

January 20, 2017

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

**Re: Renfrew Hydro Inc.
EB-2016-0166 - 2017 COS Rates Application
Settlement Proposal**

Dear Ms. Walli:

Renfrew Hydro Inc. (RHI) is pleased to advise the Ontario Energy Board (OEB) that all Parties were able to arrive at a complete settlement with respect to the Applicant's 2017 Cost of Service application (EB-2016-0166). Pursuant to Procedural Order No. 2, please find attached the Settlement Proposal together with supporting documentation.

RHI confirms a copy of the Settlement Proposal has been filed through the OEB's e-filing service together with updated models. As per requirements, two copies will be mailed to the OEB's offices.

Should the OEB have questions regarding this matter please contact Cindy Marshall at cmarshall@renfrewhydro.com or myself at bnippard@renfrewhydro.com.

Respectfully Submitted,

Bill Nippard
President
Renfrew Hydro Inc.

Cc:	RHI:	Cindy Marshall
Cc:	OEB:	Ms. Georgette Vlahos
Cc:	Intervenors:	Vulnerable Energy Consumers Coalition,
Cc:	Legal Counsel:	Mr. Andrew Taylor

**Renfrew Hydro Inc.
2017 Cost of Service Application
Settlement Proposal
EB-2016-0166
Filed: January 20, 2017**

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LIST OF ATTACHMENTS

- A. Proposed January 1, 2017 Tariff of Rates and Charges
- B. Bill Impacts
- C. Revenue Requirement Workform
- D. 2016 and 2017 Fixed Asset Continuity Schedule
- E. Eaton – Draft Field Service Report – MS1 Sub

Note:

Renfrew Hydro Inc. has filed revised models as evidence to support this document. The models have been filed through the OEB's e-filing service and include:

- a) Filing Requirements Chapter 2 Appendices
- b) 2017 Load Forecast Model – Wholesale
- c) 2017 Revenue Requirement Workform
- d) 2017 EDDVAR Continuity Schedule
- e) 2017 RTSR Model
- f) 2017 Test Year Income Tax PILs Model
- g) 2017 Cost Allocation Model
- h) 2017 LRAMVA Model
- i) 2017 Smart Meter Model
- j) 2017 Bill Impact Model
- k) 2017 Proposed Tariff Sheet
- l) 2017 Fixed Asset Continuity Schedule

1. SETTLEMENT PROPOSAL

Renfrew Hydro Inc. (the "Applicant" or "RHI") filed a Cost of Service application with the OEB on August 22, 2016 under section 78 of the *Ontario Energy Board Act, 1998*, S.O. 1998, c. 15, (Schedule B) (the "Act"), seeking approval for changes to the rates that RHI charges for electricity distribution, to be effective January 1, 2017 (OEB file number EB-2016-0166) (the "Application").

The OEB issued a Notice of Hearing on September 21, 2016. On October 13, 2016, the OEB issued a Procedural Order No. 1, where the OEB approved Vulnerable Energy Consumers Coalition (VECC) for intervenor status as well as prescribing dates for the following: written interrogatories from OEB staff and VECC; RHI's responses to interrogatories; a Settlement Conference; and various other elements in the proceeding.

Following the receipt of interrogatories, RHI filed its interrogatory responses with the OEB on November 21, 2016.

On December 9, 2016 a non-transcribed technical conference by teleconference was held to clarify any matters arising from the interrogatories.

On December 14, 2016 following interrogatories and the issuance and responses to clarification questions, OEB Staff submitted a proposed issues list as agreed to by the Applicant, VECC and OEB staff (the "Parties") and confirmed that a settlement conference would occur in accordance with Procedural Order No. 2 .

The settlement conference was convened by way of teleconference on December 21 and 22, 2016 in accordance with the OEB's *Rules of Practice and Procedure* (the "Rules") and the OEB's Practice Direction on Settlement Conferences (the "Practice Direction").

RHI and the following participated in the settlement conference:

- Vulnerable Energy Consumers Coalition (VECC);
- OEB staff

The role adopted by OEB staff is set out on page 5 of the Practice Direction. In this particular case, OEB staff acted as a party to this Settlement Proposal and is bound by the same confidentiality and privilege rules that apply to the Parties to the proceeding.

This document is called a "Settlement Proposal" as this is a proposal by the Parties presented to the OEB to settle the issues in this proceeding. It is termed a proposal as between the Parties. However, as between the Parties, and subject only to the OEB approval of this Settlement Proposal, this document is intended to be a legal agreement, creating mutual obligations, and is binding and enforceable in accordance with its terms. As set forth later in this Preamble, this agreement is subject to a condition subsequent, that if it is not accepted by the OEB in its entirety, then unless amended by the Parties it is null and void and of no further effect. In entering into this agreement, the Parties understand and agree that, pursuant to the Act, the OEB has exclusive jurisdiction with respect to the interpretation and enforcement of the terms herein.

These settlement proceedings are subject to the rules relating to confidentiality and privilege contained in the Practice Direction. The Parties acknowledge that this settlement proceeding is confidential in accordance with the OEB's Practice Direction. The Parties understand that confidentiality in that context does not have the same meaning as confidentiality in the OEB's *Practice Direction on Confidential Filings*, and the rules of that latter document do not apply. Instead, in this settlement conference, and in this Settlement Proposal, the Parties have interpreted "confidential" to mean that the documents and other information provided during the course of the settlement proceeding, the discussion of each issue, the offers and counter-offers,

and the negotiations leading to the settlement – or not – of each issue during the settlement conference are strictly privileged and without prejudice.

None of the foregoing is admissible as evidence in this proceeding, or otherwise, with one exception, the need to resolve a subsequent dispute over the interpretation of any provision of this Settlement Proposal. Further, the Parties shall not disclose those documents or other information to persons who were not attendees at the settlement conference. However, the Parties agree that “attendees” is deemed to include, in this context, persons who were not physically in attendance at the settlement conference but were a) any persons or entities that the Parties engage to assist them with the settlement conference, and b) any persons or entities from whom they seek instructions with respect to the negotiations; in each case provided that any such persons or entities have agreed to be bound by the same confidentiality provisions.

This Settlement Proposal provides a brief description of each of the settled issues, as applicable, together with references to the evidence. The Parties agree that references to the “evidence” in this Settlement Proposal shall, unless the context otherwise requires, include a) additional information included by the Parties in this Settlement Proposal, and b) the Appendices to this document. The supporting Parties for each settled issue, as applicable, agree that the evidence in respect of that settled issue, is sufficient in the context of the overall settlement to support the proposed settlement, and the sum of the evidence in this proceeding provides an appropriate evidentiary record to support acceptance by the OEB of this Settlement Proposal. The Parties agree that references to the evidence in this Settlement Proposal shall, unless the context otherwise requires, include, in addition to the Application, the responses to interrogatories, responses to clarification questions and undertakings, and all other components of the record up to and including the date hereof, including additional information included by the Parties in this Settlement Proposal and the Attachments to this document.

Included with the Settlement Proposal are Attachments that provide further support for the proposed settlement. The Parties acknowledge that the Attachments were prepared by RHI. While VECC and OEB staff have reviewed the Attachments, they are relying on the accuracy of the underlying evidence in entering into this Settlement Proposal.

For ease of reference, this Settlement Proposal follows the format of the final Approved Issues List.

The Parties are pleased to advise the OEB that a complete settlement with respect to all of the issues in this proceeding was reached, specifically:

Description	Number of issues settled
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“Complete Settlement means an issue for which complete settlement was reached by all Parties, and if this Settlement Proposal is accepted by the OEB, the Parties will not adduce any evidence of argument during the hearing in respect of these issues.	All
“Partial Settlement” means an issue for which there is partial settlement as RHI and the Intervenor who take any position on the issue were able to agree on some but not all aspects of the particular issues. If this Settlement Proposal is accepted by the OEB, the Parties who take any position on the issue will not adduce any evidence of argument during the hearing on those positions of the issues not addressed in the Settlement Proposal	Not Applicable
“No Settlement” means an issue for which no settlement was reached. RHI and the intervenors who take a position on the issue will adduce evidence and/or argument at the hearing on the issue.	Not Applicable

Per the Practice Direction (p.4), the Parties must consider whether a Settlement Proposal should include an appropriate adjustment mechanism for any settled issue that may be affected by external factors. These adjustments are specifically set out in the text of the Settlement Proposal.

The Parties have settled the issues as a package, and none of the parts of this Settlement Proposal are severable. If the OEB does not accept this Settlement Proposal in its entirety, then there is no settlement (unless the Parties agree in writing that any part(s) of this Settlement Proposal that the OEB does not accept may continue as a valid settlement without inclusion of any part(s) that the OEB does not accept).

If the OEB directs the Parties to make reasonable efforts to revise the Settlement Proposal, the Parties agree to use reasonable efforts to discuss any potential revisions, but no Party will be obligated to accept any proposed revision. The Parties agree that all the Parties who took a position on an issue must agree with any revised Settlement Proposal as it relates to that issue prior to its resubmission to the OEB.

Unless stated otherwise, the settlement of any issue in this proceeding and the positions of the Parties in this Settlement Proposal are without prejudice to the rights of the Parties to raise the same issue and/or to take any position thereon in any other proceeding, whether or not RHI is a party to such proceeding, so long as no Party shall take a position that would result in this Settlement Proposal not applying in accordance with the terms contained herein.

Where in this Agreement, the Parties “Accept” the evidence of RHI, or “Agree” to a revised term or condition, including a revised budget or forecast, then unless the Agreement expressly states to the contrary, the words “for the purpose of settlement of the issues herein” shall be deemed to qualify that acceptance or agreement.

2. SUMMARY

In reaching this Settlement, the Parties have been guided by the Filing Requirements for 2017 rates and the Approved Issues List.

This Settlement Proposal reflects a complete settlement of the issues in the proceeding.

The Parties have agreed to an effective date of January 1, 2017 for the proposed new rates. The proposed new rates can be implemented by RHI if approved by the OEB before February 10, 2017, when bills for January consumption will be issued.

The Parties note that this Settlement Proposal includes all tables, appendices and the live Excel models that represent the evidence and the settlement between the Parties at the time of filing the Settlement Proposal.

A Revenue Requirement Work Form, incorporating all terms that have been agreed to is filed as an Appendix to the Settlement Proposal. Through the settlement process, RHI has agreed to certain adjustments to its original 2017 Application. The changes are described in the following sections.

RHI has provided the following Table 1 highlighting the changes to its Rate Base and Capital, Operating Expenses and Revenue Requirement from RHI's Application as filed, and through interrogatories and clarifying questions and this Settlement Proposal.

Table 1- Summary of Changes

	Application (a)	IR Undertaking (b)	Variance (c) = (b)-(a)	Settlement (d)	Variance (e) = (d)-(b)
Rate Base	\$6,933,995	\$6,788,867	-\$145,128	\$6,684,775	-\$104,092
Weighted Average Cost of Capital	6.25%	5.67%	-0.61%	5.67%	0%
Return of Rate Base					
Deemed Interest Expense	\$180,866	\$146,205	-\$34,661	\$143,963	-\$2,242
Return on Deemed Equity	\$254,894	\$238,425	-\$16,469	\$234,769	-\$3,656
OM&A Expenses	\$1,549,280	\$1,553,280	\$4,000	\$1,473,280	-\$80,000
Amortization/Depreciation	\$247,981	\$245,809	-\$2,172	\$243,152	-\$2,657
Income Taxes (Grossed up)	\$23,047	\$20,526	-\$2,521	\$21,278	\$752

Service Revenue Requirement (before Revenues)	\$2,256,068	\$2,204,245	-\$51,823	\$2,116,443	-\$87,802
Revenue Offsets	\$107,550	\$107,550	\$0	\$113,005	\$5,455
Base Revenue Requirement	\$2,148,518	\$2,096,695	-\$51,823	\$2,003,438	-\$93,257
Grossed up Revenue Deficiency	\$290,308	\$207,074	-\$83,234	\$112,001	-\$95,073

Based on the above, and the evidence and rationale provided below, the Parties accept this Settlement Proposal as appropriate and recommend its acceptance.

Attachment A sets out an updated Tariff of Rates and Charges based on the outcome of this Settlement Proposal which is subject to the OEB's acceptance.

Table 2 and 3 below and Attachment B illustrate the updated Bill Impacts based on the results of this Settlement Proposal.

Table 2- 2017 Summary of Total Bill Impacts

Comparison of Total Bill at Current Rates with Total Bill at Proposed 2017 Rates

Rate Class	Usage		Current Rates	2017 Proposed Rates Total Bill	\$	%
	kWh	kW	Total Bill		Difference	Difference
Residential - RPP	750		146.62	151.01	4.39	3.00%
Residential - non-RPP	750		147.81	155.25	7.44	5.04%
Residential - RPP - 10th percentile	286		66.40	70.72	4.32	6.50%
Residential - non-RPP - 10th percentile	286		66.68	72.16	5.48	8.21%
GS<50 kW - RPP	2,000		394.06	404.59	10.53	2.67%
GS <50 kW - non-RPP	2,000		397.71	416.37	18.66	4.69%
GS 50 to 4,999 kW	61,605	156	10,786.67	11,217.54	430.87	3.99%
Unmetered Scattered Load	392		1,745.44	1,564.77	(180.67)	-10.35%
Street Lighting	90,251	250	20,712.09	20,467.96	(244.13)	-1.18%

Table 3- 2017 Proposed Rates – Summary of Monthly Change

Rate Class	Usage		A - Sub-Total Distribution		B – Sub-Total Distribution with DVA		C - Total Delivery		Total Bill Impact	
	kWh	kW	\$	%	\$	%	\$	%	\$	%
Residential - RPP	750		2.05	8.25%	3.40	10.23%	3.24	7.88%	4.39	3.00%
Residential - non-RPP	750		2.05	8.25%	6.10	18.30%	5.94	14.42%	7.44	5.04%
Residential - RPP - 10th percentile	286		3.12	17.20%	3.63	16.66%	3.57	14.39%	4.31	6.50%
Residential - non-RPP - 10th percentile	286		3.12	17.20%	4.66	21.34%	4.60	18.52%	5.48	8.21%
GS<50 kW - RPP	2,000		4.40	7.50%	7.80	9.81%	7.58	7.68%	10.52	2.67%
GS <50 kW - non-RPP	2,000		4.40	7.50%	15.00	18.81%	14.78	14.93%	18.66	4.69%
GS 50 to 4,999 kW	61,605	156	10.89	1.86%	336.88	52.63%	328.03	27.57%	430.88	3.99%
Unmetered Scattered Load	392		(162.26)	-10.91%	(160.18)	-10.74%	(160.22)	-10.72%	(180.67)	-10.35%
Street Lighting	90,251	250	(751.30)	-14.05%	(283.64)	-5.24%	(294.09)	-4.83%	(244.13)	-1.18%

Attachment B contains the Bill Impacts by rate class for all components of RHI's monthly electricity bill.

3. RENEWED REGULATORY FRAMEWORK FOR ELECTRICITY OUTCOMES

In reaching this Settlement Proposal, the Parties have taken into consideration the outcomes as defined by the *Renewed Regulatory Framework for Electricity* ("RRFE"). For the purpose of the settlement of the issues in this proceeding, and subject to the adjustments noted in this Settlement Proposal, the Parties accept that RHI's proposed rates in the 2017 Test Year will, in all reasonably foreseeable circumstances, allow the Applicant to meet its obligations to its customers while maintaining its financial viability. Further, RHI agrees to continue the evolution of its customer engagement efforts, and to link customer feedback to its capital planning.

4. PLANNING

4.1. Is the level of planned capital expenditures appropriate and is the rationale for planning and pacing choices appropriate and adequately explained, giving due consideration to?

- Customer feedback and preferences;
- Productivity;
- Benchmarking of costs;
- Reliability and service quality;
- Impact on distribution rates;
- Trade-offs with OM&A spending;
- Government-mandated obligations; and
- The objectives of the Applicant and its customers

The Parties accept the capital expenditures as appropriate subject to the following adjustments:

RHI agrees to use the amount of \$542,500 for 2017 capital additions to rate base which includes the following adjustments from the original application:

- The 2017 addition of the Hunter Gate project (\$102,000) originally planned for 2016, but delayed by the developer.
- The removal of the MS1 reclosers from the 2017 Test Year (\$300,000) in light of the findings from the draft Field Service Report for the MS1 Sub dated December 16, 2016, and attached to this Settlement Proposal at Attachment E. Based on the results from

the Report, the replacement of the MS1 breakers and underground cable is not required in 2017.

RHI also agrees to file as part of its next cost of service application a Distribution System Plan that:

- describes how outages are linked to defective equipment and how RHI will address such outages;
- includes a detailed asset condition assessment, including a health index and a description of how asset conditions were ascertained;
- includes business cases for material projects included in the DSP
- indicates how its capital plan is linked to customer feedback; and
- considers the pacing of material projects.

A summary of gross capital expenditures is presented in Table 4 below. The complete Fixed Asset Continuity Schedules for 2016 and 2017 are presented at Appendix D.

Table 4- 2016-2017 Capital Expenditures (Excluding Disposals)

2016	Application (a)	IR Undertaking (b)	Variance (c) = (b)- (a)	Settlement (d)	Variance (e) = (d)- (b)
System Access	\$95,000	\$5,197	-\$89,803	\$5,197	\$0
System Renewal	\$422,000	\$350,043	-\$71,957	\$350,043	\$0
System Service	\$10,000	\$0	-\$10,000	\$0	\$0
General Plant	\$20,500	\$34,750	\$14,250	\$34,750	\$0
Total	\$547,500	\$389,990	-\$157,510	\$389,990	\$0

2017	Application (a)	IR Undertaking (b)	Variance (c) = (b)-(a)	Settlement (d)	Variance (e) = (d)-(b)
System Access	\$5,000	\$5,000	\$0	\$107,000	\$102,000
System Renewal	\$615,000	\$615,000	\$0	\$315,000	-\$300,000
System Service	\$110,000	\$110,000	\$0	\$110,000	\$0
General Plant	\$10,500	\$10,500	\$0	\$10,500	\$0
Total	\$740,500	\$740,500	\$0	\$542,500	-\$198,000

For the purposes of settlement of all the issues in this proceeding, the Parties accept the evidence of RHI that the level of planned capital expenditures and the rationale for planning and pacing choices are appropriate to maintain system reliability, service quality objectives and the reliable and safe operations of the distribution system.

The Parties further accept that the Distribution System Plan filed in this proceeding, combined with the resources made available to RHI in the Test Year under the terms of this Settlement Proposal, will:

- Maintain system reliability and service quality objectives; and
- Allow adequate resources for expansion of the distribution network; and
- Maintain reliable and safe operation of its distribution system.

Evidence References

- Ex.1/Tab 1/Sch.1 – Management Discussion and Analysis
- Ex.1/Tab 2/Sch.4 – Rate Base and Capital Planning
- Ex.1/Tab 9/Sch.1 – Scorecard Performance Evaluation
- Exhibit 2: Rate Base including Ex. 2/Tab 5/Sch.1 – Distribution System Plan

IR Responses

- 2-Staff-15 to 2-Staff-42
- 2-VECC-4 to 2-VECC-17

Undertakings following Technical Conference

- JT1.2 to JT1.6

Supporting Parties

All

4.1.1. OPERATIONS, MAINTENANCE AND OPERATING EXPENSES

Is the level of planned Operations, Maintenance and Operating (“OM&A”) expenditures appropriate and is the rationale for planning choices appropriate and adequately explained, giving due consideration to:

- Customer feedback and preferences;
- Productivity;
- Benchmarking of costs;
- Reliability and service quality;
- Impact on distribution rates;
- Trade-offs with capital spending;
- Government-mandated obligations; and
- The objectives of the Applicant and its customers.

The Parties accept the OM&A expenditures as proposed by RHI subject to the adjustments set out in Table 5 below. The Parties have agreed that the total adjustment, an \$80,000 decrease in OM&A in the Test Year, is based on an “envelope” approach, so that any determination of potential budget reductions to reflect the OEB-approved 2017 OM&A will be at the discretion of RHI.

A summary of the adjusted OM&A expenditures is presented in Table 5 below. RHI has identified in the table below the revised OM&A budget for the 2017 Test Year.

Table 5- 2017 Test Year OM&A Expenditures

	Application (a)	IR Undertaking (b)	Variance (c) = (b)-(a)	Settlement (d)	Variance (e) = (d)-(b)
Operations	\$296,946	\$296,946	\$0	\$284,906	-\$12,040
Maintenance	\$196,759	\$196,759	\$0	\$171,759	-\$25,000
Billing and Collecting	\$467,660	\$467,660	\$0	\$448,699	-\$18,961
Community Relations	\$6,000	\$6,000	\$0	\$5,757	-\$243
Administration & General +LEAP	\$581,915	\$585,915	\$4,000	\$562,159	-\$23,756
Total	\$1,549,280	\$1,553,280	\$4,000	\$1,473,280	-\$80,000

4.1.2. OM&A Expenditures

For the purposes of the settlement of all issues in this proceeding, the Parties agree to reduce the OM&A expenditures in the 2017 Test Year by \$80,000, which further aligns with RHI's objective of continuous improvement and achieving productivity improvements.

Evidence References

- Ex.1/Tab 2/Sch.5 – Overview of Operation Maintenance and Administrative Costs
- Exhibit 4

IR Responses

- 4-Staff-50 to 4-Staff-59
- 4-VECC-29 to 4-VECC-37

Undertakings following Technical Conference

- JT1.1 and JT1.12

Supporting Parties

All

5. REVENUE REQUIREMENT

5.1. Are all elements of the Revenue Requirement reasonable, and have they been appropriately determined in accordance with OEB policies and practices?

The Parties accept the Revenue Requirement proposed by the Applicant including the specific adjustments as a result of the IR Responses and the Settlement Proposal that are summarized below and described in detail in the relevant sections:

- Section 5.1.1: Cost of Capital (Issues' list 2.1)
- Section 5.1.2: Rate Base(Issues' list 2.1)
- Section 5.1.3: Working Capital(Issues' list 2.1)
- Section 5.1.4: Depreciation(Issues' list 2.1)
- Section 5.1.5: Taxes(Issues' list 2.1)
- Section 5.1.6: Other Revenue(Issues' list 2.1)

A summary of the adjusted Revenue Requirement is presented in Table 6 below.

Table 6 - 2017 Revenue Requirement

	Application (a)	IR Undertaking (b)	Variance (c) = (b)-(a)	Settlement (d)	Variance (e) = (d)-(b)
OM&A Expenses	\$1,549,280	\$1,553,280	\$4,000	\$1,473,280	-\$80,000
Amortization/Depreciation	\$247,981	\$245,809	-\$2,172	\$243,152	-\$2,657
Property Taxes					
Capital Taxes					
Income Taxes (Grossed up) (PILS?)	\$23,047	\$20,526	-\$2,521	\$21,278	\$752
Other Expenses					
Return					
Deemed Interest Expense	\$180,866	\$146,205	-\$34,661	\$143,963	-\$2,242
Return on Deemed Equity	\$254,894	\$238,425	-\$16,469	\$234,769	-\$3,656
Service Revenue Requirement (before Revenues)	\$2,256,068	\$2,204,245	-\$51,823	\$2,116,443	-\$87,802
Revenue Offsets	\$107,550	\$107,550	\$0	\$113,005	\$5,455
Base Revenue Requirement	\$2,148,518	\$2,096,695	-\$51,823	\$2,003,438	-\$93,257
Grossed up Revenue Deficiency	\$290,308	\$207,074	-\$83,234	\$112,001	-\$95,073

An updated Revenue Requirement Work Form Model has been filed through the OEB's e-filing service.

Evidence References

- Exhibit 6

IR Responses

- 6-Staff-61

Undertakings following Technical Conference

- None

Supporting Parties

All

5.1.1. Cost of Capital

The Parties have agreed on the Applicant's proposal to use the deemed interest rate of 3.72% for long term debt. This proposed rate aligns with the updated 2017 cost of capital parameters issued by the OEB.

RHI has a \$2,705,168 Promissory note to the sole shareholder, the Town of Renfrew, signed January 1, 2001, with no specific terms of repayment, payable on demand, and at an interest rate of 7.25%. The interest rate of 7.25% per annum was based on the debt rate per annum established by the OEB as set out in Chapter 3 of the OEB's electricity Distribution Rate Handbook issued March 9, 2000. In compliance with OEB policy, which states that a utility should use the lower of the actual interest rate or the OEB prescribed debt, RHI has applied the current long-term debt rate deemed by the OEB for rate-setting purposes. Currently, RHI is paying interest only; no payments toward the principal have been made.

Table 7 below details the Cost of Capital parameters.

Table 7 - 2017 Cost of Capital

	Application (a)	IR Undertaking (b)	Variance (c) = (b)-(a)	Settlement (d)	Variance (e) = (d)-(b)
Capital Structure:					
Long-term debt Capitalization Ratio (%)	56.0%	56.0%	0.0%	56.0%	0.0%
Short-term debt Capitalization Ratio (%)	4.0%	4.0%	0.0%	4.0%	0.0%
Common Equity Capitalization Ratio (%)	40.0%	40.0%	0.0%	40.0%	0.0%
Preferred Shares Capitalization Ratio (%)					
	100.0%	100.0%	0.0%	100.0%	0.0%
Cost of Capital					
Long-term debt Cost Rate (%)	4.54%	3.72%	-0.82%	3.72%	0.0%
Short-term debt Cost Rate (%)	1.65%	1.76%	0.11%	1.76%	0.0%
Common Equity Cost Rate (%)	9.19%	8.78%	-0.41%	8.78%	0.0%
Preferred Shares Cost Rate (%)					

Evidence References

- Exhibit 5

IR Responses

- 5-Staff-60
- 5-VECC-41&42

Undertakings following Technical Conference

- None

Supporting Parties

All

5.1.2. Rate Base

The Parties accept the evidence of RHI that the rate base calculations, after making the adjustments as detailed in this Settlement Proposal, are reasonable and have been appropriately determined in accordance with OEB policies and practices. Table 8 below outlines RHI's Rate Base calculation.

Table 8- 2017 Rate Base

Particulars	Application (a)	IR Undertaking (b)	Variance (c) = (b)-(a)	Settlement (d)	Variance (e) = (d)-(b)
Gross Fixed Assets (avg)	\$15,495,709	\$15,273,851	-\$221,858	\$15,174,851	-\$99,000
Accumulated Depreciation (avg)	-\$9,556,595	-\$9,511,093	\$45,502	-\$9,509,764	\$1,329
Net Fixed Assets (avg)	\$5,939,114	\$5,762,757	-\$176,356	\$5,665,086	-\$97,671
Allowance for Working Capital	\$994,882	\$1,026,109	\$31,228	\$1,019,689	-\$6,420
Total Rate Base	\$6,933,995	\$6,788,867	-\$145,129	\$6,684,775	-\$104,092

Evidence References

- Exhibit 2

IR Responses

- none

Undertakings following Technical Conference

- none

Supporting Parties

All

5.1.3. Working Capital Allowance

The Working Capital Allowance base has been updated to reflect the agreed upon updates to:

- The load forecast adjusting the Cost of Power;
- The Retail Transmission Rates (Section 6.4.2)
- Low Voltage Rates (Section 6.4.1)

The Parties accept the revised Working Capital Allowance amount incorporating the changes noted above. Table 9 below illustrates the calculation of the Working Capital Allowance.

Table 9- 2017 Working Capital Allowance

Particulars	Application (a)	IR Undertaking (b)	Variance (c) = (b)-(a)	Settlement (d)	Variance (e) = (d)-(b)
Controllable Expenses	\$1,549,280	\$1,553,280	\$4,000	\$1,473,280	-\$80,000
Cost of Power	\$11,715,807	\$12,128,178	\$412,370	\$12,122,567	-\$5,611
Working Capital Base	\$13,265,087	\$13,681,458	\$416,370	\$13,595,847	-\$85,611
Working Capital Rate %	7.50%	7.50%	0.00%	7.50%	0.00%
Working Capital Allowance	\$994,881.55	\$1,026,109.33	\$31,228	\$1,019,689.00	-\$6,420

Evidence References

- Ex. 2/Tab 3/Sch. 1

IR Responses

- None

Undertakings following Technical Conference

- None

Supporting Parties

All

5.1.4. Depreciation

The Parties accept that the forecast depreciation/amortization expenses are appropriate.

The adjustment noted below is the result of the revised capital continuity statements to reflect the addition of the Hunters Gate project (+\$102,000) and the removal of the MS#1 reclosers (-\$300,000) to the 2017 Test Year. The Hunters Gate project was originally planned for 2016, but the developer has postponed the project until 2017. The MS1 reclosers were removed in light of the MS1 Report described above in section 4.1. As a result of the adjustment, the amortization expense for the 2017 Test Year was recalculated.

Table 10- 2017 Depreciation Expense

Particulars	Application (a)	IR Undertaking (b)	Variance (c) = (b)-(a)	Settlement (d)	Variance (e) = (d)-(b)
Depreciation Expense	\$247,981	\$245,138	-\$2,843	\$243,152	-\$1,986

Evidence References

- Ex.2/Tab 2/Sch.2
- Ex.4/Tab 8/Sch.1 to Ex.4/Tab 8/Sch.7

IR Responses

- 2.0-VECC-4
- 2.0-VECC-5
- 2.0-VECC-7

Undertakings following Technical Conference

- None

Supporting Parties

All

5.1.5. Taxes

For the purposes of settlement of all the issues in this proceeding, and subject to the other adjustments arising in this Settlement Proposal, the Parties accept the evidence of RHI that its forecast PILs, as updated for the settlement agreement is appropriate and has been correctly determined in accordance with OEB accounting policies and practices.

A summary of the adjusted PILs is presented in Table 11 below.

Table 11- 2017 Payment in Lieu of Taxes

Particulars	Application (a)	IR Undertaking (b)	Variance (c) = (b)-(a)	Settlement (d)	Variance (e) = (d)-(b)
PILs	\$23,047	\$20,526	-\$2,521	\$21,278	\$752

An updated PILs Model has been submitted in Live Excel format as part of this Settlement Proposal.

Evidence References

- Ex.4/Tab 9/Sch.1 to Sch.6
- Test Year Income Tax/PILs Work Form

IR Responses

- 4-Staff-55
- 4-VECC-38

Undertakings following Technical Conference

- None

Supporting Parties

All

5.1.6. Other Revenue

The Parties accept the evidence of RHI that its proposed Other Revenues are appropriate and have been correctly determined in accordance with OEB accounting policies and practices subject to an increase to the total forecast other revenue of \$5,455 for the test year. This increase is based on 1/5th of the forecasted gain on sale relating to the expected sale of a building in 2017.

Table 12- 2017 Other Revenues

	Application (a)	Undertaking (b)	Variance (c) = (b)-(a)	Settlement (d)	Variance (e) = (d)-(b)
Specific Service Charges	\$18,500	\$18,500	\$0	\$18,500	\$0
Late Payment Charges	\$20,000	\$20,000	\$0	\$20,000	\$0
Other Distribution/Operating Revenues	\$56,350	\$56,350	\$0	\$56,350	\$0
Other Income or Deductions	\$12,700	\$12,700	\$0	\$18,155	\$5,455
Total	\$107,550	\$107,550	\$0	\$113,005	\$5,455

Evidence References

- Ex.3/Tab 4

IR Responses

- 3-Staff-49
- 3-VECC-28

Undertakings following Technical Conference

- None

Supporting Parties

All

5.2. Has the Revenue Requirement been accurately determined based on these elements?

For the purposes of settlement of all the issues in this proceeding, and subject to the adjustments expressly noted in this Settlement Proposal, the Parties accept the evidence of RHI that the proposed Base Revenue Requirement has been determined accurately

6. LOAD FORECAST, COST ALLOCATION AND RATE DESIGN

6.1. Are the proposed load and customer forecast, loss factors, CDM adjustments and resulting billing determinants appropriate, and, to the extent applicable, are they an appropriate reflection of the energy and demand requirements of the applicant's customers?

The Parties accept the evidence of RHI that the methodology used for the load forecast, customer forecast, loss factors and Conservation and Demand Management ("CDM") adjustments, subject to the changes noted below, are appropriate. Specific adjustments as a result of IR responses and the Settlement Proposal are summarized immediately below and are described in detail in the specified sections further below:

- Section 6.1.1: Customer/Connections Forecast (Issues' list 3.1)
- Section 6.1.2: Load Forecast (Issues' list 3.1)
- Section 6.1.3: Loss Factors (Issues' list 3.1)
- Section 6.1.4: CDM Adjustments (Issues' list 3.1)

The resulting billing determinants are presented in Table 13 below.

Table 13- 2017 Billing Determinants (for CA and Rate Design)

Particulars	Application (a)	Undertaking (b)	Variance (c) = (b)-(a)	Settlement (d)	Variance (e) = (d)-(b)
Residential	3,835	3,835	0	3,835	0
kWh	28,929,066	29,935,715	1,006,649	29,993,952	58,238
			0		0
General Service < 50 kW	414	414	0	414	0
kWh	11,749,297	12,158,139	408,842	12,181,792	23,653
			0		0
General Service > 50 kW - 4999 kW	61	61	0	61	0
kWh	43,433,994	44,945,373	1,511,379	45,032,810	87,438
kW	122,368	122,131	-238	122,368	238
			0		0
Unmetered Scattered Load	34	34	0	34	0
kWh	149,640	154,847	5,207	155,148	301
			0		0
Streetlighting	1,199	1,199	0	1,199	0
kWh	1,082,279	1,119,940	37,660	1,122,118	2,179
kW	3,118	3,112	-6	3,118	6

Totals	5,543	5,543	0	5,543	0
kWh	85,344,276	88,314,013	2,969,737	88,485,821	171,808
kW	125,487	125,243	-244	125,487	244

An updated copy of RHI's Load Forecast Model has been submitted in Live Excel format as part of this Settlement Proposal.

Evidence References

- Ex.3
- RHI Load Forecast Model

IR Responses

- 3-Staff-43 to 3-Staff-48
- 3-VECC-18 to 3-VECC-27

Undertakings following Technical Conference

- JT1.7 to JT1.11

Supporting Parties

All

6.1.1. Customer/Connection Forecast

The Parties accept RHI's 2017 Test year customer / connection forecast as proposed in the Application with no changes and summarized below:

Table 14- Summary of Load Forecast Customer Count/Connections

Particulars	Application (a)	Undertaking (b)	Variance (c) = (b)-(a)	Settlement (d)	Variance (e) = (d)-(b)
Residential	3835	3835	0	3835	0
General Service < 50 kW	414	414	0	414	0
General Service > 50 to 4999 kW	61	61	0	61	0
Unmetered Scattered Load	34	34	0	34	0
Street Lighting	1199	1199	0	1199	0
Total Customers / Connections	5543	5543	0	5543	0

Evidence References

- Ex.3/Tab 1/Sch.10
- RHI Load Forecast Model

IR Responses

- 3-Staff-43 to 3-Staff-48
- 3-VECC-18 to 3-VECC-27

Undertakings following Technical Conference

- None

Supporting Parties

All

6.1.2. Load Forecast

The Parties agree to the following updates in the Load Forecast Model:

- A correction to the verified CDM adjustment related to the 2011-2014 CDM Program;
- A correction to the verified CDM results related to the 2015 CDM Program.

Table 15 below provides the weather normalized billed kWh forecast by rate class.

Table 15- Summary of Load Forecast Billed kWh (CDM Adjusted)

Particulars	Application (a)	Undertaking (b)	Variance (c) = (b)-(a)	Settlement (d)	Variance (e) = (d)-(b)
Residential	28,929,066	29,935,715	1,006,649	29,993,952	58,238
General Service < 50 kW	11,749,297	12,158,139	408,842	12,181,792	23,653
General Service > 50 to 4999 kW	43,433,994	44,945,373	1,511,379	45,032,810	87,438
Unmetered Scattered Load	149,640	154,847	5,207	155,148	301
Street Lighting	1,082,279	1,119,940	37,660	1,122,118	2,179
Total kWh	85,344,276	88,314,013	2,969,737	88,485,821	171,808

The billed demand forecast for the 2017 Test Year is based on an average ratio of kW to kWh for the classes that are billed distribution on a demand basis. Table 16 below shows the 2017 Test Year kW Forecast.

Table 16- Summary of Load Forecast kW (CDM Adjusted)

Particulars	Application (a)	Undertaking (b)	Variance (c) = (b)-(a)	Settlement (d)	Variance (e) = (d)-(b)
Residential					
General Service < 50 kW					
General Service > 50 to 4999 kW	118,024	122,131	4,107	122,368	238
Unmetered Scattered Load					
Street Lighting	3007	3,112	105	3,118	6
Total kW	125,493	125,243	-250	125,487	250

Evidence References

- Ex.3

- RHI Load Forecast Model

IR Responses

- 3-Staff-43 to 3-Staff-48
- 3-VECC-18 to 3-VECC-27

Undertakings following Technical Conference

- JT1.7 to JT1.10

Supporting Parties

All

6.1.3. Loss Factors

The Parties agree to the Loss Factors proposed in the Application with no changes as summarized below:

Table 17- 2017 Loss Factor

Particulars	Application (a)	IR Undertaking (b)	Variance (c) = (b)-(a)	Settlement (d)	Variance (e) = (d)-(b)
Loss Factor	1.081	1.081	0	1.081	0

The Parties acknowledge that the proposed Total Loss Factor of 1.081 was based on the five year historical average which has decreased from 1.0856 reported in the 2010 application (.4%). The five year historical average Distribution Loss of 1.0455 is also less than the 1.0499 reported in the 2010 application (.4%). RHI agrees to undertake a line loss system study in 2017 to look for opportunities to reduce Distribution System Losses. In addition to this, RHI will also examine the relationship with HONI and its supply to the substations to find opportunities to reduce its Total Loss Factor.

Evidence References

- Ex. 8/Tab 1/Sch.11

IR Responses

- 1-Staff-7

Undertakings following Technical Conference

- None

Supporting Parties

All

6.1.4. Load Forecast CDM Adjustments

The Parties agree to the Load Forecast CDM Adjustment by rate class proposed in the Application with changes as summarized below:

- The weight factors were updated on the CDM work form to adjust 2015 to 0.5, full year impact in 2016 and a half year impact in 2017. RHI has already accounted for the full year impact of 2015 CDM programs in its Load Forecast Model.

Table 18- Load Forecast CDM Adjustment

Particulars	Application (a)	Undertaking (b)	Variance (c) = (b)-(a)	Settlement (d)	Variance (e) = (d)-(b)
Residential	428,476	427,609	-866	369,372	-58,237
General Service < 50 kW	174,022	173,670	-352	150,017	-23,653
General Service > 50 to 4999 kW	643,312	642,011	-1,301	554,574	-87,437
Unmetered Scattered Load	2,216	2,212	-4	1,911	-301
Street Lighting	16,030	15,998	-32	13,819	-2,179
			0		0
Total kWh	1,264,056	1,261,500	-2,556	1,089,693	-171,807

Evidence References

- Ex.3/Tab 2

IR Responses

- 3-Staff-43 to 3-Staff-48
- 3-VECC-18 to 3-VECC-27

Undertakings following Technical Conference

- JT1.7 to JT1.10

Supporting Parties

All

6.1.5. Lost Revenue Adjustment Mechanism Variance Account (“ LRAMVA”) Threshold for Future Applications

The Parties agree to the below LRAMVA per class threshold for the purpose of future applications which reflects that annualized expected impact in 2017 of 2015, 2016 and 2017 CDM programs:

Table 19- DVA LRAM/LRAMVA Rate Rider

kWh	2017 Load	Share	Per Class Threshold
	Forecast		
Residential	30,363,324	33.9%	533,328
General Service < 50 kW	12,331,809	13.8%	216,607
General Service > 50 to 4999 kW	45,587,384	50.9%	800,737
Unmetered Scattered Load	157,058	0.2%	2759
Street Lighting	1,135,937	1.3%	19,953
Total	89,575,513	100.0%	1,573,384

Evidence References

- Ex.4/Tab 10/Sch.2

IR Responses

- 3-VECC-26-27
- 4-Staff-58-59
- 4-VECC-39-40

Undertakings following Technical Conference

- JT1.13

Supporting Parties

All

6.2. Is the proposed cost allocation methodology, allocations, and revenue-to-cost ratios appropriate?

The Parties accept the evidence of RHI that, subject to the adjustments identified below, the cost allocation methodology, allocations and revenue-to-cost ratios are appropriate.

RHI agrees to balance its revenue requirement across customer classes by using the OEB's standard methodology; that is by moving the revenue to cost ratios to the edge of the OEB range, if outside of the range, and then beginning with the lowest revenue to cost ratios, as determined by the cost allocation model, and increasing it until it matches the next lowest revenue to cost ratio, then continuing to increase each in this manner until the revenue requirement is balanced. The following Table 20 sets out the revenue to cost ratios settled upon by the Parties.

Table 20- Proposed 2017 Revenue to Cost Ratios

Particulars	Application (a)	Undertaking (b)	Variance (c) = (b)-(a)	Settlement (d)	Variance (e) = (d)-(b)
Residential	0.9649	0.9586	-0.0063	0.9563	-0.0023
General Service < 50 kW	1.2049	1.2004	-0.0045	1.2007	0.0003
General Service > 50 to 4999 kW	0.9035	0.9217	0.0182	0.9269	0.0052
Unmetered Scattered Load	2.2049	2.2105	0.0056	2.2009	-0.0096
Street Lighting	1.6049	1.5988	-0.0061	1.6000	0.0012

Table 21- 2017 Proposed 2018-2019 Revenue to Cost Ratios

Customer Class Name	2017	2017 Shortfall Reallocation	2018	2018 Shortfall Reallocation	2019	2019 Shortfall Reallocation
Residential	0.9563	244.8	0.9563	244.8	0.9563	244.8
General Service < 50 kW	1.2007	-24.8	1.2007	-24.8	1.2007	-24.8
General Service > 50 to 4999 kW	0.9269	-16,333.1	0.9670	-36,653.7	0.9730	-39,711.3
Unmetered Scattered Load	2.2009	4,157.1	1.6000	8,749.4	1.2000	11,807.0
Street Lighting	1.6000	11,955.9	1.2000	27,684.4	1.2000	27,684.4

The Parties accept the evidence of RHI that all elements of the cost allocation methodology allocation and Revenue-to-Cost ratios have been correctly determined in accordance with OEB policies and practices..

Evidence References

- Exhibit 7

IR Responses

- 7-VECC-43 to 7-VECC-44

Undertakings following Technical Conference

- JT1.14

Supporting Parties

All

6.3. Are the applicant's proposals, including the proposed fixed/variable splits, for rate design appropriate?

The Parties accept the evidence of RHI that all elements of the rate design have been correctly determined in accordance with OEB policies and practices. Specific adjustments to the rate design as a result of the IR Responses and the Settlement Proposal are summarized below and are described in detail in the specific sections further below.

- Section 6.3.1 – Residential Rate Design
- Section 6.3.2 – Tariff Sheet Updates

The resulting distribution rates are presented in Table 22 below.

Table 22- January 1, 2017 Distribution Rates

Customer Class Name	per	Fixed Rate	Fixed %	Variable Rate	Variable %
Residential	kWh	\$17.30	69.75%	0.0115	30.25%
General Service < 50 kW	kWh	\$31.25	45.47%	0.0153	54.53%
General Service > 50 to 4999 kW	kW	\$189.27	30.95%	2.8636	69.05%
Unmetered Scattered Load	kWh	\$38.95	97.24%	0.0029	2.76%
Street Lighting	kW	\$2.72	68.73%	5.7112	31.27%

Evidence References

- Exhibit 8

IR Responses

- 8-Staff-62 to 8-Staff-63
- 8-VECC-45

Undertakings following Technical Conference

- None

Supporting Parties

All

[6.3.1. Residential Rate Design](#)

Under the OEB's new Policy entitled "*A New Distribution Rate Design for Residential Electricity Customers*" (EB-2012-0140), distributors are required to structure Residential distribution rates so that all costs for distribution service are collected through a fixed monthly charge within four years (i.e.: by 2019).

The Parties agree to the proposed implementation of a fixed monthly distribution charge for Residential customers over four years. The first year of the four year transition for RHI will be 2017.

Evidence References

- Ex.8/Tab 1/Sch. 2 to Sch. 3

IR Responses

- 8-Staff-63

Undertakings following Technical Conference

- None

Supporting Parties

All

6.3.2. Tariff Sheet Updates

The Parties agree to update the proposed tariff sheets to reflect the adjustments from the IR Responses and the Settlement Proposal.

These revised tariff sheets are in Attachment A.

Evidence References

- None

IR Responses

- None

Undertakings following Technical Conference

- None

Supporting Parties

All

6.4. Are the proposed Retail Transmission Service Rates and Low Voltage service rates appropriate?

The Parties accept the evidence of RHI that all elements of the Retail Transmission Service Rates and Low Voltage Service Rates have been correctly determined in accordance with OEB policies and practices. Specific adjustments to the rates as a result of the IR Responses and the Settlement Proposal are summarized immediately below and described in detail in the specified sections further below:

- Section 6.4.1 – Low Voltage Service Rates
- Section 6.4.2 – Retail Transmission Service Rates

6.4.1. Low Voltage Service Rates

Subsequent to updates related to interrogatories and this Settlement Proposal, the Parties have agreed to the Low Voltage rates presented in Table 23 below.

Table 23- Low Voltage Service Rates

	Application (a)	Undertaking (b)	Variance (c) = (b)- (a)	Settlement (d)	Variance (e) = (d)- (b)
Customer Class					
Residential	0.0011	0.0022	0.0011	0.0022	0
General Service < 50 kW	0.001	0.0020	0.001	0.0020	0
General Service > 50 to 4999 kW	0.3733	0.7602	0.3869	0.7587	-0.0015
Unmetered Scattered Load	0.001	0.0020	0.001	0.0020	0
Street Lighting	0.2885	0.5877	0.2992	0.5865	-0.0012

Evidence References

- Ex.8/Tab 1/Sch.10

IR Responses

- 8-VECC-46
- 8-Staff-62

Undertakings following Technical Conference

- JT1.16

Supporting Parties

All

6.4.2. Retail Transmission Service Rates ("RTSR")

The Parties have agreed to the RTSR rates presented in Table 24 below. An updated copy of the OEB's RTSR model has been submitted in live Excel format as part of this Settlement Proposal.

Table 24- RTSR Network and Connection Rates

Transmission - Network	Application (a)	Undertaking (b)	Variance (c) = (b)-(a)	Settlement (d)	Variance (e) = (d)-(b)
Residential	\$0.0064	\$0.0064	\$0.0000	\$0.0061	-\$0.0003
General Service < 50 kW	\$0.0058	\$0.0058	\$0.0000	\$0.0056	-\$0.0002
General Service > 50 to 4999 kW	\$2.3687	\$2.3687	\$0.0000	\$2.2653	-\$0.1034
Unmetered Scattered Load	\$0.0058	\$0.0058	\$0.0000	\$0.0056	-\$0.0002
Street Lighting	\$1.7864	\$1.7864	\$0.0000	\$1.7084	-\$0.0078
Residential	\$0.0035	\$0.0035	\$0.0000	\$0.0034	-\$0.0001
General Service < 50 kW	\$0.0033	\$0.0033	\$0.0000	\$0.0032	-\$0.0001
General Service > 50 to 4999 kW	\$1.2157	\$1.2157	\$0.0000	\$1.2014	-\$0.0143
Unmetered Scattered Load	\$0.0033	\$0.0033	\$0.0000	\$0.0032	-\$0.0001
Street Lighting	\$0.9398	\$0.9398	\$0.0000	\$0.9288	-\$0.0110

Evidence References

- Ex.8/Tab 1/Sch. 4
- RTSR Model

IR Responses

- 8-Staff-62

Undertakings following Technical Conference

- None

Supporting Parties

All

6.4.3. MicroFit rate change

In its application, RHI proposed increasing the Monthly Service Charge (MSC) for its MicroFIT accounts. The current MSC is \$5.40 however RHI incurs a \$10.00 monthly fee per MicroFIT meter point from its vendor and wishes to recover this cost from MicroFIT customers.

Based upon the evidence presented, the Parties agree to the increase of RHI's MicroFIT charge from \$5.40 to \$10.00 to better reflect administrative costs associated with MicroFIT accounts.

Evidence References

- Ex.3/Tab 4/Sch. 3

IR Responses

- 3-Staff-49

Undertakings following Technical Conference

- None

Supporting Parties

All

7. ACCOUNTING

- 7.1.1. Have all impacts of any changes in accounting standards, policies, estimates, and adjustments been properly identified and recorded, and is the rate-making treatment of each of these impacts appropriate?

Impacts of Changes in Accounting Standards

The Parties accept the evidence of RHI that all impacts of changes to accounting standards, policies, estimates, and adjustments have been properly identified and recorded in accordance with the OEB's policies and properly reflected in rates.

Deferral and Variance Accounts

The Parties accept the evidence of RHI that all elements of the deferral and variance accounts, including the balances in the existing accounts and their disposition periods as listed in 7.1.2 (Table 27) will commence January 1, 2017, as well as the continuation of existing accounts.

An updated EDDVAR Continuity Schedule is provided in working Excel format reflecting this Settlement Proposal and includes the calculation of the various riders discussed below.

Evidence References

- Ex.1/Tab 2/Sch. 8
- Ex. 8/Tab 1/Sch. 15
- Ex. 9

IR Responses

- 8-Staff-63
- 9-Staff-64
- 9-Staff-66 to 70
- 9-VECC-47

Undertakings following Technical Conference

- JT1.15

Supporting Parties

All

Table 25 below summarizes the amounts for disposition and Table 26 shows the rate riders by class.

Table 25- DVA Amounts for Disposition

	USoA	Allocator	Balances
LV Variance Account	1550	kWh	4,569
Smart Metering Entity Charge Variance Account	1551	# of Customers	(1,871)
RSVA - Wholesale Market Service Charge	1580	kWh	(23,007)
RSVA - Retail Transmission Network Charge	1584	kWh	33,177
RSVA - Retail Transmission Connection Charge	1586	kWh	95,386
RSVA - Power (excluding Global Adjustment)	1588	kWh	(31,996)
RSVA - Global Adjustment	1589	Non-RPP kWh	179,085
Disposition and Recovery/Refund of Regulatory Balances (2010)	1595	%	0
Disposition and Recovery/Refund of Regulatory Balances (2012)	1595	kWh	(9,674)
Disposition and Recovery/Refund of Regulatory Balances (2013)	1595	kWh	(2,427)
Disposition and Recovery/Refund of Regulatory Balances (2014)	1595	kWh	(2,126)
Disposition and Recovery/Refund of Regulatory Balances (2015)	1595	%	0
Total of Group 1 Accounts (excluding 1589)			62,031
Other Regulatory Assets - Sub-Account - Other	1508	kWh	1,541
Retail Cost Variance Account - Retail	1518	kWh	(6,811)
Misc. Deferred Debits	1525	kWh	23,458
Retail Cost Variance Account - STR	1548	kWh	36,608
Total of Group 2 Accounts			54,797
LRAM Variance Account (Enter dollar amount for each class)	1568		65,147
(Account 1568 - total amount allocated to classes)			65,154
Variance			(7)
Total of Group 1 Accounts (1550, 1551, 1584, 1586 and 1595)			117,035
Total of Account 1580 and 1588 (not allocated to WMPs)			(55,003)
Balance of Account 1589 Allocated to Non-WMPs			179,085
Group 2 Accounts (including 1592, 1532)			54,796
Accounting Changes Under CGAAP Balance + Return Component	1576	kWh	(839,148)
Total Balance Allocated to each class for Accounts 1575 and 1576			(839,148)

Table 26- DVA Rate Riders

Rate Rider Calculation for Deferral / Variance Accounts Balances (excluding Global Adj.)

1550, 1551, 1584, 1586, 1595

Rate Class (Enter Rate Classes in cells below)	Units	kW / kWh / # of Customers	Allocated Balance (excluding 1589)	Rate Rider for Deferral/Variance Accounts
RESIDENTIAL	kWh	29,993,952	\$ 38,617	0.0013
GENERAL SERVICE < 50 KW	kWh	12,181,792	\$ 16,188	0.0013
GENERAL SERVICE > 50 TO 4999 KW	kW	122,368	\$ 60,514	0.4945
UNMETERED SCATTERED LOAD	kWh	155,148	\$ 208	0.0013
STREET LIGHTING	kW	3,118	\$ 1,508	0.4836
	kWh	-	\$ -	-
	kW	-	\$ -	-
Total			\$ 117,035	

Rate Rider Calculation for Deferral / Variance Accounts Balances (excluding Global Adj.) - NON-WMP

1580 and 1588

Rate Class (Enter Rate Classes in cells below)	Units	kW / kWh / # of Customers	Allocated Balance (excluding 1589)	Rate Rider for Deferral/Variance Accounts
RESIDENTIAL	kWh	29,993,952	-\$ 18,644	- 0.0006
GENERAL SERVICE < 50 KW	kWh	12,181,792	-\$ 7,572	- 0.0006
GENERAL SERVICE > 50 TO 4999 KW	kW	122,368	-\$ 27,992	- 0.2288
UNMETERED SCATTERED LOAD	kWh	155,148	-\$ 96	- 0.0006
STREET LIGHTING	kW	3,118	-\$ 698	- 0.2237
	kWh	-	\$ -	-
Total			-\$ 55,003	

Rate Rider Calculation for RSVA - Power - Global Adjustment

Balance of Account 1589 Allocated to Non-WMPs

Rate Class (Enter Rate Classes in cells below)	Units	kWh	Balance of RSVA - Power - Global Adjustment	Rate Rider for RSVA - Power - Global Adjustment
RESIDENTIAL	kWh	990,906	\$ 3,604	0.0036
GENERAL SERVICE < 50 KW	kWh	1,873,494	\$ 6,814	0.0036
GENERAL SERVICE > 50 TO 4999 KW	kWh	45,095,566	\$ 164,015	0.0036
UNMETERED SCATTERED LOAD	kWh	155,364	\$ 565	0.0036
STREET LIGHTING	kWh	1,123,682	\$ 4,087	0.0036
Total			\$ 179,085	

Rate Rider Calculation for Group 2 Accounts

Rate Class (Enter Rate Classes in cells below)	Units	# of Customers	Balance of Group 2 Accounts	Rate Rider for RSVA - Power - Global Adjustment
RESIDENTIAL	# of Customers	3,835	\$ 18,574	\$ 0.40
GENERAL SERVICE < 50 KW	kWh	12,181,792	\$ 7,544	\$ 0.0006
GENERAL SERVICE > 50 TO 4999 KW	kW	122,368	\$ 27,888	\$ 0.2279
UNMETERED SCATTERED LOAD	kWh	155,148	\$ 96	\$ 0.0006
STREET LIGHTING	kW	3,118	\$ 695	\$ 0.2229
Total			\$ 54,797	

Rate Rider Calculation for Accounts 1575 and 1576

Please indicate the Rate Rider Recovery Period (in years)

Rate Class (Enter Rate Classes in cells below)	Units	# of Customers	Balance of Accounts 1575 and 1576	Rate Rider for Accounts 1575 and 1576
RESIDENTIAL	# of Customers	3,835	-\$ 284,445	- 1.5452
GENERAL SERVICE < 50 KW	kWh	12,181,792	-\$ 115,525	- 0.0024
GENERAL SERVICE > 50 TO 4999 KW	kW	122,368	-\$ 427,065	- 0.8725
UNMETERED SCATTERED LOAD	kWh	155,148	-\$ 1,471	- 0.0024
STREET LIGHTING	kW	3,118	-\$ 10,642	- 0.8532
Total			-\$ 839,148	

Rate Rider Calculation for Accounts 1568

Please indicate the Rate Rider Recovery Period (in years)

Rate Class (Enter Rate Classes in cells below)	Units	kW / kWh / # of Customers	Balance of Account 1568	Rate Rider for Account 1568
RESIDENTIAL	kWh	29,993,952	\$ 22,085	0.0007
GENERAL SERVICE < 50 KW	kWh	12,181,792	\$ 8,971	0.0007
GENERAL SERVICE > 50 TO 4999 KW	kW	122,368	\$ 33,153	0.2709
UNMETERED SCATTERED LOAD	kWh	155,148	\$ 117	0.0008
STREET LIGHTING	kW	3,118	\$ 827	0.2653
Total			\$ 65,154	

7.1.2. Disposition Period for Rate Riders

The Parties have agreed to the following disposition periods for Rate Riders

Table 27 – Disposition Period for Rate Riders

Description	RHI Recovery	Disposition
	(Refund to Customers)	Period
1550, 1551, 1584, 1586,1595	117,035.00	1
1580 and 1588 (WMS and Power)	(55,002.00)	1
1589 GA	179,085.00	1
Group 2	54,797.00	1
1568 LRAM	65,154	1
1576 (Depreciation)	(839,148.00)	4
Stranded Meters	54,954.00	4
Smart Meters	355,525.44	4

The Parties acknowledge that the disposition periods were proposed after an in-depth analysis of various scenarios. The periods listed above offered total bill impacts of less than 10% for each customer class as evidenced in Table 2. Longer disposition periods were chosen for 1576, Stranded Meters and Smart Meters to minimize the impact of the larger one-time rate riders.

ATTACHMENTS

Attachment A –RHI Proposed January 1, 2017 Tariff Sheets
Attachment B - RHI Updated Bill Impacts
Attachment C – Revenue Requirement Workform
Attachment D – 2016 and 2017 Fixed Asset Continuity Schedule
Attachment E – Eaton – Draft Field Service Report – MS1 Sub

[Attachment A –RHI Proposed January 1, 2017 Tariff Sheets](#)

Renfrew Hydro Inc.

TARIFF OF RATES AND CHARGES

Effective and Implementation Date January 1, 2017

This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors

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This classification applies to an account taking electricity at 750 volts or less where the electricity is used exclusively in a separate metered living accommodation. Customers shall be residing in single-dwelling units that consist of a detached house or one unit of a semi-detached, duplex, triplex or quadruplex house, with a residential zoning. Separately metered dwellings within a town house complex or apartment building also qualify as residential customers. Further servicing details are available in the distributor's Conditions of Service.

APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Board, and amendments thereto as approved by the Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Board, and amendments thereto as approved by the Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES – Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Board approval, such as the Debt Retirement Charge, the Global Adjustment, the Ontario Clean Energy Benefit and the HST.

MONTHLY RATES AND CHARGES - Delivery Component

Service Charge	\$	17.30
Rate Rider for Smart Metering Entity Charge - effective until October 31, 2018	\$	0.79
Distribution Volumetric Rate	\$/kWh	0.0115
Rate Rider for Stranded Meter (2017) - effective until December 31, 2020	\$	0.17
Rate Rider for Smart Meter Disposition (2017) - effective until December 31, 2020	\$	1.42
Rate Rider for Disposition of Deferral/Variance Accounts (2017) - effective until December 31, 2017	\$/kWh	0.0013
Rate Rider for Disposition of Deferral/Variance Accounts - NON_WMP (2017) - effective until December 31, 2017	\$/kWh	(0.0006)
Rate Rider for Disposition of Global Adjustment Account (2017) - effective until December 31, 2017 Applicable only for Non-RPP Customers	\$/kWh	0.0036
Rate Rider for Disposition of Gr 2 Deferral/Variance Accounts (2017) - effective until December 31, 2017	\$	0.40
Rate Rider for Accounting Changes in CGAAP (2017) - effective until December 31, 2020	\$	(1.55)
Rate Rider for Disposition of Lost Revenue Adjustment Mechanism Variance Account (2017) - effective until December 31, 2017	\$/kWh	0.0007
Low Voltage Service Rate	\$/kWh	0.0022
Retail Transmission Rate - Network Service Rate	\$/kWh	0.0061
Retail Transmission Rate - Line and Transformation Connection Service Rate	\$/kWh	0.0034

MONTHLY RATES AND CHARGES - Regulatory Component

Wholesale Market Service Rate - including CBR	\$/kWh	0.0036
Rural or Remote Electricity Rate Protection Charge (RRRP)	\$/kWh	0.0021
Ontario Electricity Support Program Charge (OESP)	\$/kWh	0.0011
Standard Supply Service - Administrative Charge (if applicable)	\$	0.25

ONTARIO ELECTRICITY SUPPORT PROGRAM RECIPIENTS

In addition to the charges specified on page 1 of this tariff of rates and charges, the following credits are to be applied to eligible residential customers.

APPLICATION

The application of the charges are in accordance with the Distribution System Code (Section 9) and subsection 79.2(4) of the Ontario Energy Board Act, 1998.

The application of these charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Ontario Energy Board, and amendments thereto as approved by the Ontario Energy Board, which may be applicable to the administration of this schedule.

Renfrew Hydro Inc.
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In this class:

"Aboriginal person" includes a person who is a First Nations person, a Métis person or an Inuit person;

"account-holder" means a consumer who has an account with a distributor that falls within a residential-rate classification as specified in a rate order made by the Ontario Energy Board under section 78 of the Act, and who lives at the service address to which the account relates for at least six months in a year;

"electricity-intensive medical device" means an oxygen concentrator, a mechanical ventilator, or such other device as may be specified by the Ontario Energy Board;

"household" means the account-holder and any other people living at the accountholder's service address for at least six months in a year, including people other than the account-holder's spouse, children or other relatives;

"household income" means the combined annual after-tax income of all members of a household aged 16 or over;

MONTHLY RATES AND CHARGES

Class A

- (a) account-holders with a household income of \$28,000 or less living in a household of one or two persons;
 - (b) account-holders with a household income of between \$28,001 and \$39,000 living in a household of three persons;
 - (c) account-holders with a household income of between \$39,001 and \$48,000 living in a household of five persons; and
 - (d) account-holders with a household income of between \$48,001 and \$52,000 living in a household of seven or more persons;
- but does not include account-holders in Class E.

OESP Credit \$ (30.00)

Class B

- (a) account-holders with a household income of \$28,000 or less living in a household of three persons;
 - (b) account-holders with a household income of between \$28,001 and \$39,000 living in a household of four persons;
 - (c) account-holders with a household income of between \$39,001 and \$48,000 living in a household of six persons;
- but does not include account-holders in Class F.

OESP Credit \$ (34.00)

Class C

- (a) account-holders with a household income of \$28,000 or less living in a household of four persons;
 - (b) account-holders with a household income of between \$28,001 and \$39,000 living in a household of five persons;
 - (c) account-holders with a household income of between \$39,001 and \$48,000 living in a household of seven or more persons;
- but does not include account-holders in Class G.

OESP Credit \$ (38.00)

Class D

- (a) account-holders with a household income of \$28,000 or less living in a household of five persons; and
 - (b) account-holders with a household income of between \$28,001 and \$39,000 living in a household of six persons;
- but does not include account-holders in Class H.

OESP Credit \$ (42.00)

Class E

Class E comprises account-holders with a household income and household size described under Class A who also meet any of the following conditions:

- (a) the dwelling to which the account relates is heated primarily by electricity;
- (b) the account-holder or any member of the account-holder's household is an Aboriginal person; or
- (c) the account-holder or any member of the account-holder's household regularly uses, for medical purposes, an electricity-intensive medical device at the dwelling to which the account relates.

OESP Credit \$ (45.00)

Class F

- (a) account-holders with a household income of \$28,000 or less living in a household of six or more persons;
- (b) account-holders with a household income of between \$28,001 and \$39,000 living in a household of seven or more persons; or
- (c) account-holders with a household income and household size described under Class B who also meet any of the following conditions:

- i. the dwelling to which the account relates is heated primarily by electricity;
- ii. the account-holder or any member of the account-holder's household is an Aboriginal person; or
- iii. the account-holder or any member of the account-holder's household regularly uses, for medical purposes, an electricity-intensive medical device at the dwelling to which the account relates

OESP Credit \$ (50.00)

Class G

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Class G comprises account-holders with a household income and household size described under Class C who also meet any of the following conditions:

- (a) the dwelling to which the account relates is heated primarily by electricity;
- (b) the account-holder or any member of the account-holder's household is an Aboriginal person; or
- (c) the account-holder or any member of the account-holder's household regularly uses, for medical purposes, an electricity-intensive medical device at the dwelling to which the account relates.

OESP Credit \$ (55.00)

Class H

Class H comprises account-holders with a household income and household size described under Class D who also meet any of the following conditions:

- (a) the dwelling to which the account relates is heated primarily by electricity;
- (b) the account-holder or any member of the account-holder's household is an Aboriginal person ; or
- (c) the account-holder or any member of the account-holder's household regularly uses, for medical purposes, an electricity-intensive medical device at the dwelling to which the account relates.

OESP Credit \$ (60.00)

Class I

Class I comprises account-holders with a household income and household size described under paragraphs (a) or (b) of Class F who also meet any of the following conditions:

- (a) the dwelling to which the account relates is heated primarily by electricity;
- (b) the account-holder or any member of the account-holder's household is an Aboriginal person; or
- (c) the account-holder or any member of the account-holder's household regularly uses, for medical purposes, an electricity-intensive medical device at the dwelling to which the account relates.

OESP Credit \$ (75.00)

GENERAL SERVICE LESS THAN 50 KW SERVICE CLASSIFICATION

This classification applies to a non residential account taking electricity at 750 volts or less whose average monthly maximum demand is less than, or is forecast to be less than, 50 kW. Further servicing details are available in the distributor's Conditions of Service.

APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Board, and amendments thereto as approved by the Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Board, and amendments thereto as approved by the Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES – Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Board approval, such as the Debt Retirement Charge, the Global Adjustment, the Ontario Clean Energy Benefit and the HST.

MONTHLY RATES AND CHARGES - Delivery Component

Service Charge	\$	31.25
Rate Rider for Smart Metering Entity Charge - effective until October 31, 2018	\$	0.79
Distribution Volumetric Rate	\$/kWh	0.0153
Rate Rider for Stranded Meter (2017) - effective until December 31, 2020	\$	0.30
Rate Rider for Smart Meter Disposition (2017) - effective until December 31, 2020	\$	3.10
Rate Rider for Disposition of Deferral/Variance Accounts (2017) - effective until December 31, 2017	\$/kWh	0.0013
Rate Rider for Disposition of Deferral/Variance Accounts - NON_WMP (2017) - effective until December 31, 2017	\$/kWh	-0.0006
Rate Rider for Disposition of Global Adjustment Account (2017) - effective until December 31, 2017 Applicable only for Non-RPP Customers	\$/kWh	0.0036
Rate Rider for Disposition of Gr 2 Deferral/Variance Accounts (2017) - effective until December 31, 2017	\$/kWh	0.0006

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Rate Rider for Accounting Changes in CGAAP (2017) - effective until December 31, 2020	\$/kWh	-0.0024
Rate Rider for Disposition of Lost Revenue Adjustment Mechanism Variance Account (2017) - effective until December 31, 2017	\$/kWh	0.0007
Low Voltage Service Rate	\$/kWh	0.0020
Retail Transmission Rate - Network Service Rate	\$/kWh	0.0056
Retail Transmission Rate - Line and Transformation Connection Service Rate	\$/kWh	0.0032
MONTHLY RATES AND CHARGES - Regulatory Component		
Wholesale Market Service Rate - including CBR	\$/kWh	0.0036
Rural or Remote Electricity Rate Protection Charge (RRRP)	\$/kWh	0.0021
Ontario Electricity Support Program Charge (OESP)	\$/kWh	0.0011
Standard Supply Service - Administrative Charge (if applicable)	\$	0.25

GENERAL SERVICE 50 TO 4,999 KW SERVICE CLASSIFICATION

This classification applies to a non residential account whose average monthly maximum demand used for billing purposes is equal to or greater than, or is forecast to be equal to or greater than, 50 kW but less than 5,000 kW. Further servicing details are available in the distributor's Conditions of Service.

APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Board, and amendments thereto as approved by the Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Board, and amendments thereto as approved by the Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES – Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Board approval, such as the Debt Retirement Charge, the Global Adjustment, the Ontario Clean Energy Benefit and the HST.

MONTHLY RATES AND CHARGES - Delivery Component

Service Charge	\$	189.27
Distribution Volumetric Rate	\$/kW	2.8636
Rate Rider for Stranded Meter (2017) - effective until December 31, 2020	\$	6.03
Rate Rider for Smart Meter Disposition (2017) - effective until December 31, 2020	\$	11.60
Rate Rider for Disposition of Deferral/Variance Accounts (2017) - effective until December 31, 2017	\$/kW	0.4945
Rate Rider for Disposition of Deferral/Variance Accounts - NON_WMP (2017) - effective until December 31, 2017	\$/kW	(0.2288)
Rate Rider for Disposition of Global Adjustment Account (2017) - effective until December 31, 2017 Applicable only for Non-RPP Customers	\$/kWh	0.0036
Rate Rider for Disposition of Gr 2 Deferral/Variance Accounts (2017) - effective until December 31, 2017	\$/kW	0.2279
Rate Rider for Accounting Changes in CGAAP (2017) - effective until December 31, 2020	\$/kW	(0.8725)
Rate Rider for Disposition of Lost Revenue Adjustment Mechanism Variance Account (2017) - effective until December 31, 2017	\$/kW	0.2709
Low Voltage Service Rate	\$/kW	0.7587
Retail Transmission Rate - Network Service Rate	\$/kW	2.2653
Retail Transmission Rate - Line and Transformation Connection Service Rate	\$/kW	1.2014
MONTHLY RATES AND CHARGES - Regulatory Component		
Wholesale Market Service Rate - including CBR	\$/kWh	0.0036
Rural or Remote Electricity Rate Protection Charge (RRRP)	\$/kWh	0.0021
Ontario Electricity Support Program Charge (OESP)	\$/kWh	0.0011
Standard Supply Service - Administrative Charge (if applicable)	\$	0.25

UNMETERED SCATTERED LOAD SERVICE CLASSIFICATION

Renfrew Hydro Inc.

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This classification applies to an account taking electricity at 750 volts or less whose average monthly maximum demand is less than, or is forecast to be less than, 50 kW and the consumption is unmetered. Such connections include cable TV power packs, bus shelters, telephone booths, traffic lights, railway crossings, etc. The customer will provide detailed manufacturer information/documentation with regard to electrical consumption of the unmetered load. Further servicing details are available in the distributor's Conditions of Service.

APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Board, and amendments thereto as approved by the Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Board, and amendments thereto as approved by the Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES – Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Board approval, such as the Debt Retirement Charge, the Global Adjustment, the Ontario Clean Energy Benefit and the HST

MONTHLY RATES AND CHARGES - Delivery Component

Service Charge (per customer)	\$	38.95
Distribution Volumetric Rate	\$/kWh	0.0029
Rate Rider for Disposition of Deferral/Variance Accounts (2017) - effective until December 31, 2017	\$/kWh	0.0013
Rate Rider for Disposition of Deferral/Variance Accounts - NON_WMP (2017) - effective until December 31, 2017	\$/kWh	(0.0006)
Rate Rider for Disposition of Global Adjustment Account (2017) - effective until December 31, 2017 Applicable only for Non-RPP Customers	\$/kWh	0.0036
Rate Rider for Disposition of Gr 2 Deferral/Variance Accounts (2017) - effective until December 31, 2017	\$/kWh	0.0006
Rate Rider for Accounting Changes in CGAAP (2017) - effective until December 31, 2020	\$/kWh	(0.0024)
Rate Rider for Disposition of Lost Revenue Adjustment Mechanism Variance Account (2017) - effective until December 31, 2017	\$/kWh	0.0008
Low Voltage Service Rate	\$/kWh	0.0020
Retail Transmission Rate - Network Service Rate	\$/kWh	0.0056
Retail Transmission Rate - Line and Transformation Connection Service Rate	\$/kWh	0.0032

MONTHLY RATES AND CHARGES - Regulatory Component

Wholesale Market Service Rate - including CBR	\$/kWh	0.0036
Rural or Remote Electricity Rate Protection Charge (RRRP)	\$/kWh	0.0021
Ontario Electricity Support Program Charge (OESP)	\$/kWh	0.0011
Standard Supply Service - Administrative Charge (if applicable)	\$	0.25

STREET LIGHTING SERVICE CLASSIFICATION

This classification applies to an account for roadway lighting with a Municipality, Regional Municipality, Ministry of Transportation and private roadway lighting, controlled by photo cells. The consumption for these customers will be based on the calculated connected load times the required lighting times established in the approved OEB street lighting load shape template. Further servicing details are available in the distributor's Conditions of Service.

APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Board, and amendments thereto as approved by the Board, which may be applicable to the administration of this schedule.

Renfrew Hydro Inc.

TARIFF OF RATES AND CHARGES

Effective and Implementation Date January 1, 2017

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No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Board, and amendments thereto as approved by the Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable. In addition, the charges in the MONTHLY RATES AND CHARGES – Regulatory Component of this schedule do not apply to a customer that is an embedded wholesale market participant.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Board approval, such as the Debt Retirement Charge, the Global Adjustment, the Ontario Clean Energy Benefit and the HST.

MONTHLY RATES AND CHARGES - Delivery Component

Service Charge (per connection)	\$	2.72
Distribution Volumetric Rate	\$/kW	5.7112
Rate Rider for Disposition of Deferral/Variance Accounts (2017) - effective until December 31, 2017	\$/kW	0.4836
Rate Rider for Disposition of Deferral/Variance Accounts - NON_WMP (2017) - effective until December 31, 2017	\$/kW	(0.2237)
Rate Rider for Disposition of Global Adjustment Account (2017) - effective until December 31, 2017 Applicable only for Non-RPP Customers	\$/kWh	0.0036
Rate Rider for Disposition of Gr 2 Deferral/Variance Accounts (2017) - effective until December 31, 2017	\$/kW	0.2229
Rate Rider for Accounting Changes in CGAAP (2017) - effective until December 31, 2020	\$/kW	(0.8532)
Rate Rider for Disposition of Lost Revenue Adjustment Mechanism Variance Account (2017) - effective until December 31, 2017	\$/kW	0.2653
Low Voltage Service Rate	\$/kW	0.5865
Retail Transmission Rate - Network Service Rate	\$/kW	1.7084
Retail Transmission Rate - Line and Transformation Connection Service Rate	\$/kW	0.9288

MONTHLY RATES AND CHARGES - Regulatory Component

Wholesale Market Service Rate - including CBR	\$/kWh	0.0036
Rural or Remote Electricity Rate Protection Charge (RRRP)	\$/kWh	0.0021
Ontario Electricity Support Program Charge (OESP)	\$/kWh	0.0011
Standard Supply Service - Administrative Charge (if applicable)	\$	0.25

microFIT SERVICE CLASSIFICATION

This classification applies to an electricity generation facility contracted under the Ontario Power Authority's microFIT program and connected to the distributor's distribution system. Further servicing details are available in the distributor's Conditions of Service.

APPLICATION

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Board, and amendments thereto as approved by the Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Board, and amendments thereto as approved by the Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable.

It should be noted that this schedule does not list any charges, assessments or credits that are required by law to be invoiced by a distributor and that are not subject to Board approval, such as the Debt Retirement Charge, the Global Adjustment, the Ontario Clean Energy Benefit and the HST.

MONTHLY RATES AND CHARGES - Delivery Component

Service Charge	\$	10.00
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Renfrew Hydro Inc.

TARIFF OF RATES AND CHARGES

Effective and Implementation Date January 1, 2017

This schedule supersedes and replaces all previously approved schedules of Rates, Charges and Loss Factors

EB-2016-0166

ALLOWANCES

Transformer Allowance for Ownership - per kW of billing demand/month	\$/kW	(0.6000)
Primary Metering Allowance for transformer losses – applied to measured demand and energy	%	(1.00)

SPECIFIC SERVICE CHARGES

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Board, and amendments thereto as approved by the Board, which may be applicable to the administration of this schedule.

No charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Board, and amendments thereto as approved by the Board, or as specified herein.

It should be noted that this schedule does not list any charges, assessments, or credits that are required by law to be invoiced by a distributor and that are not subject to Board approval, such as the Debt Retirement Charge, the Global Adjustment, the Ontario Clean Energy Benefit and the HST.

Customer Administration

Easement Letter	\$	15.00
Account History	\$	15.00
Arrears Certificate	\$	15.00
Account Set Up Charge/Change of Occupancy Charge (plus credit agency costs if applicable)	\$	30.00
Returned Cheque Charge (plus bank charges)	\$	15.00

Non-Payment of Account

Late Payment Charge – per month	%	1.50
Late Payment Charge – per annum	%	19.56
Collection of Account Charge – no disconnection	\$	30.00
Disconnect/Reconnect at meter – during regular hours	\$	65.00

Other

Specific Charge for Access to the Power Poles - per pole/year	\$	22.35
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RETAIL SERVICE CHARGES (if applicable)

The application of these rates and charges shall be in accordance with the Licence of the Distributor and any Code or Order of the Board, and amendments thereto as approved by the Board, which may be applicable to the administration of this schedule.

No rates and charges for the distribution of electricity and charges to meet the costs of any work or service done or furnished for the purpose of the distribution of electricity shall be made except as permitted by this schedule, unless required by the Distributor's Licence or a Code or Order of the Board, and amendments thereto as approved by the Board, or as specified herein.

Unless specifically noted, this schedule does not contain any charges for the electricity commodity, be it under the Regulated Price Plan, a contract with a retailer or the wholesale market price, as applicable.

It should be noted that this schedule does not list any charges, assessments, or credits that are required by law to be invoiced by a distributor and that are not subject to Board approval, such as the Debt Retirement Charge, the Global Adjustment, the Ontario Clean Energy Benefit and the HST.

Retail Service Charges refer to services provided by a distributor to retailers or customers related to the supply of competitive electricity.

One-time charge, per retailer, to establish the service agreement between the distributor and the retailer	\$	100.00
Monthly Fixed Charge, per retailer	\$	20.00
Monthly Variable Charge, per customer, per retailer	\$/cust.	0.50
Distributor-consolidated billing monthly charge, per customer, per retailer	\$/cust.	0.30
Retailer-consolidated billing monthly credit, per customer, per retailer	\$/cust.	(0.30)
Service Transaction Requests (STR)		
Request fee, per request, applied to the requesting party	\$	0.25
Processing fee, per request, applied to the requesting party	\$	0.50
Request for customer information as outlined in Section 10.6.3 and Chapter 11 of the Retail Settlement Code directly to retailers and customers, if not delivered electronically through the Electronic Business Transaction (EBT) system, applied to the requesting party		
Up to twice a year	\$	no charge
More than twice a year, per request (plus incremental delivery costs)	\$	2.00

LOSS FACTORS

Renfrew Hydro Inc.
TARIFF OF RATES AND CHARGES
Effective and Implementation Date January 1, 2017
This schedule supersedes and replaces all previously
approved schedules of Rates, Charges and Loss Factors

EB-2016-0166

If the distributor is not capable of prorating changed loss factors jointly with distribution rates, the revised loss factors will be implemented upon the first subsequent billing for each billing cycle.

Total Loss Factor – Secondary Metered Customer < 5,000 kW	1.0810
Total Loss Factor – Primary Metered Customer < 5,000 kW	1.0702

[Attachment B - RHI Updated Bill Impacts](#)

The bill comparisons below must be provided for typical customers and consumption levels. Bill impacts must be provided for residential customers consuming 750 kWh per month and general service customers consuming 2,000 kWh per month and having a monthly demand of less than 50 kW. Include bill comparisons for Non-RPP (retailer) as well. The OEB has established that, when assessing the combined effects of the shift to fixed rates and other bill impacts associated with changes in the cost of distribution service, a utility shall evaluate the total bill impact for a low volume residential customer consuming at the distributor's 10th consumption percentile¹⁹, to a minimum of 50 kWh per month. Refer to page 62 of Chapter 2 Filing Requirements For Electricity Distribution Rate Applications issued July 14, 2016.

For certain classes where one or more customers have unique consumption and demand patterns and which may be significantly impacted by the proposed rate changes, the distributor must show a typical comparison, and provide an explanation.

Note:

1. For those classes that are not eligible for the RPP price, the weighted average price including Class B GA through end of May 2016 of \$0.113/kWh (IESO's Monthly Market Report for May 2016, page 22) has been used to represent the cost of power. For those classes on a retailer contract, applicants should enter the contract price (plus GA) for a more accurate estimate. Changes to the cost of power can be made directly on the bill impact chart for the specific class.

2. Due to the change to energy consumption used in the calculation of GA rate riders for the 2017 rate year, the separate "GA Rate Riders" line is only applicable to the "Proposed" section of the bill impact tables.

3. Please enter the applicable billing determinant (e.g. number of connections or devices) to be applied to the monthly service charge for unmetered rate classes in column N. If the monthly service charge is applied on a per customer basis, enter the number "1". Distributors should provide the number of connections or devices reflective of a typical customer in each class.


 Note that cells with the highlighted color shown to the left indicate quantities that are loss adjusted.

Table 1

[illegible]

Table 2

RATE CLASSES / CATEGORIES (eg: Residential TOU, Residential Retailer)	Units	Sub-Total						Total	
		A		B		C		A + B + C	
		\$	%	\$	%	\$	%	\$	%
1 RESIDENTIAL SERVICE CLASSIFICATION - RPP	kWh	\$ 2.05	8.8%	\$ 3.40	10.2%	\$ 3.24	7.9%	\$ 4.39	3.0%
2 GENERAL SERVICE LESS THAN 50 kW SERVICE CLASSIFICATION - RPP	kWh	\$ 4.40	7.5%	\$ 7.80	9.8%	\$ 7.58	7.7%	\$ 10.52	2.7%

3	GENERAL SERVICE 50 TO 4,999 KW SERVICE CLASSIFICATION - Non-RPP (Other)	kW	\$	10.89	1.9%	\$	336.88	52.6%	\$	328.03	27.6%	\$	430.88	4.0%
4	UNMETERED SCATTERED LOAD SERVICE CLASSIFICATION - Non-RPP (Other)	kWh	\$	(162.26)	-10.9%	\$	(160.18)	-10.7%	\$	(160.22)	-10.7%	\$	(180.67)	-10.4%
5	STREET LIGHTING SERVICE CLASSIFICATION - Non-RPP (Other)	kW	\$	(751.30)	-14.0%	\$	(283.64)	-5.2%	\$	(294.09)	-4.8%	\$	(244.13)	-1.2%
6	RESIDENTIAL SERVICE CLASSIFICATION - RPP	kWh	\$	3.12	17.2%	\$	3.63	16.7%	\$	3.57	14.4%	\$	4.31	6.5%
7	RESIDENTIAL SERVICE CLASSIFICATION - Non-RPP (Retailer)	kWh	\$	2.05	8.3%	\$	6.10	18.3%	\$	5.94	14.4%	\$	7.44	5.0%
8	RESIDENTIAL SERVICE CLASSIFICATION - Non-RPP (Retailer)	kWh	\$	3.12	17.2%	\$	4.66	21.3%	\$	4.60	18.5%	\$	5.48	8.2%
9	GENERAL SERVICE LESS THAN 50 kW SERVICE CLASSIFICATION - Non-RPP (Retailer)	kWh	\$	4.40	7.5%	\$	15.00	18.8%	\$	14.78	14.9%	\$	18.66	4.7%
10														
11														
12														
13														
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40														

Customer Class:	RESIDENTIAL SERVICE CLASSIFICATION		
RPP / Non-RPP:	RPP		
Consumption	750	kWh	
Demand	-	kW	
Current Loss Factor	1.0810		
Proposed/Approved Loss Factor	1.0810		

	Current OEB-Approved			Proposed			Impact	
	Rate (\$)	Volume	Charge (\$)	Rate (\$)	Volume	Charge (\$)	\$ Change	% Change
Monthly Service Charge	\$ 13.97	1	\$ 13.97	\$ 17.30	1	\$ 17.30	\$ 3.33	23.84%
Distribution Volumetric Rate	\$ 0.0145	750	\$ 10.88	\$ 0.0115	750	\$ 8.63	\$ (2.25)	-20.69%
Fixed Rate Riders	\$ -	1	\$ -	\$ 0.44	1	\$ 0.44	\$ 0.44	
Volumetric Rate Riders	\$ -	750	\$ -	\$ 0.0007	750	\$ 0.53	\$ 0.53	
Sub-Total A (excluding pass through)			\$ 24.85			\$ 26.89	\$ 2.05	8.25%
Line Losses on Cost of Power	\$ 0.1114	61	\$ 6.77	\$ 0.1114	61	\$ 6.77	\$ -	0.00%
Total Deferral/Variance Account Rate Riders	\$ -	750	\$ -	\$ 0.0007	750	\$ 0.53	\$ 0.53	
GA Rate Riders			\$ -		750	\$ -	\$ -	
Low Voltage Service Charge	\$ 0.0011	750	\$ 0.83	\$ 0.0022	750	\$ 1.65	\$ 0.83	100.00%
Smart Meter Entity Charge (if applicable)	\$ 0.7900	1	\$ 0.79	\$ 0.7900	1	\$ 0.79	\$ -	0.00%
Sub-Total B - Distribution (includes Sub-Total A)			\$ 33.23			\$ 36.63	\$ 3.40	10.23%
RTSR - Network	\$ 0.0064	811	\$ 5.19	\$ 0.0061	811	\$ 4.95	\$ (0.24)	-4.69%
RTSR - Connection and/or Line and Transformation Connection	\$ 0.0033	811	\$ 2.68	\$ 0.0034	811	\$ 2.76	\$ 0.08	3.03%
Sub-Total C - Delivery (including Sub-Total B)			\$ 41.09			\$ 44.33	\$ 3.24	7.88%
Wholesale Market Service Charge (WMSC)	\$ 0.0036	811	\$ 2.92	\$ 0.0036	811	\$ 2.92	\$ -	0.00%
Rural and Remote Rate Protection (RRRP)	\$ 0.0013	811	\$ 1.05	\$ 0.0021	811	\$ 1.70	\$ 0.65	61.54%
Standard Supply Service Charge	\$ 0.2500	1	\$ 0.25	\$ 0.2500	1	\$ 0.25	\$ -	0.00%
Debt Retirement Charge (DRC)								
Ontario Electricity Support Program (OESP)	\$ 0.0011	811	\$ 0.89	\$ 0.0011	811	\$ 0.89	\$ -	0.00%
TOU - Off Peak	\$ 0.0870	488	\$ 42.41	\$ 0.0870	488	\$ 42.41	\$ -	0.00%
TOU - Mid Peak	\$ 0.1320	128	\$ 16.83	\$ 0.1320	128	\$ 16.83	\$ -	0.00%
TOU - On Peak	\$ 0.1800	135	\$ 24.30	\$ 0.1800	135	\$ 24.30	\$ -	0.00%
Total Bill on TOU (before Taxes)			\$ 129.75			\$ 133.63	\$ 3.89	3.00%
HST	13%		\$ 16.87	13%		\$ 17.37	\$ 0.51	3.00%
Total Bill on TOU			\$ 146.62			\$ 151.01	\$ 4.39	3.00%

Customer Class:	GENERAL SERVICE LESS THAN 50 KW SERVICE CLASSIFICATION		
RPP / Non-RPP:	RPP		
Consumption	2,000	kWh	
Demand	-	kW	
Current Loss Factor	1.0810		
Proposed/Approved Loss Factor	1.0810		

	Current OEB-Approved			Proposed			Impact	
	Rate (\$)	Volume	Charge (\$)	Rate (\$)	Volume	Charge (\$)	\$ Change	% Change
Monthly Service Charge	\$ 31.25	1	\$ 31.25	\$ 31.25	1	\$ 31.25	\$ -	0.00%
Distribution Volumetric Rate	\$ 0.0137	2000	\$ 27.40	\$ 0.0153	2000	\$ 30.60	\$ 3.20	11.68%
Fixed Rate Riders	\$ -	1	\$ -	\$ 3.40	1	\$ 3.40	\$ 3.40	
Volumetric Rate Riders	\$ -	2000	\$ -	\$ 0.0011	2000	\$ (2.20)	\$ (2.20)	
Sub-Total A (excluding pass through)			\$ 58.65			\$ 63.05	\$ 4.40	7.50%
Line Losses on Cost of Power	\$ 0.1114	162	\$ 18.05	\$ 0.1114	162	\$ 18.05	\$ -	0.00%
Total Deferral/Variance Account Rate Riders	\$ -	2,000	\$ -	\$ 0.0007	2,000	\$ 1.40	\$ 1.40	
GA Rate Riders				\$ -	2,000	\$ -	\$ -	
Low Voltage Service Charge	\$ 0.0010	2,000	\$ 2.00	\$ 0.0020	2,000	\$ 4.00	\$ 2.00	100.00%
Smart Meter Entity Charge (if applicable)	\$ 0.7900	1	\$ 0.79	\$ 0.7900	1	\$ 0.79	\$ -	0.00%
Sub-Total B - Distribution (includes Sub-Total A)			\$ 79.49			\$ 87.29	\$ 7.80	9.81%
RTSR - Network	\$ 0.0058	2,162	\$ 12.54	\$ 0.0056	2,162	\$ 12.11	\$ (0.43)	-3.45%
RTSR - Connection and/or Line and Transformation Connection	\$ 0.0031	2,162	\$ 6.70	\$ 0.0032	2,162	\$ 6.92	\$ 0.22	3.23%
Sub-Total C - Delivery (including Sub-Total B)			\$ 98.73			\$ 106.31	\$ 7.58	7.68%
Wholesale Market Service Charge (WMSC)	\$ 0.0036	2,162	\$ 7.78	\$ 0.0036	2,162	\$ 7.78	\$ -	0.00%
Rural and Remote Rate Protection (RRRP)	\$ 0.0013	2,162	\$ 2.81	\$ 0.0021	2,162	\$ 4.54	\$ 1.73	61.54%
Standard Supply Service Charge	\$ 0.2500	1	\$ 0.25	\$ 0.2500	1	\$ 0.25	\$ -	0.00%
Debt Retirement Charge (DRC)	\$ 0.0070	2,000	\$ 14.00	\$ 0.0070	2,000	\$ 14.00	\$ -	0.00%
Ontario Electricity Support Program (OESP)	\$ 0.0011	2,162	\$ 2.38	\$ 0.0011	2,162	\$ 2.38	\$ -	0.00%
TOU - Off Peak	\$ 0.0870	1,300	\$ 113.10	\$ 0.0870	1,300	\$ 113.10	\$ -	0.00%
TOU - Mid Peak	\$ 0.1320	340	\$ 44.88	\$ 0.1320	340	\$ 44.88	\$ -	0.00%
TOU - On Peak	\$ 0.1800	360	\$ 64.80	\$ 0.1800	360	\$ 64.80	\$ -	0.00%
Total Bill on TOU (before Taxes)			\$ 348.73			\$ 358.04	\$ 9.31	2.67%
HST		13%	\$ 45.33		13%	\$ 46.55	\$ 1.21	2.67%
Total Bill on TOU			\$ 394.06			\$ 404.59	\$ 10.52	2.67%

Customer Class:	GENERAL SERVICE 50 TO 4,999 KW SERVICE CLASSIFICATION	
RPP / Non-RPP:	Non-RPP (Other)	
Consumption	61,605	kWh
Demand	156	kW
Current Loss Factor	1.0810	
Proposed/Approved Loss Factor	1.0810	

	Current OEB-Approved			Proposed			Impact	
	Rate (\$)	Volume	Charge (\$)	Rate (\$)	Volume	Charge (\$)	\$ Change	% Change
Monthly Service Charge	\$ 189.27	1	\$ 189.27	\$ 189.27	1	\$ 189.27	\$ -	0.00%
Distribution Volumetric Rate	\$ 2.5331	156	\$ 395.16	\$ 2.8636	156	\$ 446.72	\$ 51.56	13.05%
Fixed Rate Riders	\$ -	1	\$ -	\$ 17.63	1	\$ 17.63	\$ 17.63	
Volumetric Rate Riders	\$ -	156	\$ -	\$ 0.3737	156	\$ (58.30)	\$ (58.30)	
Sub-Total A (excluding pass through)			\$ 584.43			\$ 595.32	\$ 10.89	1.86%
Line Losses on Cost of Power	\$ -	-	\$ -	\$ -	-	\$ -	\$ -	
Total Deferral/Variance Account Rate Riders	\$ -	156	\$ -	\$ 0.2657	156	\$ 41.45	\$ 41.45	
GA Rate Riders				\$ 0.0036	61,605	\$ 221.78	\$ 221.78	
Low Voltage Service Charge	\$ 0.3564	156	\$ 55.60	\$ 0.7587	156	\$ 118.36	\$ 62.76	112.88%
Smart Meter Entity Charge (if applicable)	\$ -	1	\$ -	\$ -	1	\$ -	\$ -	
Sub-Total B - Distribution (includes Sub-Total A)			\$ 640.03			\$ 976.91	\$ 336.88	52.63%
RTSR - Network	\$ 2.3668	156	\$ 369.22	\$ 2.2653	156	\$ 353.39	\$ (15.83)	-4.29%
RTSR - Connection and/or Line and Transformation Connection	\$ 1.1566	156	\$ 180.43	\$ 1.2014	156	\$ 187.42	\$ 6.99	3.87%
Sub-Total C - Delivery (including Sub-Total B)			\$ 1,189.68			\$ 1,517.71	\$ 328.03	27.57%
Wholesale Market Service Charge (WMSC)	\$ 0.0036	66,595	\$ 239.74	\$ 0.0036	66,595	\$ 239.74	\$ -	0.00%
Rural and Remote Rate Protection (RRRP)	\$ 0.0013	66,595	\$ 86.57	\$ 0.0021	66,595	\$ 139.85	\$ 53.28	61.54%
Standard Supply Service Charge								
Debt Retirement Charge (DRC)	\$ 0.0070	61,605	\$ 431.24	\$ 0.0070	61,605	\$ 431.24	\$ -	0.00%
Ontario Electricity Support Program (OESP)	\$ 0.0011	66,595	\$ 73.25	\$ 0.0011	66,595	\$ 73.25	\$ -	0.00%
Average IESO Wholesale Market Price	\$ 0.1130	66,595	\$ 7,525.24	\$ 0.1130	66,595	\$ 7,525.24	\$ -	0.00%
Total Bill on Average IESO Wholesale Market Price			\$ 9,545.72			\$ 9,927.03	\$ 381.31	3.99%
HST	13%		\$ 1,240.94	13%		\$ 1,290.51	\$ 49.57	3.99%
Total Bill on Average IESO Wholesale Market Price			\$ 10,786.67			\$ 11,217.54	\$ 430.88	3.99%

Customer Class:	UNMETERED SCATTERED LOAD SERVICE CLASSIFICATION	
RPP / Non-RPP:	Non-RPP (Other)	
Consumption	392	kWh
Demand	-	kW
Current Loss Factor	1.0810	
Proposed/Approved Loss Factor	1.0810	

	Current OEB-Approved			Proposed			Impact	
	Rate (\$)	Volume	Charge (\$)	Rate (\$)	Volume	Charge (\$)	\$ Change	% Change
Monthly Service Charge	\$ 43.63	34	\$ 1,483.42	\$ 38.95	34	\$ 1,324.30	\$ (159.12)	-10.73%
Distribution Volumetric Rate	\$ 0.0099	392	\$ 3.88	\$ 0.0029	392	\$ 1.14	\$ (2.74)	-70.71%
Fixed Rate Riders	\$ -	34	\$ -	\$ -	34	\$ -	\$ -	
Volumetric Rate Riders	\$ -	392	\$ -	\$ 0.0010	392	\$ (0.39)	\$ (0.39)	
Sub-Total A (excluding pass through)			\$ 1,487.30			\$ 1,325.04	\$ (162.26)	-10.91%
Line Losses on Cost of Power	\$ 0.1130	32	\$ 3.59	\$ 0.1130	32	\$ 3.59	\$ -	0.00%
Total Deferral/Variance Account Rate Riders	\$ -	392	\$ -	\$ 0.0007	392	\$ 0.27	\$ 0.27	
GA Rate Riders				\$ 0.0036	392	\$ 1.41	\$ 1.41	
Low Voltage Service Charge	\$ 0.0010	392	\$ 0.39	\$ 0.0020	392	\$ 0.78	\$ 0.39	100.00%
Smart Meter Entity Charge (if applicable)	\$ -	1	\$ -	\$ -	1	\$ -	\$ -	
Sub-Total B - Distribution (includes Sub-Total A)			\$ 1,491.28			\$ 1,331.10	\$ (160.18)	-10.74%
RTSR - Network	\$ 0.0058	424	\$ 2.46	\$ 0.0056	424	\$ 2.37	\$ (0.08)	-3.45%
RTSR - Connection and/or Line and Transformation Connection	\$ 0.0031	424	\$ 1.31	\$ 0.0032	424	\$ 1.36	\$ 0.04	3.23%
Sub-Total C - Delivery (including Sub-Total B)			\$ 1,495.05			\$ 1,334.83	\$ (160.22)	-10.72%
Wholesale Market Service Charge (WMSC)	\$ 0.0036	424	\$ 1.53	\$ 0.0036	424	\$ 1.53	\$ -	0.00%
Rural and Remote Rate Protection (RRRP)	\$ 0.0013	424	\$ 0.55	\$ 0.0021	424	\$ 0.89	\$ 0.34	61.54%
Standard Supply Service Charge								
Debt Retirement Charge (DRC)	\$ 0.0070	392	\$ 2.74	\$ 0.0070	392	\$ 2.74	\$ -	0.00%
Ontario Electricity Support Program (OESP)	\$ 0.0011	424	\$ 0.47	\$ 0.0011	424	\$ 0.47	\$ -	0.00%
Average IESO Wholesale Market Price	\$ 0.1130	392	\$ 44.30	\$ 0.1130	392	\$ 44.30	\$ -	0.00%
Total Bill on Average IESO Wholesale Market Price			\$ 1,544.63			\$ 1,384.75	\$ (159.88)	-10.35%
HST	13%		\$ 200.80	13%		\$ 180.02	\$ (20.78)	-10.35%
Total Bill on Average IESO Wholesale Market Price			\$ 1,745.44			\$ 1,564.77	\$ (180.67)	-10.35%

Customer Class:	STREET LIGHTING SERVICE CLASSIFICATION	
RPP / Non-RPP:	Non-RPP (Other)	
Consumption	90,251	kWh
Demand	250	kW
Current Loss Factor	1.0810	
Proposed/Approved Loss Factor	1.0810	

	Current OEB-Approved			Proposed			Impact	
	Rate (\$)	Volume	Charge (\$)	Rate (\$)	Volume	Charge (\$)	\$ Change	% Change
Monthly Service Charge	\$ 2.95	1199	\$ 3,537.05	\$ 2.72	1199	\$ 3,261.28	\$ (275.77)	-7.80%
Distribution Volumetric Rate	\$ 7.2483	250	\$ 1,812.08	\$ 5.7112	250	\$ 1,427.80	\$ (384.28)	-21.21%
Fixed Rate Riders	\$ -	1199	\$ -	\$ -	1199	\$ -	\$ -	
Volumetric Rate Riders	\$ -	250	\$ -	\$ 0.3650	250	\$ (91.25)	\$ (91.25)	
Sub-Total A (excluding pass through)			\$ 5,349.13			\$ 4,597.83	\$ (751.30)	-14.05%
Line Losses on Cost of Power	\$ -	-	\$ -	\$ -	-	\$ -	\$ -	
Total Deferral/Variance Account Rate Riders	\$ -	250	\$ -	\$ 0.2599	250	\$ 64.98	\$ 64.98	
GA Rate Riders				\$ 0.0036	90,251	\$ 324.90	\$ 324.90	
Low Voltage Service Charge	\$ 0.2754	250	\$ 68.85	\$ 0.5865	250	\$ 146.63	\$ 77.78	112.96%
Smart Meter Entity Charge (if applicable)	\$ -	1	\$ -	\$ -	1	\$ -	\$ -	
Sub-Total B - Distribution (includes Sub-Total A)			\$ 5,417.98			\$ 5,134.33	\$ (283.64)	-5.24%
RTSR - Network	\$ 1.7849	250	\$ 446.23	\$ 1.7084	250	\$ 427.10	\$ (19.13)	-4.29%
RTSR - Connection and/or Line and Transformation Connection	\$ 0.8941	250	\$ 223.53	\$ 0.9288	250	\$ 232.20	\$ 8.67	3.88%
Sub-Total C - Delivery (including Sub-Total B)			\$ 6,087.73			\$ 5,793.63	\$ (294.09)	-4.83%
Wholesale Market Service Charge (WMSC)	\$ 0.0036	97,561	\$ 351.22	\$ 0.0036	97,561	\$ 351.22	\$ -	0.00%
Rural and Remote Rate Protection (RRRP)	\$ 0.0013	97,561	\$ 126.83	\$ 0.0021	97,561	\$ 204.88	\$ 78.05	61.54%
Standard Supply Service Charge								
Debt Retirement Charge (DRC)	\$ 0.0070	90,251	\$ 631.76	\$ 0.0070	90,251	\$ 631.76	\$ -	0.00%
Ontario Electricity Support Program (OESP)	\$ 0.0011	97,561	\$ 107.32	\$ 0.0011	97,561	\$ 107.32	\$ -	0.00%
Average IESO Wholesale Market Price	\$ 0.1130	97,561	\$ 11,024.43	\$ 0.1130	97,561	\$ 11,024.43	\$ -	0.00%
Total Bill on Average IESO Wholesale Market Price			\$ 18,329.28			\$ 18,113.24	\$ (216.04)	-1.18%
HST	13%		\$ 2,382.81	13%		\$ 2,354.72	\$ (28.09)	-1.18%
Total Bill on Average IESO Wholesale Market Price			\$ 20,712.09			\$ 20,467.96	\$ (244.13)	-1.18%

Customer Class:	RESIDENTIAL SERVICE CLASSIFICATION		
RPP / Non-RPP:	RPP		
Consumption	286	kWh	
Demand	-	kW	
Current Loss Factor	1.0810		
Proposed/Approved Loss Factor	1.0810		

	Current OEB-Approved			Proposed			Impact	
	Rate (\$)	Volume	Charge (\$)	Rate (\$)	Volume	Charge (\$)	\$ Change	% Change
Monthly Service Charge	\$ 13.97	1	\$ 13.97	\$ 17.30	1	\$ 17.30	\$ 3.33	23.84%
Distribution Volumetric Rate	\$ 0.0145	286	\$ 4.15	\$ 0.0115	286	\$ 3.29	\$ (0.86)	-20.69%
Fixed Rate Riders	\$ -	1	\$ -	\$ 0.44	1	\$ 0.44	\$ 0.44	
Volumetric Rate Riders	\$ -	286	\$ -	\$ 0.0007	286	\$ 0.20	\$ 0.20	
Sub-Total A (excluding pass through)			\$ 18.12			\$ 21.23	\$ 3.12	17.20%
Line Losses on Cost of Power	\$ 0.1114	23	\$ 2.58	\$ 0.1114	23	\$ 2.58	\$ -	0.00%
Total Deferral/Variance Account Rate Riders	\$ -	286	\$ -	\$ 0.0007	286	\$ 0.20	\$ 0.20	
GA Rate Riders			\$ -		286	\$ -	\$ -	
Low Voltage Service Charge	\$ 0.0011	286	\$ 0.31	\$ 0.0022	286	\$ 0.63	\$ 0.31	100.00%
Smart Meter Entity Charge (if applicable)	\$ 0.7900	1	\$ 0.79	\$ 0.7900	1	\$ 0.79	\$ -	0.00%
Sub-Total B - Distribution (includes Sub-Total A)			\$ 21.80			\$ 25.43	\$ 3.63	16.66%
RTSR - Network	\$ 0.0064	309	\$ 1.98	\$ 0.0061	309	\$ 1.89	\$ (0.09)	-4.69%
RTSR - Connection and/or Line and Transformation Connection	\$ 0.0033	309	\$ 1.02	\$ 0.0034	309	\$ 1.05	\$ 0.03	3.03%
Sub-Total C - Delivery (including Sub-Total B)			\$ 24.80			\$ 28.37	\$ 3.57	14.39%
Wholesale Market Service Charge (WMSC)	\$ 0.0036	309	\$ 1.11	\$ 0.0036	309	\$ 1.11	\$ -	0.00%
Rural and Remote Rate Protection (RRRP)	\$ 0.0013	309	\$ 0.40	\$ 0.0021	309	\$ 0.65	\$ 0.25	61.54%
Standard Supply Service Charge	\$ 0.2500	1	\$ 0.25	\$ 0.2500	1	\$ 0.25	\$ -	0.00%
Debt Retirement Charge (DRC)								
Ontario Electricity Support Program (OESP)	\$ 0.0011	309	\$ 0.34	\$ 0.0011	309	\$ 0.34	\$ -	0.00%
TOU - Off Peak	\$ 0.0870	186	\$ 16.17	\$ 0.0870	186	\$ 16.17	\$ -	0.00%
TOU - Mid Peak	\$ 0.1320	49	\$ 6.42	\$ 0.1320	49	\$ 6.42	\$ -	0.00%
TOU - On Peak	\$ 0.1800	51	\$ 9.27	\$ 0.1800	51	\$ 9.27	\$ -	0.00%
Total Bill on TOU (before Taxes)			\$ 58.76			\$ 62.58	\$ 3.82	6.50%
HST	13%		\$ 7.64	13%		\$ 8.14	\$ 0.50	6.50%
Total Bill on TOU			\$ 66.40			\$ 70.72	\$ 4.31	6.50%

Customer Class:	RESIDENTIAL SERVICE CLASSIFICATION		
RPP / Non-RPP:	Non-RPP (Retailer)		
Consumption	750	kWh	
Demand	-	kW	
Current Loss Factor	1.0810		
Proposed/Approved Loss Factor	1.0810		

	Current OEB-Approved			Proposed			Impact	
	Rate (\$)	Volume	Charge (\$)	Rate (\$)	Volume	Charge (\$)	\$ Change	% Change
Monthly Service Charge	\$ 13.97	1	\$ 13.97	\$ 17.30	1	\$ 17.30	\$ 3.33	23.84%
Distribution Volumetric Rate	\$ 0.0145	750	\$ 10.88	\$ 0.0115	750	\$ 8.63	\$ (2.25)	-20.69%
Fixed Rate Riders	\$ -	1	\$ -	\$ 0.44	1	\$ 0.44	\$ 0.44	
Volumetric Rate Riders	\$ -	750	\$ -	\$ 0.0007	750	\$ 0.53	\$ 0.53	
Sub-Total A (excluding pass through)			\$ 24.85			\$ 26.89	\$ 2.05	8.25%
Line Losses on Cost of Power	\$ 0.1130	61	\$ 6.86	\$ 0.1130	61	\$ 6.86	\$ -	0.00%
Total Deferral/Variance Account Rate Riders	\$ -	750	\$ -	\$ 0.0007	750	\$ 0.53	\$ 0.53	
GA Rate Riders				\$ 0.0036	750	\$ 2.70	\$ 2.70	
Low Voltage Service Charge	\$ 0.0011	750	\$ 0.83	\$ 0.0022	750	\$ 1.65	\$ 0.83	100.00%
Smart Meter Entity Charge (if applicable)	\$ 0.7900	1	\$ 0.79	\$ 0.7900	1	\$ 0.79	\$ -	0.00%
Sub-Total B - Distribution (includes Sub-Total A)			\$ 33.32			\$ 39.42	\$ 6.10	18.30%
RTSR - Network	\$ 0.0064	811	\$ 5.19	\$ 0.0061	811	\$ 4.95	\$ (0.24)	-4.69%
RTSR - Connection and/or Line and Transformation Connection	\$ 0.0033	811	\$ 2.68	\$ 0.0034	811	\$ 2.76	\$ 0.08	3.03%
Sub-Total C - Delivery (including Sub-Total B)			\$ 41.19			\$ 47.13	\$ 5.94	14.42%
Wholesale Market Service Charge (WMSC)	\$ 0.0036	811	\$ 2.92	\$ 0.0036	811	\$ 2.92	\$ -	0.00%
Rural and Remote Rate Protection (RRRP)	\$ 0.0013	811	\$ 1.05	\$ 0.0021	811	\$ 1.70	\$ 0.65	61.54%
Standard Supply Service Charge								
Debt Retirement Charge (DRC)								
Ontario Electricity Support Program (OESP)	\$ 0.0011	811	\$ 0.89	\$ 0.0011	811	\$ 0.89	\$ -	0.00%
Non-RPP Retailer Avg. Price	\$ 0.1130	750	\$ 84.75	\$ 0.1130	750	\$ 84.75	\$ -	0.00%
Total Bill on Non-RPP Avg. Price			\$ 130.80			\$ 137.39	\$ 6.59	5.04%
HST	13%		\$ 17.00	13%		\$ 17.86	\$ 0.86	5.04%
Total Bill on Non-RPP Avg. Price			\$ 147.81			\$ 155.25	\$ 7.44	5.04%

Customer Class:	RESIDENTIAL SERVICE CLASSIFICATION	
RPP / Non-RPP:	Non-RPP (Retailer)	
Consumption	286	kWh
Demand	-	kW
Current Loss Factor	1.0810	
Proposed/Approved Loss Factor	1.0810	

	Current OEB-Approved			Proposed			Impact	
	Rate (\$)	Volume	Charge (\$)	Rate (\$)	Volume	Charge (\$)	\$ Change	% Change
Monthly Service Charge	\$ 13.97	1	\$ 13.97	\$ 17.30	1	\$ 17.30	\$ 3.33	23.84%
Distribution Volumetric Rate	\$ 0.0145	286	\$ 4.15	\$ 0.0115	286	\$ 3.29	\$ (0.86)	-20.69%
Fixed Rate Riders	\$ -	1	\$ -	\$ 0.44	1	\$ 0.44	\$ 0.44	
Volumetric Rate Riders	\$ -	286	\$ -	\$ 0.0007	286	\$ 0.20	\$ 0.20	
Sub-Total A (excluding pass through)			\$ 18.12			\$ 21.23	\$ 3.12	17.20%
Line Losses on Cost of Power	\$ 0.1130	23	\$ 2.62	\$ 0.1130	23	\$ 2.62	\$ -	0.00%
Total Deferral/Variance Account Rate Riders	\$ -	286	\$ -	\$ 0.0007	286	\$ 0.20	\$ 0.20	
GA Rate Riders				\$ 0.0036	286	\$ 1.03	\$ 1.03	
Low Voltage Service Charge	\$ 0.0011	286	\$ 0.31	\$ 0.0022	286	\$ 0.63	\$ 0.31	100.00%
Smart Meter Entity Charge (if applicable)	\$ 0.7900	1	\$ 0.79	\$ 0.7900	1	\$ 0.79	\$ -	0.00%
Sub-Total B - Distribution (includes Sub-Total A)			\$ 21.84			\$ 26.50	\$ 4.66	21.34%
RTSR - Network	\$ 0.0064	309	\$ 1.98	\$ 0.0061	309	\$ 1.89	\$ (0.09)	-4.69%
RTSR - Connection and/or Line and Transformation Connection	\$ 0.0033	309	\$ 1.02	\$ 0.0034	309	\$ 1.05	\$ 0.03	3.03%
Sub-Total C - Delivery (including Sub-Total B)			\$ 24.84			\$ 29.44	\$ 4.60	18.52%
Wholesale Market Service Charge (WMSC)	\$ 0.0036	309	\$ 1.11	\$ 0.0036	309	\$ 1.11	\$ -	0.00%
Rural and Remote Rate Protection (RRRP)	\$ 0.0013	309	\$ 0.40	\$ 0.0021	309	\$ 0.65	\$ 0.25	61.54%
Standard Supply Service Charge								
Debt Retirement Charge (DRC)								
Ontario Electricity Support Program (OESP)	\$ 0.0011	309	\$ 0.34	\$ 0.0011	309	\$ 0.34	\$ -	0.00%
Non-RPP Retailer Avg. Price	\$ 0.1130	286	\$ 32.32	\$ 0.1130	286	\$ 32.32	\$ -	0.00%
Total Bill on Non-RPP Avg. Price			\$ 59.01			\$ 63.86	\$ 4.85	8.21%
HST	13%		\$ 7.67	13%		\$ 8.30	\$ 0.63	8.21%
Total Bill on Non-RPP Avg. Price			\$ 66.68			\$ 72.16	\$ 5.48	8.21%

Customer Class:	GENERAL SERVICE LESS THAN 50 KW SERVICE CLASSIFICATION	
RPP / Non-RPP:	Non-RPP (Retailer)	
Consumption	2,000	kWh
Demand	-	kW
Current Loss Factor	1.0810	
Proposed/Approved Loss Factor	1.0810	

	Current OEB-Approved			Proposed			Impact	
	Rate (\$)	Volume	Charge (\$)	Rate (\$)	Volume	Charge (\$)	\$ Change	% Change
Monthly Service Charge	\$ 31.25	1	\$ 31.25	\$ 31.25	1	\$ 31.25	\$ -	0.00%
Distribution Volumetric Rate	\$ 0.0137	2000	\$ 27.40	\$ 0.0153	2000	\$ 30.60	\$ 3.20	11.68%
Fixed Rate Riders	\$ -	1	\$ -	\$ 3.40	1	\$ 3.40	\$ 3.40	
Volumetric Rate Riders	\$ -	2000	\$ -	\$ 0.0011	2000	\$ (2.20)	\$ (2.20)	
Sub-Total A (excluding pass through)			\$ 58.65			\$ 63.05	\$ 4.40	7.50%
Line Losses on Cost of Power	\$ 0.1130	162	\$ 18.31	\$ 0.1130	162	\$ 18.31	\$ -	0.00%
Total Deferral/Variance Account Rate Riders	\$ -	2,000	\$ -	\$ 0.0007	2,000	\$ 1.40	\$ 1.40	
GA Rate Riders				\$ 0.0036	2,000	\$ 7.20	\$ 7.20	
Low Voltage Service Charge	\$ 0.0010	2,000	\$ 2.00	\$ 0.0020	2,000	\$ 4.00	\$ 2.00	100.00%
Smart Meter Entity Charge (if applicable)	\$ 0.7900	1	\$ 0.79	\$ 0.7900	1	\$ 0.79	\$ -	0.00%
Sub-Total B - Distribution (includes Sub-Total A)			\$ 79.75			\$ 94.75	\$ 15.00	18.81%
RTSR - Network	\$ 0.0058	2,162	\$ 12.54	\$ 0.0056	2,162	\$ 12.11	\$ (0.43)	-3.45%
RTSR - Connection and/or Line and Transformation Connection	\$ 0.0031	2,162	\$ 6.70	\$ 0.0032	2,162	\$ 6.92	\$ 0.22	3.23%
Sub-Total C - Delivery (including Sub-Total B)			\$ 98.99			\$ 113.77	\$ 14.78	14.93%
Wholesale Market Service Charge (WMSC)	\$ 0.0036	2,162	\$ 7.78	\$ 0.0036	2,162	\$ 7.78	\$ -	0.00%
Rural and Remote Rate Protection (RRRP)	\$ 0.0013	2,162	\$ 2.81	\$ 0.0021	2,162	\$ 4.54	\$ 1.73	61.54%
Standard Supply Service Charge								
Debt Retirement Charge (DRC)	\$ 0.0070	2,000	\$ 14.00	\$ 0.0070	2,000	\$ 14.00	\$ -	0.00%
Ontario Electricity Support Program (OESP)	\$ 0.0011	2,162	\$ 2.38	\$ 0.0011	2,162	\$ 2.38	\$ -	0.00%
Non-RPP Retailer Avg. Price	\$ 0.1130	2,000	\$ 226.00	\$ 0.1130	2,000	\$ 226.00	\$ -	0.00%
Total Bill on Non-RPP Avg. Price			\$ 351.96			\$ 368.47	\$ 16.51	4.69%
HST	13%		\$ 45.75	13%		\$ 47.90	\$ 2.15	4.69%
Total Bill on Non-RPP Avg. Price			\$ 397.71			\$ 416.37	\$ 18.66	4.69%

[Attachment C – Revenue Requirement Workform](#)



Revenue Requirement Workform (RRWF) for 2016 Filers

Data Input ⁽¹⁾

	Initial Application	(2)	Adjustments	Technical Conference	(6)	Adjustments	Settlement Agreement
1 Rate Base							
Gross Fixed Assets (average)	\$15,495,709		(\$221,858)	\$ 15,273,851		(\$99,000)	\$15,174,851
Accumulated Depreciation (average)	(\$9,556,595)	(5)	\$45,502	(\$9,511,093)		\$1,329	(\$9,509,764)
Allowance for Working Capital:							
Controllable Expenses	\$1,549,280		\$4,000	\$ 1,553,280		(\$80,000)	\$1,473,280
Cost of Power	\$11,715,807		\$412,370	\$ 12,128,178		(\$5,610)	\$12,122,567
Working Capital Rate (%)	7.50%	(9)		7.50%	(9)		7.50% (9)
2 Utility Income							
Operating Revenues:							
Distribution Revenue at Current Rates	\$1,858,210		\$31,411	\$1,889,621		\$1,817	\$1,891,438
Distribution Revenue at Proposed Rates	\$2,148,384		(\$51,689)	\$2,096,695		(\$93,257)	\$2,003,438
Other Revenue:							
Specific Service Charges	\$18,500		\$0	\$18,500		\$0	\$18,500
Late Payment Charges	\$20,000		\$0	\$20,000		\$0	\$20,000
Other Distribution Revenue	\$56,350		\$0	\$56,350		\$0	\$56,350
Other Income and Deductions	\$12,700		\$0	\$12,700		\$5,455	\$18,155
Total Revenue Offsets	\$107,550	(7)	\$0	\$107,550		\$5,455	\$113,005
Operating Expenses:							
OM+A Expenses	\$1,549,280		\$4,000	\$ 1,553,280		(\$80,000)	\$1,473,280
Depreciation/Amortization	\$247,981		(\$2,172)	\$ 245,809		(\$2,657)	\$243,152
Property taxes							
Other expenses							
3 Taxes/PILs							
Taxable Income:							
Adjustments required to arrive at taxable income	(\$124,293)	(3)		(\$122,112)			(\$114,192)
Utility Income Taxes and Rates:							
Income taxes (not grossed up)	\$19,590			\$17,447			\$18,087
Income taxes (grossed up)	\$23,047			\$20,526			\$21,278
Federal tax (%)	10.50%			10.50%			10.50%
Provincial tax (%)	4.50%			4.50%			4.50%
Income Tax Credits							
4 Capitalization/Cost of Capital							
Capital Structure:							
Long-term debt Capitalization Ratio (%)	56.0%			56.0%			56.0%
Short-term debt Capitalization Ratio (%)	4.0%	(8)		4.0%	(8)		4.0% (8)
Common Equity Capitalization Ratio (%)	40.0%			40.0%			40.0%
Preferred Shares Capitalization Ratio (%)							
	100.0%			100.0%			100.0%
Cost of Capital							
Long-term debt Cost Rate (%)	4.54%			3.72%			3.72%
Short-term debt Cost Rate (%)	1.65%			1.76%			1.76%
Common Equity Cost Rate (%)	9.19%			8.78%			8.78%
Preferred Shares Cost Rate (%)							

Notes:

General Data inputs are required on Sheets 3. Data from Sheet 3 will automatically complete calculations on sheets 4 through 9 (Rate Base through Revenue Requirement). Sheets 4 through 9 do not require any inputs except for notes that the Applicant may wish to enter to support the results. Pale green cells are available on sheets 4 through 9 to enter both footnotes beside key cells and the related text for the notes at the bottom of each sheet.

- (1) All inputs are in dollars (\$) except where inputs are individually identified as percentages (%)
- (2) Data in column E is for Application as originally filed. For updated revenue requirement as a result of interrogatory responses, technical or settlement conferences, etc., use column M and Adjustments in column I
- (3) Net of addbacks and deductions to arrive at taxable income.
- (4) Average of Gross Fixed Assets at beginning and end of the Test Year
- (5) Average of Accumulated Depreciation at the beginning and end of the Test Year. Enter as a negative amount.
- (6) Select option from drop-down list by clicking on cell M10. This column allows for the application update reflecting the end of discovery or Argument-in-Chief. Also, the outcome of any Settlement Process can be reflected.
- (7) Input total revenue offsets for deriving the base revenue requirement from the service revenue requirement
- (8) 4.0% unless an Applicant has proposed or been approved for another amount.
- (9) The default Working Capital Allowance factor is 7.5% (of Cost of Power plus controllable expenses), per the letter issued by the Board on June 3, 2015. Alternatively, WCA factor based on lead-lag study or approved WCA factor for another distributor, with supporting rationale.



Ontario Energy Board

Revenue Requirement Workform (RRWF) for 2016 Filers

Rate Base and Working Capital

Line No.	Rate Base Particulars		Initial Application	Adjustments	Technical Conference	Adjustments	Settlement Agreement
1	Gross Fixed Assets (average) (3)		\$15,495,709	(\$221,858)	\$15,273,851	(\$99,000)	\$15,174,851
2	Accumulated Depreciation (average) (3)		(\$9,556,595)	\$45,502	(\$9,511,093)	\$1,329	(\$9,509,764)
3	Net Fixed Assets (average) (3)		\$5,939,114	(\$176,356)	\$5,762,757	(\$97,671)	\$5,665,086
4	Allowance for Working Capital (1)		\$994,882	\$31,228	\$1,026,109	(\$6,421)	\$1,019,689
5	Total Rate Base		\$6,933,995	(\$145,129)	\$6,788,867	(\$104,092)	\$6,684,775

(1) Allowance for Working Capital - Derivation

6	Controllable Expenses		\$1,549,280	\$4,000	\$1,553,280	(\$80,000)	\$1,473,280
7	Cost of Power		\$11,715,807	\$412,370	\$12,128,178	(\$5,610)	\$12,122,567
8	Working Capital Base		\$13,265,087	\$416,370	\$13,681,458	(\$85,610)	\$13,595,847
9	Working Capital Rate % (2)		7.50%	0.00%	7.50%	0.00%	7.50%
10	Working Capital Allowance		<u>\$994,882</u>	<u>\$31,228</u>	<u>\$1,026,109</u>	<u>(\$6,421)</u>	<u>\$1,019,689</u>

Notes

(2) Some Applicants may have a unique rate as a result of a lead-lag study. The default rate for 2016 cost of service applications is 7.5%, per the letter issued by the Board on June 3, 2015. Alternatively, a utility could conduct and file its own lead-lag study.

(3) Average of opening and closing balances for the year.



Ontario Energy Board

Revenue Requirement Workform (RRWF) for 2016 Filers

Utility Income

Line No.	Particulars	Initial Application	Adjustments	Technical Conference	Adjustments	Settlement Agreement
	Operating Revenues:					
1	Distribution Revenue (at Proposed Rates)	\$2,148,384	(\$51,689)	\$2,096,695	(\$93,257)	\$2,003,438
2	Other Revenue (1)	\$107,550	\$ -	\$107,550	\$5,455	\$113,005
3	Total Operating Revenues	\$2,255,934	(\$51,689)	\$2,204,245	(\$87,802)	\$2,116,443
	Operating Expenses:					
4	OM+A Expenses	\$1,549,280	\$4,000	\$1,553,280	(\$80,000)	\$1,473,280
5	Depreciation/Amortization	\$247,981	(\$2,172)	\$245,809	(\$2,657)	\$243,152
6	Property taxes	\$ -	\$ -	\$ -	\$ -	\$ -
7	Capital taxes	\$ -	\$ -	\$ -	\$ -	\$ -
8	Other expense	\$ -	\$ -	\$ -	\$ -	\$ -
9	Subtotal (lines 4 to 8)	\$1,797,261	\$1,828	\$1,799,089	(\$82,657)	\$1,716,432
10	Deemed Interest Expense	\$180,866	(\$34,661)	\$146,205	(\$2,242)	\$143,963
11	Total Expenses (lines 9 to 10)	\$1,978,127	(\$32,833)	\$1,945,294	(\$84,899)	\$1,860,395
12	Utility income before income taxes	\$277,806	(\$18,856)	\$258,951	(\$2,903)	\$256,048
13	Income taxes (grossed-up)	\$23,047	(\$2,521)	\$20,526	\$753	\$21,278
14	Utility net income	\$254,759	(\$16,334)	\$238,425	(\$3,656)	\$234,769

Notes

Other Revenues / Revenue Offsets

(1)	Specific Service Charges	\$18,500	\$ -	\$18,500	\$ -	\$18,500
	Late Payment Charges	\$20,000	\$ -	\$20,000	\$ -	\$20,000
	Other Distribution Revenue	\$56,350	\$ -	\$56,350	\$ -	\$56,350
	Other Income and Deductions	\$12,700	\$ -	\$12,700	\$5,455	\$18,155
	Total Revenue Offsets	\$107,550	\$ -	\$107,550	\$5,455	\$113,005



Revenue Requirement Workform (RRWF) for 2016 Filers

Taxes/PILs

Line No.	Particulars	Application	Technical Conference	Settlement Agreement
<u>Determination of Taxable Income</u>				
1	Utility net income before taxes	\$254,894	\$238,425	\$234,769
2	Adjustments required to arrive at taxable utility income	(\$124,293)	(\$122,112)	(\$114,192)
3	Taxable income	<u>\$130,600</u>	<u>\$116,313</u>	<u>\$120,577</u>
<u>Calculation of Utility income Taxes</u>				
4	Income taxes	<u>\$19,590</u>	<u>\$17,447</u>	<u>\$18,087</u>
6	Total taxes	<u>\$19,590</u>	<u>\$17,447</u>	<u>\$18,087</u>
7	Gross-up of Income Taxes	<u>\$3,457</u>	<u>\$3,079</u>	<u>\$3,192</u>
8	Grossed-up Income Taxes	<u>\$23,047</u>	<u>\$20,526</u>	<u>\$21,278</u>
9	PILs / tax Allowance (Grossed-up Income taxes + Capital taxes)	<u>\$23,047</u>	<u>\$20,526</u>	<u>\$21,278</u>
10	Other tax Credits	\$ -	\$ -	\$ -
<u>Tax Rates</u>				
11	Federal tax (%)	10.50%	10.50%	10.50%
12	Provincial tax (%)	4.50%	4.50%	4.50%
13	Total tax rate (%)	<u>15.00%</u>	<u>15.00%</u>	<u>15.00%</u>

Notes



Revenue Requirement Workform (RRWF) for 2016 Filers

Capitalization/Cost of Capital

Line No.	Particulars	Capitalization Ratio		Cost Rate	Return
		Initial Application			
		(%)	(\$)	(%)	(\$)
	Debt				
1	Long-term Debt	56.00%	\$3,883,037	4.54%	\$176,290
2	Short-term Debt	4.00%	\$277,360	1.65%	\$4,576
3	Total Debt	60.00%	\$4,160,397	4.35%	\$180,866
	Equity				
4	Common Equity	40.00%	\$2,773,598	9.19%	\$254,894
5	Preferred Shares	0.00%	\$ -	0.00%	\$ -
6	Total Equity	40.00%	\$2,773,598	9.19%	\$254,894
7	Total	100.00%	\$6,933,995	6.28%	\$435,760
		Technical Conference			
		(%)	(\$)	(%)	(\$)
	Debt				
1	Long-term Debt	56.00%	\$3,801,765	3.72%	\$141,426
2	Short-term Debt	4.00%	\$271,555	1.76%	\$4,779
3	Total Debt	60.00%	\$4,073,320	3.59%	\$146,205
	Equity				
4	Common Equity	40.00%	\$2,715,547	8.78%	\$238,425
5	Preferred Shares	0.00%	\$ -	0.00%	\$ -
6	Total Equity	40.00%	\$2,715,547	8.78%	\$238,425
7	Total	100.00%	\$6,788,867	5.67%	\$384,630
		Per Board Decision			
		(%)	(\$)	(%)	(\$)
	Debt				
8	Long-term Debt	56.00%	\$3,743,474	3.72%	\$139,257
9	Short-term Debt	4.00%	\$267,391	1.76%	\$4,706
10	Total Debt	60.00%	\$4,010,865	3.59%	\$143,963
	Equity				
11	Common Equity	40.00%	\$2,673,910	8.78%	\$234,769
12	Preferred Shares	0.00%	\$ -	0.00%	\$ -
13	Total Equity	40.00%	\$2,673,910	8.78%	\$234,769
14	Total	100.00%	\$6,684,775	5.67%	\$378,733

Notes

(1)

Data in column E is for Application as originally filed. For updated revenue requirement as a result of interrogatory responses, technical or settlement conferences, etc., use column M and Adjustments in column I



Ontario Energy Board

Revenue Requirement Workform (RRWF) for 2016 Filers

Revenue Deficiency/Sufficiency

Line No.	Particulars	Initial Application		Technical Conference		Settlement Agreement	
		At Current Approved Rates	At Proposed Rates	At Current Approved Rates	At Proposed Rates	At Current Approved Rates	At Proposed Rates
1	Revenue Deficiency from Below		\$290,308		\$207,074		\$112,000
2	Distribution Revenue	\$1,858,210	\$1,858,076	\$1,889,621	\$1,889,621	\$1,891,438	\$1,891,438
3	Other Operating Revenue	\$107,550	\$107,550	\$107,550	\$107,550	\$113,005	\$113,005
	Offsets - net						
4	Total Revenue	\$1,965,760	\$2,255,934	\$1,997,171	\$2,204,245	\$2,004,443	\$2,116,443
5	Operating Expenses	\$1,797,261	\$1,797,261	\$1,799,089	\$1,799,089	\$1,716,432	\$1,716,432
6	Deemed Interest Expense	\$180,866	\$180,866	\$146,205	\$146,205	\$143,963	\$143,963
8	Total Cost and Expenses	\$1,978,127	\$1,978,127	\$1,945,294	\$1,945,294	\$1,860,395	\$1,860,395
9	Utility Income Before Income Taxes	(\$12,367)	\$277,806	\$51,877	\$258,951	\$144,048	\$256,048
10	Tax Adjustments to Accounting Income per 2013 PILs model	(\$124,293)	(\$124,293)	(\$122,112)	(\$122,112)	(\$114,192)	(\$114,192)
11	Taxable Income	(\$136,660)	\$153,513	(\$70,235)	\$136,838	\$29,855	\$141,855
12	Income Tax Rate	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%
13	Income Tax on Taxable Income	(\$20,499)	\$23,027	(\$10,535)	\$20,526	\$4,478	\$21,278
14	Income Tax Credits	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
15	Utility Net Income	\$8,132	\$254,759	\$62,412	\$238,425	\$139,570	\$234,769
16	Utility Rate Base	\$6,933,995	\$6,933,995	\$6,788,867	\$6,788,867	\$6,684,775	\$6,684,775
17	Deemed Equity Portion of Rate Base	\$2,773,598	\$2,773,598	\$2,715,547	\$2,715,547	\$2,673,910	\$2,673,910
18	Income/(Equity Portion of Rate Base)	0.29%	9.19%	2.30%	8.78%	5.22%	8.78%
19	Target Return - Equity on Rate Base	9.19%	9.19%	8.78%	8.78%	8.78%	8.78%
20	Deficiency/Sufficiency in Return on Equity	-8.90%	0.00%	-6.48%	0.00%	-3.56%	0.00%
21	Indicated Rate of Return	2.73%	6.28%	3.07%	5.67%	4.24%	5.67%
22	Requested Rate of Return on Rate Base	6.28%	6.28%	5.67%	5.67%	5.67%	5.67%
23	Deficiency/Sufficiency in Rate of Return	-3.56%	0.00%	-2.59%	0.00%	-1.42%	0.00%
24	Target Return on Equity	\$254,894	\$254,894	\$238,425	\$238,425	\$234,769	\$234,769
25	Revenue Deficiency/(Sufficiency)	\$246,762	(\$134)	\$176,013	\$ -	\$95,200	\$ -
26	Gross Revenue Deficiency/(Sufficiency)	\$290,308 (1)		\$207,074 (1)		\$112,000 (1)	

Notes:

(1) Revenue Deficiency/Sufficiency divided by (1 - Tax Rate)



Ontario Energy Board

Revenue Requirement Workform (RRWF) for 2016 Filers

Revenue Requirement

Line No.	Particulars	Application	Technical Conference	Settlement Agreement
1	OM&A Expenses	\$1,549,280	\$1,553,280	\$1,473,280
2	Amortization/Depreciation	\$247,981	\$245,809	\$243,152
3	Property Taxes	\$ -		
5	Income Taxes (Grossed up)	\$23,047	\$20,526	\$21,278
6	Other Expenses	\$ -		
7	Return			
	Deemed Interest Expense	\$180,866	\$146,205	\$143,963
	Return on Deemed Equity	\$254,894	\$238,425	\$234,769
8	Service Revenue Requirement (before Revenues)	\$2,256,068	\$2,204,245	\$2,116,443
9	Revenue Offsets	\$107,550	\$107,550	\$113,005
10	Base Revenue Requirement (excluding Transformer Ownership Allowance credit adjustment)	\$2,148,518	\$2,096,695	\$2,003,438
11	Distribution revenue	\$2,148,384	\$2,096,695	\$2,003,438
12	Other revenue	\$107,550	\$107,550	\$113,005
13	Total revenue	\$2,255,934	\$2,204,245	\$2,116,443
14	Difference (Total Revenue Less Distribution Revenue Requirement before Revenues)	(\$134)	\$ -	\$ -

Notes

(1) Line 11 - Line 8



Ontario Energy Board

Revenue Requirement Workform (RRWF) for 2016 Filers

Tracking Form

The last row shown is the most current estimate of the cost of service data reflecting the original application and any updates provided by the applicant distributor (for updated evidence, responses to interrogatories, undertakings, etc.)

Please ensure a Reference (Column B) and/or Item Description (Column C) is entered. Please note that unused rows will automatically be hidden and the PRINT AREA set when the PRINT BUTTON on Sheet 1 is activated.

⁽¹⁾ Short reference to evidence material (interrogatory response, undertaking, exhibit number, Board Decision, Code, Guideline, Report of the Board, etc.)

⁽²⁾ Short description of change, issue, etc.

60 Tracking Rows have been provided below. If you require more, please contact Industry Relations @ IndustryRelations@ontarioenergyboard.ca.

Summary of Proposed Changes

Reference ⁽¹⁾	Item / Description ⁽²⁾	Cost of Capital		Rate Base and Capital Expenditures			Operating Expenses			Revenue Requirement			
		Regulated Return on Capital	Regulated Rate of Return	Rate Base	Working Capital	Working Capital Allowance (\$)	Amortization / Depreciation	Taxes/PILs	OM&A	Service Revenue Requirement	Other Revenues	Base Revenue Requirement	Grossed up Revenue Deficiency / Sufficiency
	Original Application	\$ 435,760	6.28%	\$ 6,933,995	\$ 13,265,087	\$ 994,882	\$ 247,981	\$ 23,047	\$ 1,549,280	\$ 2,256,068	\$ 107,550	\$ 2,148,518	\$ 290,308
1	F/A Continuity Schedule + PILs	\$ 424,677	6.28%	\$ 6,757,639	\$ 13,265,087	\$ 994,882	\$ 245,809	\$ 20,332	\$ 1,549,280	\$ 2,240,098	\$ 107,550	\$ 2,132,548	\$ 276,294

[Attachment D – 2016 and 2017 Fixed Asset Continuity Schedule](#)

File Number:
 Exhibit:
 Tab:
 Schedule:
 Page:
 Date:

Appendix 2-BA
 Fixed Asset Continuity Schedule

Accounting Standard: MFRS
 Year: 2016

R/R CCA Class	O/R CCA Class	O/R Description	Cost				Accumulated Depreciation				Net Book Value
			Opening Balance	Additions	Disposals	Closing Balance	Opening Balance	Additions	Disposals	Closing Balance	
12	1611	Computer Software (Formally known as Account 1505)	\$ 160,121	-	-	\$ 160,121	\$ 124,648	\$ 7,883	-	\$ 132,530	\$ 27,582
CEC	1612	Lease Rights (Formally known as Account 1600)	\$ 26,301	-	-	\$ 26,301	\$ 19,242	\$ 600	-	\$ 19,842	\$ 6,453
NOA	1605	Land	\$ 28,894	\$ 6,899	\$ 16,894	\$ -	-	-	-	-	\$ 16,894
1	1606	Buildings - Office	\$ 167,145	\$ 167,138	\$ 40,145	\$ 134,138	\$ 85,588	\$ 781	\$ 85,588	\$ -	\$ 25,000
1	1607	Buildings - Shop	\$ 40,145	-	-	\$ 40,145	\$ 14,088	-	-	\$ 14,088	\$ 25,000
1	1608	Buildings - Dispensing Hall	\$ 4,152	-	-	\$ 4,152	\$ 4,152	-	-	\$ 4,152	\$ -
1	1610	Leasehold Improvements	\$ -	-	-	\$ -	\$ -	-	-	\$ -	\$ -
1	1615	Transformer Station Equipment >50 kV	\$ 8,094	-	-	\$ 8,094	\$ 8,094	-	-	\$ 8,094	\$ -
1	1620	Transmission Lines	\$ -	-	-	\$ -	\$ -	-	-	\$ -	\$ -
1	1625	Substation Equipment <50 kV MS 1 - Misc &	\$ 9,893	-	-	\$ 9,893	\$ 6,290	\$ 159	-	\$ 6,439	\$ 2,438
1	1630	Substation Equipment <50 kV MS 1 - Equipment	\$ 114,088	-	-	\$ 114,088	\$ 71,789	\$ 1,680	-	\$ 73,379	\$ 40,680
1	1635	Substation Equipment <50 kV MS 1 - Transformers	\$ 105,080	-	-	\$ 105,080	\$ 66,016	\$ 1,330	-	\$ 67,346	\$ 38,281
1	1640	Substation Equipment <50 kV MS 2 - Misc &	\$ -	-	-	\$ -	\$ -	-	-	\$ -	\$ -
1	1645	Substation Equipment <50 kV MS 2 - Electronics Equipment	\$ 23,105	-	-	\$ 23,105	\$ 10,583	\$ 544	-	\$ 11,128	\$ 11,977
1	1650	Substation Equipment <50 kV MS 2 - Equipment	\$ 14,283	-	-	\$ 14,283	\$ 6,543	\$ 337	-	\$ 6,879	\$ 7,404
1	1655	Substation Equipment <50 kV MS 2 - Transformers	\$ 113,388	-	-	\$ 113,388	\$ 76,552	\$ 4,033	-	\$ 80,585	\$ 27,847
1	1660	Substation Equipment <50 kV MS 3 - Misc &	\$ 119,251	-	-	\$ 119,251	\$ 51,754	\$ 1,879	-	\$ 53,628	\$ 65,622
1	1665	Substation Equipment <50 kV MS 3 - Equipment	\$ 4,631	-	-	\$ 4,631	\$ 2,230	\$ 95	-	\$ 2,315	\$ 2,086
1	1670	Substation Equipment <50 kV MS 3 - Transformers	\$ 263,356	-	-	\$ 263,356	\$ 128,113	\$ 4,730	-	\$ 132,843	\$ 131,115
1	1675	Substation Equipment <50 kV MS 3 - Transformers	\$ 92,353	-	-	\$ 92,353	\$ 46,178	\$ 1,753	-	\$ 47,931	\$ 44,423
1	1680	Substation Equipment <50 kV MS 4 - Misc &	\$ 8,473	-	-	\$ 8,473	\$ 8,239	\$ 9	-	\$ 8,249	\$ 205
1	1685	Substation Equipment <50 kV MS 4 - Misc Bldg	\$ 1,438	-	-	\$ 1,438	\$ 1,432	\$ 2	-	\$ 1,433	\$ 35
1	1690	Substation Equipment <50 kV MS 4 - Electronics Equip	\$ 4,294	-	-	\$ 4,294	\$ 4,185	\$ 9	-	\$ 4,184	\$ 163
1	1695	Substation Equipment <50 kV MS 4 - Equipment	\$ 58,818	-	-	\$ 58,818	\$ 47,587	\$ 46	-	\$ 47,633	\$ 1,180
1	1700	Substation Equipment <50 kV MS 4 - Transformers	\$ 25,371	-	-	\$ 25,371	\$ 35,083	\$ -	-	\$ 35,083	\$ -
1	1705	Substation Equipment <50 kV MS 5 - Misc &	\$ 22,187	-	-	\$ 22,187	\$ 17,591	\$ 199	-	\$ 17,790	\$ 4,377
1	1710	Substation Equipment <50 kV MS 5 - Misc Bldg	\$ 3,037	-	-	\$ 3,037	\$ 2,410	\$ 27	-	\$ 2,437	\$ 569
1	1715	Substation Equipment <50 kV MS 5 - Electronics Equip	\$ 16,994	-	-	\$ 16,994	\$ 11,390	\$ 785	-	\$ 12,185	\$ 2,299
1	1720	Substation Equipment <50 kV MS 5 - Equipment	\$ 142,680	\$ 8,905	-	\$ 151,585	\$ 102,212	\$ 1,400	-	\$ 103,612	\$ 24,983
1	1725	Substation Equipment <50 kV MS 5 - Transformers	\$ 59,074	-	-	\$ 59,074	\$ 70,688	\$ 789	-	\$ 71,487	\$ 17,588
1	1730	Storage Battery Equipment	\$ -	-	-	\$ -	\$ -	-	-	\$ -	\$ -
1	1735	Storage Battery Equipment	\$ 2,381,515	\$ 142,517	\$ 20,425	\$ 2,503,597	\$ 1,380,290	\$ 48,585	\$ 14,380	\$ 1,422,015	\$ 1,541,911
1	1740	Overhead Conductors & Devices	\$ 4,198,623	\$ 91,717	\$ 7,825	\$ 4,289,505	\$ 2,879,442	\$ 38,552	\$ 5,849	\$ 2,908,243	\$ 1,973,617
1	1745	Underground Conductors & Devices	\$ 77,954	-	-	\$ 77,954	\$ 24,388	\$ 1,919	-	\$ 26,307	\$ 51,646
1	1750	Underground Conductors & Devices	\$ 929,898	\$ 2,980	-	\$ 932,878	\$ 162,714	\$ 8,347	-	\$ 171,061	\$ 304,161
1	1755	Other Cables/Conductors	\$ 1,079,188	\$ 104,415	\$ 4,580	\$ 1,283,023	\$ 920,866	\$ 31,076	\$ 4,713	\$ 956,659	\$ 599,255
1	1760	Spacers - Overhead	\$ 1,463,225	\$ 11,080	\$ 5,774	\$ 1,468,531	\$ 1,129,771	\$ 11,332	\$ 4,558	\$ 1,135,560	\$ 256,450
1	1765	Spacers - Underground	\$ 187,446	\$ 380,129	\$ 234	\$ 567,389	\$ 184,184	\$ 10,589	\$ 10	\$ 194,783	\$ 372,615
1	1770	Spacers	\$ 594,308	-	-	\$ 594,308	\$ 510,595	\$ 11,884	-	\$ 522,719	\$ 72,592
1	1780	Wires (Smart Meters)	\$ 20,883	\$ 12,080	-	\$ 32,963	\$ 3,508	\$ 2,177	-	\$ 5,685	\$ 32,210
1	1785	Land	\$ -	-	-	\$ -	\$ -	-	-	\$ -	\$ -
1	1790	Buildings & Facilities	\$ -	-	-	\$ -	\$ -	-	-	\$ -	\$ -
1	1795	Leasehold Improvements	\$ 116,588	\$ 8,100	-	\$ 124,688	\$ 8,854	\$ 11,882	-	\$ 20,736	\$ 105,482
1	1810	Office Furniture & Equipment (10 years)	\$ 52,445	-	-	\$ 52,445	\$ 31,922	\$ 2,160	-	\$ 34,082	\$ 19,404
1	1820	Computer Equipment - Hardware	\$ 104,376	\$ 1,394	-	\$ 105,770	\$ 66,435	\$ 2,347	-	\$ 68,782	\$ 5,347
45	1830	Computer Equip - Hardware/Post Mar. 22/04	\$ -	-	-	\$ -	\$ -	-	-	\$ -	\$ -
45.1	1831	Computer Equip - Hardware/Post Mar. 22/04	\$ -	-	-	\$ -	\$ -	-	-	\$ -	\$ -
10	1832	Transportation Equipment <3 ton	\$ 880,721	\$ 16,000	-	\$ 896,721	\$ 810,645	\$ 38,450	-	\$ 849,095	\$ 25,626
10	1833	Transportation Equipment >3 ton	\$ 780,347	-	-	\$ 780,347	\$ 126,747	\$ 14,300	-	\$ 141,047	\$ 16,480
1	1834	Motor Vehicle & Trailer Equipment	\$ 5,290	-	-	\$ 5,290	\$ 3,549	\$ 173	-	\$ 3,722	\$ 14,257
1	1840	Motor Vehicle & Trailer Equipment	\$ 187,475	\$ 18,385	-	\$ 205,860	\$ 184,549	\$ 1,450	-	\$ 186,004	\$ 14,264
1	1850	Power Operated Equipment	\$ -	-	-	\$ -	\$ -	-	-	\$ -	\$ -
1	1860	Communication Equipment	\$ -	-	-	\$ -	\$ -	-	-	\$ -	\$ -
1	1865	Communication Equipment (Smart Meters)	\$ -	-	-	\$ -	\$ -	-	-	\$ -	\$ -
1	1870	Measurement Equipment	\$ -	-	-	\$ -	\$ -	-	-	\$ -	\$ -
1	1875	Asset Management Controls Customer Services	\$ -	-	-	\$ -	\$ -	-	-	\$ -	\$ -
1	1876	Asset Management Controls Utility Premises	\$ -	-	-	\$ -	\$ -	-	-	\$ -	\$ -
1	1880	System Supervisor Equipment	\$ -	-	-	\$ -	\$ -	-	-	\$ -	\$ -
1	1885	Recalculation Fixed Assets	\$ -	-	-	\$ -	\$ -	-	-	\$ -	\$ -
1	1890	Other Capital Property	\$ -	-	-	\$ -	\$ -	-	-	\$ -	\$ -
2440	Deferred Revenue - Offt Conductor	\$ 2,090	\$ 4,269	-	\$ 6,359	\$ 83	\$ 88	-	-	\$ 181	\$ 6,059
2450	Deferred Revenue - Shop	\$ 19,802	\$ 13,388	-	\$ 33,190	\$ 788	\$ 788	-	-	\$ 1,476	\$ 31,389
2460	Deferred Revenue - Transformers	\$ 19,430	\$ 13,622	-	\$ 33,052	\$ 619	\$ 619	-	-	\$ 1,274	\$ 31,778
2465	Deferred Revenue - Meters	\$ 1,854	\$ 1,854	-	\$ 3,708	\$ 81	\$ 162	-	-	\$ 243	\$ 3,357
2469	Deferred Revenue	\$ -	-	-	\$ -	\$ -	\$ -	-	-	\$ -	\$ -
Sub-Total			\$ 14,754,310	\$ 388,388	\$ 202,435	\$ 14,939,263	\$ 8,938,925	\$ 240,371	\$ 114,485	\$ 9,081,513	\$ 5,380,357
Less Socialized Renewable Energy Generation Investment(s) (as negative)			\$ -	-	-	\$ -	\$ -	-	-	\$ -	\$ -
Less other Non-Risk-Regulated Item Assets (input as negative)			\$ -	-	-	\$ -	\$ -	-	-	\$ -	\$ -
Total			\$ 14,754,310	\$ 388,388	\$ 202,435	\$ 14,939,263	\$ 8,938,925	\$ 240,371	\$ 114,485	\$ 9,081,513	\$ 5,380,357
Total			\$ -	-	-	\$ -	\$ -	-	-	\$ -	\$ -

10	Transportation
1	Power Equipment

Less: Fully Allocated Depreciation
 Transportation
 Power Equipment
 Net Depreciation
 \$ 240,371

Appendix 2-BA
Fixed Asset Continuity Schedule

Accounting Standard	MIFRS
Year	2017

NRA Class	DCA Class	OEB	Description	Cost				Accumulated Depreciation				Net Book Value
				Opening Balance	Additions	Disposals	Closing Balance	Opening Balance	Additions	Disposals	Closing Balance	
12	12	1011	Computer Software (formally known as Noncurrent Intang)	\$ 160,121	\$ -	\$ -	\$ 160,121	\$ 132,530	\$ 7,884	\$ -	\$ 140,414	\$ 19,707
CEC	CEC	1012	Land Rights (formally known as Account 10000)	\$ 20,301	\$ -	\$ -	\$ 20,301	\$ 19,848	\$ -	\$ -	\$ 20,304	\$ 7,507
NA	NA	1004	Land	\$ 16,866	\$ -	\$ -	\$ 16,866	\$ -	\$ -	\$ -	\$ 16,866	\$ -
-1	-1	1008	Building - Brick	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
-1	-1	1008	Building - Other	\$ 40,145	\$ -	\$ -	\$ 40,145	\$ 15,000	\$ -	\$ 760	\$ 15,837	\$ 24,344
-1	-1	1008	Building - Concrete/Ret	\$ 4,152	\$ -	\$ -	\$ 4,152	\$ -	\$ -	\$ -	\$ 4,154	\$ -
-1	-1	1010	Landmark Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
-1	-1	1015	Transmission Station Equipment >50 KV	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
-1	-1	1015	Transmission Lines	\$ 5,092	\$ -	\$ -	\$ 5,092	\$ -	\$ -	\$ -	\$ 5,092	\$ -
1	47	1020	Dist Srv Sg >50 KV MS 1 - Bldg & Infrastructure	\$ 5,983	\$ -	\$ -	\$ 5,983	\$ 6,425	\$ -	\$ -	\$ 6,581	\$ 3,283
1	47	1020	Dist Srv Sg >50 KV MS 1 - Equipment	\$ 114,068	\$ -	\$ -	\$ 114,068	\$ 73,378	\$ 1,080	\$ -	\$ 74,958	\$ 17,007
1	47	1020	Dist Srv Sg >50 KV MS 1 - Transformers	\$ 100,430	\$ -	\$ -	\$ 100,430	\$ 47,850	\$ 1,000	\$ -	\$ 102,430	\$ 1,580
1	47	1020	Dist Srv Sg >50 KV MS 2 - Bldg & Infrastructure	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1	47	1020	Dist Srv Sg >50 KV MS 2 - Equipment	\$ 23,105	\$ -	\$ -	\$ 23,105	\$ 11,058	\$ -	\$ 564	\$ 11,672	\$ 11,431
1	47	1020	Dist Srv Sg >50 KV MS 2 - Transformers	\$ 14,363	\$ -	\$ -	\$ 14,363	\$ 6,678	\$ -	\$ 307	\$ 15,248	\$ 7,047
1	47	1020	Dist Srv Sg >50 KV MS 2 - Transformers	\$ 119,251	\$ -	\$ -	\$ 119,251	\$ 53,933	\$ 1,000	\$ -	\$ 122,184	\$ 2,167
1	47	1020	Infrastructure	\$ 4,401	\$ -	\$ -	\$ 4,401	\$ 2,315	\$ -	\$ -	\$ 2,410	\$ 1,991
1	47	1020	Dist Srv Sg >50 KV MS 2 - Equipment	\$ 20,705	\$ -	\$ -	\$ 20,705	\$ 10,243	\$ 410	\$ -	\$ 21,357	\$ 2,057
1	47	1020	Dist Srv Sg >50 KV MS 2 - Transformers	\$ 55,793	\$ -	\$ -	\$ 55,793	\$ 47,871	\$ 1,783	\$ -	\$ 48,564	\$ 4,229
1	47	1020	Infrastructure	\$ 6,453	\$ -	\$ -	\$ 6,453	\$ 8,249	\$ 10	\$ -	\$ 8,259	\$ 195
1	47	1020	Dist Srv Sg >50 KV MS 2 - Misc Bldg Infrastructure	\$ 1,439	\$ -	\$ -	\$ 1,439	\$ 1,403	\$ 2	\$ -	\$ 1,405	\$ 34
1	47	1020	Dist Srv Sg >50 KV MS 2 - Electric Equip	\$ 4,265	\$ -	\$ -	\$ 4,265	\$ 4,762	\$ -	\$ -	\$ 5,187	\$ 91
1	47	1020	Dist Srv Sg >50 KV MS 2 - Equipment	\$ 44,818	\$ -	\$ -	\$ 44,818	\$ 47,838	\$ 1,000	\$ -	\$ 47,838	\$ 1,018
1	47	1020	Dist Srv Sg >50 KV MS 2 - Transformers	\$ 35,871	\$ -	\$ -	\$ 35,871	\$ 35,102	\$ 39	\$ -	\$ 36,041	\$ 830
1	47	1020	Infrastructure	\$ 22,167	\$ -	\$ -	\$ 22,167	\$ 17,730	\$ 195	\$ -	\$ 17,930	\$ 4,178
1	47	1020	Dist Srv Sg >50 KV MS 2 - Misc Bldg Infrastructure	\$ 3,037	\$ -	\$ -	\$ 3,037	\$ 2,437	\$ 10	\$ -	\$ 2,445	\$ 593
1	47	1020	Dist Srv Sg >50 KV MS 2 - Electric Equip	\$ 12,584	\$ -	\$ -	\$ 12,584	\$ 12,130	\$ -	\$ -	\$ 12,947	\$ 644
1	47	1020	Dist Srv Sg >50 KV MS 2 - Equipment	\$ 445,058	\$ -	\$ -	\$ 445,058	\$ 106,315	\$ 1,000	\$ -	\$ 107,315	\$ 2,743
1	47	1020	Dist Srv Sg >50 KV MS 2 - Transformers	\$ 80,074	\$ -	\$ -	\$ 80,074	\$ 71,440	\$ 800	\$ -	\$ 82,295	\$ 3,783
1	47	1020	Infrastructure	\$ 20,845	\$ -	\$ -	\$ 20,845	\$ 1,522	\$ 49	\$ -	\$ 2,000	\$ 1,825
1	47	1020	Dist Srv Sg >50 KV MS 2 - Electric Equip	\$ 180,000	\$ -	\$ -	\$ 180,000	\$ 1,022	\$ 49	\$ -	\$ 1,800	\$ 1,819
1	47	1020	Dist Srv Sg >50 KV MS 2 - Equipment	\$ 2,653,787	\$ -	\$ -	\$ 2,653,787	\$ 1,276,243	\$ 5,448	\$ -	\$ 1,635,244	\$ 1,023
1	47	1020	Plant Controls & Devices	\$ 77,702	\$ -	\$ -	\$ 77,702	\$ 28,919	\$ -	\$ -	\$ 77,909	\$ 49,779
1	47	1020	Plant Controls & Devices	\$ 82,000	\$ -	\$ -	\$ 82,000	\$ 20,333	\$ -	\$ -	\$ 102,333	\$ -
1	47	1020	Plant Controls & Devices	\$ 1,882,022	\$ -	\$ -	\$ 1,882,022	\$ 1,508,749	\$ 25,383	\$ 4,173	\$ 1,398,544	\$ 6,826
1	47	1020	Plant Controls & Devices	\$ 180,000	\$ -	\$ -	\$ 180,000	\$ 1,432,000	\$ 4,000	\$ -	\$ 1,436,000	\$ -
1	47	1020	Plant Controls & Devices	\$ 196,168	\$ -	\$ -	\$ 196,168	\$ 72,998	\$ -	\$ -	\$ 269,166	\$ -
1	47	1020	Plant Controls & Devices	\$ 36,583	\$ -	\$ -	\$ 36,583	\$ 16,866	\$ -	\$ -	\$ 53,449	\$ -
1	47	1020	Plant Controls & Devices	\$ 10,000	\$ -	\$ -	\$ 10,000	\$ 5,000	\$ -	\$ -	\$ 15,000	\$ -
1	47	1020	Plant Controls & Devices	\$ 558,932	\$ -	\$ -	\$ 558,932	\$ 243,910	\$ 1,283	\$ -	\$ 281,123	\$ 277,554
1	47	1020	Plant Controls & Devices	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1	47	1020	Plant Controls & Devices	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1	47	1020	Plant Controls & Devices	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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Less: Fully Allocated Depreciation	
Transportation	
Stores Equipment	
Net Depreciation	\$5,243,157

[Attachment E – Eaton – Draft Field Service Report – MS1 Sub](#)



Powering Business Worldwide

Eaton Corporation
Eaton Electrical Services and Systems
2615 Lancaster RD
Unit 26
Ottawa, ON K1B 5N2

December 16, 2016

Renfrew Hydro
499 O'Brien Rd
Renfrew, ON

Attention: Bill Nippard

Subject: [FREE FORM TEXT ENTRY BOX-Subject]

Ref: Sub MS1

Attached please find our Field Service Report for the Sub MS1 maintenance performed on December 13, 2016. During the maintenance it was noticed that there are issues with moisture in the building causing problems with electrical equipment. It is highly recommended that these issues are resolved before there is any further damage to the electrical system.

The information submitted in this report summarizes all services, recommendations and comments made as a result of this service request.

Sincerely,

Christopher P Wolscht
Field Service Representative
Eaton Electrical Services & Systems
ChristopherPWolscht@Eaton.com

[Http://www.eatonelectrical.com](http://www.eatonelectrical.com)
24-Hour Emergency Service: 613-739-1115



Powering Business Worldwide

Job Summary:

Eaton Job Number:	EOTJ160115
Date of Service:	December 13, 2016
Service Location:	Renfrew Hydro- MS1
Performed For:	Renfrew Hydro 499 O'Brien Rd Renfrew, ON
Customer Order Number:	9912
Customer Contact:	Bill Nippard
Service Performed by:	Eaton Corporation Eaton Electrical Services and Systems 2615 Lancaster RD Unit 26 Ottawa, ON K1B 5N2
Field Service Representative:	Christopher P Wolscht

Test Procedures:

MEDIUM VOLTAGE OIL BREAKER

Visual and Mechanical Inspection

Inspected breaker for physical damage and installation.

Performed mechanical operation, checked contact alignment, wipe, and gap in accordance with manufacturer's instructions.

Checked tightness of bolted bus joints.

Checked liquid level.

Inspected breaker to cell alignment and grounding.

Electrical Tests

Verified proper electrical closing/tripping operation by activation of auxiliary devices.

Tripped circuit breaker by operation of each protective device.

Performed insulation resistance test phase-to-ground, phase-to-phase and across open contacts.

Measured contact resistance.

Sampled insulating fluid in accordance with ASTM D-923 and ASTM D3613. Sample was laboratory tested for the following:

-PCB Content (EPA 8081A / 8082)

PROTECTIVE RELAY

Visual and Mechanical Inspection

Tightened case connections. Inspected cover for correct gasket seal. Inspected shorting hardware, connection paddles, and/or knife switches. Verified target reset.

Cleaned cover glass and relay components as required.

Checked relay components for proper operation and alignment, as applicable.

Verified proper identification of protective relays.

Electrical Tests

Performed the following tests at the settings specified by client:

Pickup parameters on each operating element of the relay.

Timing tests conducted to verify proper delay of each element.

Pickup target and seal-in units.

Performed functional test to ensure relay trips the associated breaker or auxiliary device, as applicable.

Performed insulation resistance test on each electrical circuit to frame.



Powering Business Worldwide

TRANSFORMER TEST

Visual and Mechanical Inspection

Inspected physical and mechanical condition.

Verified removal of any shipping bracing and vent plugs.

Inspected all accessible bolted electrical connections for high resistance.

Verified correct liquid level in all tanks.

Verified correct equipment grounding.

Electrical Tests

Performed turns-ratio test at each tap changer position.



Electrical Services & Systems

TEST FORMS

EOTJ160115

Renfrew Hydro- MS1 Maintenance

Table of Contents

Job #EOTJ160115

PAGE _____

Customer Renfrew Hydro

User Renfrew Hydro

Plant	Substation (Eq Loc)	Position	PAGE NO.
Asset			
Renfrew Hydro TRANSFORMER TEST	MS1	Station Transformer	
Renfrew Hydro VLF CABLE TEST	MS1	Feeder Cables	
Renfrew Hydro MEDIUM VOLTAGE OIL BREAKER- MAIN	MS1 Brick Building	5kV Switchgear- Cell 5	
Renfrew Hydro MEDIUM VOLTAGE OIL BREAKER- MS1 F1	MS1 Brick Building	5kV Switchgear- Cell 4	
Renfrew Hydro PROTECTIVE RELAY- MS1 F1	MS1 Brick Building	5kV Switchgear- Cell 4	
Renfrew Hydro MEDIUM VOLTAGE OIL BREAKER- MS1 F2	MS1 Brick Building	5kV Switchgear- Cell 3	
Renfrew Hydro PROTECTIVE RELAY- MS1 F2	MS1 Brick Building	5kV Switchgear- Cell 3	
Renfrew Hydro MEDIUM VOLTAGE OIL BREAKER- MS1 F3	MS1 Brick Building	5kV Switchgear- Cell 2	
Renfrew Hydro PROTECTIVE RELAY- MS1 F3	MS1 Brick Building	5kV Switchgear- Cell 2	
Renfrew Hydro 10200 - BATTERY INSPECTION/ TESTING	MS1 Brick Building	Battery Bank	

Electrical Services & Systems

Transformer Test

CUSTOMER:	Renfrew Hydro; Renfrew, ON	JOB NUMBER:	EOTJ160115
USER:	Renfrew Hydro; ,	PLANT:	Renfrew Hydro
SUBSTATION:	MS1	EQUIPMENT POSITION:	Station Transformer
DEVICE / FEEDER ID:	TX1	DATE TESTED:	13/12/2016

FIELD DATA

MANUFACTURER:	Federal Pacific / FPE	TYPE:	ONAN/ONAF
SERIAL NUMBER:	G13122-1	IMPEDANCE (%) :	7.25
CLASS:	220	NUMBER OF TAPS:	1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5 <input checked="" type="radio"/> 6 <input type="radio"/> 7 <input type="radio"/> Other <input type="radio"/>
PHASE:	1 <input type="radio"/> 3 <input checked="" type="radio"/>	SELECTED TAP:	4
KVA:	5,000/6,67	FREQUENCY: (Hz)	60
WINDING TEMPERATURE: (°C)			0
CONFIG.: Primary Delta <input checked="" type="radio"/> Wye <input type="radio"/> Secondary Delta <input type="radio"/> Wye <input checked="" type="radio"/>		MAX. TEMP.	25
PRIMARY VOLTS	L-L: 44,000	TEMP RISE (°C)	55
SECONDARY VOLTS:	L-L: 4,160 L-N: 2,402	WINDING MATERIAL:	Primary: Copper Secondary: Copper
SYSTEM VOLTAGE:	42.9KV	BIL PRIMARY (KV):	250KV
HUMIDITY:	89%	BIL SECONDARY (KV)	60KV

ELECTRICAL TEST DATA

	AS TESTED: (check radio button to indicate as left tap setting)						AS LEFT
TAP POSITION:	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input checked="" type="radio"/>	5 <input type="radio"/>		4
PRIM. VOLTAGE: <input checked="" type="checkbox"/> 2.5% equal taps)	46,200.00 V	45,100.00 V	44,000.00 V	42,900.00 V	41,800.00 V	V	42,900.00 V
CALCULATED RATIO:	19.236 :1	18.778 :1	18.320 :1	17.862 :1	17.404 :1	:1	17.862 :1
H 1 -H 2 X 0 -X 1	19.231 :1	18.778 :1	18.325 :1	17.812 :1	17.403 :1	:1	17.872 :1
H 2 -H 3 X 0 -X 2	19.231 :1	18.782 :1	18.325 :1	17.872 :1	17.402 :1	:1	17.872 :1
H 1 -H 3 X 0 -X 3	19.231 :1	18.775 :1	18.324 :1	17.870 :1	17.398 :1	:1	17.870 :1
GREATEST % DIFF. vs. CALCULATED:	0.025 %	0.023 %	0.029 %	0.279 %	0.033 %	%	0.057 %

INSULATION RESISTANCE IN MegOhms	@ HI to LO & GND NA VDC	@ LO to HI & GND NA VDC	@ HI to LO NA VDC	@ CORE INSULATION NA VDC
ACTUAL VALUE:	0	0	0	0
CORRECTED TO 20°C:	0.00	0.00	0.00	0.00

POLARIZATION INDEX HI to LO @ NA VDC (MEGOHMS)	30 SEC:	1 MIN:	10 MIN:	CALC. INDEX:
	0	0	0	

POWER FACTOR TEST:	NA	SUDDEN PRESSURE DEVICE (PSI):	TRIP LEVEL:	NA	NO TRIP LEVEL:	NA
--------------------	----	---------------------------------	-------------	----	----------------	----

WINDING RESISTANCE TEST

	ACTUAL	CORRECTED TO 20°C:	ACTUAL	CORRECTED TO 20°C:	ACTUAL	CORRECTED TO 20°C:	
TAP	H 1 -H 2	H 1 -H 2	H 2 -H 3	H 2 -H 3	H 1 -H 3	H 1 -H 3	% VARIANCE
NA	0	0.00	0	0.00	0	0.00	100.00 %
NA	0	0.00	0	0.00	0	0.00	100.00 %
NA	0	0.00	0	0.00	0	0.00	100.00 %
NA	0	0.00	0	0.00	0	0.00	100.00 %
NA	0	0.00	0	0.00	0	0.00	100.00 %
NA	0	0.00	0	0.00	0	0.00	100.00 %
NA	0	0.00	0	0.00	0	0.00	100.00 %
	X 0 -X 1	0	X 0 -X 2	0	X 0 -X 3	0	100.00 %

COMMENTS:

44KV Fuses: S&C, Standard Speed TCC 153-1, 100E
Fuse Resistance (in micro-ohms): A=638, B=664, C=672

VLF CABLE TEST

Electrical Services & Systems

CUSTOMER:	Renfrew Hydro; Renfrew, ON	JOB NUMBER:	EOTJ160115
USER:	Renfrew Hydro; ,	PLANT:	Renfrew Hydro
SUBSTATION:	MS1	EQUIPMENT POSITION:	Feeder Cables
DEVICE / FEEDER ID:	Main Feeder Cables (A)	DATE TESTED:	13/12/2016

OPERATING VOLTAGE 4160 kV INSTALLED IN ☒ CONDUIT ☐ TRAY LENGTH 150 FT CABLE TEMPERATURE NA °C
 MANUFACTURER POWERLITE INSULATION TYPE LEAD INSULATION THICKNESS 0 MILS
 SIZE 500 MCM NO. OF CONDUCTORS 2CX3 CONDUCTOR MATERIAL ☒ CU ☐ AL
 RATED VOLTAGE 15 kV ☒ GROUNDED ☐ SHIELDED ☐ BELTED AGE UNKNOWN
☐ UNGROUNDED ☐ UNSHIELDED (PILC)
☐ RESISTANCE GROUND ☐ CONCENTRIC NEUTRAL
 CABLE SOURCE POT HEAD- MS1 OUTDOOR SUB CABLE TERMINATION POINT POT HEAD- MS1 BRICK BUILDING
 CONNECTED EQUIPMENT SWITCHGEAR ISOLATE CABLE ☒ Y ☐ N ☐ ARRESTERS ☐ POT FUSES
 NUMBER OF MANHOLES 0 NUMBER OF TERMINATIONS 4 NUMBER OF SPLICES NA
 TERMINATION / SPLICES ☐ HAND TAPED ☐ 3-M TERM. KIT ☐ RAYCHEM KIT ☐ OTHER POT HEAD

RMS TEST VOLTAGE 14 kV BREAKDOWN ☒ YES ☐ NO PLANNED TEST DURATION START TIME
 TEST FREQUENCY 0.001 Hz TIME TO FAILURE 15 MIN ☐ 1 MIN ☒ 15 MIN ☐ 30 MIN ☐ 60 MIN NA
 SHIELD RESISTANCE A-B 0 OHMS B-C 0 OHMS C-A 0 OHMS
 WAVE SHAPE ☒ SINE ☐ COSINE / RECTANGULAR ☐ OTHER END TIME
 TEST TYPE ☐ WITHSTAND ☐ PASS / FAIL ☐ DIAGNOSTIC SEE COMMENT BELOW NA

<input checked="" type="checkbox"/> PHASE A OR <input type="checkbox"/> PHASE A, B, C				<input checked="" type="checkbox"/> PHASE B			<input checked="" type="checkbox"/> PHASE C		
TESTS (MINUTES)	MEGOHMS	NANO FARADS	MICRO AMPS	MEGOHMS	NANO FARADS	MICRO AMPS	MEGOHMS	NANO FARADS	MICRO AMPS
1	0	0	2	0.00	0	2	0.00	0	2
5	0	0	2	0.00	0	2	0.00	0	2
10	0	0	2	0.00	0	2	0.00	0	2
15	0	0	2	0.00	0	2	0.00	0	2
20	0	0	0	0.00	0	0	0.00	0	0
25	0	0	0	0.00	0	0	0.00	0	0
30	0	0	0	0.00	0	0	0.00	0	0
45	0	0	0	0.00	0	0	0.00	0	0
60	0	0	0	0.00	0	0	0.00	0	0

COMMENTS:

Indoor Pot Heads are rated for 7.5kV therefore they could only be tested up to 14kV
 Cables were tested in pairs. Both A phase cables were tested together, B cables were tested together, and C phase cables were tested together

DEFICIENCIES:

Tested By: MA/SV

Date Tested: 13/12/2016

Work By: MA/SV

Inspected By: MA/SV

Electrical Services & Systems

Medium Voltage Oil Breaker

CUSTOMER:	Renfrew Hydro; Renfrew, ON	JOB NUMBER:	EOTJ160115
USER:	Renfrew Hydro; ,	PLANT:	Renfrew Hydro
SUBSTATION:	MS1 Brick Building	EQUIPMENT POSITION:	5kV Switchgear- Cell 5
DEVICE / FEEDER ID:	16T1B/ MS#1-MAIN	DATE TESTED:	13/12/2016

MANUFACTURER:	English Electric	VOLTAGE RATING:	7.5KV
TYPE:	IFR	CURRENT RATING:	1200A
MODEL/STYLE #:	NA	INTERRUPT RATING:	25KA
IB NUMBER	NA	WIRING DIAGRAM:	NA
SERIAL NUMBER:	30P18034-20	SYSTEM VOLTAGE	4160

ACCESSORIES

	RATING	CONDITION		RATING	CONDITION
CHARGE MOTOR:	<input type="checkbox"/>	N/A	AUX SWITCH(ES)	<input checked="" type="checkbox"/>	Acceptable
CONTROL RELAY:	<input type="checkbox"/>	N/A	BLOWN FUSE IND:	<input type="checkbox"/>	N/A
CLOSE COIL:	<input checked="" type="checkbox"/>	125 VDC	MAINT. ACCESSORIES	<input checked="" type="checkbox"/>	Acceptable
SHUNT TRIP:	<input checked="" type="checkbox"/>	125 VDC	(Other)	<input type="checkbox"/>	N/A
UNDERVOLTAGE:	<input type="checkbox"/>	N/A	(Other)	<input type="checkbox"/>	N/A
FUSES:	<input type="checkbox"/>	N/A	(Other)	<input type="checkbox"/>	N/A

INSPECTION DATA

	CONDITION
OVERALL CONDITION:	Acceptable
CONTACT GAP:	Acceptable
CONTACT WIPE:	Acceptable
OPEN / CLOSE INDICATOR:	Acceptable
AUX SWITCH:	Acceptable
INSULATION / BARRIERS:	Acceptable
INTERLOCKS:	Acceptable
LUBRICATION:	Acceptable
FRAME CONDITION:	Acceptable
COMPRESSOR OPERATION:	N/A

	CONDITION
GROUND CONNECTION:	Acceptable
PRIMARY FINGERS:	Acceptable
SECONDARY DISCONNECTS:	Acceptable
CONTROL WIRING:	Acceptable
MANUAL CLOSE / TRIP:	Acceptable
ELECTRICAL CLOSE / TRIP:	Acceptable
OPERATIONS COUNTER:	Acceptable
OIL LEVEL:	Acceptable
SAMPLING PORT:	Acceptable
COMPRESSOR BELTS:	N/A

ELECTRICAL TESTS

Insulation Resistance - i_MegOhms @ 5000 VDC

MicroOhms @ 10 Amps

Readings in Milliamps @ 0 KV ☐ AC ☐ DC

Closed (Ph. - Gnd)	Closed (Ph. - Ph.)	Open (Line - Load)
A-G 296	A-B 3500	A-A' 1810
B-G 2960	B-C 2940	B-B' 4120
C-G 109	C-A 338	C-C' 412

Contact Resistance
A 89
B 84
C 85

Overpotential test					
A-G	N/A	A-B	N/A	A-A'	N/A
B-G	N/A	B-C	N/A	B-B'	N/A
C-G	N/A	C-A	N/A	C-C'	N/A

Additional Tests: (may be documented on additional forms)

Control Wiring Insulation @ 500 VDC (MegOhms):	NA	Power Factor Test	No	Timing Test Performed	No
Coil #1 Minimum Trip Voltage	0	U.V. Dropout voltage			0

COMMENTS:

Insulation Resistance readings are very low. Hissing sound was present while testing C Phase. It is suspected that the heaters in Cell 5 may not be working anymore. James from Renfrew Hydro is looking into it.

Electrical Services & Systems

Medium Voltage Oil Breaker

CUSTOMER:	Renfrew Hydro; Renfrew, ON	JOB NUMBER:	EOTJ160115
USER:	Renfrew Hydro; ,	PLANT:	Renfrew Hydro
SUBSTATION:	MS1 Brick Building	EQUIPMENT POSITION:	5kV Switchgear- Cell 4
DEVICE / FEEDER ID:	16F1/ MS#1-F1	DATE TESTED:	13/12/2016

MANUFACTURER:	English Electric	VOLTAGE RATING:	7.5KV
TYPE:	IFR	CURRENT RATING:	600A
MODEL/STYLE #:	NA	INTERRUPT RATING:	25KA
IB NUMBER	NA	WIRING DIAGRAM:	NA
SERIAL NUMBER:	201-109	SYSTEM VOLTAGE	4160

ACCESSORIES

	RATING	CONDITION		RATING	CONDITION
CHARGE MOTOR:	<input type="checkbox"/> N/A	N/A	AUX SWITCH(ES)	<input checked="" type="checkbox"/>	Acceptable
CONTROL RELAY:	<input type="checkbox"/> N/A	N/A	BLOWN FUSE IND:	<input type="checkbox"/> N/A	N/A
CLOSE COIL:	<input checked="" type="checkbox"/> 125 VDC	Unacceptable	MAINT. ACCESSORIES	<input checked="" type="checkbox"/>	Acceptable
SHUNT TRIP:	<input checked="" type="checkbox"/> 125 VDC	Acceptable	(Other)	<input type="checkbox"/> N/A	N/A
UNDERVOLTAGE:	<input type="checkbox"/> N/A	N/A	(Other)	<input type="checkbox"/> N/A	N/A
FUSES:	<input type="checkbox"/> N/A	N/A	(Other)	<input type="checkbox"/> N/A	N/A

INSPECTION DATA

	CONDITION
OVERALL CONDITION:	Acceptable
CONTACT GAP:	Acceptable
CONTACT WIPE:	Acceptable
OPEN / CLOSE INDICATOR:	Acceptable
AUX SWITCH:	Acceptable
INSULATION / BARRIERS:	Acceptable
INTERLOCKS:	Acceptable
LUBRICATION:	Acceptable
FRAME CONDITION:	Acceptable
COMPRESSOR OPERATION:	N/A

	CONDITION
GROUND CONNECTION:	Acceptable
PRIMARY FINGERS:	Acceptable
SECONDARY DISCONNECTS:	Acceptable
CONTROL WIRING:	Acceptable
MANUAL CLOSE / TRIP:	Acceptable
ELECTRICAL CLOSE / TRIP:	Unacceptable
OPERATIONS COUNTER:	Acceptable
OIL LEVEL:	Acceptable
SAMPLING PORT:	Acceptable
COMPRESSOR BELTS:	N/A

ELECTRICAL TESTS

Insulation Resistance - i_MegOhms @ 5000 VDC

MilliOhms @ 10 Amps

Readings in Milliamps @ 0 KV ☐ AC ☐ DC

Closed (Ph. - Gnd)	Closed (Ph. - Ph.)	Open (Line - Load)
A-G 8700	A-B 7650	A-A' 30200
B-G 7100	B-C 7750	B-B' 24200
C-G 6750	C-A 17100	C-C' 26000

Contact Resistance
A 1.950
B 0.967
C 1.597

Overpotential test					
A-G	N/A	A-B	N/A	A-A'	N/A
B-G	N/A	B-C	N/A	B-B'	N/A
C-G	N/A	C-A	N/A	C-C'	N/A

Additional Tests: (may be documented on additional forms)

Control Wiring Insulation @ 500 VDC (MegOhms):	NA	Power Factor Test	No	Timing Test Performed	No
Coil #1 Minimum Trip Voltage	0	U.V. Dropout voltage	0		

COMMENTS:

Close Coil burnt out during maintenance. James from Renfrew Hydro is taking care of the repair.

Electrical Services & Systems

Over Current Protective Relay

CUSTOMER:	Renfrew Hydro; Renfrew, ON	JOB NUMBER:	EOTJ160115
USER:	Renfrew Hydro; ,	PLANT:	Renfrew Hydro
SUBSTATION:	MS1 Brick Building	EQUIPMENT POSITION:	5kV Switchgear- Cell 4
DEVICE / FEEDER ID:	MS1-F1	DATE TESTED:	14/12/2016

FIELD DATA

ELECTRO-MECHANICAL: ☒ SOLID-STATE: ☐ OVER VOLTAGE: ☐ UNDER VOLTAGE: ☐ OVER CURRENT: ☒ FREQUENCY: ☐

	PHASE:	(please select:)
MANUFACTURER:	GE	
TYPE:	IAC	
MODEL / STYLE NUMBER:	12IAC77B5A	
SERIAL NUMBER / MISC. IDENTIFICATION:	NA	
ANSI DEVICE NUMBER:	50/57	
CT/PT RATIO:	400/5	
TAP RANGE:	4-16	
TIME DIAL RANGE:	0-10	
INST. RANGE:	4-16	
IB NUMBER:	28886	
CONTROL VOLTAGE:	NA	

SPECIFIED SETTINGS:						AS FOUND SETTINGS:						AS LEFT SETTINGS:					
	TAP	CURVE	TIME DIAL	INST	ICS		TAP	CURVE	TIME DIAL	INST	ICS		TAP	CURVE	TIME DIAL	INST	ICS
PHASE:						PHASE:	8	EI	3.5	10	0.2	PHASE:	8	EI	3.5	10	0.2

INSPECTION DATA

VISUAL INSPECTION	A	B	C		VISUAL INSPECTION	A	B	C	
MOISTURE/RUST:	Acceptable	N/A	Acceptable		RELAY CLEANED:	Acceptable	N/A	Acceptable	
SPIRAL SPRING:	Acceptable	N/A	Acceptable		SCREWS TIGHTENED:	Acceptable	N/A	Acceptable	
DISK CLEARANCE:	Acceptable	N/A	Acceptable		TRIP INDICATOR & RESET:	Acceptable	N/A	Acceptable	
OVERHEATING:	Acceptable	N/A	Acceptable		ZERO ADJUSTMENT CHECK:	N/A	N/A	N/A	
COVER/CASE:	Acceptable	N/A	Acceptable		MAGNET:	Acceptable	N/A	Acceptable	
PADDLE:	Acceptable	N/A	Acceptable		JEWEL BEARING:	Acceptable	N/A	Acceptable	
TRIP FUNCTION TEST:	Acceptable	N/A	Acceptable		(Misc.)	N/A	N/A	N/A	

ELECTRICAL TEST DATA

PHASE					A		B		C								
TIME TEST AT %	SPEC. VALUE	TOL. %	MIN	MAX	AS FOUND	AS LEFT	AS FOUND	AS LEFT	AS FOUND	AS LEFT	TIME TEST AT %	TEST	TOL. %	MIN	MAX	AS Found	AS Left
LIMITS											LIMITS						
PICK UP	8	5	7.600	8.400	7.6				7.97		PICKUP						
2	16	7	4.371	5.029	4.41				4.88								
3	24	7	1.744	2.006	1.74				1.93								
4	32	7	0.953	1.097	0.95				1.05								
INSTANTANEOUS PICK UP:					17.3				15.8		INSTANTANEOUS PICK UP:						
ICS/PICK UP:					0.22				0.24		ICS/PICK UP:						
ICS/SEAL IN:					0.20				0.21		ICS/SEAL IN:						
INSUL. RES. @ 1000 VDC (MEGOHMS):					17500				13500		INSUL. RES. @ 1000 VDC (MEGOHMS):						

COMMENTS:

Electrical Services & Systems

Medium Voltage Oil Breaker

CUSTOMER:	Renfrew Hydro; Renfrew, ON	JOB NUMBER:	EOTJ160115
USER:	Renfrew Hydro; ,	PLANT:	Renfrew Hydro
SUBSTATION:	MS1 Brick Building	EQUIPMENT POSITION:	5kV Switchgear- Cell 3
DEVICE / FEEDER ID:	16F2/ MS#1-F2	DATE TESTED:	13/12/2016

MANUFACTURER:	English Electric	VOLTAGE RATING:	7.5KV
TYPE:	IFR	CURRENT RATING:	600A
MODEL/STYLE #:	NA	INTERRUPT RATING:	25KA
IB NUMBER	NA	WIRING DIAGRAM:	NA
SERIAL NUMBER:	201-111	SYSTEM VOLTAGE	4160

ACCESSORIES

	RATING	CONDITION		RATING	CONDITION
CHARGE MOTOR:	<input type="checkbox"/> N/A	N/A	AUX SWITCH(ES)	<input checked="" type="checkbox"/>	Acceptable
CONTROL RELAY:	<input type="checkbox"/> N/A	N/A	BLOWN FUSE IND:	<input type="checkbox"/> N/A	N/A
CLOSE COIL:	<input checked="" type="checkbox"/> 125 VDC	Acceptable	MAINT. ACCESSORIES	<input checked="" type="checkbox"/>	Acceptable
SHUNT TRIP:	<input checked="" type="checkbox"/> 125 VDC	Acceptable	(Other)	<input type="checkbox"/> N/A	N/A
UNDERVOLTAGE:	<input type="checkbox"/> N/A	N/A	(Other)	<input type="checkbox"/> N/A	N/A
FUSES:	<input type="checkbox"/> N/A	N/A	(Other)	<input type="checkbox"/> N/A	N/A

INSPECTION DATA

	CONDITION
OVERALL CONDITION:	Acceptable
CONTACT GAP:	Acceptable
CONTACT WIPE:	Acceptable
OPEN / CLOSE INDICATOR:	Acceptable
AUX SWITCH:	Acceptable
INSULATION / BARRIERS:	Acceptable
INTERLOCKS:	Acceptable
LUBRICATION:	Acceptable
FRAME CONDITION:	Acceptable
COMPRESSOR OPERATION:	N/A

	CONDITION
GROUND CONNECTION:	Acceptable
PRIMARY FINGERS:	Acceptable
SECONDARY DISCONNECTS:	Acceptable
CONTROL WIRING:	Acceptable
MANUAL CLOSE / TRIP:	Acceptable
ELECTRICAL CLOSE / TRIP:	Acceptable
OPERATIONS COUNTER:	Acceptable
OIL LEVEL:	Acceptable
SAMPLING PORT:	Acceptable
COMPRESSOR BELTS:	N/A

ELECTRICAL TESTS

Insulation Resistance - i_MegOhms @ 5000 VDC

MilliOhms @ 10 Amps

Readings in Milliamps @ 0 KV ☐ AC ☐ DC

Closed (Ph. - Gnd)	Closed (Ph. - Ph.)	Open (Line - Load)
A-G 10500	A-B 16900	A-A' 28600
B-G 10400	B-C 28400	B-B' 30800
C-G 9450	C-A 27000	C-C' 29000

Contact Resistance
A 2.219
B 59.980
C 16.371

Overpotential test					
A-G	N/A	A-B	N/A	A-A'	N/A
B-G	N/A	B-C	N/A	B-B'	N/A
C-G	N/A	C-A	N/A	C-C'	N/A

Additional Tests: (may be documented on additional forms)

Control Wiring Insulation @ 500 VDC (MegOhms):	NA	Power Factor Test	No	Timing Test Performed	No
Coil #1 Minimum Trip Voltage	0	U.V. Dropout voltage			0

COMMENTS:

Electrical Services & Systems

Over Current Protective Relay

CUSTOMER:	Renfrew Hydro; Renfrew, ON	JOB NUMBER:	EOTJ160115
USER:	Renfrew Hydro; ,	PLANT:	Renfrew Hydro
SUBSTATION:	MS1 Brick Building	EQUIPMENT POSITION:	5kV Switchgear- Cell 3
DEVICE / FEEDER ID:	MS1-F2	DATE TESTED:	14/12/2016

FIELD DATA

ELECTRO-MECHANICAL: ☒ SOLID-STATE: ☐ OVER VOLTAGE: ☐ UNDER VOLTAGE: ☐ OVER CURRENT: ☒ FREQUENCY: ☐

	PHASE:	(please select:)
MANUFACTURER:	GE	
TYPE:	IAC	
MODEL / STYLE NUMBER:	12IAC77B5A	
SERIAL NUMBER / MISC. IDENTIFICATION:	NA	
ANSI DEVICE NUMBER:	50/57	
CT/PT RATIO:	400/5	
TAP RANGE:	4-16	
TIME DIAL RANGE:	0-10	
INST. RANGE:	4-16	
IB NUMBER:	28886	
CONTROL VOLTAGE:	NA	

SPECIFIED SETTINGS:						AS FOUND SETTINGS:						AS LEFT SETTINGS:					
	TAP	CURVE	TIME DIAL	INST	ICS		TAP	CURVE	TIME DIAL	INST	ICS		TAP	CURVE	TIME DIAL	INST	ICS
PHASE:						PHASE:	5	EI	1.5	10	0.2	PHASE:	5	EI	1.5	10	0.2

INSPECTION DATA

VISUAL INSPECTION	A	B	C		VISUAL INSPECTION	A	B	C	
MOISTURE/RUST:	Acceptable	N/A	Acceptable		RELAY CLEANED:	Acceptable	N/A	Acceptable	
SPIRAL SPRING:	Acceptable	N/A	Acceptable		SCREWS TIGHTENED:	Acceptable	N/A	Acceptable	
DISK CLEARANCE:	Acceptable	N/A	Acceptable		TRIP INDICATOR & RESET:	Acceptable	N/A	Acceptable	
OVERHEATING:	Acceptable	N/A	Acceptable		ZERO ADJUSTMENT CHECK:	N/A	N/A	N/A	
COVER/CASE:	Acceptable	N/A	Acceptable		MAGNET:	Acceptable	N/A	Acceptable	
PADDLE:	Acceptable	N/A	Acceptable		JEWEL BEARING:	Acceptable	N/A	Acceptable	
TRIP FUNCTION TEST:	Acceptable	N/A	Acceptable		(Misc.)	N/A	N/A	N/A	

ELECTRICAL TEST DATA

PHASE					A		B		C								
TIME TEST AT %	SPEC. VALUE	TOL. %	MIN	MAX	AS FOUND	AS LEFT	AS FOUND	AS LEFT	AS FOUND	AS LEFT	TIME TEST AT %	TEST	TOL. %	MIN	MAX	AS Found	AS Left
LIMITS											LIMITS						
PICK UP	5	5	4.750	5.250	4.95				4.98		PICKUP						
2	10	7	1.860	2.140	1.76				1.83								
3	15	7	0.744	0.856	0.74				0.73								
4	20	7	0.465	0.535	0.46				0.47								
INSTANTANEOUS PICK UP:					10.6				10.4		INSTANTANEOUS PICK UP:						
ICS/PICK UP:					0.21				0.24		ICS/PICK UP:						
ICS/SEAL IN:					0.17				0.18		ICS/SEAL IN:						
INSUL. RES. @ 1000 VDC (MEGOHMS):					11300				22000		INSUL. RES. @ 1000 VDC (MEGOHMS):						

COMMENTS:

Electrical Services & Systems

Medium Voltage Oil Breaker

CUSTOMER:	Renfrew Hydro; Renfrew, ON	JOB NUMBER:	EOTJ160115
USER:	Renfrew Hydro; ,	PLANT:	Renfrew Hydro
SUBSTATION:	MS1 Brick Building	EQUIPMENT POSITION:	5kV Switchgear- Cell 2
DEVICE / FEEDER ID:	16F3/ MS#1-F3	DATE TESTED:	14/12/2016

MANUFACTURER:	English Electric	VOLTAGE RATING:	7.5KV
TYPE:	IFR	CURRENT RATING:	600A
MODEL/STYLE #:	NA	INTERRUPT RATING:	25KA
IB NUMBER	NA	WIRING DIAGRAM:	NA
SERIAL NUMBER:	201-108	SYSTEM VOLTAGE	4160

ACCESSORIES

	RATING	CONDITION		RATING	CONDITION
CHARGE MOTOR:	<input type="checkbox"/> N/A	N/A	AUX SWITCH(ES)	<input checked="" type="checkbox"/>	Acceptable
CONTROL RELAY:	<input type="checkbox"/> N/A	N/A	BLOWN FUSE IND:	<input type="checkbox"/> N/A	N/A
CLOSE COIL:	<input checked="" type="checkbox"/> 125 VDC	Acceptable	MAINT. ACCESSORIES	<input checked="" type="checkbox"/>	Acceptable
SHUNT TRIP:	<input checked="" type="checkbox"/> 125 VDC	Acceptable	(Other)	<input type="checkbox"/> N/A	N/A
UNDERVOLTAGE:	<input type="checkbox"/> N/A	N/A	(Other)	<input type="checkbox"/> N/A	N/A
FUSES:	<input type="checkbox"/> N/A	N/A	(Other)	<input type="checkbox"/> N/A	N/A

INSPECTION DATA

	CONDITION
OVERALL CONDITION:	Acceptable
CONTACT GAP:	Acceptable
CONTACT WIPE:	Acceptable
OPEN / CLOSE INDICATOR:	Acceptable
AUX SWITCH:	Acceptable
INSULATION / BARRIERS:	Acceptable
INTERLOCKS:	Acceptable
LUBRICATION:	Acceptable
FRAME CONDITION:	Acceptable
COMPRESSOR OPERATION:	N/A

	CONDITION
GROUND CONNECTION:	Acceptable
PRIMARY FINGERS:	Acceptable
SECONDARY DISCONNECTS:	Acceptable
CONTROL WIRING:	Acceptable
MANUAL CLOSE / TRIP:	Acceptable
ELECTRICAL CLOSE / TRIP:	Acceptable
OPERATIONS COUNTER:	Unacceptable
OIL LEVEL:	Acceptable
SAMPLING PORT:	Acceptable
COMPRESSOR BELTS:	N/A

ELECTRICAL TESTS

Insulation Resistance - i_MegOhms @ 5000 VDC

MilliOhms @ 10 Amps

Readings in Milliamps @ 0 KV ☐ AC ☐ DC

Closed (Ph. - Gnd)	Closed (Ph. - Ph.)	Open (Line - Load)
A-G 1050	A-B 1570	A-A' 2300
B-G 1070	B-C 2160	B-B' 2180
C-G 1080	C-A 2200	C-C' 2300

Contact Resistance
A 2.765
B 2.146
C 0.905

Overpotential test					
A-G	N/A	A-B	N/A	A-A'	N/A
B-G	N/A	B-C	N/A	B-B'	N/A
C-G	N/A	C-A	N/A	C-C'	N/A

Additional Tests: (may be documented on additional forms)

Control Wiring Insulation @ 500 VDC (MegOhms):	NA	Power Factor Test	No	Timing Test Performed	No
Coil #1 Minimum Trip Voltage	0	U.V. Dropout voltage	0		

COMMENTS:

Operations Counter appears to not be working.

Electrical Services & Systems

Over Current Protective Relay

CUSTOMER:	Renfrew Hydro; Renfrew, ON	JOB NUMBER:	EOTJ160115
USER:	Renfrew Hydro; ,	PLANT:	Renfrew Hydro
SUBSTATION:	MS1 Brick Building	EQUIPMENT POSITION:	5kV Switchgear- Cell 2
DEVICE / FEEDER ID:	MS1-F3	DATE TESTED:	14/12/2016

FIELD DATA

ELECTRO-MECHANICAL: ☒ SOLID-STATE: ☐ OVER VOLTAGE: ☐ UNDER VOLTAGE: ☐ OVER CURRENT: ☒ FREQUENCY: ☐

	PHASE:	(please select:)
MANUFACTURER:	GE	
TYPE:	IAC	
MODEL / STYLE NUMBER:	12IAC77B5A	
SERIAL NUMBER / MISC. IDENTIFICATION:	NA	
ANSI DEVICE NUMBER:	50/57	
CT/PT RATIO:	400/5	
TAP RANGE:	4-16	
TIME DIAL RANGE:	0-10	
INST. RANGE:	4-16	
IB NUMBER:	28886	
CONTROL VOLTAGE:	NA	

SPECIFIED SETTINGS:						AS FOUND SETTINGS:						AS LEFT SETTINGS:					
	TAP	CURVE	TIME DIAL	INST	ICS		TAP	CURVE	TIME DIAL	INST	ICS		TAP	CURVE	TIME DIAL	INST	ICS
PHASE:						PHASE:	6	EINV	3	16	0.2	PHASE:	8	EINV	3.5	16	0.2

INSPECTION DATA

VISUAL INSPECTION	A	B	C		VISUAL INSPECTION	A	B	C	
MOISTURE/RUST:	Acceptable	N/A	Acceptable		RELAY CLEANED:	Acceptable	N/A	Acceptable	
SPIRAL SPRING:	Acceptable	N/A	Acceptable		SCREWS TIGHTENED:	Acceptable	N/A	Acceptable	
DISK CLEARANCE:	Acceptable	N/A	Acceptable		TRIP INDICATOR & RESET:	Acceptable	N/A	Acceptable	
OVERHEATING:	Acceptable	N/A	Acceptable		ZERO ADJUSTMENT CHECK:	N/A	N/A	N/A	
COVER/CASE:	Acceptable	N/A	Acceptable		MAGNET:	Acceptable	N/A	Acceptable	
PADDLE:	Acceptable	N/A	Acceptable		JEWEL BEARING:	Acceptable	N/A	Acceptable	
TRIP FUNCTION TEST:	Acceptable	N/A	Acceptable		(Misc.)	N/A	N/A	N/A	

ELECTRICAL TEST DATA

PHASE					A		B		C								
TIME TEST AT %	SPEC. VALUE	TOL. %	MIN	MAX	AS FOUND	AS LEFT	AS FOUND	AS LEFT	AS FOUND	AS LEFT	TIME TEST AT %	TEST	TOL. %	MIN	MAX	AS Found	AS Left
LIMITS					LIMITS												
PICK UP	6	5	5.700	6.300	5.95				5.97		PICKUP						
2	12	7	3.767	4.334	4.36				4.8								
3	18	7	1.535	1.766	1.79				1.70								
4	24	7	0.837	0.963	0.94				1.05								
INSTANTANEOUS PICK UP:					15.9				16.72		INSTANTANEOUS PICK UP:						
ICS/PICK UP:					0.22				0.24		ICS/PICK UP:						
ICS/SEAL IN:					0.20				0.21		ICS/SEAL IN:						
INSUL. RES. @ 1000 VDC (MEGOHMS):					11300				13800		INSUL. RES. @ 1000 VDC (MEGOHMS):						

COMMENTS:

Electrical Services & Systems

BATTERY INSPECTION

CUSTOMER:	Renfrew Hydro; Renfrew, ON	JOB NUMBER:	EOTJ160115
USER:	Renfrew Hydro; ,	PLANT:	Renfrew Hydro
SUBSTATION:	MS1 Brick Building	EQUIPMENT POSITION:	Battery Bank
DEVICE / FEEDER ID:	Battery Bank	DATE TESTED:	13/12/2016

NAMEPLATE DATA

MANUFACTURER Power Battery Co. CELL TYPE Ni-Cad CELL VOLTAGE 120
 CATALOG NO. 1CAB-10SLF105-120-12.0 SPECIFIC GRAVITY RANGE NA AMP HOUR RATING 12
 OVERALL BATTERY VOLTAGE 120 VDC NUMBER OF CELLS 10
 BATTERY TEMP. 0 °C
 OTHER _____
 BATTERY CHARGE STATUS ☒ CHARGED ☐ DISCHARGED ☐ EQUALIZED TEMPERATURE CORRECTED READINGS ☐ YES ☒ NO

CELL	RESISTANCE ($\mu\Omega$)	VOLTAGE DROP (mV)	CURRENT (A)
1	8159	13.578	NA
2	8354	13.446	NA
3	8278	13.499	NA
4	8130	13.463	NA
5	7745	13.483	NA
6	8015	13.551	NA
7	7889	13.514	NA
8	8437	13.462	NA
9	8745	13.583	NA
10	7557	13.447	NA
11			
12			
13			
14			
15			
16			
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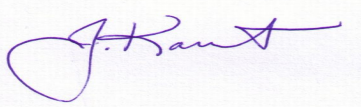
CELL	RESISTANCE ($\mu\Omega$)	VOLTAGE DROP (mV)	CURRENT (A)
41			
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Eaton Industries (Canada) Company	Serial#: 201108	Mfr: ENGLISH ELECTRIC	Control#: 6982152
2615 LANCASTER ROAD, UNIT 26	Location:	kV: 7.5	Order#: 526732
OTTAWA, ON K1B 5N2 CA	Equipment: OCB	kVA:	Account: 6095
ATTN: DAVID LAVICTOIRE	Compartment: OCB	Year Mf'd:	Received: 12/15/2016
PO#: 4368-208367	Breathing: FB	Syringe ID:	Reported: 01/05/2017
Project ID: EOTJ160115	Bank: Phase: 3	Bottle ID: 1	
Customer ID: MS2 F3	Fluid: MIN USGal: 10	Sampled By:	
	Model:		

Lab Control Number:		6982152
Date Sampled:		12/13/2016
Order Number:		526732
Oil Temp:		5
PCB	Concentration (mg/kg):	3.5 mg/kg
ASTM Method D-4059¹	PCB Type (Arocolor):	1260
	Reporting Limit:	1
Comment:		

End of Test Report

Authorized By:



JANET KAROLAT
SUPV CHEMIST

Notations: 1. Analysis is ISO/IEC 17025:2005 accredited, L-A-B Accredited Certificate Number L2303 2. This test is conducted by a subcontracted laboratory. 3. Subcontracted laboratory has received ISO Standard 17025 accreditation for this test. 5. This test is conducted by Weidmann Laboratory other than Primary Lab. 6. Weidmann Laboratory has received ISO Standard 17025 accreditation for this test. 7. Imported Sample: WEIDMANN Electrical Technology accepts no responsibility for these results; accreditation status does not apply to these results. 8. Imported Equipment 10. mg/kg, µg/g, µg/mL, µL/L = ppm, µg/L = ppb, mN/m = dynes/cm, mm²/s = cSt


Accreditation applies to current analysis only. The analyses, opinions or interpretations contained in this report are based upon material and information supplied by the client. WEIDMANN Electrical Technology does not imply that the contents of the sample received by this laboratory are the same as all such material in the environment from which the sample was taken. Our test results relate only to the sample or samples tested. Any interpretations or opinions expressed represent the best judgment of WEIDMANN Electrical Technology. WEIDMANN Electrical Technology assumes no responsibility and makes no warranty or representation, expressed or implied as to the condition, productivity or proper operation of any equipment or other property for which this report may be used or relied upon for any reason whatsoever. This test report shall not be reproduced except in full, without written approval of the laboratory.

Eaton Industries (Canada) Company	Serial#: 201111	Mfr: ENGLISH ELECTRIC	Control#: 6982153
2615 LANCASTER ROAD, UNIT 26	Location:	kV: 7.5	Order#: 526732
OTTAWA, ON K1B 5N2 CA	Equipment: OCB	kVA:	Account: 6095
ATTN: DAVID LAVICTOIRE	Compartment: OCB	Year Mf'd:	Received: 12/15/2016
PO#: 4368-208367	Breathing: FB	Syringe ID:	Reported: 01/05/2017
Project ID: EOTJ160115	Bank: Phase: 3	Bottle ID: 2	
Customer ID: MS1 F2	Fluid: MIN USGal: 10	Sampled By:	
	Model:		

Lab Control Number:		6982153
Date Sampled:		12/13/2016
Order Number:		526732
Oil Temp:		5
PCB ASTM Method D-4059¹	Concentration (mg/kg):	9.4 mg/kg
	PCB Type (Arocolor):	1260
	Reporting Limit:	1
Comment:		

End of Test Report

Authorized By:



JANET KAROLAT
SUPV CHEMIST

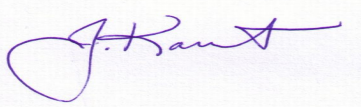
Notations: 1. Analysis is ISO/IEC 17025:2005 accredited, L-A-B Accredited Certificate Number L2303 2. This test is conducted by a subcontracted laboratory. 3. Subcontracted laboratory has received ISO Standard 17025 accreditation for this test. 5. This test is conducted by Weidmann Laboratory other than Primary Lab. 6. Weidmann Laboratory has received ISO Standard 17025 accreditation for this test. 7. Imported Sample: WEIDMANN Electrical Technology accepts no responsibility for these results; accreditation status does not apply to these results. 8. Imported Equipment 10. mg/kg, µg/g, µg/mL, µL/L = ppm, µg/L = ppb, mN/m = dynes/cm, mm²/s = cSt

Accreditation applies to current analysis only. The analyses, opinions or interpretations contained in this report are based upon material and information supplied by the client. WEIDMANN Electrical Technology does not imply that the contents of the sample received by this laboratory are the same as all such material in the environment from which the sample was taken. Our test results relate only to the sample or samples tested. Any interpretations or opinions expressed represent the best judgment of WEIDMANN Electrical Technology. WEIDMANN Electrical Technology assumes no responsibility and makes no warranty or representation, expressed or implied as to the condition, productivity or proper operation of any equipment or other property for which this report may be used or relied upon for any reason whatsoever. This test report shall not be reproduced except in full, without written approval of the laboratory.

Eaton Industries (Canada) Company	Serial#: 201109	Mfr: ENGLISH ELECTRIC	Control#: 6982154
2615 LANCASTER ROAD, UNIT 26	Location:	kV: 7.5	Order#: 526732
OTTAWA, ON K1B 5N2 CA	Equipment: OCB	kVA:	Account: 6095
ATTN: DAVID LAVICTOIRE	Compartment: OCB	Year Mf'd:	Received: 12/15/2016
PO#: 4368-208367	Breathing: FB	Syringe ID:	Reported: 01/05/2017
Project ID: EOTJ160115	Bank: Phase: 3	Bottle ID: 3	
Customer ID: MS1 F1	Fluid: MIN USGal: 10	Sampled By:	
	Model:		
	Lab Control Number:	6982154	
	Date Sampled:	12/13/2016	
	Order Number:	526732	
	Oil Temp:	5	
PCB	Concentration (mg/kg):	3.2 mg/kg	
ASTM Method D-4059¹	PCB Type (Arocolor):	1260	
	Reporting Limit:	1	
Comment:			

End of Test Report

Authorized By:



JANET KAROLAT
SUPV CHEMIST

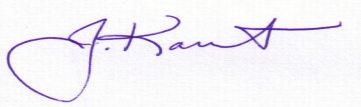
Notations: 1. Analysis is ISO/IEC 17025:2005 accredited, L-A-B Accredited Certificate Number L2303 2. This test is conducted by a subcontracted laboratory. 3. Subcontracted laboratory has received ISO Standard 17025 accreditation for this test. 5. This test is conducted by Weidmann Laboratory other than Primary Lab. 6. Weidmann Laboratory has received ISO Standard 17025 accreditation for this test. 7. Imported Sample: WEIDMANN Electrical Technology accepts no responsibility for these results; accreditation status does not apply to these results. 8. Imported Equipment 10. mg/kg, µg/g, µg/mL, µL/L = ppm, µg/L = ppb, mN/m = dynes/cm, mm²/s = cSt

Accreditation applies to current analysis only. The analyses, opinions or interpretations contained in this report are based upon material and information supplied by the client. WEIDMANN Electrical Technology does not imply that the contents of the sample received by this laboratory are the same as all such material in the environment from which the sample was taken. Our test results relate only to the sample or samples tested. Any interpretations or opinions expressed represent the best judgment of WEIDMANN Electrical Technology. WEIDMANN Electrical Technology assumes no responsibility and makes no warranty or representation, expressed or implied as to the condition, productivity or proper operation of any equipment or other property for which this report may be used or relied upon for any reason whatsoever. This test report shall not be reproduced except in full, without written approval of the laboratory.

Eaton Industries (Canada) Company	Serial#: 30P1803420	Mfr: ENGLISH ELECTRIC	Control#: 6982155
2615 LANCASTER ROAD, UNIT 26	Location:	kV: 7.5	Order#: 526732
OTTAWA, ON K1B 5N2 CA	Equipment: OCB	kVA:	Account: 6095
ATTN: DAVID LAVICTOIRE	Compartment: OCB	Year Mf'd:	Received: 12/15/2016
PO#: 4368-208367	Breathing: FB	Syringe ID:	Reported: 01/05/2017
Project ID: EOTJ160115	Bank: Phase: 3	Bottle ID: 4	
Customer ID: MS1 MAIN	Fluid: MIN USGal: 10	Sampled By:	
	Model:		
	Lab Control Number:	6982155	
	Date Sampled:	12/13/2016	
	Order Number:	526732	
	Oil Temp:	5	
PCB	Concentration (mg/kg):	< 2.5 mg/kg	
ASTM Method D-4059¹	PCB Type (Arocolor):	ND	
	Reporting Limit:	2.5	
Comment:			

End of Test Report

Authorized By:



JANET KAROLAT
SUPV CHEMIST

Notations: 1. Analysis is ISO/IEC 17025:2005 accredited, L-A-B Accredited Certificate Number L2303 2. This test is conducted by a subcontracted laboratory. 3. Subcontracted laboratory has received ISO Standard 17025 accreditation for this test. 5. This test is conducted by Weidmann Laboratory other than Primary Lab. 6. Weidmann Laboratory has received ISO Standard 17025 accreditation for this test. 7. Imported Sample: WEIDMANN Electrical Technology accepts no responsibility for these results; accreditation status does not apply to these results. 8. Imported Equipment 10. mg/kg, µg/g, µg/mL, µL/L = ppm, µg/L = ppb, mN/m = dynes/cm, mm²/s = cSt

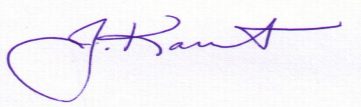
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Eaton Industries (Canada) Company	Serial#: SPARE	Mfr: ENGLISH ELECTRIC	Control#: 6982156
2615 LANCASTER ROAD, UNIT 26	Location:	kV: 7.5	Order#: 526732
OTTAWA, ON K1B 5N2 CA	Equipment: OCB	kVA:	Account: 6095
ATTN: DAVID LAVICTOIRE	Compartment: OCB	Year Mf'd:	Received: 12/15/2016
PO#: 4368-208367	Breathing: FB	Syringe ID:	Reported: 01/05/2017
Project ID: EOTJ160115	Bank: Phase: 3	Bottle ID: 5	
Customer ID:	Fluid: MIN USGal: 10	Sampled By:	
	Model:		

Lab Control Number:		6982156
Date Sampled:		12/13/2016
Order Number:		526732
Oil Temp:		5
PCB ASTM Method D-4059¹	Concentration (mg/kg):	1.5 mg/kg
	PCB Type (Arocolor):	1260
	Reporting Limit:	1
Comment:		

End of Test Report

Authorized By:



JANET KAROLAT
SUPV CHEMIST

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www.esasafe.com

400 Sheldon Dr, Unit 1, Cambridge, ON , N1T 2H9

For inquiries:

TOLL FREE TEL: 1-877-372-7233

TOLL FREE FAX: 1-800-667-4278

Certificate of Inspection - ACP

EATON INDUSTRIES (CANADA) COMPANY
2615 LANCASTER RD UNIT 26
OTTAWA ON K1B 5N2

NOTICE DATE: December 29, 2016
NOTIFICATION #: 15398025
PRINT DATE: December 29, 2016
CUSTOMER ID: 9999
ACP #: ECRSB1618
CUST. ORDER #: J160115
LICENCE NUMBER: 0007004736

Re:

RENFREW HYDRO
85 OPEONGO RD
RENFREW ON K7V 2T2
RENFREW

WE HEREBY CERTIFY THAT AN ELECTRICAL INSPECTION AT THE AFOREMENTIONED
ADDRESS WAS CONDUCTED OR IS DEEMED CONDUCTED ON THE INSTALLATION
DESCRIBED HEREIN

1 HV SUBSTATION MAINTENANCE-OPEN AIR
MAINTENANCE SCHEDULED FOR DECEMBER 13, 2016

The Electrical Safety Authority (ESA) operates as a delegated authority on behalf of the provincial government in accordance with Part VIII, section 113 of the Electricity Act, 1998, S.O. 1998, c.15, Sched. A. (the Act), and the Safety and Consumer Statutes Administration Act, 1996, S.O. 1996, c.19. ESA's mandate is to administer the Act and corresponding Regulations on behalf of the Province of Ontario.

ESA is a not-for-profit corporation under the direction and control of a Board of Directors and is accountable to the Ministry of Government and Consumer Services in accordance with an Administrative Agreement.