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BY E-MAIL

September 11, 2015

Kirsten Walli
Board Secretary
Ontario Energy Board
2300 Yonge Street, 27th Floor
Toronto, ON M4P 1E4

Dear Ms. Walli:

**Re: North Bay Hydro Distribution Ltd.
2015 Electricity Distribution Rates
Board Staff Submission on Lead Lag Study
Board File No. EB-2014-0099**

Please find attached OEB staff's submission on the filed lead lag study for North Bay Hydro Distribution Ltd.'s 2015 cost of service rate application. This document is also being forwarded to North Bay Hydro Distribution Ltd. and to the Vulnerable Energy Consumers Coalition, Energy Probe Research Foundation, School Energy Coalition and the North Bay Taxpayers Association.

Yours truly,

Original Signed

Stephen Vetsis
Advisor – Electricity Rates and Prices

Encl.

2015 ELECTRICITY DISTRIBUTION RATES
North Bay Hydro Distribution Ltd.

EB-2014-0099

OEB STAFF SUBMISSION

September 11, 2015

INTRODUCTION

On July 16, 2016, the Ontario Energy Board (OEB) issued a Decision and Order for North Bay Hydro Distribution Ltd.'s (North Bay Hydro) application for 2016 electricity rates. In its decision, the OEB approved rates on an interim, or temporary, basis pending the completion of a study to determine an appropriate working capital allowance for North Bay Hydro. The working capital allowance is the cash a utility needs in order to pay its operating, maintenance and administrative expenses during the time between when the utility spends money to provide service and when it receives payment from its customers.

Subsequent to that decision, North Bay Hydro filed the study, known as a lead-lag study. The OEB issued Procedural Order No. 3 in which it made provisions for OEB staff and intervenors to ask North Bay Hydro questions about the study.

This submission reflects observations which arise from OEB staff's review of the lead lag study filed by North Bay Hydro, as well as the responses to interrogatories from OEB staff and intervenors. It is intended to assist the OEB in deciding upon the appropriate working capital requirements that will result in just and reasonable rates for North Bay Hydro.

Lead Lag Study

OEB staff has reviewed the lead lag study filed by North Bay Hydro and takes no issue with the methodology used by Navigant Consulting Ltd. to calculate North Bay Hydro's working capital requirements. OEB staff notes that the lead lag study shows North Bay Hydro's billing lag of 23.97 days. The billing lag is the period between the time a utility reads a customer's meter in order to calculate consumption for a given period of service and the time the resulting bill is sent to that customer. Prior lead lag studies before the OEB have shown billing lags ranging from 7.7 to 19.0 days -- significantly below the billing lag reported by North Bay Hydro.¹

¹ The complete list is provided in OEB staff interrogatory, Staff-2, filed on August 18, 2015.

North Bay Hydro stated that its billing lag is affected by the fact that it relies on the IESO for certain market price information² in order to bill customers without interval meters. North Bay Hydro also states that it also waits for preliminary IESO rates³ to ensure more accurate bills to customers. Accuracy of billing is a very important goal. At question is whether North Bay can improve its process without sacrificing accuracy.

OEB staff notes that the accuracy of information necessary to accurately bill RPP customers (i.e. the prior months consumption and current RPP prices) is not improved by waiting for any data from the IESO. Most RPP customers are interval metered; even those which are not interval metered do not require any information from the IESO in order to bill customers. Once set by the OEB, RPP prices do not fluctuate and are therefore a known element for the purposes of billing. OEB staff does not know if there are limitations to North Bay's customer information system that have resulted in North Bay's current billing process. However, OEB staff submits that North Bay's approach does not represent best practice. This is evidenced by the shorter billing lags by other distributors. By waiting until after the IESO provides the preliminary market price information North Bay Hydro is introducing an unnecessary revenue lag for RPP customers and increasing the overall requirement for working capital in its revenue requirement. In making this submission, OEB staff recognizes that there are differences between the customer information systems (CIS) used by electricity distributors in Ontario. However, there is nothing on the record to indicate that North Bay has unique circumstances.

OEB staff estimates that North Bay Hydro's dollar weighted billing lag would decrease from 23.97 to 19.21 if an average billing lag of 14 days is used for RPP customers in the Residential and General Service less than 50 kW classes.

² North Bay Hydro has stated that it waits for the preliminary net system load shape (NSLS) from the IESO. The NSLS is calculated by taking the overall load profile of North Bay Hydro's customer and deductive the sum of all interval meters, such as smart meters, and fixed load profiles (such as street lighting). It is used to bill standard supply service customers without interval meters.

³ OEB understands this to mean rates related to Global Adjustment charges.

OEB staff selected fourteen days as an average time frame as follows:

- 1) allow approximately 5 days after the final day of the service period to perform any required corrections to smart meter data stored in the MDM/R
- 2) provide 3 days for the mailing of bills
- 3) allow an of average 6 days for the preparation of the bill.

This would provide an approximately 20 day cycle⁴ for North Bay Hydro to continue its practise of staggering its billing in order to manage the workload of its personnel. North Bay Hydro currently generates all of its bills in a 15 day window.

OEB staff notes that a dollar weighted billing lag of 19.21 would be in line with the upper limits shown in the lead lag studies filed with the OEB to date.

As shown in the calculations provided in Appendix A, North Bay Hydro's working capital requirement, as a percentage of OM&A and cost of power, would reduce from 10.4% to 9.1% by preparing bills 10 days earlier for RPP customers in the Residential and General Service < 50 kW classes. If this lower factor is adopted, North Bay Hydro's revenue requirement would increase from the interim amount approved in the settlement proposal by half as much as what North Bay has requested -- only about \$70,000 instead of the \$130,000 increase currently proposed. This difference amounts to \$300,000 over the full five-year term that this rebasing application will cover.

One of the outcomes of the Renewed Regulatory Framework for Electricity (RRFE) is to ensure continuous improvement in productivity and cost performance. The RRFE contains expectations that distributors should continuously strive to develop or adopt best practises. Other lead lag studies show that other distributors in Ontario are achieving lower billing lags. In doing so, they reduce the working capital requirements in their revenues and provide better value to their customers.

⁴ Using the mid-point method identified Appendix A of the lead lag study. 14 days = $[5 + 3 + 20]/2$.

A working capital requirement of 10.43% of OM&A and cost of power calculated by the lead lag study may be an accurate reflection of North Bay Hydro's current working capital needs based on North Bay's past processes. However, given that OEB's RRFE places emphasis on customer value, continuous improvement and incenting the adoption of best practises, OEB staff believes that the OEB should impose a working capital allowance of 9.1% of the sum of controllable OM&A expenses and the cost of power in order to drive efficiency, provide an incentive for North Bay Hydro to improve its billing operations and provide better value for its customers over the four years that will follow under the Price Cap incentive rate-setting term.

Incremental Costs for Study

In the cover letter filed with the lead lag study, North Bay Hydro indicated that it was quoted \$35,000 plus five percent as the cost of the lead lag study. North Bay Hydro noted that a final invoice had not yet been received and that some additional costs might arise in the completion of interrogatory responses in addition to legal support. Provided that the final costs for the study are in line with the amounts quoted by Navigant and provided that the final costs including any additional legal support are below the materiality threshold, OEB staff has no issue with the recovery of these costs as the amounts are immaterial and they are clearly incremental to the costs already approved by the OEB in the interim revenue requirement.

Appendix A – Calculations

This Appendix outlines the calculations undertaken to derive the working capital allowance amount if the average billing lag for RPP customers in the Residential and General Service (GS) less than 50 kW classes is reduced to 14 days.

In order to calculate a revenue weighted amount billing lag, revenues must be split between the Residential and GS < 50 kW classes. Table 1 below shows the proportion RPP and non-RPP consumption, in kWh and as a percentage, for both the Residential and GS < 50 kW classes. It is assumed that overall consumption patterns for RPP and non-RPP customers are relatively similar. Similarly it is assumed that average revenues per customer for distribution charges are relatively similar.⁵

Table 1 – RPP and non-RPP proportions of consumption

Class	RPP kWh	RPP %	non-RPP kWh	non-RPP %
Residential	205,497,425.00	93%	15,203,484.00	7%
GS < 50	84,361,037.00	87%	12,745,380.00	13%

Using these proportions of RPP and non-RPP consumption, a new revenue weighted billing lag is calculated in Table 2. Here the revenues for the Residential and GS < 50 kW classes have been split in to the RPP and non-RPP proportions using the percentages from Table 1. A billing lag of 14 days has been applied to the RPP revenues for the Residential and General Service < 50 kW classes. Table 2 below is a recalculation of the table provided by North Bay Hydro in response to Energy Probe 1.

⁵ The main difference in distribution revenues for non-RPP customers is the recovery of rate riders for balances related to variances in the Global Adjustment.

Table 2 – Dollar Weighted Billing Lag - 14 Day Lag for RPP Customers

Class	Revenues by Tariff Class	Revenue Weights	No. of Days From Meter Read Until the Bill is Sent	Dollar Weighted Meter Read to Bill Sent
Residential - RPP	\$ 33,309,820	35%	14	4.89
Residential - non-RPP	\$ 2,507,191	3%	24.49	0.64
GS < 50 - RPP	\$ 12,146,140	13%	14	1.78
GS < 50 - non-RPP	\$ 1,814,940	2%	23.33	0.44
GS > 50	\$ 29,396,968	31%	22.92	7.07
Intermediate	\$ 2,549,200	3%	27.08	0.72
Street Light	\$ 833,232	1%	23.73	0.21
Sentinel Lights	\$ 98,154	0%	23.68	0.02
USL	\$ 8,149	0%	26.61	0.00
Unsegregated	\$ 12,696,429	13%	25.02	3.33
Total	\$ 95,360,223	100%		19.12

The dollar weighted total billing lag, calculated in the table above, is used to calculate a new overall revenue lag for North Bay Hydro in Table 3 below. All other values in Table 3 remain unchanged from the lead lag study filed by North Bay Hydro.

Table 3 – Calculating Overall Revenue Lag Days

Description	Lag Days
Service Lag	15.25
Billing Lag	19.21
Collections Lag	24.56
Payment Processing Lag	1.8
Total	60.82

The working capital requirement is derived in Table 4. Table 4 is a recalculation of Table 2 from North Bay Hydro's lead lag study. By applying a revenue lag of 60.82 days, the working capital requirement is reduced to 9.07% of OM&A expenses and the cost of power.

Table 4 – Working Capital Requirement Calculation – Updated Revenue Lag

Description	Revenue Lag Days	Expense Lag Days	Net Lag Days	Working Capital Factor	Expenses	Working Capital Requirements
Cost of Power	60.82	33.02	27.8	7.62%	\$ 70,516,783	\$ 5,370,867.31
OM&A Expenses	60.82	15.28	45.54	12.48%	\$ 8,704,414	\$ 1,086,024.69
DRC	60.82	24.36	36.46	9.99%	\$ 1,778,578	\$ 177,662.89
PILS	60.82	-28.7	89.52	24.53%	\$ 500,000	\$ 122,630.14
Interest Expense	60.82	44.8	16.02	4.39%	\$ 1,089,717	\$ 47,828.13
Total						\$ 6,805,013.15
HST						\$ 377,663.00
Total - Including HST						\$ 7,182,676.15
Working Capital as a % of OM&A incl. Cost of Power						9.07%

Table 5 calculates the impact on the interim revenue requirement as a result of changes to the working capital allowance amount. The working capital allowance is reflected in the cost of capital portion of the revenue requirement. In order to derive the revenue requirement impact, the total rate base is calculated. The weighted cost of capital of 6.18% is then applied to total rate base in order to calculate the cost of capital portion of the revenue requirement. With the exception of the working capital rate, all parameters in Table 5 are from the Revenue Requirement Workform filed with North Bay Hydro's settlement proposal.

Based on the calculations below it can be seen that the 10.43% working capital rate calculated in the lead lag study would increase the interim revenue requirement by approximately \$130,000 relative to the level approved on an interim basis. Likewise, if the billing lag for RPP customers is reduced to 14 days, the interim revenue requirement would increase by only \$70,000.

Table 5 – Revenue Requirement Impact vs. Interim Rates

	Per Settlement	Per Lead Lag Study	Per Submission
Net Fixed Assets (Average)	\$ 53,415,660.00	\$ 53,415,660.00	\$ 53,415,660.00
Working Capital Base	\$ 71,798,244.00	\$ 71,798,244.00	\$ 71,798,244.00
Working Capital Rate	7.50%	10.43%	9.07%
Working Capital Allowance	\$ 5,384,868.30	\$ 7,488,556.85	\$ 6,512,100.73
Total Rate Base	\$ 58,800,528.30	\$ 60,904,216.85	\$ 59,927,760.73
Cost of Capital @ 6.18% of Rate Base	\$ 3,633,872.65	\$ 3,763,880.60	\$ 3,703,535.61
Revenue Requirement Impact vs. Interim Rates	-	\$ 130,007.95	\$ 69,662.96