TO OEB Registrar
Response to Ontario Energy Board (OEB) Advancing Performance Based Regulation (PBR) consultation (EB 2024 0129)

*PBR is in the altogether*[1]

The similarities between this consultation and Hans Christian Anderson's famous tale of the naked emperor are too obvious to ignore. The outstanding feature of Ontario's regulation of electricity distributors in a comparative context is that there are no meaningful comparable situations, certainly not those summarized by Christensen. Ontario is the only jurisdiction in which a government agency regulates other government agencies as if they were private corporations.[2] This is true for any type of regulation. In administrative theory there is no support for this. Indeed the regime sets up an unnecessary tension between the OEB and the government of the day. The OEB and the other provincial agencies are given delegated authority by the Lieutenant Governor (i.e. Cabinet) and appointees are responsible to the governments of the day through Memoranda of Understanding with the Minister of Energy (MEny). Municipalities in Ontario are regulated as to accounting and financial policies by the Ministry of Finance.[3]

The nearest comparison is New Zealand (NZ). The NZ Electricity Authority regulates a mix of private and public distributors but does not set rates. It provides guideline expectations.

Thus, the Christensen report is irrelevant to a serious consideration of how Ontario should move beyond its current regime. However, I recognize that the OEB is constrained by its legislation and the specific Directive by the Minister in this matter. The character of consultations in the electricity sector has been one of make-believe for a quarter century now, most clearly in the seemingly endless consultations of the Independent Electricity System Operator (IESO) about "market renewal" when there is no electricity market. Hence, I add the following comments.

PBR in Ontario has been a complete failure from the perspective of consumer value. In 1998, the last year before restructuring, consumers paid $1.4b for electricity distribution. In 2023 they paid $4b, a 290% increase. Distributor load in 1998 was 117tWh (MEUs plus OH retail); in 2020 it is reported as 116tWh[4]. In current dollars

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[1] I suspect most people these days are not familiar with Danny Kaye. The reference is to his song about the Emperor's clothes.
[2] For completeness there are two small distributors with private ownership (CNP and EPCOR) and HONI has some private equity.
[3] The Harris government, which created the restructuring, undoubtedly expected a great many privatizations. When this did not occur, the regulatory regime has continued through institutional inertia. Since costs are passed-through there has been no incentive for change, except for lip-service to the consumers, who have suffered.
[4] I am unable to find data for 2023 using the allegedly easier-to-use and more transparent "Open Data" entry page; there does not appear to be a URL for load. It would be too big a distraction to delve into here, but there have been serious problems with revisions to the Yearbooks prior to the "new and improved" system. In any event it is safe to say the distributor load has barely increased.

the $1.4b in 1998 would be $2.3b in $2023. **Conservatively, PBR has cost Ontario consumers $8b (2023), over and above the costs of fake business corporations ("corporatization") since 1998**. There is no evidence that service has improved.[5] This estimate does not include the cost of the OEB, which is about $30m annually recovered from licensees.

*Nothing to see here*[6]

It has struck me for many years how every official discussion of the Ontario electricity distribution sector assiduously avoids the most obvious comparison, which is with the public-owned distributors in the US. Anyone reading publications about Ontario electricity in the past 25 years would never realise that about 25% of electricity distributed in the US is through about 200 public-owned utilities. Perhaps the reason for this is that it would be embarrassingly off-message to have too many people know that over an 80 year period the average rates paid by consumers served by these utilities are 10% lower than those of private Investor-Owned Utilities[7]. These public utilities have their costs constrained by the political control of their operations, some by appointments, some by elections. No external regulators. Local political accountability is a superior way of controlling costs at acceptable service levels than agency regulation, it seems.

This model was actually quite similar to the *ancienne regime* under Ontario Hydro (OH) and its predecessor the Hydro-Electric Power Commission of Ontario (HEPCO), which provided very "light-handed" oversight of some 300 or so municipal electric utilities (MEUs). Like the US, the distribution and total rates under this model were substantially lower than those paid by consumers since restructuring in 1999.

*Dr Pangloss[8] and PBR*

The actual regime in Ontario, in the as-if world[9] of electricity distributors as pseudo business corporations, began in 1999 with the first rates set in 2000. These were set under a PBR regime, which, notwithstanding OEB hearings on this matter, was expedient. At that time there were more than 200 municipal distributors and OEB was adding staff. Holding Cost of Service (COS) proceedings would have taken years. The productivity factor in the adjustment formula was completely arbitrary. Second-generation PBR was launched after consultations in 2005[10]. This set a four year cycle of COS "rebasing" with 3 years of PBR in the intervening years.[11] A third generation

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[5] See Appendix for more detail.
[6] With apologies to Leslie Nielsen
[7] Data from the American Public Power Association.
[8] A character in Voltaire's **Candide** who advanced Liebnitz's argument that we live in the best of all possible worlds because it's the one that exists
[9] As a point of interest there is a German school of philosophy, the Als-Ob school, the leader of which was Hans Vaihinger, that holds that there are "useful fictions".
[10] I was involved in this consultation as the staff lead on cost of capital. The OEB rejected the advice of its own consultants to reduce the allowed Return on Equity (ROE) by about 3%. Typical changes to the annual revenue adjustment factor (about 1%) only represent about 15% of the reduction in consumer costs that would have resulted from a lower allowed ROE. (Total current equity in the distributors is $10B, annual revenues $4B.)
[11] See Houldin *et al, infra* for more detail. The cycle did not work out as envisaged.

was initiated in 2010 and the current model, known as the Renewed Regulatory Framework for Electricity (RRFE) was established in 2014.

PBR is the best of all possible models for consultants but not for consumers. For consumers, it is the inverse. The Christensen report claims that there is general agreement regarding the efficacy of PBR[12] but makes no mention of significant dissenters, such as Trebing and Miller[13]. It also makes no mention of the one peer-reviewed paper on Ontario's PBR[14], which, using data from 2006 to 2014, found no evidence that PBR added consumer value in Ontario relative to COS.

While it is true that PBR is less costly administratively than COS, these are not the only choices. While a return to a model similar to that which prevailed under OH and HEPCO is beyond the OEB's remit, the OEB could refrain from regulating and allow the municipalities to set the rates for the consumers. The OEB would have oversight over accounting and reporting standards. This would be the best model.

*Money, that's what I want*[15]

The presentation slides ask (p 41):
*In the long term, the OEB is considering developing an approach to rate regulation that is no longer premised on rate base rate-of-return. a. Is this fundamental change required? Why or why not? b. What are the advantages and disadvantages of pursuing this approach? c. How would this fundamental long-term change impact stakeholders in the sector, both throughout its development and upon implementation? d. What transition measures could be put in place to provide stability during a period of change? e. Are there quick wins that the OEB can advance in the short term?*

Fundamental change is necessary (a) but it is not within the OEB's mandate to make the changes. Therefore it is recommended that the OEB suggest to the Minister that the MEny begin its own consultation. The most pressing reason is what these comments highlight: the regulatory model is based on a completely mistaken conception of what the industry looks like after the restructuring of 1999. As noted, there is no case, in theory or practice, for an Ontario regulator setting electricity rates that recover the costs for either other Ontario government or municipal public agencies. The results of this conception are plain: the real cost of electricity has risen much faster than inflation and consumers face a byzantine set of rules reflected in an incomprehensible bill[16]. The other main reason is more long term but even more

[12] "Economic literature generally agrees that price cap regulation provides enhanced incentives for firms to seek cost efficiencies over time" p9

[13] Trebing and Miller were leaders of the school of "institutionalist" economics based at Michigan State University (MSU). For many years OEB staff took a course given by the economics department of MSU in Lansing, MI.

[14] Houldin, Russell, Carlson, Richard and Prazic, Petar "Do Incentive Rates provide consumer value? An empirical assessment from Ontario's electricity distribution sector" *Journal of Economic Issues* **53(4)** December 2019, 1029-47.

[15] Apologies to Berry Gordy and Janie Bradford

[16] It is also likely that the distributors are underinvested in fixed assets. Several distributors have made this claim, which is based on the period during which the "third tranche" of allowing the adjustment to the Market Adjusted Rate of Return was suspended. Subsequently the PBR regime has made it very difficult for any "catch-up". The claim is essentially impossible to confirm or deny because the OEB did not publish any financial data until 2005 and the accounting from the OH Annual Statistics, which ended in 1998, is different than for the Yearbooks.

important. The hegemony of the Westinghouse-Tesla Bulk Grid (BG) model has come to an end and the future challenge is how to balance the BG with the rise in importance of Distributed Generation (DG)[17]. There are 3 permanent advantages of DG over BG: 1.the cost of generation in the two systems is close to parity, depending on the jurisdiction, and will inexorably favour DG; 2. DG has less environmental impacts, including Greenhouse Gas emissions; and, 3. systems based on DG are more resilient with regard to weather or terrorism.[18]

No jurisdiction has appropriate institutions to oversee the evolution of this rebalancing because of the hegemony of BG and the relative recency that DG is a viable challenge but the shape of remuneration is sure to be different from today. So far, the Ontario government's approach to this epochal issue is to misconstrue the basic issue as "decarbonization" and the integration of Distributed Energy Resources (DER)[19]. The OEB should urge the government to start asking the right questions.

The questions concern fundamental change but only provide a negative description (i.e. not rate base rate of return, ROR) but then go on to ask for pros and cons and how it would affect stakeholders. This could either mean the process of change away from ROR or some undisclosed alternative. In either case it would be impossible to assess the impact of the "change" on stakeholders other than a nugatory statement that some would not welcome change but others would. Similarly, without knowing what "change" is contemplated transition measures are impossible.

I will step into the breech and propose a "straw man" and some ideas for transition.

First, we need to be clear about what the issue is. It is not the "integration of DER" into existing systems, where DER includes such vague elements as "demand response", other energy "savings" programs and battery storage. The issue is that DG at distribution voltages has emerged as a challenge to large centralized generation in BG systems at higher voltages. With a nod to history we can characterize this as the return of Edison as a challenge to Tesla[20]. **These two systems compete with each other**. The utility industry has long feared the "death spiral" of defecting BG load; as load defects unit costs rise creating more incentive for defections. OH understood this well and went to great lengths to prevent defections. It took distributors to court if they planned their own generation and offered "load retention" rates to large industries contemplating cogeneration. In the era immediately after restructuring you will find references to "uneconomic bypass"[21] and "net versus gross" transmission[22]. These were euphemistic ways of preserving the dream of a BG "market". With the

[17] BG is still very much dominant but no longer hegemonic.
[18] See Houldin, note 23, *infra,* for more detail.
[19] Powering Ontario's Future, undated. The report of the Electrification and Energy Transition Panel on also fails to identify the new balance between Tesla and Edison.
[20] There is a good account of the early rivalry between Edison and Tesla and subsequent technological developments in Hirsch, Richard, **Technology and Transformation in the American Electric Utility Industry** (Cambridge MA, Cambridge University Press, 1989. In this book Hirsch notes how Tesla's hegemonic BG had started to hit "technological stasis" by the 1960s, which is the basic reason for the return of Edison's DG model.
[21] Market Design Committee Final Report, January 29, 1999.
[22] RP-1999-0044.

collapse of anything resembling a real electricity market[23] and the flat load of the last 20 years these esoteric discussions have been quietly dropped.

Until we have institutions that recognize the antagonistic nature of the BG and DG systems we cannot develop sane approaches to a new balance and appropriate means of collecting revenues from customers. In particular, the IESO has emerged as a major barrier to developing a new balance. In order to preserve itself it has engaged in countless consultations designed to keep its "market participant" stakeholders on board. Recall that the IESO was originally a small division of OH with an annual budget of about $100m, in 2023 dollars. Its function was to dispatch generation and look after what have become known as "ancillary services"'. This function would be best fulfilled by moving it to Hydro One (HONI), which would save about $250m a year. HONI actually runs the grid, not IESO. The OEB is not the right body to develop the new balance. A quasi-judicial approach to structural antagonists simply will not work. The issues are not minor technical matters but of fundamental differences (i.e. the two systems compete, as noted). These have to be resolved at the highest political levels.

One possible model is one proposed to the Royal Commission on Electric Power Planning (RCEPP) by Hooker and van Hulst[24](HvH). However, it envisages a concomitant rebalancing of the relationship between municipalities and the Ontario government. Local Energy Offices (LEOs) would be created by the municipalities. They would be responsible for developing energy plans for the municipalities, encompassing all sources and energy efficiency opportunities. The plans would encompass all energy uses, including transport, and would draw on ideas regarding urban design. For electricity, in coordination with the local utilities, the plans would include DG, either produced or procured from private companies by the utilities. The utilities would either be municipal departments or agencies, with appointed or elected boards. They would need to take on the system operator functions for the emerging DG systems similar to the IESO for the BG.

The residual unmet load would be met by the BG system, operated by HONI. HONI would be responsible for the corresponding provincial plan as well as BG operation. The Ministry would coordinate the two levels of government by reviewing and approving the local plans in conjunction with HONI's plan. It would be understood that the eventual balance between BG and DG, perhaps in 30-50 years or more, would be for the BG to use largely Ontario's excellent legacy water power, acting as baseload for the DG systems[25], possibly supplemented with nuclear Small Modular Reactors (SMRs) connected to the BG. The Ministry may decide to create a new body, or give the OEB a new mandate to coordinate the plans, with public input. The

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[23] For a detailed account see Houldin, Russell, **Electric Vultures Selling Bottled Lightning** (Lambert, Beau Bassin, 2018).

[24] Hooker, Cliff and van Hulst, Robert "Institutions, counter institutions and the conceptual framework of energy policy making in Ontario" Report prepared for RCEPP 1976.

[25] Even in the end-state the BG will likely be needed for ancillary services (especially Black Start) and peaking, for perhaps 100 hours or so per year. I anticipate some migration of OPG small hydro to municipalities over time. Since HONI distribution serves much of rural Ontario the evolution of DG on its system and its coordination with OPG will be complex.

approval of the plans would rest with the Minister. Depending on consultation with the municipalities, the province may create a central body for energy efficiency expertise and create an opportunity for the reemergence of private Energy Service Companies (ESCOs) by outlawing utility Conservation and Demand Management (CDM). Utility CDM puts the utilities in the untenable position of selling and not-selling with the difference made up by arbitrary determinations of "savings". Consumers paying for savings is a far more appropriate method of estimating the level of savings, which form the part of the energy plans.[26]

Nuclear power would be a part of the system, but as DG, using SMR designs, not BG connected. Ontario Power Generation (OPG) would be directed to renegotiate the Bruce lease and run all of the extant plants until they are decommissioned, as well as the SMRs. Safety would remain a federal authority and siting subject and operation to provincial law (such as the Environmental Assessment Act, Ontario Water Resources Act and Environmental Protection Act). There would likely be a need for some municipalities to coordinate to pool their loads such that SMRs could provide baseload.

Consumers connected at distribution voltages would pay in all or part through subscription plans included in the property tax.[27] Ontario's electricity systems have largely fixed costs and as renewables become a larger proportion of generation the variable cost will be very small. The split between fixed and variable (metered) costs would be part of the choice of subscription plan, along with choices of power quality (including security of supply). Since the utilities would own the meters, they would collect revenues from metered usage. The amounts transferred from the property tax would be determined by the budgetary process.

Transition to this model should proceed cautiously. The first step that falls within the OEB's authority would be to abandon PBR, as noted above, and allow the municipalities to set the rates, subject to the OEB's oversight of accounting and reporting standards. The next would be for the Minister to introduce changes to the legislation to return the distributors to public agencies and remove OEB's role, dissolve IESO and move the dispatch and related functions to HONI.[28] HONI already implements dispatch and related reliability requirements, as the owner and operator of the relevant grid assets. The move to the HvH model, described above, should take place through a number of careful local and regional pilots in consultation with the municipalities. The pilots should also include different customer classes. Simultaneously, the Ontario government should take steps to allow OPG to take over all of the nuclear plants. It makes no sense to have two different operators of reactors of similar design. (Nor to have revenues set by two entirely different methods; closed-

[26] See my report for Elenchus to the Manitoba Public Utilities Board (MPUB), "A Review of Manitoba Hydro's DSM Plan", January 2014.

[27] For more detail see the series of papers by Houldin, Russell and Yang, Bunli in the **The Electricity Journal (TEJ):** "The death and life of retail electricity", **33**, article 106738, 2020; "Going viral: the impact of covid 19 on retail electricity" **34(2**), article 106903, March 2021; and, "Electricity as a service and local control" **34(8)** article 107102, October 2021.

[28] Incidental to this consultation but of interest, the total savings to consumers of these changes plus eliminating OPG's ROE and divesting HONI's private equity and the associated ROE would be of the order of $2b annually, which would go a long way to offsetting the end of the Fair Hydro subsidy, due to expire in 2027.

door negotiations (Bruce) and unwieldy quasi-judicial proceedings (OPG)).The Feed-in-Tariff (FIT) contracts that are BG connected should be migrated to local distributors or allowed to expire. The Ontario government should try to reach accommodations with Feed-in-Tariff (FIT) contract holders to acquire their cost data to evaluate better the actual going-forward costs of wind and solar and other renewables.

All of which is respectfully submitted.

Russ Houldin, HLPCA Inc.

## Appendix

The main difference between what consumers paid prior to 1998 and what they paid to "corporatized" distributors was an increased ROE and Payments-in-lieu of taxes (PILs). These costs were imposed by the Ontario government restructuring. In 2023 the combined payments were about $1b. In addition, electricity distribution in 2023 was far more complex than in 1998 due to a series of Ontario government initiatives. While these have definitely added costs that are recovered through rates, they do not come close to explaining the difference between 1998 and 2023 costs. The additional programs are, with estimates of annualized costs in 2023 dollars:

- Retailing - distributors had to modify their Customer Information Systems (CIS) to settle with retailers plus small staffing cost; OEB has never provided an accounting but I estimate a first cost of $1b
    - $50m annualized
- Energy Efficiency ("CDM") - in 2004 distributors had to develop and deliver energy efficiency; there have been several changes to this requirement. See Houldin *et al* (note 14) for detail.
    - $10m
    - Most costs recovered by IESO ($20m)
- Smart meters - the cost of the first tranche was $1.9b. Only a part of this displaced retired electromechanical meters. The evidence is that the lifetime of a smart meter is about one third that of the older meters; this is an incremental cost.
    - $100m annualized
- Smart grid - the OEB eventually recognized that "smart grid" expenses were recovered in the rate base
    - zero
- Feed-in-Tariff (FIT) - the main burden has fallen on HONI which had to build duplicative "express" feeders. These were probably paid from the Global Adjustment.
    - $5m
    - HONI costs probably not in rate base ($100m)

With regard to service standards, the work of the late Frank Cronin on behalf of the Power Workers Union[29] suggests that there has actually been a decline since 1998. I cannot find any later work that provides contrary evidence.

[29] For example, Francis J Cronin and Stephen Motluk, "Ten years after restructuring: Degraded distribution reliability and regulatory failure in Ontario", **Utilities Policy 19(4**), December 2011, 235-43.