

September 27, 2013

Mr. Peter Fraser
Managing Director of Regulatory Policy
Ontario Energy Board
2300 Yonge Street
P.O. Box 2319
Toronto, ON M4P 1E4

Via email

Re: Data Issues with PEG Analysis

Dear Mr. Fraser:

On behalf of EDA members, I would like to raise a number of concerns regarding the distributor data that form the foundation of the OEB's implementation of the 4th Generation Incentive Rate Mechanism. To illustrate the sensitivity of the empirical results to variations in the data we need go no further than to note that PEG's estimates of productivity factors have changed materially in the September update. Furthermore, PEG's estimates of the 'trend coefficient' in this report now range from +0.8% per year to +2.0% per year, depending on which data are used. The prevalence of data issues and anomalies suggest that others remain to be uncovered.

We believe that identifiable data issues need to be resolved prior to finalization of 4th GIRM. Furthermore, given the likelihood of continuing data issues, classification of distributors into efficiency cohorts should be done in such a way as to minimize the risk of unfairly penalizing utilities due to data deficiencies. The EDA Report filed with the Board outlines a fair and reasonable way of achieving this objective.

Distributor data are relied upon to develop the following:

Total Factor Analysis and the Productivity Factor

- The data on distributor outputs and costs are used to estimate an econometric cost model, the parameters of which are used to calibrate the index model for computing the rate of growth of distributor total factor productivity.
- The data on distributor outputs and inputs then enter directly into the index model to calculate the rate of growth of outputs, inputs, and thus the rate of growth of total factor productivity.
- The estimated rate of growth of total factor productivity will be used to inform the Board's decision on the appropriate X-Factor.

1/5

Total Cost Benchmarking and Stretch Factor Tranches

- The data on distributor outputs and costs are used to estimate an econometric cost model, which is then used to predict the costs of each distributor.
- The actual recent data on distributor costs are then directly compared to those predicted by the econometric model, to calculate the relative efficiency of each distributor.
- The estimate relative efficiency rankings will be used to inform the Board's decision on the assignment of distributors to stretch factor tranches.

The reliance of 4GIRM on the Ontario distributor data means that it will be important for these data to be constructed accurately. In general, measurement error in any one of the variables will result in statistical inaccuracies, often of unpredictable direction, in each and every statistical measure which uses that variable in its calculations.

Prof. Yatchew has provided us the following examples of the possible impacts from data issues.

- Any measurement error which overstates distributor outputs will directly lead to a positive bias in the estimates of total factor productivity via the index approach. However, it will also have an unpredictable indirect effect, as these data are used in the estimation of the econometric cost model needed to calibrate the index approach. Similarly, measurement error which overstates distributor inputs will directly lead to a negative bias in the estimates of total factor productivity, as well as an unpredictable indirect bias via the econometric cost model.
- Any measurement error which overstates an individual distributor's capital or OM&A costs will directly result in that distributor erroneously appearing to be less cost inefficient. Similarly, any measurement error which understates any particular distributors outputs will directly result in that distributor erroneously appearing to be more cost inefficient.
- Furthermore, measurement error with respect to any particular distributor will have consequences for all other distributors: (i) every other distributor's relative efficiency ranking could be directly affected as it is now compared to an erroneously ranked peer, and (ii) every other distributor's actual relative efficiency score could be indirectly affected, as erroneous data will enter into the cost model calculations used for benchmarking.
- The integrity of the data for each distributor can potentially have an impact on other distributors as all data are used to calibrate and estimate the models.

As a result of finding some data discrepancies, EDA members have taken the initiative to conduct some data checks. It is our understanding that individual distributors have in some cases communicated directly with OEB staff on these data issues.

The following points provide some general observations brought to our attention by the various EDA members:

- The entries for 2012 OM&A also include OM&A costs incurred for the years 2006 through to 2011, (in addition to 2012 relating to the cost of the smart meters initiative). This is due to the prudence review completed in 2012 by many LDCs. Consequently, the 2012 OM&A is not reflective of the actual 2012 costs as it includes 2006 to 2011 smart meter OM&A costs.

- A review by individual EDA members of data included in PEG's spreadsheets have raised concerns related to data accuracy in applying Smart Meter costs in a manner that allows for comparable results amongst distributors. Inquiries made by EDA members with regards to smart meter costs have not yet been responded to.
- Smart Meter Costs for some distributors have not been included in the Data Request Results, due to either non-response of distributor or distributor response information not transferred to PEG's Spreadsheets.
- EDA members have raised concerns regarding the reasonability of certain 1997-2002 industry capital asset addition figures determined by the PEG Report by way of estimate. In particular, to estimate figures for the period of 1997-2002 where industry capital additions data were not available, PEG applied one of two estimation methods, on a case by case basis. However, PEG acknowledges that for some distributors (e.g. Entegrus Powerlines) neither method could generate especially plausible estimates of additions.
- There is the potential inconsistent interpretation amongst distributors in reporting total service area for RRR reporting purposes. For example, Entegrus Powerlines has historically reported just its licensed service territory, and not its total service area.
- For the year 2009, every distributor has the wrong value for the number of Large User Customers. This is because PEG has added the number of USL connections to this number.
- For the year 2008, every distributor has a zero entry for total Billed Distribution Revenues. This appears to be a formula error by PEG.
- For the years 2002 to 2004, PEG has inverted the mix of urban and rural service area for every distributor. The numbers were correct when supplied by the OEB.
- For the year 2010, every distributor has a zero entry for total Service Area and Urban and Rural Service Area. The numbers were correct when supplied by the OEB.
- The historical data for Street Lighting Accounts or Connections is inconsistent. PEG used the number of accounts from 2002 to 2004 and the number of connections 2006 to 2009. The data are missing for 2010 and 2011.
- For the year 2005, every distributor has the wrong number for Customer Street Lighting. The number that is used in the PEG file is Street Lighting kWh, not customers.
- For the year 2006, the PEG spreadsheet has billed distribution revenue for Sentinel Lighting, and nothing for Street lights.
- PEG's estimates of Entegrus Powerlines 1998-2002 capital asset additions are significantly overstated. For 1998-2002 capital asset additions, the entries for Entegrus should be adjusted from \$9.4 million per year to \$3.6 million per year. It appears that PEG made this previously requested correction in the database used for the benchmarking analysis, but not in the database used for the TFP analysis.
- The data for Guelph Hydro Electric Systems in 2006 and 2007 used by PEG are incorrect; 2006 customers should be 45,504 not 56,177 and 2007 number should be 46,276 not 58,941. This is the result of PEG not using the latest updated spreadsheet "Comparison of Distributors" dated December 3, 2012 in which Guelph Hydro corrected data errors reported in the customer numbers.
- The data on Guelph Hydro Electric Systems Large Use Customers and Street Lighting Accounts or Connections are incorrect. In 2009, Guelph Hydro had 4 Large Use Customers, not 44. In 2005, Guelph Hydro had 2 Street Lighting Accounts, or 11,838 Street Lighting Connections, not 8,540,031.
- The data on Guelph Hydro Electric Systems Sentinel Lights are incorrect. The 2005 observation should be 130,002 in 2005, instead of 36.
- For the year 2008, the entries for kW billed in total, and by customer class is erroneously zero for Kitchener-Wilmot Hydro.

- For the year 2011, the entry for Kitchener-Wilmot Hydro's municipal population is out of range.
- Comparing the provided PEG data to ENWIN Utilities Ltd.'s records shows discrepancies in the following items: customer numbers, deliveries, \$ deliveries of Large, % Deliveries to GS, Billed kW, average load factor, and % of kWh delivered to embedded distributions. ENWIN has provided the OEB with the correct information.
- For ENWIN Utilities, the Capital Worksheet erroneously shows a 2006 increase of \$8.8 million in USoA 1815 (TS Equipment) due to the change in accounting treatment (i.e. capitalization), rather than capital construction of the Ford Annex TS.
- For ENWIN Utilities, the Capital Worksheet erroneously indicates a 2007 net addition of \$51,164,158. This is due to a misinterpretation of the amalgamation of ENWIN Powerlines (the LDC) and ENWIN Utilities (the Services Company). The actual capital net additions are significantly closer to surrounding years with a value of approximately \$10 million.
- For ENWIN Utilities, the OM&A Worksheet data for 2007 "OM&A Calculation" is incorrect. The correct total should be \$19,512,613. This was brought to OEB staff's attention approximately 4-5 years ago.
- Review of ENWIN Utilities O&M accounts for HV costs has led to the determination that ENWIN recorded amounts related to these costs in USoA accounts 5112 and 5005, thus resulting in an understatement of HV costs.
- The EDA (on behalf of its members) has made a request to Hydro One for an explanation of how Low Voltage Charges that were provided to PEG. Several EDA members have not been able to reconcile this information with their annual Low Voltage Costs, and as a result they are unable to validate the data included in PEG's analysis.
- EDA members have found data issues with the LDC interest payments and KWH. This appears to be a problem across all LDCs.
- With respect to the Erie Thames data the former utility of Clinton Power did not file its 2008 2.1.7 (prior to the merger with Erie Thames) which creates a gap in the resulting data for the merged entity. This has been pointed out to the OEB. The utility was informed that the issue would not be corrected even though the data could be readily provided.
- Whitby Hydro has attempted to review some of the 2012 data updates, specifically in the file posted on the OEB website labeled: TFP and BM database calculations 2012 WP.xls and requests clarification/review of the following items:
 - 1) Tab – Capital Calculations for TFP – cell I1784 (Gross Plant net of CIAC) appears to have been reduced by smart meter capital costs. Assuming these data are used in the TFP/Benchmarking calculations, it should be noted that for Whitby Hydro the base number Gross Plant number does not seem to include smart meter costs, so it does not appear that this deduction makes sense.
 - 2) Tab – 20112 Data – cell D273. Similar to item 1), it appears that smart meter costs were deducted; however, they were not included in the original base number.
 - 3) The Deliveries numbers also appear to be incorrect for the years 2003-2005.

LDC member believe there may be other issues, but with limited time and understanding of PEG's various adjustments and calculations it has been difficult for members to reach a comfort level that all relevant data has been appropriately reviewed. LDCs have each been reviewing different areas of the various spreadsheets but realistically cannot check all cells of every spreadsheet (especially when it is not clear which data are in fact being used in the analysis). Many members have found it difficult to isolate, understand and piece together the relevant data. The methodology and calculations for adjustments are also difficult to follow. The EDA believes these data issues should be addressed.

Members are also seeking an information session which would outline the relevant data and data adjustments that will be used in the final 4GIRM calculations prior to finalizing and implementation of the results into the rate adjustment process. This would allow LDCs a “roadmap” to focus their efforts in a more streamlined manner and hopefully provide the necessary feedback to the OEB and consultant on how to improve the quality of the data, and as a result improve the understanding and integrity of the results.

Sincerely,

A handwritten signature in black ink that reads "Maurice Tucci". The signature is written in a cursive, flowing style.

Maurice Tucci
Director, Regulatory & Technical Policy
:mt

C.C. Gia DeJulio, Chair, EDA Regulatory Council