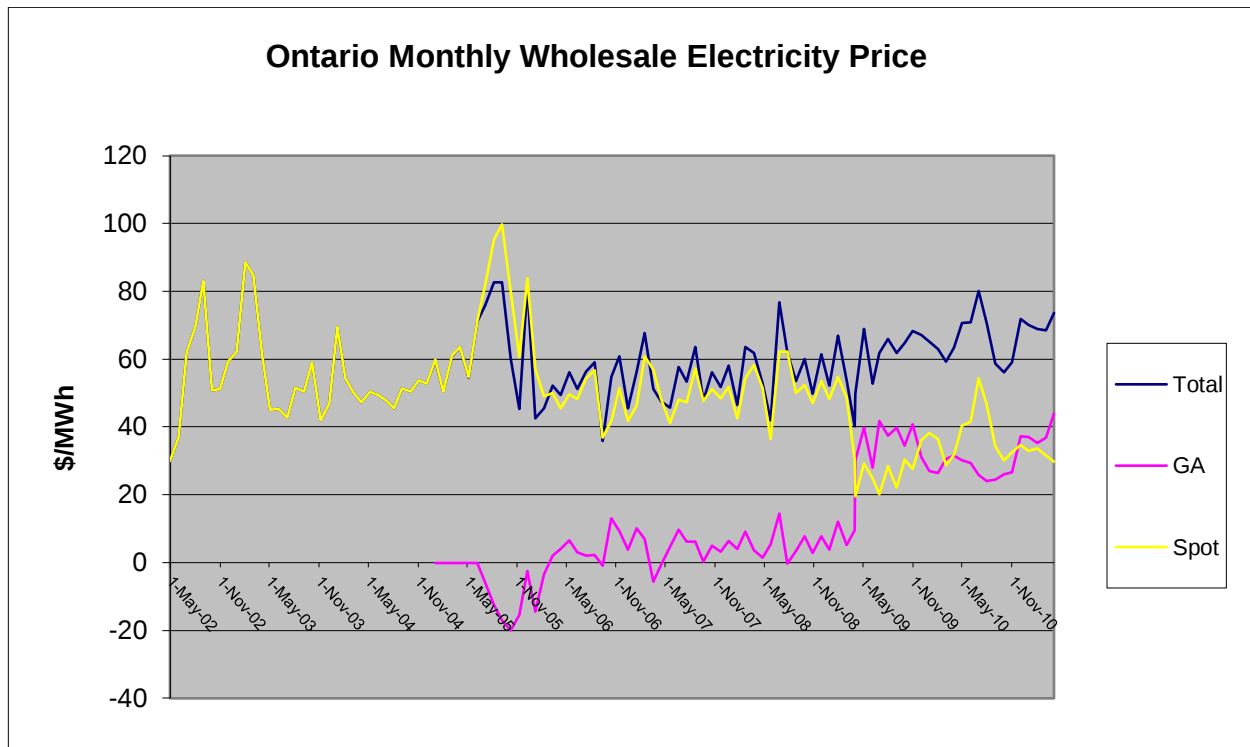


Figure 1

Another important development was the government's smart meter initiative. Beginning in 2006, under the supervision of the Board, Ontario's distributors have replaced the older electromechanical meters with solid-state electronic "smart meters" for more than 99% of Ontario consumers as part of the establishment of an Advanced Metering Infrastructure (AMI). In conjunction with this, distributors have introduced, also under Board direction, Time-of-Use (TOU) pricing to the majority of consumers. Under TOU prices consumers are charged according to their consumption during peak, mid-peak and off-peak hours. The implementation of the TOU pricing required the establishment of a "Smart Meter Entity" to calculate customers' TOU charges, a function currently fulfilled by the IESO.

The hybrid market and transparency to the ratepayer

Both the price levels and overall price transparency have been adversely affected by restructuring, but the focus of these comments is on the aspects of transparency that fall within IESO's remit. Before turning to that focus it is worth putting the total consumer bill into context. Figure 2 is a depiction of the flows of electric power and money transactions in 1997.⁶

⁶ Sources: Ontario Hydro Annual Report and Annual Statistics.

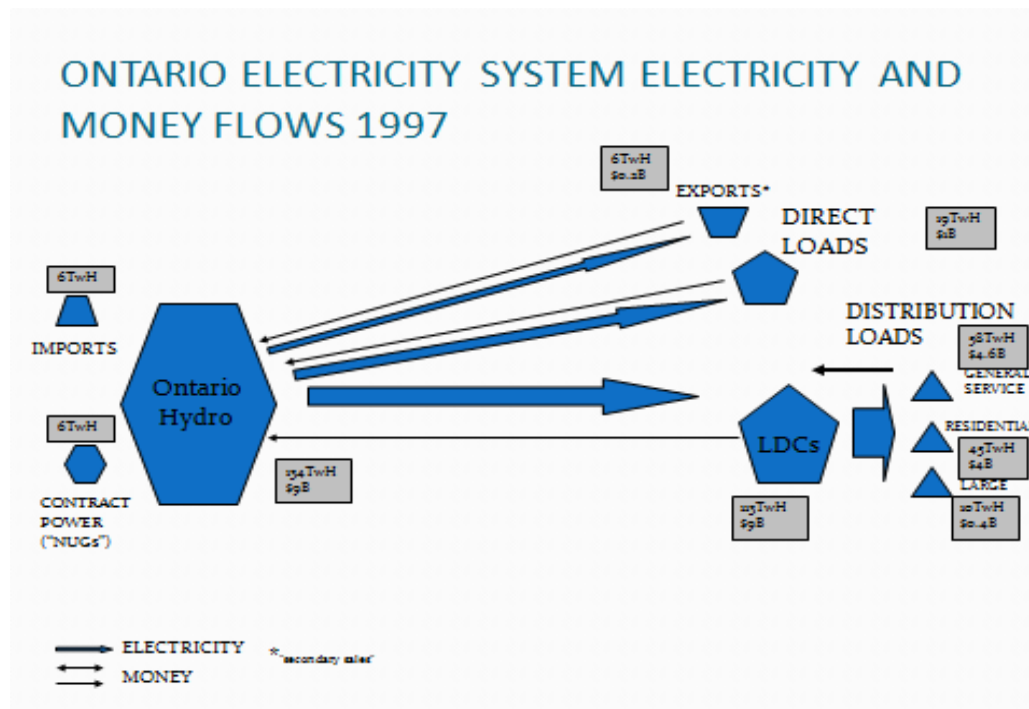


Figure 2

Figure 3 attempts to do the same for 2005. The increased complexity shows up on the consumers' bills.⁷

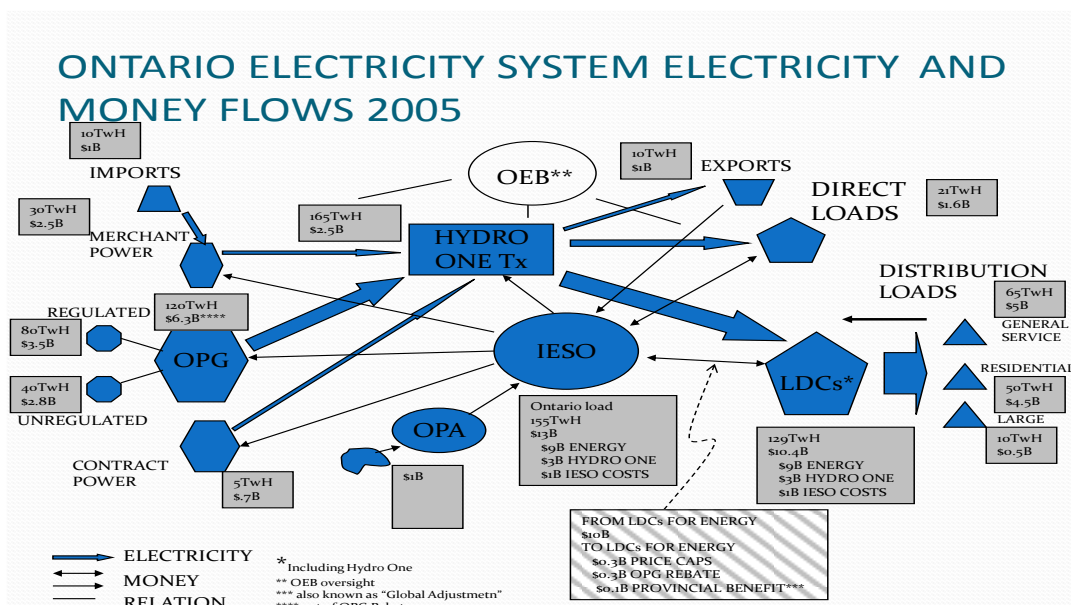


Figure 3

⁷ Sources: IESO, Annual Reports of Ontario Power Generation, Hydro One Networks Inc., Ontario Electricity Financial Corporation and Ontario Power Authority and Ontario Energy Board 2006 Annual Yearbook for Electricity Distributors.

This analysis focuses on the electrical energy “commodity” but consumers also have lines on their bills that charge for the costs of transmission, distribution and IESO functions as well as a “Debt Retirement Charge”.⁸ While it is worth reiterating that IESO is only responsible for part of the pricing, the creation of a market was the central feature of the restructuring. It is the “unbundling” that necessitated the byzantine relationships depicted in Figure 3.

To understand the current situation facing the ratepayer with regard to the electrical energy “commodity” component of the consumer bill, let us contrast the broad supply and demand situation on May 1, 2002 with the situation today.

On May 1, 2001 all prices for all consumers were derived from the HOEP which, in turn, was produced by the application of a two-stage merit-order dispatch algorithm to offers of power made to IESO for each 5-minute interval up to the forecast level of load for Ontario. On the load side there were less than 10,000 consumers with interval meters. Other than those who signed retailer contracts, all remaining consumers paid the relevant Weighted Average Hourly Spot Price (WAHSP)⁹.

In 2013 almost all 4.8 million ratepayers have meters capable of recording hourly consumption and could, in theory, pay the HOEP corresponding to their usage.¹⁰ On the supply side, unfortunately, HOEP only represents part of the price that they pay for the unbundled electrical energy “commodity”. The other part is the GA which is made up of supply under contracts or regulated rates ***which do not vary with time of use***.

Thus, in 2002 the Ontario market had full hourly pricing on the supply side but very limited ability to pass the price directly through to the ratepayer. Now the capability exists to implement hourly pricing on hourly quantities but the supply is 90%-plus based on annual or monthly average prices.

While the government has introduced and the Board has implemented TOU, these prices are determined administratively (by the Board) which is no different in kind than under Ontario Hydro.

Price transparency is held to be a major advantage of the restructured system. In particular, the McGuinty government has claimed that ratepayers face under the hybrid

⁸ The consumer bill also includes the Harmonized Sales Tax (HST), Rural Rate Assistance and the Ontario Clean Energy Benefit . (All charges are displayed differently on the bill depending on the type of consumer).

⁹ WAHSPs are determined by the application of distributor-specific Net System Load Shapes (NSLS) to HOEP. The NSLS is a way of allocating metered usage collected with non-interval meters to specific hours so that the allocated usages may be matched with the hourly spot price (HOEP).

¹⁰ Although the smart meters are functionally interval meters, in the relevant legal instruments currently they are treated as non-interval meters.

market the “true cost” of electricity.¹¹ Yet, price transparency in relation to the “unbundled” electrical energy commodity – the centrepiece of restructuring – has been significantly diminished.

In its **Renewed Regulatory Framework for Electricity** initiative the Board has expressed concern about “total bill impacts” and the need to focus on the consumer.¹² However, the Board’s authority is limited. The government has no such restrictions and can act to redress the state of confusion.

In my view, the great majority of Ontario electricity ratepayers would answer the Reaganesque question posed at the outset resoundingly with a negative appraisal of the restructuring that began in 1998. The time is at hand to declare the policy experiment a failure and to move on to a more rational policy.

**Russ Houldin is a retired Ontario Public Servant (OPS). His OPS career included stints at the Ministries of Energy and of Finance and Cabinet Office and thirteen years on the staff of the Ontario Energy Board.*

¹¹ For example, the Hon Dwight Duncan’s statement to the legislature on June 14, 2004 on Bill 100 of the first session of the 38th parliament of Ontario in which he claims that the Bill would, “ ensure that prices to consumers are fair, stable and predictable and that those who use power will pay its true price.”

¹²**Report of the Board - Renewed Regulatory Framework for Electricity Distributors: A Performance-Based Approach**, October 18, 2012 and letter, October 27, 2010