



# Exhibit 4

Operations, Maintenance and  
Administration

*Additional Evidence*

1 The following is provided as additional evidence for NOTL Hydro's operations, maintenance and  
2 administration costs.

3  
4 Before providing additional evidence about its historic and forecast OM&A costs, NOTL Hydro  
5 believes that it is appropriate and important to put those costs in the context of the overall rates  
6 paid by its customers.

## 8 **Historical Rate Performance**

9 NOTL Hydro takes a holistic approach to its operations and rates. Part of our Mission Statement  
10 is that "*Niagara-on-the-Lake Hydro continuously seeks to provide low cost energy delivery, high*  
11 *reliability and high power quality.*" This is obtained by seeking a balance between costs,  
12 investments, reliability and power quality. Over-emphasis on one of these goals will result in the  
13 wrong mix of performance. NOTL Hydro believes it has performed strongly in achieving this  
14 balanced objective based on its performance across all categories.

15  
16 With regards to providing a low cost energy delivery, NOTL Hydro has gone from having one of  
17 the highest rates in the province to one of the lowest. In 1994, NOTL Hydro had the 4<sup>th</sup> highest  
18 residential rate of 111 Ontario electric utilities reporting their rates to the Municipal Electric  
19 Association. By 2018, NOTL Hydro had the 17<sup>th</sup> lowest residential rate of 71 LDCs (lowest  
20 quartile), the 23<sup>rd</sup> lowest GS<50 kW rate of 70 LDCs, the 3<sup>rd</sup> lowest GS>50 kW rate of 70 LDCs  
21 and the lowest Large User rate, based on the forecast consumption of our Large User, of 24  
22 LDCs.<sup>1</sup>

23  
24 NOTL Hydro believes that this record of improving rates is the best indicator of sound cost  
25 management. Looking at costs or cost increases on their own lacks the consideration that costs  
26 are only one factor that have an impact on rates and these factors need to be looked at in  
27 aggregate. Reliability and capital investments have not been sacrificed by NOTL Hydro and rates  
28 are falling in comparison to other Ontario LDCs.

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30  

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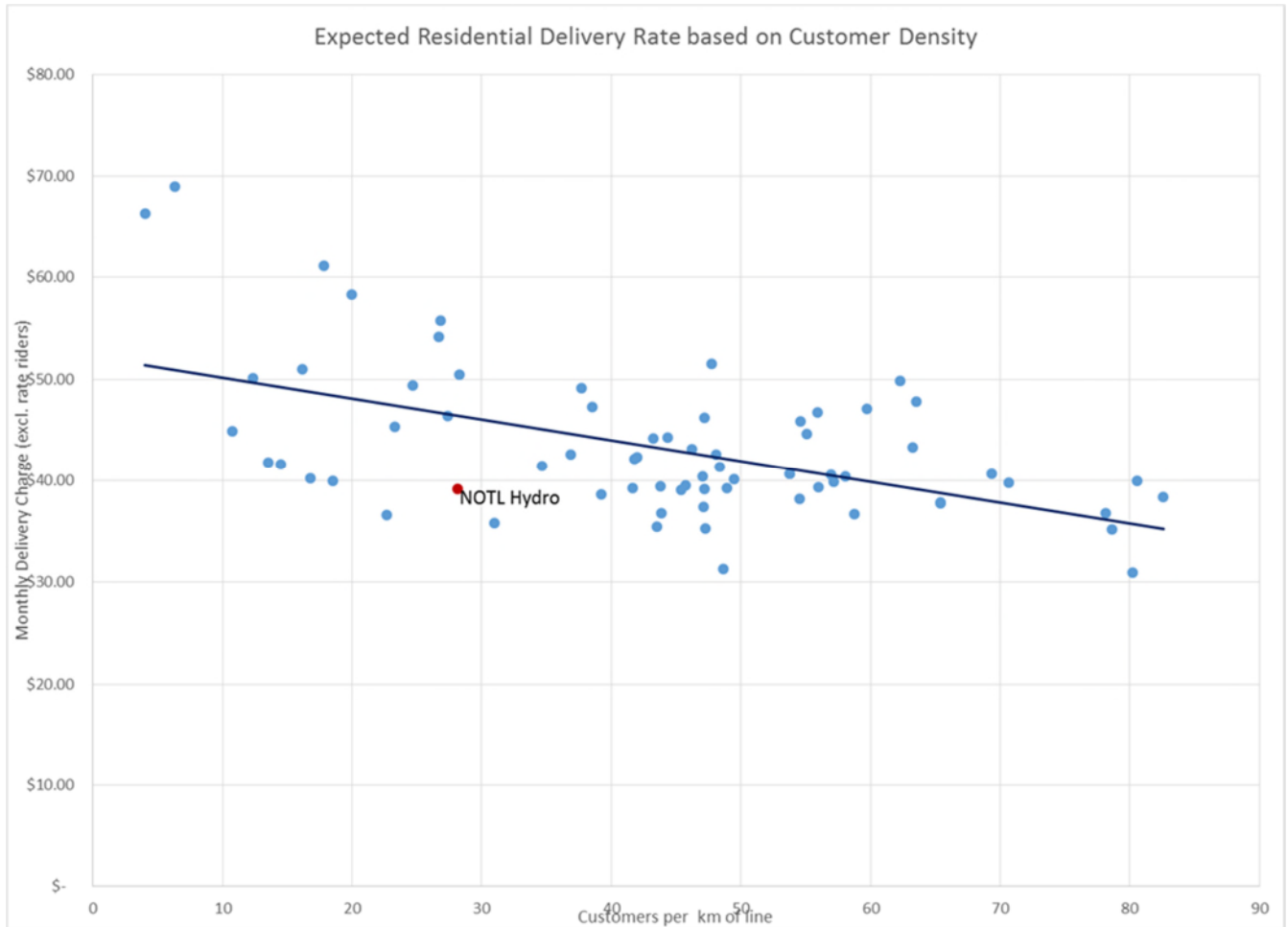
<sup>1</sup> Rates were calculated as the Delivery Rate excluding rate riders. Delivery rates capture investments in transmission assets and lowering line losses which increase distribution rates but lower overall rates. Rate riders are excluded as they are not income and vary based on timing of collecting energy costs.

## Rates vs. “Expected” Rates

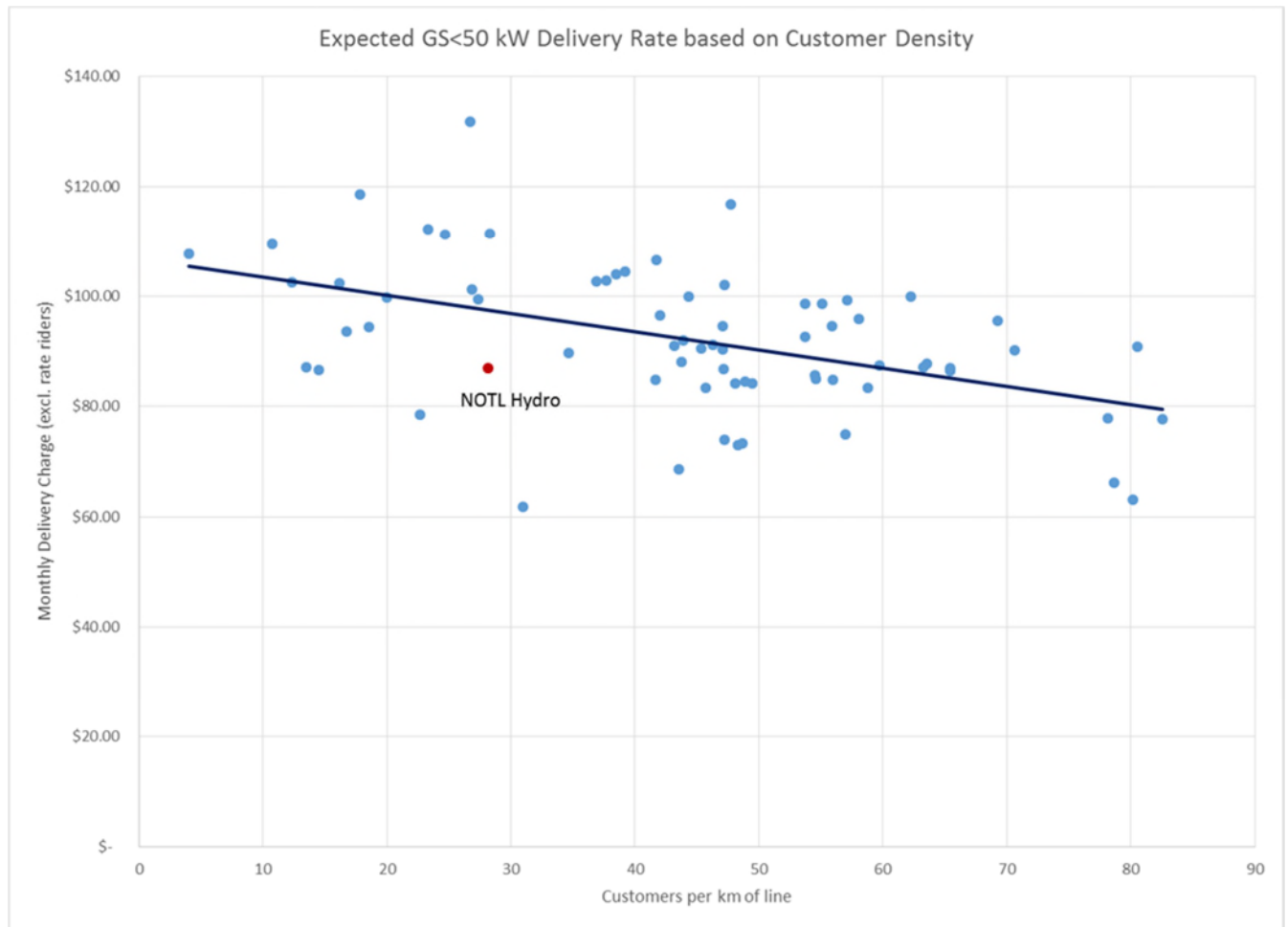
NOTL Hydro also notes that its rates are lower than would otherwise be expected. There is no perfect way to forecast what rates should be for an LDC but, based on its analysis, NOTL Hydro believes the variable with the biggest impact on rates is customer density. Rates and customer density showed the strongest correlation.

Using information from the approved rate decisions on the OEB website, NOTL Hydro has mapped its rates as at December 31, 2018 against rates of all LDCs based on customer density for both residential and GS<50 kV customer classes.

**Chart 1 – Expected Residential Delivery Rate based on Customer Density**



1 **Chart 2 – Expected GS<50 kW Delivery Rate based on Customer Density**



2  
 3  
 4 In both cases the actual rates are lower than what would be expected based on the rates of other  
 5 LDCs and their customer densities.

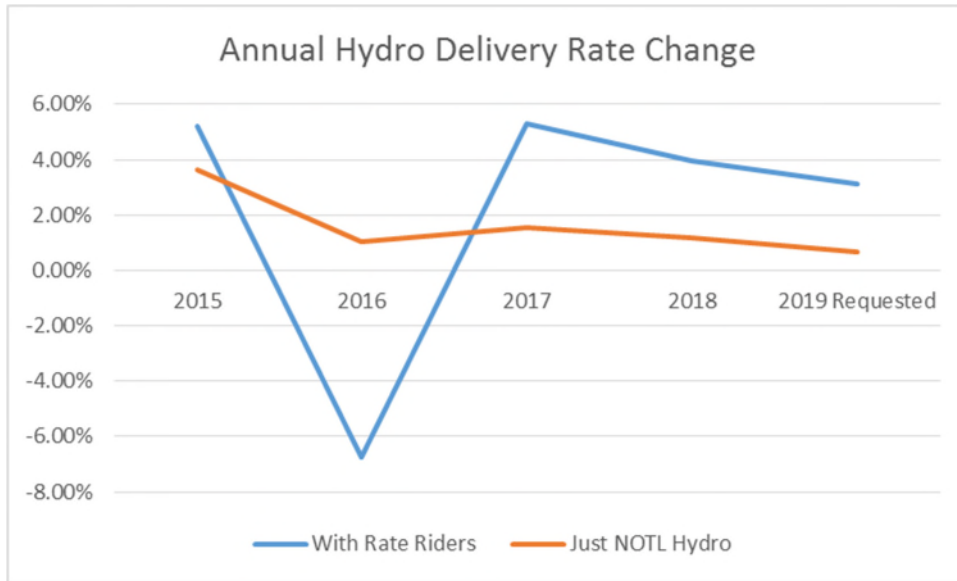
6  
 7 NOTL Hydro believes that this is evidence that it is performing better than what would otherwise  
 8 be expected. Sound cost management is a part of this performance.

9  
 10  
 11 **Rate Change**

12 The chart and table below provide the annual changes in NOTL Hydro's Delivery Charge. The  
 13 total change is shown as well as the change in the Delivery Charge less the rate riders. The rate  
 14 riders have been excluded as they vary from year-to-year based on the balances in the variance

accounts and are generally for the purpose of matching non-distribution receipts and payments. The one exception to this is the 2015 ICM rate rider. This was included as it will become distribution revenue of NOTL Hydro after this COS.

**Chart 3 – NOTL Hydro Annual Delivery Rate Change**



**Table 4 – NOTL Hydro Annual Delivery Rate Change**

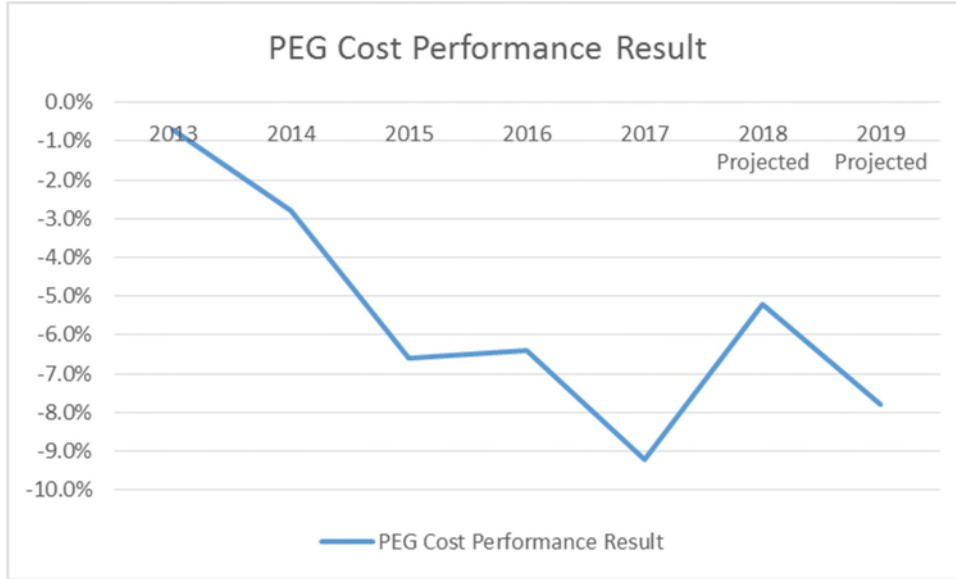
	2015	2016	2017	2018	2019 Requested
With Rate Riders	5.20%	-6.74%	5.28%	3.95%	3.14%
Just NOTL Hydro	3.61%	1.06%	1.55%	1.18%	0.67%

NOTL Hydro's rate increases since 2014 have been lower than the rate of inflation. This is a direct result of the IRM model and to be expected. The only exception was 2015 due to the ICM rate rider. If an LDC has been investing or increasing operating costs beyond what is necessary based on customer growth then it would be expected that a large rate increase would be required with the Cost of Service application. This is not the case for NOTL Hydro. The rate increase being sought is lower than in the IRM years.

## PEG Performance

Another illustration of NOTL Hydro's strong performance comes from the annual PEG rating.

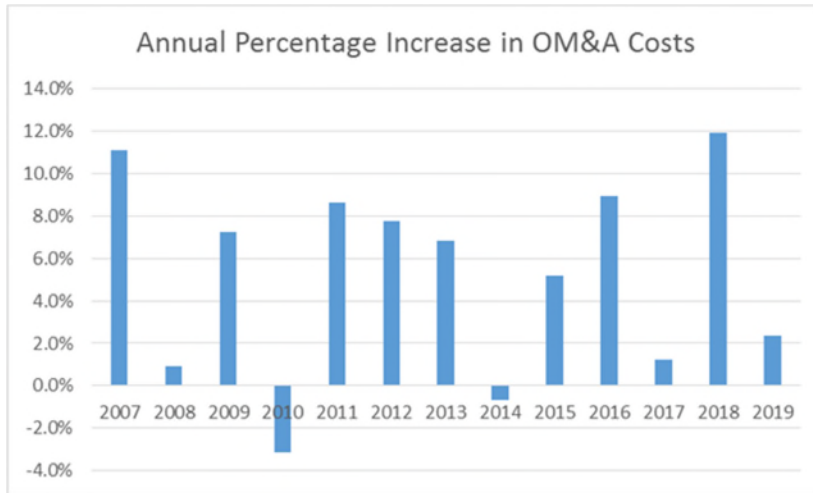
**Chart 5 – NOTL Hydro PEG Performance**



**Table 6 - NOTL Hydro PEG Performance**

	2013	2014	2015	2016	2017	2018 Projected	2019 Projected
PEG Cost Performance Result	-0.7%	-2.8%	-6.6%	-6.4%	-9.2%	-5.2%	-7.8%

As can be seen in the table and chart above, NOTL Hydro's PEG results demonstrate a significant trend in performance improvement. The performance decline in 2018 is due to a large increase in operating costs in that year. As noted in Table 4.5 on page 6 of Exhibit 4 of the original evidence and in the chart below, NOTL Hydro's operating cost increases are lumpy due to its smaller size. However, it is the trend over multiple years that matter more than one single year.

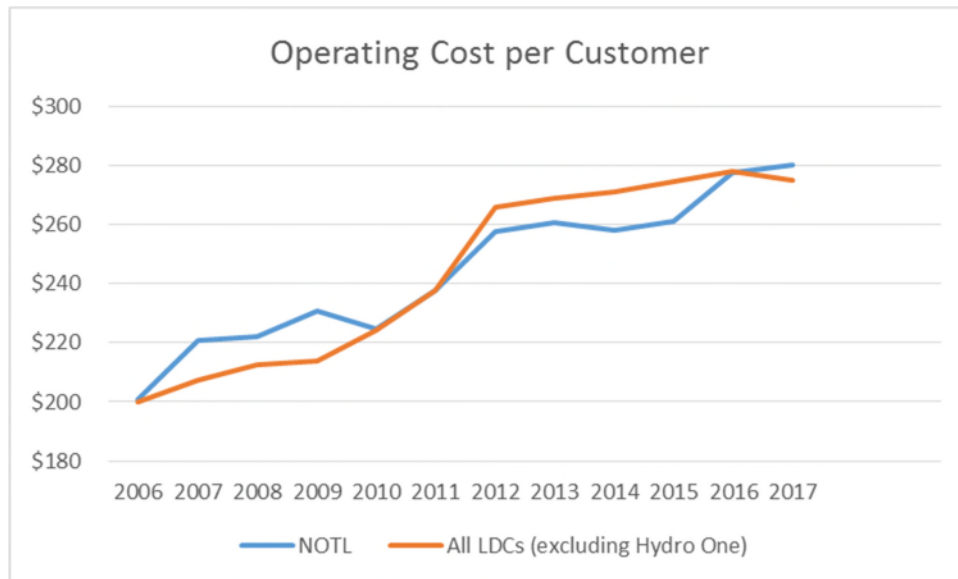
**Chart 7 – Annual Increase in NOTL Hydro OM&A Costs**

The PEG scores are a validation that NOTL Hydro is getting the mix of managing its growth, capital and operating costs in an appropriate manner. NOTL Hydro has consistently had a PEG rating of 3 but based on the trends it could improve to a 2 rating before the next cost of service application.

**OM&A Cost per Customer**

NOTL Hydro presented the chart below with 2016 data on page 19 of Exhibit 4 of its original submission. It has now been updated for 2017 full-year actual results. NOTL Hydro continues to track close to the industry average.

**Chart 8 – Operating Cost per Customer**



NOTL Hydro notes that 30% of its assets are transmission rather than distribution assets. Its costs therefore include the cost of operating and maintaining these assets; a cost many of the other LDCs do not have.

## OM&A Cost Drivers

NOTL Hydro's OM&A, as projected for 2019 and used to determine the rates in the above analysis, is \$2,964,765. This is an adjusted figure as the OM&A in the original application was \$2,974,186. The Board approved OM&A for 2014 was \$2,155,262 so there is an increase of \$809,503 or 37.56%. It must be noted, though, that the 2014 OM&A approved budget was part of an overall settlement of all of the utility's cost items. NOTL Hydro's actual 2014 OM&A costs were \$2,208,203 (approximately 2.5% higher than what was included in the settlement).

NOTL Hydro believes that it will be useful to the Board to collect relevant evidence into one place, and to provide more information about the drivers of the change in OM&A expenses. As described below, there are three main drivers of the increase between 2014 Board approved and 2019 forecast OM&A expenses:



## Table 9 – OM&A Cost Drivers

Inflation and growth	\$441,679	55%
Accounting standards change	\$130,784	16%
New or increased services	\$237,040	29%
Total	\$809,503	100%

## Inflation and Growth

Inflation has been calculated using the OEB approved inflation rates less the stretch factor adjustment. For NOTL Hydro this stretch factor adjustment was a reduction in inflation of 0.30% as NOTL Hydro is ranked in Group 3 as discussed above. An inflation rate of 1.70% was used for 2019.

The PEG report uses five factors to calculate the impact of growth on costs. These are customer growth, load growth, system peak growth, increase in distribution lines and acceleration in customer growth. NOTL Hydro used the first three in their calculation. There has been no noticeable change in either the amount of distribution lines or the rate of customer growth. The PEG elasticity factors used for customer growth was 0.4485, for load growth was 0.1083 and for system peak growth was 0.1623.

## Table 10 – Expected Increase in OM&A due to Inflation and Growth

Niagara-on-the-Lake Hydro Inc.  
OM&A Analysis  
2019 Cost of Service

	Board Approved 2014 BA	Actual				Projected		Variance 2019 vs. 2014 BA
		2014	2015	2016	2017	2018	2019	
<b>Total OM&amp;A Expenses</b>	2,155,262	2,208,203	2,323,119	2,532,191	2,595,121	2,904,865	2,964,765	809,503
2014 Adjustment: IFRS (President and VP Operations Capitalized Labour)	130,784						0	(130,784)
<b>Adjusted Total</b>	<b>2,286,047</b>						<b>2,964,765</b>	<b>678,718</b>
<b>Growth</b>	<b>2014</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2019 vs. 2014 BA</b>
Customers (excludes Street Light and USL)	8,499	8,551	8,839	9,115	9,299	9,444	9,626	1,127
<b>Customer Growth</b>		<b>0.62%</b>	<b>3.36%</b>	<b>3.13%</b>	<b>2.02%</b>	<b>1.55%</b>	<b>1.93%</b>	<b>13.26%</b>
kWh Delivered (total excluding losses)	187,976,750	189,355,729	193,845,050	202,468,101	196,959,263	203,217,805	222,679,374	34,702,624
<b>Load Growth</b>		<b>0.73%</b>	<b>2.37%</b>	<b>4.45%</b>	<b>(2.72%)</b>	<b>3.18%</b>	<b>9.58%</b>	<b>18.46%</b>
System Peak (MW)	44,925	40,558	43,895	47,702	41,660	52,067	53,377	8,452
<b>System Peak Growth</b>		<b>(9.72%)</b>	<b>8.23%</b>	<b>8.67%</b>	<b>(12.67%)</b>	<b>24.98%</b>	<b>2.52%</b>	<b>18.81%</b>
<b>Escalators</b>	<b>2014</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2019 vs. 2014 BA</b>
Inflation (OEB)		0.00%	1.60%	2.10%	1.90%	1.20%	1.70%	
Stretch Factor (PEG Group 3)		0.00%	0.30%	0.30%	0.30%	0.30%	0.30%	
Sub-Total		0.00%	1.30%	1.80%	1.60%	0.90%	1.40%	
Customer Growth (Growth x PEG Elasticity of 0.4485)		0.28%	1.51%	1.40%	0.91%	0.70%	0.87%	
kWh Growth (Growth x PEG Elasticity of 0.1083)		0.08%	0.26%	0.48%	(0.29%)	0.34%	1.04%	
System Peak (Growth x PEG Elasticity of 0.1623)		(1.58%)	1.34%	1.41%	(2.06%)	4.05%	0.41%	
<b>Total Escalator (lines 20 - 21 - 22 + 24)</b>		<b>(1.22%)</b>	<b>4.40%</b>	<b>5.09%</b>	<b>0.15%</b>	<b>6.00%</b>	<b>3.71%</b>	
Adjusted OM&A - Based on Escalators	2,286,047	2,258,120	2,357,457	2,477,479	2,481,319	2,630,091	2,727,725	441,679

As seen, inflation and growth accounts for just over half of NOTL Hydro's OM&A cost increases from 2014 to 2019. The reason that the impact of these factors was shown to be higher in the prefilled evidence (Table 4.6) and related interrogatory responses is that NOTL Hydro's earlier breakdown failed to include the impact of its change in capitalization to align with changes in accounting policy, the impact of which is described below.

### **Accounting Standards Change**

In 2014, NOTL Hydro was using Canadian GAAP as its accounting standard. In line with OEB requirements, NOTL Hydro converted to IFRS and 2019 costs are determined using IFRS. One significant difference between the two standards is the treatment of overhead for capitalization purposes. Canadian GAAP allowed an appropriate amount of senior management time to be included in capital costs while IFRS only allows time that can be directly charged to a project to be included. In 2014, both the President and the VP Operations booked time to capital while in 2019 this will be limited. The reduction in capitalized costs is \$130,784. It should be emphasized that these are not new expenditures to NOTL Hydro; just a change in how these costs are accounted for.

### **New or Increased Services**

The responsibilities of a business change over time due to changes in technologies, changes in customer demands and changes in regulations. The result of these changes is normally an increase in responsibilities and very rarely a decrease. In addition, certain costs have risen much faster than the rate of inflation.

Despite the growth in its customer base, NOTL Hydro is not able to include the costs of all of its new responsibilities within an OM&A budget that simply increases with inflation. These additional costs require additional budget (though, as shown above, NOTL Hydro's overall rate increases remain low).

Some of the new or increased services and costs that have increased OM&A are:

**Table 11 – New or Increased Services**

IT & Cyber security	67,394
Utilismart	56,844
Regulatory costs & survey	36,528
Locates	36,566
Health & Safety Consultant	31,367
Pole rentals	8,341
<b>Total</b>	<b>\$237,040</b>

**IT & Cyber Security**

In 2014 and prior, NOTL Hydro had no dedicated IT staff person. Most of the IT requirements were outsourced: the CIS system was maintained by UCS, the G/L was maintained by BDO and the network and firewall was monitored by Skycomp. The Operations Manager managed the remaining day-to-day IT requirements. By 2019 this is no longer sufficient. The online world is changing and the Board has recognized this with their Cyber Security initiative. NOTL Hydro has also recognized this as was evidenced by the IT security audit performed in 2017. As a result, the contract with Skycomp has been significantly enhanced so that greater services are being performed in line with the risks identified by the audit. In addition, one of the existing staff members is being trained in IT services so more of their time is dedicated to IT at NOTL Hydro and less to CDM. CDM charges did not affect OM&A so the result of this change is an increase in OM&A.

**Utilismart**

NOTL Hydro signed a contract with Utilismart in order to enhance the data available to its larger customers. This will be made available to the customers in early 2019. NOTL Hydro's current customer portal is Customer Connect which is part of the Northstar CIS system. While adequate for residential and small business customers, Customer Connect does not provide the detailed data larger customers will need to manage their costs. Utilismart Settlement Manager provides meter data collection and processing for monthly billing, which determines the weighted average price and net system load for our large user and generation customers. Settlement Manager also validates the data required to settle with the system operators, retailers and other market participants. Large user customers benefit by viewing real time meter data which can help identify when load shifting may reduce their monthly operation costs. Additionally, sample invoices may

be viewed at any time during the month to accrue monthly bills. While this is an expensive new cost, NOTL Hydro believes its customers will appreciate the improved service.

NOTL Hydro notes that some of this increased cost will be offset by the increase in the monthly MicroFIT charge.

### **Regulatory Costs and Survey**

Regulatory costs have increased in three areas since 2014.

#### **Table 12 – Regulatory Costs**

OEB charges	9,540
Cost of Service application	13,000
Survey and other	13,988
<b>Total</b>	<b>\$36,528</b>

OEB charges include the annual charge to NOTL Hydro as a regulated LDC to cover the OEB costs as well as any initiatives for which the OEB deems LDCs should be covering costs. NOTL Hydro has no control over these charges. The annual (over 5 years) as-filed cost of this application is expected to be \$13,000 higher than from the 2014 application. NOTL Hydro has made significant efforts to keep the cost of the application down such as not using a third party to prepare any of the evidence, particularly the Distribution System Plan. It now appears, however, that application costs may exceed the forecast amount because the case is proceeding to a full hearing before the OEB.

In 2013, NOTL Hydro conducted its own survey using its website and online survey tools. Requirements are now significantly different with the required use of a third party and statistically significant telephone surveys. This substantially increases the cost. NOTL Hydro tries to manage this cost by conducting the survey jointly with other members of CHEC. Based on quotes received for an individual survey this group approach saves around \$5,000.

### **Locates**

NOTL Hydro's locate costs have increased by \$36,566 or 49% since 2014. With public initiatives such as Ontario One Call, the awareness of the need for locates has increased substantially over

1 the past few years. NOTL Hydro supports these initiatives as safety must always be a top priority  
2 but notes that there is a cost to this increased awareness. NOTL Hydro notes that it has been  
3 able to negotiate so that the price per locate has only increased by 1% over the five years so the  
4 cost increase is driven by increased demand from third parties. NOTL Hydro has little control  
5 over most of this demand.

### 8 **Health and Safety Consultant**

9 In 2014 and prior, NOTL Hydro had no dedicated safety staff person. The role was jointly lead  
10 by the President and Operations Manager. This leadership was successful and NOTL Hydro was  
11 the first Ontario LDC to achieve the ZeroQuest Sustainability level in 2012. Given the importance  
12 of safety as its #1 core value, NOTL Hydro felt it would benefit from a third party service to help it  
13 continue to improve. This service is now being provided by a retired line supervisor from a larger  
14 LDC who is onsite 2-3 days a month. NOTL Hydro considers the added emphasis on safety  
15 facilitated by having a third party to be critical.

### 18 **Pole Rentals**

19 Pole rental costs will be increasing as a result of the Board decision on a province wide rate.  
20 NOTL Hydro rents the use of some poles from Bell Canada. NOTL Hydro notes that its own  
21 revenue will be increasing and that this is reflected in Other Revenue.

## 24 **Cost Management**

25 There is an expectation that LDCs will manage their costs appropriately. NOTL Hydro believes it  
26 has done so based on its rate management and other new or increased cost that it has absorbed  
27 through productivity improvements. Some of the examples of new services or increased costs  
28 that have been absorbed include:

- 30 • Postage costs have increased by 34%. This is due to the increases in postage rates and  
31 the increase in customers. NOTL Hydro tries to get customers to sign up for e-billing

1 which reduces postage costs but must still provide the mailing option. Over 20% of NOTL  
2 Hydro's customers are now on e-billing.

- 3 • NOTL Hydro outsourced its bill printing. This saved costs as gave NOTL Hydro access to  
4 group postage rates which offset the third party charges. The increase in postage costs  
5 would have been even higher without this action.
- 6 • NOTL Hydro has 5 net metering customers across 3 rate classes. Each of this is very  
7 difficult to implement due to the very different structure of net metering as compared to the  
8 traditional monthly bill.
- 9 • NOTL Hydro now has 4 ICI customers. It provides regular notices to these customers  
10 about potential high peak days. NOTL Hydro had no ICI customers in 2014.
- 11 • The net book value of NOTL Hydro's assets has increased 30% since 2014. This is not  
12 captured by the PEG analysis which only looks at distribution lines. These assets all need  
13 to be maintained.
- 14 • Included in the increase in assets is the installation of a number of smart switches,  
15 reclosures and tripsavers. NOTL Hydro has upgraded its SCADA system due to these  
16 devices and the changes to its transmission stations.
- 17 • As NOTL Hydro owns its transmission stations it is subject to a number of regulatory  
18 requirements that have grown since 2014. These include:
  - 19 ○ A Certificate of Approval is required from the Ministry of Environment showing  
20 monthly inspections of the containment pits around the transformers.
  - 21 ○ NOTL Hydro participates in the annual IESO load shedding test.
  - 22 ○ NOTL Hydro has an obligation to respond to the IESO within 15 minutes with a live  
23 operator for any switching requests.
- 24 • NOTL Hydro's postretirements actuarial costs have gone from a small annual credit in  
25 2014 to a \$29k annual cost due to changes in the age of its workforce.
- 26 • In 2014, one of the four linemen was an apprentice. This individual is now a full  
27 journeyman lineman. The incremental cost, aside from cost of living increases, is \$25k.  
28 Apprentices start at 55% of journeyman pay and work up to the 100%.
- 29 • The OEB RRR requirements have increased substantially since 2014. A much greater  
30 proportion of the time of the business analyst is now devoted to RRR reporting.
- 31 • Starting in 2014, NOTL Hydro implemented File Nexus. This system, which is integrated  
32 with the Northstar CIS system, saves pdf copies of all bills and correspondence. NOTL  
33 Hydro has removed over a dozen filing cabinets since this system implementation.

- The disconnection ban means customer service staff must chase payments which is very time consuming.
- The Ontario Electricity Support Program (OESP) requires daily monitoring for new sign-ups and for notification letters to be sent when the OESP is ending. The programming for this also has to be maintained on the CIS system. The OESP was not in place in 2014.
- The Fair Hydro Plan requires a calculation of the savings arising from the plan to be displayed on the bill. This requires significant ongoing maintenance as essentially doubles the work whenever there is a rate change. The Fair Hydro Plan was not in place in 2014.

The OM&A budget shows a staffing cost increase of 44%. However, NOTL Hydro's overall staffing costs (OM&A and capital) have only increased by 12%. This is much less than inflation plus growth. It is how these costs are accounted for that is affecting OM&A.

**Table 13 – Staffing Costs Allocation**

	2014	2019	% Change	Explanation
Total staffing cost	1,822,057	2,042,411	12%	- actual increase in total staffing costs
IFRS	130,784	-	-100%	- as per description above
Capital and third party work	528,634	496,975	-6%	- shift to service work
CDM	114,669	71,259	-38%	- shift to IT services as per above
Total non-operating staffing costs	774,087	572,527	-26%	
Total staffing OM&A	1,047,264	1,474,177	41%	

NOTL Hydro's staff count reduced from a little over 19 in 2014 to 18 in 2019. However, due to IFRS and the shift in their activities to operational from either capital or off-book funded (CDM), the cost of this staff has a much greater impact on operating expenses. NOTL Hydro notes that it has already exceeded its 2020 CDM target.