



January 23, 2026

via RESS

Ritchie Murray
Acting Registrar
Ontario Energy Board
P.O. Box 2319
2300 Yonge Street, 27th Floor
Toronto, Ontario M4P 1E4

**Re: Lakeland Power Distribution Ltd
2026 IRM Interrogatory Responses
OEB File No. EB-2025-0024**

Dear Mr. Murray,

Please find attached complete responses to interrogatory questions received from OEB Staff, SEC and VECC, with respect to Lakeland Power Distribution Ltd.'s 2026 IRM distribution rate application (EB-2025-0024) for rates effective May 1, 2026.

The responses are being filed through the OEB's online RESS filing system and include:

- Combined responses
- Updated Excel version of the 2026 IRM Rate Generator Model
- Lakeland Power will be making a request for confidential treatment of certain information contained in the IRRs, pursuant to the OEB's Practice Direction on Confidential Filings.

Should the board have questions regarding this application please contact Andrew Trousdale at atrousdale@lakelandholding.com.

Respectfully Submitted,

A handwritten signature in blue ink, appearing to read "A. Trousdale", written over a light blue horizontal line.

Andrew Trousdale
Chief Financial Officer
Lakeland Holding Ltd.



Lakeland Power Distribution Ltd.

2026 IRM

Responses to Interrogatories from OEB, SEC and VECC

EB-2025-0024

For Rates Effective:
May 1, 2026

Filed: January 23, 2026

Table of Contents

OEB Staff-1.....	5
OEB Staff-2.....	5
OEB Staff-3.....	7
OEB Staff-4.....	7
OEB Staff-5.....	10
OEB Staff-6.....	10
OEB Staff-7.....	13
OEB Staff-8.....	16
OEB Staff-9.....	21
OEB Staff-10.....	22
OEB Staff-11.....	23
OEB Staff-12.....	23
OEB Staff-13.....	25
OEB Staff-14.....	30
OEB Staff-15.....	32
OEB Staff-16.....	35
OEB Staff-17.....	37
OEB Staff-18.....	38
OEB Staff-19.....	42
OEB Staff-20.....	42
SEC-1.....	45
SEC-2.....	45
SEC-3.....	47
SEC-4.....	47
SEC-5.....	47
SEC-6.....	48
SEC-7.....	49
SEC-8.....	49
VECC-1.....	51
VECC-2.....	51
VECC-3.....	51

VECC-4	52
VECC-5	53
VECC-6	53
VECC-7	54
VECC-8	55
VECC-9	57
Appendices	60

Appendices

Appendix A - Lakeland Power Emergency Response Plan - page 60	
Appendix B - Transformer Purchase Quotes - page 97	
Appendix C - Transformer Repair Quotes - page 98	
Appendix D - Transformer Install Invoice - page 99	
Appendix E - Ice Storm Contractor Invoices 2025 - page 102	
Appendix F - Tree Trimming Cycle Map - page 137	
Appendix G - Tree Trimming Specifications - page 139	
Appendix H - Transformer Z-Factor updated submission including 2026 costs - page 147	
Appendix I - Transformer Failure Correspondence - KPC - page 151	
Appendix J - Transformer Failure Report – KPC - page 154	
Appendix K - Maintenance Report on Centennial MS transformer 2022 - page 180	
Appendix L - Revised Total IRM Bill Impacts - page 230	

References to 2025 actual figures and financials – note that all references to 2025 actual figures or financials in the following interrogatory responses are preliminary and remain subject to audit.

OEB Staff Interrogatories Lakeland Power Distribution EB-2025-0024

Please note, Lakeland Power Distribution Ltd. (Lakeland Power) is responsible for ensuring that all documents it files with the OEB, including responses to OEB staff interrogatories and any other supporting documentation, do not include personal information (as that phrase is defined in the Freedom of Information and Protection of Privacy Act), unless filed in accordance with rule 9A of the OEB's Rules of Practice and Procedure.

OEB Staff-1

Ref 1: IRM Rate Generator Model, Tab 3

Preamble:

On December 10, 2025, the OEB published the 2026 Quarter 1 prescribed accounting interest rates applicable to the carrying charges of deferral, variance and construction work in progress (CWIP) accounts of natural gas utilities, electricity distributors and other rate-regulated entities.

Question(s):

- a) Please update Tab 3 (Continuity Schedule) as necessary to reflect the Q1 2026 OEB-prescribed interest rate of 2.55%.

Response

- a) Lakeland Power has updated Tab 3 to reflect the Q1 2026 prescribed interest rate to 2.55%.

OEB Staff-2

Ref 1: 2026 Rate Generator Model, Tabs 11, 15 and 20

Ref 2: OEB Letter, EB-2025-0232, 2026 Preliminary Uniform Transmission Rates and Hydro One Sub-Transmission Rates, October 9, 2025

Preamble:

On October 9, 2025, the OEB issued a letter regarding 2026 Preliminary Uniform Transmission Rates (UTRs) and Hydro One Sub-Transmission Rates. The OEB determined the use of preliminary UTRs to calculate 2026 Retail Service Transmission Rates (RTSRs) to improve regulatory efficiency, allowing for this data to feed into the rate applications including annual updates for electricity distributors on a timelier basis. The OEB also directed distributors to update their 2026 application with Hydro One Network Inc.'s (HONI) proposed host RTSRs.

OEB staff has updated Lakeland Power's Rate Generator Model with the preliminary UTRs and proposed host RTSR by HONI as follows:

Table 1: Updated Uniform Transmission Rates

Uniform Transmission Rates	Unit	2024		2025		2026
		Jan to Jun	Jul to Dec	Jan to Jun	Jul to Dec	
Rate Description		Rate		Rate		Rate
Network Service Rate	kW	\$ 5.78	\$ 6.12	\$ 6.37	\$ 6.37	\$ 6.42
Line Connection Service Rate	kW	\$ 0.95	\$ 0.95	\$ 1.00	\$ 1.00	\$ 1.02
Transformation Connection Service Rate	kW	\$ 3.21	\$ 3.21	\$ 3.39	\$ 3.39	\$ 3.47

Table 2: Updated HONI Sub-Transmission Rates

Hydro One Sub-Transmission Rates	Unit	2024		2025		2026
		Rate	Rate	Rate	Rate	
Rate Description		Rate		Rate		Rate
Network Service Rate	kW	\$ 4.9103	\$ 5.3280	\$ 5.4282	\$ 5.4282	\$ 5.4282
Line Connection Service Rate	kW	\$ 0.6537	\$ 0.6882	\$ 0.6896	\$ 0.6896	\$ 0.6896
Transformation Connection Service Rate	kW	\$ 3.3041	\$ 3.4894	\$ 3.4965	\$ 3.4965	\$ 3.4965
Both Line and Transformation Connection Service Rate	kW	\$ 3.9578	\$ 4.1776	\$ 4.1861	\$ 4.1861	\$ 4.1861

Question(s):

- a) Please confirm the accuracy of the Rate Generator Model update, as well as the accuracy of the resulting RTSR following these updates.

Response

- a) 1) Uniform Transmission Rates – Lakeland Power confirms the accuracy of the 2026 preliminary UTRs and the resulting RTSR's.

2) HONI Sub-Transmission Rates – Lakeland Power has updated the Sub-Transmission Rates with January 1, 2026 rates approved in Hydro One's Rate Order EB-2025-0030 on December 23, 2025 and confirms the accuracy of the resulting RTSR's.

OEB Staff-3

Ref 1: 2026 Rate Generator Model, Tab 18

Preamble:

Effective November 1, 2025, the Time-of-Use RPP prices and percentages were updated as noted in Table 1 below. In addition, the Ontario Electricity Rebate was changed to 23.5%.

Table 1: Updated Time of Use RPP Prices

Time-of-Use RPP Prices and Percentages

As of	November 1, 2025		
Off-Peak	\$/kWh	0.0980	64%
Mid-Peak	\$/kWh	0.1570	18%
On-Peak	\$/kWh	0.2030	18%

On December 11, 2025, the OEB established an updated Capacity Based Recovery and Rural and Remote Electricity Rate Protection rates of \$0.0006.

Question(s):

- a) The Rate Generator Model was updated to reflect the updated values established in Reference 1. Please confirm the accuracy of the Rate Generator Model update.

Response

- a) Lakeland Power confirms the accuracy of the updated OER rate and WMS, CBR, RRRP and TOU prices in the model.

OEB Staff-4

Ref 1: 2026 Rate Generator Model, Tab 8

Ref 2: Revenue Requirement Work Form (RRWF) Settlement Agreement, Tab 4 and 6, EB-2024-0039, March 18, 2025

Preamble:

Rate Generator Model Tab 8

Summary - Sharing of Tax Change Forecast Amounts

	2025	2026
OEB-Approved Rate Base	\$ 35,833,065	\$ 35,833,065
OEB-Approved Regulatory Taxable Income	\$ 111,212	\$ 111,212

RRWF Tab 4. Rate Base

Rate Base and Working Capital

Line No.	Particulars	Initial Application	Adjustments	Interrogatory Responses	Adjustments	Settlement Agreement	Adjustments	Per Board Decision
1	Gross Fixed Assets (average) ⁽²⁾	\$65,728,459	\$5,618	\$65,734,077	\$ -	\$65,734,077	\$ -	\$65,734,077
2	Accumulated Depreciation (average) ⁽²⁾	(\$33,150,788)	\$47,158	(\$33,103,631)	\$ -	(\$33,103,631)	\$ -	(\$33,103,631)
3	Net Fixed Assets (average) ⁽²⁾	\$32,577,671	\$52,776	\$32,630,446	\$ -	\$32,630,446	\$ -	\$32,630,446
4	Allowance for Working Capital ⁽¹⁾	\$3,163,383	(\$104,094)	\$3,059,289	\$143,330	\$3,202,619	(\$3,202,619)	\$ -
5	Total Rate Base	\$35,741,053	(\$51,318)	\$35,689,735	\$143,330	\$35,833,065	(\$3,202,619)	\$32,630,446

⁽¹⁾ Allowance for Working Capital - Derivation

>	1. Info	2. Table of Contents	3. Data_Input_Sheet	4. Rate_Base	5. Utility Income	6. Taxes_PILs	7. Cost_of_Capital	8. Rev_Def_Suf ...	+	:	◀
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RRWF Tab 6. Taxes PILs

Taxes/PILs

Line No.	Particulars	Application	Interrogatory Responses	Settlement Agreement	Per Board Decision
<u>Determination of Taxable Income</u>					
1	Utility net income before taxes	\$1,316,700	\$1,320,520	\$1,325,823	\$1,207,327
2	Adjustments required to arrive at taxable utility income	(\$946,547)	(\$900,364)	(\$1,178,778)	(\$1,178,778)
3	Taxable income	\$370,153	\$420,156	\$147,045	\$28,549
<u>Calculation of Utility income Taxes</u>					
4	Income taxes	\$98,091	\$111,342	\$38,967	\$38,967

Question(s):

- Please explain why Lakeland Power has input the OEB Approved Rate Base amount of \$35,833,065 in Tab 8 of the Rate Generator Model when the Board approved amount is \$32,630,446 in the RRWF Tab 4. Please update the Rate Generator Model to reflect the Board approved amount of \$32,630,446.
- Please explain why Lakeland Power has input the OEB Approved Regulatory Taxable Income amount of \$111,212 in Tab 8 of the Rate Generator Model when the Taxable

income amount is \$28,549 in the RRWF Tab 6. Please update the Rate Generator Model to reflect the Board approved amount of \$28,549.

Response

- a) Lakeland Power input the Rate Base amount of \$35,833,065 per the RRWF Draft Rate Order version dated April 7, 2025 and approved April 14, 2025, rather than the RRWF Settlement version dated March 18, 2025. This was per OEB direction to incorporate the updated 2025 cost of capital parameters that had been published on March 31, 2025.

Ontario Energy Board								
Revenue Requirement Workform (RRWF) for 2025 Filers								
Rate Base and Working Capital								
Line No.	Particulars	Initial Application	Adjustments	Interrogatory Responses	Adjustments	Settlement Agreement	Adjustments	Per Board Decision
1	Gross Fixed Assets (average) ⁽²⁾	\$65,728,459	\$5,618	\$65,734,077	\$ -	\$65,734,077	\$ -	\$65,734,077
2	Accumulated Depreciation (average) ⁽²⁾	(\$33,150,788)	\$47,158	(\$33,103,631)	\$ -	(\$33,103,631)	\$ -	(\$33,103,631)
3	Net Fixed Assets (average) ⁽²⁾	\$32,577,671	\$52,776	\$32,630,446	\$ -	\$32,630,446	\$ -	\$32,630,446
4	Allowance for Working Capital ⁽¹⁾	\$3,163,383	(\$104,094)	\$3,059,289	\$143,330	\$3,202,619	\$ -	\$3,202,619
5	Total Rate Base	\$35,741,053	(\$51,318)	\$35,689,735	\$143,330	\$35,833,065	\$ -	\$35,833,065

- b) Same situation as above. Lakeland Power input the Regulatory Taxable income amount of \$111,212 per the RRWF Draft Rate Order version dated April 7, 2025 and approved April 14, 2025, rather than the RRWF Settlement version dated March 18, 2025. This was per OEB direction to incorporate the updated 2025 cost of capital parameters that had been published on March 31, 2025.

Ontario Energy Board					
Revenue Requirement Workform (RRWF) for 2025 Filers					
Taxes/PILS					
Line No.	Particulars	Application	Interrogatory Responses	Settlement Agreement	Per Board Decision
Determination of Taxable Income					
1	Utility net income before taxes	\$1,316,700	\$1,320,520	\$1,325,823	\$1,289,390
2	Adjustments required to arrive at taxable utility income	(\$946,547)	(\$900,364)	(\$1,178,778)	(\$1,178,778)
3	Taxable income	\$370,153	\$420,156	\$147,045	\$111,212

OEB Staff-5

Ref 1: Manager's Summary, Appendix Z-1 and Appendix Z-2

Preamble:

Lakeland Power is seeking cost recovery for the following two Z-factor events:

- Z-Factor #1: Recovery of lightning storm damage in June 2024 to the Centennial MS Substation Transformer Failure in the amount of \$861,566
- Z-Factor #2: Recovery of Ice Storm Damage in the amount \$1,302,242

Question(s):

- a) Please indicate whether the costs contained within both requests have been audited.
- b) If not, please indicate when audited costs will be available.
- c) Please provide a copy of Lakeland Power's 2024 year-end Audited Financial Statements.

Response

- a) The costs related to the 2025 Ice storm have not been audited. The costs related to the substation transformer failure incurred in 2024 have been audited; the costs incurred in 2025 have not been audited.
- b) 2025 audited costs will be available April 30, 2026 when the financial statements are finalized and submitted to the OEB.
- c) See here for 2024 audited financial statements <https://www.lakelandpower.on.ca/wp-content/uploads/2025/05/Lakeland-Power-Distribution-Audited-Financial-Statements-December-2024-Copy.pdf>.

OEB Staff-6

Ref 1: Manager's Summary pp. 30-31

Ref 2: EB-2024-0039, Settlement Proposal, Appendix - 2AA

Preamble:

Lakeland Power incurred \$608,210 of OM&A and \$253,256 in capital costs for the Z-1 event (Centennial MS Substation Transformer Failure) and \$882,679 of OM&A and \$457,564 in

capital cost for the Z-2 event (Ice Storm Damage).

In Appendix 2-AA, Lakeland Power shows the following capital costs for reactive capital:

Projects	2024 Bridge Year \$	2025 Test Year \$	2026 \$	2027 \$	2028 \$	2029 \$
Asset Replacement for all Areas Served	292,239	250,000	350,000	350,000	350,000	350,000
All Capital Storm Damage/Trouble Call Capital	81,550	250,000	250,000	250,000	250,000	250,000

Question(s):

- a) Please provide the amount in base rates related to reactive OM&A.
- b) Please provide the amount budgeted for 2025 for reactive OM&A and the amount spent to date in 2025.
- c) Please provide the last five years of actual expenditure for reactive OM&A.
- d) If Lakeland Power does not have a budget for Reactive OM&A, please explain why.
- e) Please elaborate if Lakeland Power has any reactive capital budget (shown above) available to cover some costs for either storm.
 - a. If so, how much. Please provide further details.
 - b. If not, please explain why.

Response

- a) The reactive OM&A included in the 2025 Cost of Service base rates was \$320,000.
- b) The reactive OM&A included in the 2025 Budget was reduced to \$320,000 in line with the 2025 Cost of Service. The actual amount spent in 2025 was \$371,649.
- c) See table below.

Reactive OM&A	2020	2021	2022	2023	2024	2025
Total Actual	\$391,992	\$298,349	\$475,736	\$283,448	\$444,844	\$371,649

- d) n/a
- e) The storm damage/trouble call reactive capital included in the 2025 Budget was \$250,000 in line with the 2025 Cost of Service. The total spend in 2025, excluding the March 30, 2025 Ice Storm event is \$155,405.

This reactive capital spend for 2025 is an underspend versus the 2025 Cost of Service amount. Lakeland Power also underspent its total 2025 capital budget by \$527,862 (this underspend excludes capital spend in relation to the two Z-Factor events in this submission – including the Z-Factor capital would show a significant overspend). This was a deliberate effort to reduce cash outlay in 2025 by postponing capital spend due to overall financial reasons, as outlined in the section below titled *Combined financial impact of two extraordinary events*. In summary:

- Lakeland Power suffered ~\$2.8m of extraordinary losses via two events.
- Lakeland Power does not have the financial resources to weather such an impact without mitigation plans.
- Lakeland Power management reduced 2025 capital spend to ensure the financial viability of the company.
- **The reduction in 2025 capital was a deferral of spending to future years, and not a cancellation of projects or a permanent reduction of spend.** Total planned capital spend across the years is in line with the CoS.
- Two key project deferrals are responsible for the underspend – Isabella St capacity upgrade and SCADA smart switches. Both will resume in 2026 along with other previously planned projects and spending.

Combined financial impact of two extraordinary events:

- The overall impact of the ice storm and Centennial transformer lightning storm was material and significant for Lakeland Power both operationally and financially, with mitigation measures required. The total cost of the two events is \$2,762,913 as shown below (excludes carry charges).

Total Z-Factor Costs	Operating	Capital	Total
Centennial Transformer	\$674,748	\$785,910	\$1,460,658
Ice storm	\$857,660	\$444,595	\$1,302,255
Total Z-Factor Costs	\$1,532,409	\$1,230,505	\$2,762,913

- The majority of these costs have been incurred already, and almost all will be incurred before recovery begins via these Z-Factor claims – Lakeland Power does not have the financial resources to weather such a financial loss without implementing mitigation plans. One of the easiest short-term ways to control spending is via delaying capital projects. The financial impact of the two events is evidenced by Lakeland Power going into overdraft in March 2025 even before the ice storm, and then 5 other times in 2025 subsequent to the storm. Lakeland Power is also operating near the upper end of its borrowing capacity.

- As outlined in more detail in OEB Staff-15c Lakeland Power's ROE for 2025 is expected to be 6.2% before accounting for any Z-Factor extraordinary costs, and -2.6% if all Z-Factor extraordinary costs are considered.
- Continuing to operate on a business-as-usual basis while faced with two extraordinary events of this magnitude is not wise or prudent. If Lakeland Power had not reduced spending in 2025 by delaying capital spend it would have been in a significant overdraft position and been left seriously at risk if there had been any additional unexpected events.
- Consequently, Lakeland Power management made the explicit decision to delay spending and conserve cash during 2025, primarily via delayed capital spending. The 2025 capital underspend was a deliberate and necessary measure to ensure the financial health of the company.
- Two projects are responsible for the majority of the underspend – Parry Sound Isabella St capacity upgrade, and SCADA smart switches. Both projects are required to be completed and are in Lakeland Powers plans for 2026.
- The recovery of the claimed Z-Factor amounts will allow Lakeland Power to return to it's 2025 Cost of Service capital plan.

OEB Staff-7 – Emergency Preparedness

Ref 1: Appendix 2-Z, pp. 8-9

Preamble:

Lakeland Power notes that it relies on its Emergency Preparedness Plan (EPP) which outlines the processes and procedures for responding to power disruptions outside of routine operations.

On p. 9, Lakeland Power stated that while its EPP operates within the broader framework of Lakeland Power's Business Continuity Plan, which addresses a range of emergency scenarios, Lakeland Power could not have reasonably anticipated the scale and severity of the March 2025 Ice Storm event.

Question(s):

- a) Please provide details and a copy of Lakeland Power's EEP.
- b) Please comment on the degree to which Lakeland Power's response to 1) the ice storm and 2) the thunderstorm accorded with the provisions of the plan and explain the main reasons for any deviation from it.

- c) Please discuss any lessons learned from each event.
- d) Does Lakeland Power have strategies in place for mitigating the impact of weather events in the future? If so, please outline the strategies.

Response

a) Lakeland Power's Emergency Response Plan (ERP) is attached in appendix A.

b) See separate responses to the Ice Storm and Thunderstorm/Transformer Lightning Strike below:

1) Ice Storm

Actions consistent with the ERP:

- Lakeland Power's response to the March 2025 Ice Storm was substantially consistent with the provisions of the ERP.
- In accordance with Section 5.0 of the ERP, the event was promptly identified and evaluated as a major emergency/disaster, based on:
 - The widespread nature of outages,
 - The duration of restoration exceeding acceptable thresholds, and
 - The impact on critical customers and essential services.
- Senior management escalation occurred in line with Sections 3.0 and 5.0 of the ERP, with the Emergency Coordinator role activated to oversee system-wide response and restoration activities.
- Internal and external notification protocols were implemented as required under Section 4.0 of the ERP, including coordination with:
 - Municipal partners and emergency management officials,
 - External agencies, and
 - Mutual aid utilities (OnMAG).
- Restoration activities followed the prioritization framework outlined in the ERP, with emphasis on:
 - Public and worker safety,
 - Removal of hazards such as downed conductors, trees, etc.,
 - Restoration of substations and feeder lockouts,
 - Service restoration to critical infrastructure and facilities, and
 - Maximizing customer restoration per hour of work.
- As contemplated by Section 5.0 of the ERP, mutual assistance agreements were invoked (OnMAG), when it became evident that internal resources alone would be insufficient to restore service within 24 hours.

Actions that deviated from the ERP:

- There may be some minor deviations due to the exceptional severity, criticality, and widespread nature of the ice accumulation and the size and length of the

response required, rather than the way the plan was designed. Examples include:

- Crew shift structures and rotation plans were adjusted to support sustained restoration over multiple days beyond the standard storm-response scheduling outlined in the ERP.
- To facilitate timely and effective communication, the Director of Operations was authorized to fulfil the responsibilities of the Chief Operating Officer and/or Chief Executive Officer, where required, to ensure continuity of leadership and expedited decision-making, consistent with the ERP's objective.
- Customer and stakeholder communications were issued more frequently and for a longer duration than normally anticipated under the ERP to address the extended nature of outages and evolving restoration timelines.

2) Thunderstorm / transformer lightning strike

Similarly, the thunderstorm event was managed within the ERP's standard storm response framework:

- The On-Call Duty Person and management assessed outage scope and duration in accordance with Section 5.0 evaluation criteria.
- No prolonged outages or large-scale infrastructure damage occurred.
- Restoration was completed using internal resources, without the need to escalate to a disaster-level response or invoke mutual aid.

c) The following lessons will inform continuous improvement to Lakeland Power's emergency response:

- **Extreme Weather Planning**

The event demonstrated the need to further refine planning assumptions and preparedness measures for low-frequency, high-impact ice storm events that cause prolonged, system-wide damage.

- **Mutual Assistance Readiness**

While mutual aid processes functioned effectively, the event underscored the importance of enhanced pre-planning for large-scale deployments, including accommodations, materials staging, crew integration, and reporting.

- **ERP Enhancement and Training**

The event identifies the opportunities to strengthen scenario-based training and exercises specifically to severe ice storms.

Lessons Learned – Ice Storm Event

Lessons learned from the March 2025 Ice Storm will be incorporated into ongoing ERP reviews, training, and preparedness enhancements to further strengthen Lakeland Power's resilience and emergency response capability. Lakeland Power

sent a letter on May 2, 2025, to the Honourable Jill Dunlop, Minister of Emergency Preparedness and Response, inquiring whether the province would consider reimbursing the company for storm-related costs, as the Town of Bracebridge had successfully received such support. As a local distribution company (LDC), Lakeland Power was informed that it was not eligible for provincial coverage. A follow-up meeting is scheduled for January 21, 2026, where Lakeland Power will discuss potential approaches for storm recovery funding that would distribute the responsibility across the province rather than solely among LDC customers and/or setting up a recovery fund.

Lessons Learned – Thunderstorm Event

The thunderstorm event confirmed the effectiveness of Lakeland Power's existing ERP and does not require modification for such scenarios/scale of storm.

- d) Yes. Lakeland Power has strategies in place to mitigate the impact of future weather events. These strategies are embedded within its (ERP), asset management practices, and ongoing operational improvements, and are intended to reduce both the frequency and duration of outages caused by severe weather.

Key strategies include:

- Focus on Vulnerability Assessment and System Hardening (VASH)
- Continuous improvement - Emergency Preparedness and Response Planning
- Enhance Operational Readiness and Logistics Planning
- Smart grid that includes automated switches

In addition to the strategies outlined above, Lakeland Power notes that the mitigation measures identified in the bullet points on Page 8 of IRM Appendix Z-2 (2026 IRM Distribution Rate Application) have the potential to contribute to reduced damage and improved system resilience during storm events of similar scale and severity.

OEB Staff-8

Ref 1: Appendix Z-2

Question(s):

- a) Please provide the number of interruptions, number of customer interruptions, and number of customer interruption minutes by Cause Code for each of the years 2020 to 2025.
- b) Please discuss the trend in Tree Contact interruptions.

- c) If applicable, provide a summary of Lakeland Power’s historical Z-factor applications related to storm events and in the response, include the requested amount compared to the OEB approved amount.
- d) Please discuss Lakeland Power’s historical investments in resilient infrastructure.

Response

a) Lakeland Power’s interruption statistics for 2020-2025 are presented in the tables below:

2020	Number of Interruptions that occurred as a result of all causes of Interruption	Number of customer interruptions that occurred as a result of all causes of interruptions	Number of Customer hours interruption that occurred as a result of all causes of interruption (total outage time in hrs)	MAJOR EVENTS		
				Number of Interruptions that occurred as a result of all causes of Interruption	Number of customer interruptions that occurred as a result of all causes of interruptions	Number of Customer hours interruption that occurred as a result of all causes of interruption (total outage time in hrs)
Cause Code						
0 - Unknown/Other	15	1,510	2,052.74	-	-	-
1 - Scheduled	8	120	222.44	-	-	-
2 - Loss of Supply	20	47,624	78,109.01	1	6,499	13,525.65
3 - Tree contact	14	802	2,374.03	-	-	-
4 - Lightning	2	405	1,044.58	-	-	-
5 - Defective Equipment	36	938	2,258.05	-	-	-
6 - Adverse weather	17	14,927	71,489.19	-	-	-
7 - Adverse Environment	-	-	-	-	-	-
8 - Human Element	3	533	798.05	-	-	-
9 - Foreign Interference	39	210	298.93	-	-	-
Total with Loss of Supply	154	67,069	158,647.02			
Less: Loss of Supply that are NOT major events	20	41,125	64,583.36			
Total excluding Loss of Supply	134	25,944	94,063.66			
Less: Major Events		6,499	13,525.7	1	6,499	13,525.65
Total excluding Loss of Supply AND Major Events	134	19,445	80,538.01			

2021	Number of Interruptions that occurred as a result of all causes of Interruption	Number of customer interruptions that occurred as a result of all causes of interruptions	Number of Customer hours interruption that occurred as a result of all causes of interruption (total outage time in hrs)	MAJOR EVENTS		
				Number of Interruptions that occurred as a result of all causes of Interruption	Number of customer interruptions that occurred as a result of all causes of interruptions	Number of Customer hours interruption that occurred as a result of all causes of interruption (total outage time in hrs)
Cause Code						
0 - Unknown/Other	8	295	499.79	-	-	-
1 - Scheduled	1	2	2.67	-	-	-
2 - Loss of Supply	20	37,936	90,395.45	1	3,338	28,498.90
3 - Tree contact	16	5,001	6,914.77	-	-	-
4 - Lightning	3	26	56.10	-	-	-
5 - Defective Equipment	28	2,153	3,863.11	-	-	-
6 - Adverse weather	15	10,114	16,703.36	2	77	181.32
7 - Adverse Environment	-	-	-	-	-	-
8 - Human Element	-	-	-	-	-	-
9 - Foreign Interference	30	3,408	9,143.60	-	-	-
Total with Loss of Supply	121	58,935	127,578.83			
Less: Loss of Supply that are NOT major events	20	34,598	61,896.55			
Total excluding Loss of Supply	101	24,337	65,682.29			
Less: Major Events		3,415	28,680.2	3	3,415	28,680.22
Total excluding Loss of Supply AND Major Events	101	20,922	37,002.07			

2022	Number of Interruptions that occurred as a result of all causes of Interruption	Number of customer interruptions that occurred as a result of all causes of interruptions	Number of Customer hours interruption that occurred as a result of all causes of interruption (total outage time in hrs)	MAJOR EVENTS		
				Number of Interruptions that occurred as a result of all causes of Interruption	Number of customer interruptions that occurred as a result of all causes of interruptions	Number of Customer hours interruption that occurred as a result of all causes of interruption (total outage time in hrs)
Cause Code						
0 - Unknown/Other	11	3,348	2,208.10	-	-	-
1 - Scheduled	1	9	4.50	-	-	-
2 - Loss of Supply	17	48,239	131,151.04	2	20,676	97,638.66
3 - Tree contact	16	1,423	2,583.34	-	-	-
4 - Lightning	-	-	-	-	-	-
5 - Defective Equipment	30	1,119	3,076.74	-	-	-
6 - Adverse weather	19	10,797	44,876.83	1	5	5,860.67
7 - Adverse Environment	-	-	-	-	-	-
8 - Human Element	-	-	-	-	-	-
9 - Foreign Interference	28	1,948	8,072.93	-	-	-
Total with Loss of Supply	122	66,883	191,973.47			
Less: Loss of Supply that are NOT major events	17	27,563	33,512.38			
Total excluding Loss of Supply	105	39,320	158,461.09			
Less: Major Events	3	20,681	103,499.3	3	20,681	103,499.33
Total excluding Loss of Supply AND Major Events	102	18,639	54,961.76			

2023	Number of Interruptions that occurred as a result of all causes of Interruption	Number of customer interruptions that occurred as a result of all causes of interruptions	Number of Customer hours interruption that occurred as a result of all causes of interruption (total outage time in hrs)	MAJOR EVENTS		
				Number of Interruptions that occurred as a result of all causes of Interruption	Number of customer interruptions that occurred as a result of all causes of interruptions	Number of Customer hours interruption that occurred as a result of all causes of interruption (total outage time in hrs)
Cause Code						
0 - Unknown/Other	8	1,548	1,419.86	-	-	-
1 - Scheduled	32	546	961.12	-	-	-
2 - Loss of Supply	10	5,493	15,160.89	-	-	-
3 - Tree contact	22	3,368	7,911.97	-	-	-
4 - Lightning	3	381	1,709.32	-	-	-
5 - Defective Equipment	20	270	799.42	-	-	-
6 - Adverse weather	13	2,734	4,824.72	-	-	-
7 - Adverse Environment	-	-	-	-	-	-
8 - Human Element	2	181	121.50	-	-	-
9 - Foreign Interference	22	537	1,109.37	-	-	-
Total with Loss of Supply	132	15,058	34,018.17			
Less: Loss of Supply that are NOT major events	10	5,493	15,160.89			
Total excluding Loss of Supply	122	9,565	18,857.28			
Less: Major Events	-	-	-	-	-	-
Total excluding Loss of Supply AND Major Events	122	9,565	18,857.28			

2024	Number of Interruptions that occurred as a result of all causes of Interruption	Number of customer interruptions that occurred as a result of all causes of interruptions	Number of Customer hours interruption that occurred as a result of all causes of interruption (total outage time in hrs)	MAJOR EVENTS		
				Number of Interruptions that occurred as a result of all causes of Interruption	Number of customer interruptions that occurred as a result of all causes of interruptions	Number of Customer hours interruption that occurred as a result of all causes of interruption (total outage time in hrs)
Cause Code						
0.0 Unknown	15	1,550	2,048.72	-	-	-
1.2 - Scheduled - Distributor Activities	8	323	1,952.65	-	-	-
2.1 - Loss of Supply - Transmission	1	348	3,161.00	-	-	-
2.2 - Loss of Supply - Distribution	9	34,405	124,525.08	1	24,107	94,004.68
3.1 - Tree contact - Fallen Tree on Right-of-Way	12	314	1,131.07	-	-	-
3.2 - Tree contact - Broken branch/tree/growth/u	6	645	3,363.02	-	-	-
3.3 - Tree contact - Fallen tree off right-of-way	10	912	2,590.05	-	-	-
4 - Lightning	4	30	72.02	-	-	-
5.1 - Defective Equipment - Equipment Failure	14	3,829	5,900.88	-	-	-
5.3 - Defective equipment/material	5	461	1,636.75	-	-	-
6.1 - Adverse weather - Tree contact weather	4	2,418	22,446.47	1	1,892	20,333.55
6.2 - Adverse weather - Equipment	1	109	520.30	-	-	-
6.3 - Adverse weather - Other Adverse weather	3	369	1,563.42	-	-	-
8.2 - Human Element - Other	2	6	22.63	-	-	-
9.1 - Foreign Interference - Wildlife	14	63	68.13	-	-	-
9.3 - Foreign Interference - Dig-in	3	9	36.75	-	-	-
9.6 - Foreign Interference - other	3	9	21.32	-	-	-
Total with Loss of Supply	114	45,800	171,060.25			
Less: Loss of Supply that are NOT major events	9	10,646	33,681.40			
Total excluding Loss of Supply	105	35,154	137,378.85			
Less: Major Events	2	25,999	114,338.23	2	25,999	114,338.23
Total excluding Loss of Supply AND Major Events	103	9,155	23,040.62			

2025	Number of Interruptions that occurred as a result of all causes of Interruption	Number of customer interruptions that occurred as a result of all causes of interruptions	Number of Customer hours interruption that occurred as a result of all causes of interruption (total outage time in hrs)	MAJOR EVENTS		
				Number of Interruptions that occurred as a result of all causes of Interruption	Number of customer interruptions that occurred as a result of all causes of interruptions	Number of Customer hours interruption that occurred as a result of all causes of interruption (total outage time in hrs)
Cause Code						
0.0 Unknown	29	1,968	4,189.59	-	-	-
1.2 - Scheduled - Distributor Activities	14	262	537.59	-	-	-
2.1 - Loss of Supply - Transmission	6	14,472	26,646.58	-	-	-
2.2 - Loss of Supply - Distribution	12	31,034	254,477.26	1	10,569	191,374.22
3.1 - Tree contact - Fallen Tree on Right-of-Way	4	578	783.85	-	-	-
3.2 - Tree contact - Broken branch/tree/growth/u	10	158	576.81	-	-	-
3.3 - Tree contact - Fallen tree off right-of-way	7	1,804	3,582.69	-	-	-
4 - Lightning	2	71	142.62	-	-	-
5.1 - Defective Equipment - Equipment Failure	13	303	709.94	-	-	-
5.3 - Defective equipment/material	8	203	937.15	-	-	-
6.1 - Adverse weather - Tree contact weather	8	14,289	105,555.21	1	13,655	101,973.02
6.2 - Adverse weather - Equipment	2	67	337.00	-	-	-
6.3 - Adverse weather - Other Adverse weather	1	15	32.50	-	-	-
8.2 - Human Element - Other	23	1,810	2,215.43	-	-	-
9.1 - Foreign Interference - Wildlife	5	181	294.98	-	-	-
9.3 - Foreign Interference - Dig-in	1	2	3.87	-	-	-
9.6 - Foreign Interference - other	2	2	24.03	-	-	-
Total with Loss of Supply	147	67,219	401,047.10			
Less: Loss of Supply that are NOT major events	17	34,937	89,749.62			
Total excluding Loss of Supply	130	32,282	311,297.48			
Less: Major Events	2	24,224	293,347.24	2	24,224	293,347.24
Total excluding Loss of Supply AND Major Events	128	8,058	17,950.24			

b) The interruptions due to Cause Code 3 Tree Contact are summarized in the table below:

	Number of Interruptions that occurred as a result of all causes of Interruption					
	2020	2021	2022	2023	2024	2025
Cause Code 3 - Tree contact	14	16	16	22	28	21
TOTAL - Outage caused by Tree Contract	14	16	16	22	28	21
Change - Yr over Yr		2	-	6	6	7
% Change - Yr over Yr		14%	0%	38%	27%	-25%

The frequency of tree contacts remained relatively stable from 2020 to 2022. Following this period, an upward trend was observed between 2023 and 2024. In 2023, there were additional isolated incidents in Parry Sound and northern municipalities that did not align with any specific patterns. By 2024, the further increase in tree contacts can be primarily attributed to more frequent incidents on two Bracebridge feeders in Zone 3, which had last undergone trimming in 2019. In 2025, there was a decrease in the number of tree contacts; however, Sundridge (Zone 6), which was included in the 2020 trim cycle, experienced an increase in incidents.

- c) Lakeland Power submitted a Z-Factor application, EB-2007-0551, for 2007 rates for a storm in 2006. \$217,870 was claimed and \$210,737 was approved. No other Z-Factor claims have been submitted.
- d) Below are investments Lakeland Power makes to its system to build resiliency:
 - Installation of modern grid control infrastructure and protections. These devices can detect faults more reliably than standard fuses or mechanically controlled devices. These devices also give us real-time visibility into the system, as well as operational control to restore power more quickly when faults are cleared.
 - Infrared Scanning annually to identify and remediate high-risk equipment.
 - Proactively change prone-to-failure porcelain distribution switches, which are known to cause pole fires when failure occurs, resulting in costly repairs and a hazard to the public.
 - Underground infrastructure: In all new subdivisions, Lakeland Power has implemented underground systems to ensure resiliency against weather events. In addition, Lakeland Power places preference to underground installations overall such as when installing feeder cables and residential and commercial services.
 - In the mid 2010s, Lakeland Power adopted a regular six-year tree trimming cycle, rather than a seven-year cycle, to increase reliability in its system.
 - Regular system renewal projects such as pole and transformer replacements, and wire upgrades.

Z-factor #1: Centennial MS Substation Transformer Failure

OEB Staff-9

Ref 1: Appendix Z-1, pp. 8-9

Preamble:

Lakeland Power states that it investigated the options to repair the transformer or purchase a new transformer. For the replace/purchase new option, Lakeland Power obtained numerous initial quotes from vendors including an indication of time to delivery.

Question(s):

- a) Please provide quotes for the purchase of a new transformer and the associated lead times for delivery.

Ref 2: Appendix Z-1, p. 9

Preamble:

Lakeland Power's Z-factor request includes capital costs for a 25% progress-payment in the amount of \$243,463.¹ In Appendix Z-1, Lakeland Power notes Surplec offered a complete rewind for \$634,000.

- b) Please provide the service contract with Surplec as well as two other estimates received, including the estimate from Hitachi.
- c) Please confirm that Lakeland Power's expected total repair cost is \$634,00. If not, please provide the most current estimate.
- d) Please elaborate on why Lakeland Power believes it is appropriate to collect progress-payments prior to having the asset back in service.

Response

- a) See Appendix B. Lakeland Power has not provided the requested quotes in the public submission. Lakeland Power will be making a request for confidential treatment of certain information contained in the IRRs, pursuant to the OEB's Practice Direction on Confidential Filings.
- b) See Appendix C. Lakeland Power has not provided the requested contract and quotes in the public submission. Lakeland Power will be making a request for

¹ EB-2024-0024, Manager's Summary p. 30

confidential treatment of certain information contained in the IRRs, pursuant to the OEB's Practice Direction on Confidential Filings.

- c) Lakeland Power confirms the Surplec repair cost was quoted at \$634,000 which remains unchanged.
- d) Progress payments and/or deposits are a normal commercial practice in many industries, in particular for higher value transactions. On one-hand they show a commitment from the buyer/purchaser and are often required to secure a place in the supplier's schedule, and on the other hand the supplier will often incur significant upfront costs for materials and labour which the progress payments contribute to.

OEB Staff-10

Ref 1: Appendix Z-1, p. 9

Preamble:

Lakeland Power's Z-factor claim includes OM&A costs of \$68,408 related to the installation of a temporary replacement transformer.

Question(s):

- a) Please confirm that the temporary transformer has been installed by Lakeland Power's staff.
 - i. If so, please confirm that the installation costs of the temporary transformer are incremental to Lakeland Power's regular labour costs.
 - ii. If not, please provide more details.
- b) If the transformer was installed by a third party, please provide the invoice(s) for this expense.

Response

- a) The temporary transformer was not installed by Lakeland Power employees, it was installed by K.P.C. Power Electrical (KPC).
 - i. n/a
 - ii. The transformer installation performed by KPC had a total cost of \$95,334 which includes 1 month of rental of the transformer at \$33,000. Deducting this \$33,000 leaves \$62,334 of installation costs. Included in the \$68,408 is \$6,074 of internal labour cost. KPC's invoice is provided in Appendix D.
- b) See above.

OEB Staff-11

Ref 1: Appendix Z-1, p. 10

Question(s):

- a) Please describe the affiliate relationship between Bracebridge Power and Lakeland Power and its parent company.

Response

- a) Bracebridge Generation and Lakeland Power are both subsidiaries of the parent company Lakeland Holding Ltd. Bracebridge Generation is a generation company that owns and operates 11 water power generation plants, in addition to battery storage, solar farm and EV stations in Ontario.

OEB Staff-12

Ref 1: Appendix Z-1, p. 9

Preamble:

Lakeland Power notes that it reached out to transformer repair vendors and short-listed Hitachi's reduced estimate of \$1.2M for purchase of a new transformer and Surplec's estimate of \$634,000 for repair of the damaged transformer.

Lakeland Power noted that the repair option with Surplec was assessed to be the most economical course of action with the lowest repair cost and reasonable lead times (10 months).

Lakeland Power stated that to mitigate risk, it decided to purchase the temporary transformer it was renting. The supplier agreed to sell the transformer for \$375,000.

The transformer was ultimately purchased by Bracebridge Generation, an affiliate of Lakeland Power. The affiliate now rents the unit to Lakeland Power at a reduced amount of \$30,000 a month.

In this application, Lakeland Power requests recovery of \$507,000 in transformer rental fees as shown in the following table:

Category	Operating	Capital	Total
Install of temporary transformer	\$68,408	\$0	\$68,408
Transformer rental	\$507,000	\$0	\$507,000
Consulting fees / reports	\$9,341	\$1,870	\$11,211
Transformer re-build costs	\$0	\$243,593	\$243,593
Sub-Total	\$584,748	\$245,463	\$830,211
Carrying charges	\$23,462	\$7,893	\$31,355
Total incl. carrying charges	\$608,210	\$253,356	\$861,566

Question(s):

- a) Lakeland Power noted that the rental amount of \$507,000 is for the rent of the temporary transformer up to September 30, 2025 and further rental costs will be incurred. Please provide an estimate of the expected rental costs based on the current timeline for the repair of the damaged transformer.
- b) Discuss what rental options were discussed with the supplier.
 - i. Did Lakeland Power receive quotes for long-term rental options (6-month, 12-month, 18-month, 24-month). If not, why not.
 - ii. If so, please provide the pricing scale.
 - iii. Discuss how a monthly rent of \$30,000/month compares to current rental units at market price.
- c) Provide a table showing how much of the rental amount of \$507,000 was paid to the original supplier and how much of it has been paid to Bracebridge Generation.
- d) Please confirm the date and purchase price of \$375,000 for the temporary transformer.
- e) Please confirm that the purchase was negotiated by Lakeland Power but ultimately bought by Bracebridge Generation.

Response

- a) The current timeline for repair is fall 2026, which has recently been re-confirmed by Surplec. However, Bracebridge Generation has agreed to cap the rental payments so as not to benefit from the transaction. It has been agreed to cap rental payments at a total of \$300,000, which was reached with the December 2025 payment.
- b) Lakeland Power discussed the following rental options:
 - i. Long-term rental options were not initially discussed due to the uncertainty of timing (the transformer may have only required simple repairs), therefore Lakeland Power rented the transformer month-by-month to begin with. Once it was established that Lakeland Power would send the unit to Surplec for repair and a timeline was estimated, Lakeland Power began negotiations with the vendor for longer term rental rates. It was during these discussions and

negotiations that the option to purchase the transformer arose and the vendor became willing to entertain this option.

- ii. Not applicable – see above.
- iii. There is not an active market for transformer rentals and hence there is no available rental data for units similar to the unit being rented by Lakeland Power. The most direct and relevant example is the \$33,000 paid to KPC for the rental of the transformer in question.

c) The split of the rental payments included in the claim to September 2025 is:

Transformer Rental payments	
K.P.C Power Electrical	297,000
Bracebridge Generation	<u>210,000</u>
Total	<u>507,000</u>

d) The temporary transformer was purchased for \$375,000 on February 27, 2025.

e) Lakeland Power confirms this is correct.

OEB Staff-13

Ref 1: Appendix Z-1, p. 10

Preamble:

On page 10, Lakeland Power noted that it continues to rent the transformer from Bracebridge Generation. It further noted that Surplec’s repair timelines are still not certain and in the event of a delay, Lakeland Power and Bracebridge Generation would have the ability to adjust the rental agreement as required to ensure Lakeland Power was not any worse off than if it had purchased the transformer itself.

Question(s):

- a) Explain at what point Lakeland Power would be worse off renting the transformer from Bracebridge Generation rather than having purchased it outright.
- b) Please provide a cost-benefit analysis for i) purchase of the temporary transformer by Lakeland Power and ii) rental of the unit from Bracebridge Generation .
- c) Please provide a scenario where Lakeland Power would have purchased the temporary unit instead of Bracebridge Generation, including the annual revenue requirement, bill impacts and forecasted netbook value at the estimated time of repair and recommissioning of the damaged unit.

- d) Please provide the estimated salvage value of the temporary transformer in fall of 2026 when the damaged transformer is expected to be back in service.

Response

a) On a simple cash basis factoring in the purchase price and monthly rental, Lakeland Power would be worse off after 13 months of rent – which would be to March 2026. However, the parties agreed to cap the rental payments at 10 payments totalling \$300,000, with the last payment relating to December 2025. With the rental cap of \$300,000 allocated over the total rental period of March 2025 to an estimated October 2026 (20 months) the resulting average effective monthly rental price is \$15,000. When Lakeland Power initially started renting the transformer from Bracebridge Generation in March 2025 the damaged transformer was expected to be back in service by early 2026. When this was extended in July 2025 by Surplec to fall 2026 the rental cap of \$300,000 was agreed to.

b) Cost benefit / Comparative analysis:

See below for both quantitative and qualitative factors relevant to the decision to purchase or rent the transformer. Quantitatively the total cost to Lakeland Power was lower under the rent scenario, and qualitative cashflow considerations favoured the rental option due to spreading the payments over time, and the fact that the transformer was very likely to become a stranded asset also favoured Lakeland Power not purchasing the transformer.

Quantitative

On a simply financial basis (cash and carrying charges) the rent scenario is favourable to Lakeland Power vs the purchase scenario – as shown below.

Qualitative Comparative Analysis	Lakeland Power Purchase	Lakeland Power Rent
Purchase price	375,000	
Rental		300,000
Carry charges / Interest *	26,476	14,898
Net salvage benefit	-30,000	
Total cost	371,476	314,898

* Calculated from outlay to October 2026

Qualitative

i. **Cashflow**

When the decision was made to purchase the transformer, Lakeland Power was concerned about cashflow, having already spent a significant amount on the transformer issue and also entering storm season. Rental of the

transformer allowed the cost to be absorbed over a number of future months.

These cashflow concerns are evidenced by the ice storm we had a month later and the fact that Lakeland Power went into overdraft 5 times between March 2025 and December 2025 (March, June, July, August x2). The March occurrence was before the Ice Storm and without outlaying for the full upfront cost of the temporary transformer. As also noted in OEB Staff-6 Lakeland Power was operating near the upper end of its borrowing capacity. The decision to rent the transformer and delay cash outlay was made in this context.

ii. **Ongoing usefulness of the asset / stranded asset**

As outlined in the IRM / Z-Factor claim (Appendix Z-1 page 8) the temporary transformer was not suitable as a long-term solution – this is due to its smaller capacity (than the production unit) and lack of an On-Load Tap Changer. A lack of On-Load tap Changer results in power quality issues for customers. Future demand growth will render the temporary unit unsuitable for the Centennial location even as a spare; and in fact, in the summer of 2025 Lakeland Power already had capacity issues with the temporary transformer that required management. Similarly Lakeland Power is planning the construction of a new transformer in Bracebridge at another location (for capacity upgrade reasons) – the Centennial temporary transformer is not suitable for capacity and specification reasons.

In addition, due to the voltage configuration there is very little demand for this type of transformer in the industry and utilities prefer to buy units new from manufacturers rather than used units.

Due to the above points, Lakeland Power considers the unit to be of no value beyond scrap once decommissioned from the Centennial site. The useful life of the transformer in the capital purchase scenario would only be equal to the length of the rental.

- c) **Purchase Scenario** – as requested a scenario has been included below where Lakeland Power purchases the transformer - this scenario shows just the costs specific to the Centennial transformer Z-Factor (the revised Z-Factor included in this IRR with future costs included) and no costs related to the ice storm Z-Factor.

Please note that Lakeland Power has also included in this scenario the write off of the NBV of the transformer after it is decommissioned in fall 2026. As noted in the

response to part b) above the actual useful life of the transformer to Lakeland Power is equal to the rental period and not the accounting UEL of 40 years. Therefore, to ensure a complete scenario, the Purchase Scenario presented includes this write off. The forecast NBV of the temporary transformer in fall 2026 on a UEL basis is \$356,000. The temporary transformer was 15 years old when purchased and installed, and hence a remaining UEL of 25 years has been used.

Cost summary with transformer purchase and transformer write-off

Category	Operating	Capital	Total
Costs to Sept 30th			
Install of temporary transformer	\$68,408	\$0	\$68,408
Transformer rental	\$297,000	\$0	\$297,000
Consulting fees / reports	\$9,341	\$1,870	\$11,211
Transformer re-build costs	\$0	\$243,593	\$243,593
Transformer purchase		\$375,000	
Sub-Total	\$374,748	\$620,463	\$995,211
Carrying charges	\$14,153	\$23,433	\$37,586
Sub-Total incl. carrying charges	\$388,901	\$643,896	\$1,032,798
Costs from Oct'25 to fall 2026			
Install of transformer	\$0	\$64,347	\$64,347
Transformer write off (NBV less salvage)	\$326,000	\$0	\$326,000
Transformer re-build costs	\$0	\$476,100	\$476,100
Sub-Total	\$326,000	\$540,447	\$866,447
Total Z-Factor Claim Costs	\$714,901	\$1,184,343	\$1,899,245

Revenue requirement

The capital revenue requirement below has been split into two. The first is a two-year recovery rate rider for just the \$375,000 transformer purchase, which is written off at the end of 2026, with the write-off cost included in operating costs. The second capital revenue requirement is for all remaining capital costs.

Category	Recovery period	Total
Operating costs	2 years	\$714,901
Capital Expenditure revenue requirement	2 years	\$27,759
Capital Expenditure revenue requirement	Until re-basing	\$59,910

Capital revenue requirement calculation

<u>Return on Rate Base</u>	Other Capital	Transformer
Incremental Capital	\$ 809,343	\$ 375,000
Depreciation Expense (Full Year)	\$ 16,187	\$ 7,500
Incremental Capital in Rate Base (Average NBV in Year)	\$ 793,156	\$ 367,500
Deemed Short Term Interest 4%	3.91% \$ 1,240	\$ 575
Deemed Long Term Interest 56%	4.76% \$ 21,142	\$ 9,796
Deemed Return on Equity 40%	9.00% \$ 28,554	\$ 13,230
Return on Rate Base - Total	\$ 50,936	\$ 23,601
<u>Grossed Up Taxes / PILs</u>		
Regulatory Taxable Income	\$ 28,554	\$ 13,230
Add Back Amortization Expense	\$ 16,187	\$ 7,500
Deduct CCA	\$ 64,747	\$ 30,000
Incremental Taxable Income	-\$ 20,007	-\$ 9,270
Income Tax / PILs Before Gross-Up @ 26.5%	-\$ 5,302	-\$ 2,457
Income Tax / PILs Grossed Up	-\$ 7,213	-\$ 3,342
<u>Incremental Revenue Requirement</u>		
Return on Rate Base - Total	\$ 50,936	\$ 23,601
Amortization Expense - Total	\$ 16,187	\$ 7,500
Grossed Up Taxes / PILs - Total	-\$ 7,213	-\$ 3,342
Eligible Incremental Revenue Requirement(s)	\$ 59,910	\$ 27,759

Bill impact

Bill impact by customer type	Operating Rate Rider 24 mth	Capital Rate Rider	Total Rate Riders	2025 Rates Sub-Total B	% impact	2025 Rates Total Bill	% impact
RESIDENTIAL	\$ 1.50	\$ 0.37	\$ 1.87	\$ 46.00	4.1%	\$ 138	1.4%
GENERAL SERVICE LESS THAN 50 kW	\$ 2.83	\$ 0.69	\$ 3.52	\$ 86.78	4.1%	\$ 329	1.1%
GENERAL SERVICE 50 TO 4,999 KW	\$ 30.85	\$ 7.57	\$ 38.41	\$ 1,049.59	3.7%	\$ 17,092	0.2%
UNMETERED SCATTERED LOAD	\$ 0.35	\$ 0.17	\$ 0.53	\$ 20.34	2.6%	\$ 48	1.1%
SENTINEL LIGHTING	\$ 0.22	\$ 0.11	\$ 0.32	\$ 12.09	2.7%	\$ 22	1.5%
STREET LIGHTING	\$ 0.10	\$ 0.02	\$ 0.12	\$ 1,006.00	0.0%	\$ 3,545	0.0%

Submitted (revised) transformer Z-Factor Rental Scenario (for comparison to above)

The following Rental scenario has been provided for comparison purposes. This scenario is the same as the revised Z-Factor submitted in this IRR.

Category	Recovery period	Total
Operating costs	2 years	\$698,210
Capital Expenditure revenue requirement	Until re-basing	\$58,760

Bill impact by customer type	Operating Rate Rider 24 mth	Capital Rate Rider	Total Rate Riders	2025 Rates Sub-Total B	% impact	2025 Rates Total Bill	% impact
RESIDENTIAL	\$ 1.47	\$ 0.25	\$ 1.72	\$ 46.00	3.7%	\$ 138	1.2%
GENERAL SERVICE LESS THAN 50 kW	\$ 2.76	\$ 0.46	\$ 3.22	\$ 86.78	3.7%	\$ 329	1.0%
GENERAL SERVICE 50 TO 4,999 KW	\$ 30.13	\$ 5.07	\$ 35.20	\$ 1,049.59	3.4%	\$ 17,092	0.2%
UNMETERED SCATTERED LOAD	\$ 0.34	\$ 0.12	\$ 0.46	\$ 20.34	2.3%	\$ 48	1.0%
SENTINEL LIGHTING	\$ 0.21	\$ 0.07	\$ 0.28	\$ 12.09	2.3%	\$ 22	1.3%
STREET LIGHTING	\$ 0.09	\$ 0.02	\$ 0.11	\$ 1,006.00	0.0%	\$ 3,545	0.0%

d) The estimated salvage value is ~\$3-5 per kVA. Assuming at the high range, \$5 x 7500 kVA = \$37,500. We have assumed some costs to offset this with a net salvage value of \$30,000.

Z-Factor #2: Ice Storm Damage

OEB Staff-14

Ref 1: Appendix Z-2, pp. 18 and 29, Table 1

Preamble:

Out of the total claim of \$1,340,242, Lakeland Power is showing capital costs of \$457,564.

Category	Operating	Capital	Total
Incremental Labour / Material costs	\$268,930	\$184,051	\$452,981
3rd Party contractors	\$588,730	\$260,544	\$849,274
Total	\$857,660	\$444,595	\$1,302,255
Carrying charges	\$25,018	\$12,969	\$37,987
Total Z-Factor claim costs	\$882,679	\$457,564	\$1,340,242

On p. 18, Lakeland Power noted the following damage from the ice storm:

- 48 broken poles
- Approximately 185 spans of broken wire
- Approximately 9.25 kms of downed power lines
- 65 instances of broken customer equipment, such as masts, requiring inspection by the Electrical Safety Authority

On p. 29, Lakeland Power also stated that six transformers were damaged during the storm.

Question(s):

- Please confirm that the capitalized contractors' cost of \$260,544 is capitalized according to Lakeland Power's capitalization policy.

- b) Please provide an itemized list of the capital cost of \$184,051 for internal material/labour as well as \$260,544 for third party contractors by filling out the table below.

Asset/Equipment	Quantity	Repaired or Replaced	Estimated Net Asset Value	Useful Life
Total				

- c) Please provide further details regarding the six damaged transformers noted on p. 29 of Appendix Z-2.
- d) Please confirm that Lakeland Power has written off damaged assets from its books and that their depreciation expense will no longer be recognized during the course of their useful life listed in its 2025 Cost of Service application.
- e) Please identify any assets that were scheduled for replacement as part of the capital plan.
- f) Please confirm if there are changes expected to Lakeland Powers’s future capital investment plans due to replacing damaged assets caused by the Z-factor event. If yes, please elaborate. If not, please explain why not.
- g) Please confirm that the Z-factor claim does not include repair/upgrade cost of the current assets that were not impacted by the ice storm.
- h) Please provide invoices for all third-party contractors.

Response

- a) Yes. The contractor costs are capitalized in accordance with Lakeland Power’s capitalization policy.
- b) The provided table is filled out below:

Asset/ Equipment	Quantity	Repaired or Replaced	Estimated Net Asset Value	Useful Life
Poles	48	Replaced	435,913	45
Transformers	6	Replaced	8,682	40
Total	54		444,595	

c) Details of six damaged transformers are below:

Damaged Transformer (kVA)	Year	Age	Est. Condition	Replaced Transformer Size (kVA)	Reason for replacement
25	1963	62	Good	25	Mechanical damage (like for Like)
50	1985	40	Good	50	Mechanical damage (like for Like)
15	1967	58	Good	15	Mechanical damage (like for Like)
50	1981	44	Good	50	Mechanical damage (like for Like)
25	2004	21	Very Good	25	Mechanic damage (like for Like)
15	2010	15	Very Good	50	Mechanical damage (nearby Transformer upgraded from 25 to 50kVA)

d) Lakeland Power’s 2025 Cost of Service has already been finalized with rates approved for May 1st 2025 and therefore a write off in 2025 will not impact those rates. The value of the damaged assets is \$24,400 and Lakeland Power intends to write off the damaged assets in 2025 as part of its year-end, with the value and any depreciation removed well before the next Cost of Service scheduled for 2029.

e) No assets damaged during the ice storm were scheduled for replacement as part of Lakeland Power’s capital plan.

f) Specifically in relation to the assets identified above in part b - no replaced assets were scheduled to be replaced as part of the capital plan and therefore future capital plans will not change with respect to these specific assets. However more broadly, there are changes expected to Lakeland Power’s future capital plan as a result of the ice storm (and as a result of the transformer failure); as noted in OEB Staff-6e capital projects and outlay were deferred from 2025 for overall financial health reasons. The reduction in capital expenditure in 2025 will be made up in future years.

g) All third-party contractor invoices for the ice storm are provided in Appendix E.

OEB Staff-15

Ref 1: Appendix Z-2, pp. 8 and 29

Preamble:

On p. 8, Lakeland Power noted that tree-trimming contracts are typically awarded on a three-year basis. On p. 29, Lakeland Power states that it maintains a six-year cycle to clear vegetation around its power lines.

Question(s):

- a) Please describe Lakeland Power’s Vegetation Management strategy and confirm Lakeland Power’s tree trimming cycles and a map showing the trimming zones.

- b) Please discuss the budget reserved for Lakeland Power’s vegetation management program in detail.
- c) Please provide the 2025 budget and actual amounts for capital and OM&A expenses related to vegetation management. Discuss any budget versus actuals variance.
- d) Please explain how storm restoration or other emergency response/maintenance costs are normally considered in Lakeland Power’s budgeting process.
- e) Please provide the following table:

	2020	2021	2022	2023	2024	2025
Planned Trimming Zones						
Actual Trimming Zones						
Vegetation Management Budget \$						
Vegetation Management Actuals \$						

Response

- a) Lakeland Power’s tree trimming cycle map has been provided in Appendix F. Lakeland Power’s vegetation management strategy is organized on a six-year rotating cycle completing one zone each year. Lakeland Power tenders the work on a three-year term and shows preference to vendors who offer the lowest price and proven ability to perform the duties in accordance with Lakeland Power’s tree trimming specifications, which are provided in Appendix G. The zones are outlined below:
 - Zone 1- Bracebridge & Parry Sound
 - Zone 2- Bracebridge & Magnetawan
 - Zone 3- Bracebridge & Huntsville /north of river
 - Zone 4- Bracebridge & Huntsville/ south of river
 - Zone 5- Bracebridge & Burk’s Falls
 - Zone 6- Bracebridge & Sundridge
- b) Lakeland Power’s 2025 budget for vegetation management is \$209,755. Of that, ~90% is for the regular six-year cycle management contracted to a third party. The remaining ~10% is for reactive vegetation management of hazardous trees or limbs, normally found by staff or reported by Lakeland Power’s customers through Lakeland Power’s online tree inquiry form.

- c) The 2025 budget and preliminary actuals for vegetation management OM&A are provided in the table below in part e).

Lakeland Power did not allocate a capital budget for vegetation management, and no associated expenditures were recorded. Generally Lakeland considers vegetation management to be an operating expense with no asset creation or enhancement.

Note that while 2025 vegetation spend is only 2% below Budget, total 2025 OM&A is currently expected to be \$401,000 higher than the 2025 Cost of Service approved OM&A with a resulting ROE of 6.2% – *this is prior to any extraordinary storm costs*. Including costs related to both storms results in a negative ROE of -2.58%. See below for OM&A and ROE details for 2025.

OM&A walk - 2025 actual and extraordinary storm costs	\$	ROE Impact	Achieved ROE
COS approved OM&A and ROE	6,255,000		9.00%
Various overspend vs CoS OM&A	401,000	-2.79%	
2025 Expected OM&A before extraordinary costs	6,656,000		6.21%
Extraordinary costs - Transformer 2025 only OM&A costs	375,340	-2.62%	
Extraordinary costs - Ice storm OM&A costs	882,679	-6.17%	
Total 2025 OM&A if extraordinary costs not recoverable	7,914,019		-2.58%

- d) Since Lakeland Power is on a six-year trim cycle, storm restoration, emergency response and maintenance costs are not currently major contributing factors for the vegetation management budgeting process.

- e) Completed table is shown below.

	2020	2021	2022	2023	2024	2025
Planned Trimming Zones	Zone 6	Zone 1	Zone 2	Zone 5	Zone 4	Zone 3
Actual Trimming Zones	Zone 6	Zone 1	Zone 2	Zone 5	Zone 4	Zone 3
Vegetation Management Budget \$	\$200,000	\$205,000	\$205,000	\$182,155	\$200,000	\$209,755
Vegetation Management Actuals \$	\$208,055	\$203,818	\$160,207	\$167,351	\$221,647	\$205,245

OEB Staff-16

Ref 1: Appendix Z-2, p. 6

Preamble:

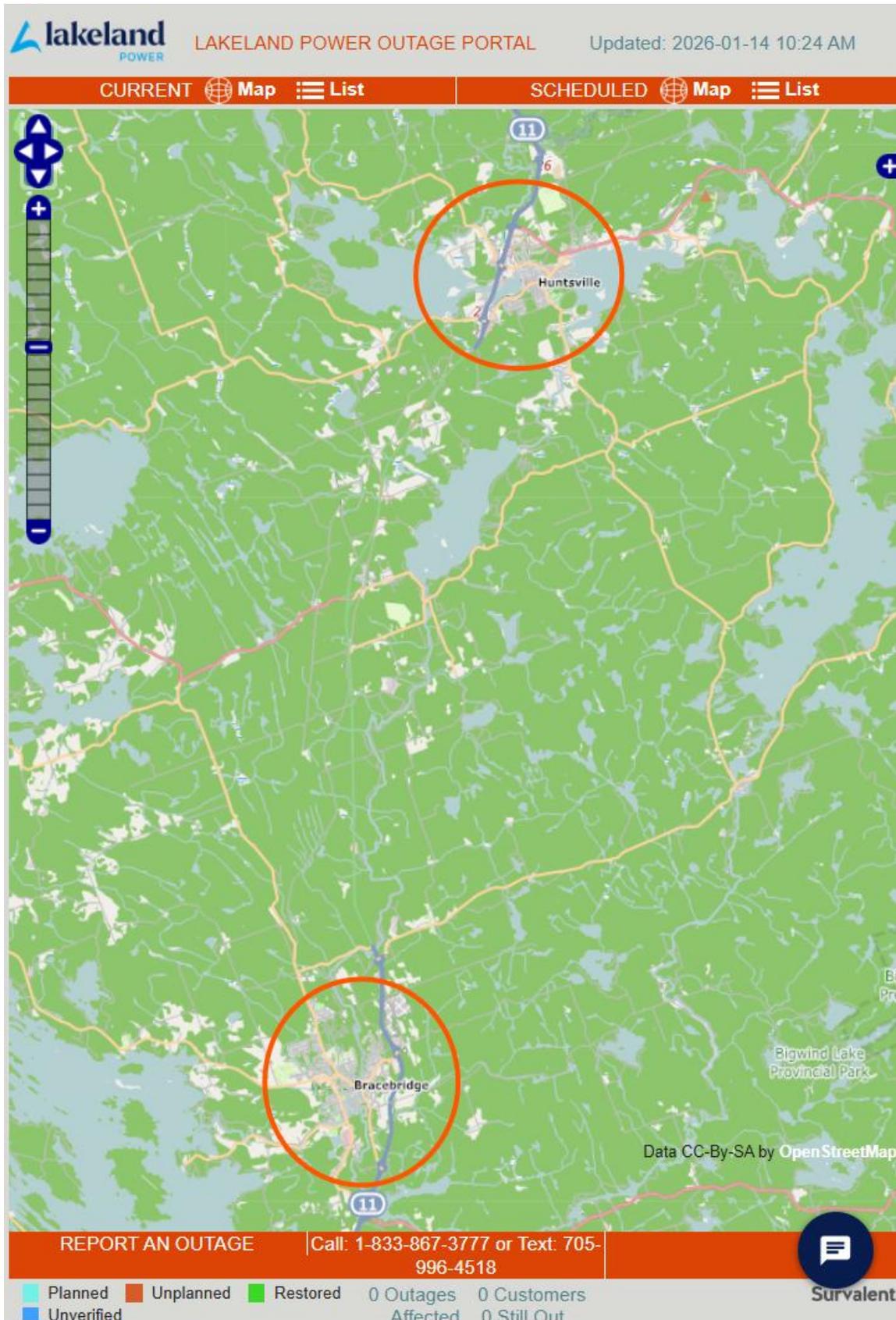
Lakeland Power noted that an Ice Storm event heavily affected Bracebridge, Lakeland Power’s largest municipal territory, accounting for 7,564 of 8,967 (or 84%) of customers affected. Other areas of Lakeland Power’s territory were also impacted, but less than Bracebridge.

Question(s):

- a) Please provide a copy of the outage map of Lakeland Power’s service territory displaying the affected outage service area(s).

Response

- a) A screenshot of Lakeland Power’s outage map identifying the affected areas has been provided below. 100% of Lakeland Power’s customers in Bracebridge and Huntsville were affected by the major event.



OEB Staff-17

Ref 1: Appendix Z-2, p. 11, Table 3

Preamble:

Lakeland Power is requesting \$588,730 in incremental operating costs for third party contractors.

3 rd Party Contractor	Operating	Capital	Total
LDC Mutual Aid	\$205,998	\$47,375	\$253,373
Anixter Power Solutions Canada inc.	\$5,387	\$0	\$5,387
CC Underground Utilities Inc.	\$0	\$24,947	\$24,947
Davey Tree Expert Co	\$29,862	\$0	\$29,862
Fowler Construction Co	\$121	\$0	\$121
K-line Maintenance & Construction	\$323,504	\$144,776	\$468,280
P. Medley & Sons Ltd	\$1,163	\$0	\$1,163
Reid Utility Services Inc.	\$20,950	\$43,446	\$64,396
Wes Finch & Sons Excavating Ltd	\$1,744	\$0	\$1,744
Total	\$588,730	\$260,544	\$849,274

Question(s):

- a) Please clarify whether Lakeland Power paid any premium amounts to its third-party contractors.
- b) If so, please outline the contractor and the premium amounts paid.
- c) Provide a separate schedule (breakdown) of third-party contractor invoices based on labour, materials, meals, truck, other (provide explanations).

Response

a) Lakeland Power paid third party contractors regular labour rates and overtime labour rates based on the hours worked by their crews and the invoices received. Lakeland Power has not paid any premium amounts to contractors over and above these regular and overtime rates. Labour costs included in the operating expenditures were directly related to Lakeland Power’s emergency response and restoration efforts following the March 2025 ice storm. These costs were incurred as part of an around-the-clock, all-hands-on-deck response involving internal line crews, third-party contractors, and mutual assistance partners who worked continuously to restore power safely and efficiently. The use of overtime labour was necessary and fully justified given the extensive damage to Lakeland Power’s distribution system and the significant public safety risks present across the service territory.

b) N/a

c) The split of third-party contractor invoices is provided below.

Contractor - Operating Costs	Labour	Equip/ Truck	Materials	Meals	Accom	Other	Total	Nature of Expense
Anixter Power Solutions Canada Inc.			5,387				5,387	Material supplies.
Burlington Hydro Inc	44,494	19,888				3,019	67,401	Distribution line work, repairs, power restoration.
Cc Underground Utilities Inc.							0	Civil work - hydrovac.
Davey Tree Expert Co	15,846	14,016					29,862	Tree clearing
Enova Power Corp	35,703	33,639		1,090	2,350	1,173	73,955	Distribution line work, repairs, power restoration.
Fowler Construction Co			121				121	Civil material supplies.
K-Line Maintenance & Construc	251,634	60,758		4,835	6,274		323,500	Distribution line work, repairs, power restoration.
Lakeland Energy Ltd.	10,563	3,000		536			14,098	Damage assessment, labour and assistance
P. Medley & Sons Ltd	313	625	107			119	1,163	Civil work - excavation, civil materials
North Bay Hydro Distribution Lt	17,685	4,905			1,581		24,170	Distribution line work, repairs, power restoration.
Oakville Hydro Electricity Distri	14,548	8,310	2,448		1,067		26,373	Distribution line work, repairs, power restoration.
Reid Utility Services Inc.	7,332	13,617					20,950	Civil work - excavation, rock bores, anchor installs
Wes Finch & Sons Exavating Ltd		1,355	390				1,745	Civil work - excavation
Total	398,118	160,112	8,452	6,461	11,272	4,311	588,724	

OEB Staff-18

Ref 1: Appendix Z-2, p. 11, Table 2

Preamble:

Lakeland Power is showing the following internal operating costs.

Labour / Material	Operating	Capital	Total
Labour	\$217,058	\$40,804	\$257,862
Materials	\$49,996	\$143,247	\$193,242
Meals	\$1,877	\$0	\$1,877
Total	\$268,930	\$184,051	\$452,981

Question(s):

- a) Please provide a breakdown of all Lakeland Power's internal labour costs (i.e., the \$) applicable for the affected period using the following format.

Department	Number of Eligible Employees	Regular Hours Worked	Total Regular Time Payments	Overtime Hours Worked	Total Overtime Payments
Management					
Other Non-Union Employees					
Sub-Total					
Non-Union					

Union Employees					
Operations					
Other					
Sub-Total Union					
Total Internal Labour for Affected Parties					
Total Z-Factor Labour Costs					

- b) Please provide Lakeland Power’s policy with respect to overtime for its non-union employees and management.
- c) Please describe whether the Z-factor labour costs included payments made to union employees at regular rates of pay for work on pre-scheduled vacation days.
- d) Please explain the nature of operating costs under “Materials” in the amount of \$49,996.

Response

a) Lakeland Power’s internal labour costs are summarized below.

Department	Number of Eligible Employees	Regular Hours Worked	Total Regular Time Payments	Overtime Hours Worked	Total Overtime Payments
Management	2	0	0	146	23,906
Other Non-Union Employees	4	244	7,360	120	4905
Sub-Total Non-Union	6	244	7,360	266	28,811
Union Employees	13	1,524	110,469	915	111,223
Operations	0	0	0	0	0
Other	0	0	0	00	0
Sub-Total Union	13	1,524	110,469	915	111,223
Total Internal Labour for Affected Parties					
Total Z-Factor Labour Costs	19	1,768	117,829	1,181	140,033

b) An excerpt from Lakeland Power’s HR Manual showing the overtime policy for non-union and management employees is below.

6.0 Hours of Work and Overtime

6.1 Hours of Work

The normal work week for regular employees shall consist of 35 – 40 hours per week, which varies with each position. These hours of work are generally between the hours of 7:30 a.m. and 4:30 p.m. with a 20 – 60-minute unpaid lunch depending on company and/or department, from Monday to Friday.

All employees shall be permitted a fifteen (15) minute paid break period in the first and second halves of a shift, at a time to be designated by their immediate supervisor.

It is acknowledged that from time to time it will be necessary for employees to perform work outside of the normal schedules at all hours of the day or night, and management has the right to authorize such work as required.

Please refer to the Collective Agreement for your division of Lakeland, or the overtime policy in place for your team. If there is no dedicated overtime policy for your division or team, please refer to the section below.

Preapproval of overtime or any banking of time for extra hours worked, is required by the supervisor in advance of the overtime being performed.

It is expected that employees will work with management to ensure their day-to-day duties are fulfilled. It is expected that working hours may be adjusted accordingly to avoid overtime.

Management/Executive staff are not usually entitled to overtime pay unless directed by the CEO under extenuating circumstances.

Employees are entitled to time off in lieu of overtime pay at the discretion of and prior approval of their immediate supervisor. All banked overtime accumulated during the previous calendar year must be taken by the end of February.

- c) No labour costs in the Z-factor submission include payments made to union employees for work on pre-scheduled vacation days.
- d) Materials booked as operating expenses include generally low-value items consumed in the process of repairing damaged infrastructure. Examples include wire splices, small sections of wire replacement, replacing cable guards, guy guards, hardware such as broken insulators including bolts, nuts and washers, neutral attachment clamps, overhead connectors (ampact) as well as shells for ampact guns.

OEB Staff-19

Ref 1: 2026 IRM Rate Generator Model, Tab 3 - Continuity Schedule
Ref 2: 2024 IRM application², Decision and Order, March 21, 2024

Preamble:

The Continuity Schedule shows -\$299,855 in Account 1595 (2024) under column BE (“OEB-Approved Disposition during 2024”), which does not align with the OEB-approved disposition amount of \$299,235.

Question(s):

- a) Please explain the reason for this difference and update the schedule as needed.

Response

- a) The balance of \$-299,855 in Account 1595 (2024) is made up of approved Group 1 and Group 2 DVA balances:

Group 1 DVA balances	\$299,235
Group 2 DVA balances	<u>\$621</u>
Total DVA to 1595 (2024)	<u>\$299,856</u>

Per Lakeland Power’s Decision and Rate Order EB-2023-0036 issued March 21, 2024, the OEB approved the disposition of the debit balance of \$621 from Account 1509, Impacts Arising from the COVID-19 Emergency, Sub-account Forgone Revenues from Postponing Rate Implementation, on a final basis. As the Account 1509 amount did not produce a rate rider in one or more rate classes, the OEB directed Lakeland Power to transfer the debit balance of \$621 into Account 1595 (2024).

OEB Staff-20

Ref 1: Lakeland Power 2026 IRM Application (pp. 19-20)
Ref 2: 2026 IRM Rate Generator Model, Tab 3 - Continuity Schedule
Ref 3: 2024 IRM application³, Decision and Order, March 21, 2024

Preamble:

Lakeland states that billing adjustments for the six Class A customers were removed from Accounts 1595 (2020) and 1595 (2021) in 2024 as principal adjustments since the actual

² EB-2023-0036
³ EB-2023-0036

billing corrections were not recorded until May 2025 and therefore, they were not included in the 2024 RRR Trial Balance. However, the Continuity Schedule shows these adjustments recorded in 2023 (column AV).

Question(s):

- Please confirm the actual posting date of these adjustments in the general ledger.
- Please explain why the related Class A billing adjustment is reflected in 2023 in the Continuity Schedule of the Rate Generator Model, while the narrative refers to 2024 and the actual posting occurred in May 2025.
- If the correct year for these adjustments is 2023, please explain why and update the narrative accordingly.
- If the correct year is 2024, please explain why and update the Continuity Schedule accordingly.

Response

- These adjustments were posted in the general ledger in May 2025.
- The Class A billing adjustments are reflected in 2023 in this Continuity Schedule to ensure they aligned with the final version of the DVA Continuity Schedule approved in Lakeland Power’s 2025 Cost of Service proceeding. A snapshot from the final version ‘LPDL_2025_DVA_Continuity_Schedule_CoS_1.0_DRO 2- 20250422.xlsx’ is provided below.

		2023									
Account Descriptions	Account Number	Opening Principal Amounts as of Jan-1-23	Transactions Debit / (Credit) during 2023	OEB-Approved Disposition during 2023	Principal Adjustments(1) during 2023	Closing Principal Balance as of Dec-31-23	Opening Interest Amounts as of Jan-1-23	Interest Jan-1 to Dec-31-23	OEB-Approved Disposition during 2023	Interest Adjustments(1) during 2023	Closing Interest Amounts as of Dec-31-23
Group 1 Accounts											
LV Variance Account	1550	\$276,800	-\$26,603	\$137,174		\$113,023	\$4,484	\$9,394	\$4,804	-\$167	\$8,907
Smart Metering Entity Charge Variance Account	1551	-\$52,004	-\$28,089	-\$8,429		-\$71,663	-\$409	-\$2,971	-\$282	-\$232	-\$3,330
RSVA - Wholesale Market Service Charge ²	1580	-\$4,479	-\$322,646	-\$81,806		-\$245,319	-\$1,317	-\$5,203	-\$2,581	-\$627	-\$4,566
Variance WMS – Sub-account CBR Class A ⁵	1580	\$0				\$0	\$0				\$0
Variance WMS – Sub-account CBR Class B ⁵	1580	-\$30,809	\$4,629	-\$13,782		-\$12,397	-\$617	-\$1,425	-\$487		-\$1,575
RSVA - Retail Transmission Network Charge	1584	\$299,416	\$40,527	\$5,724		\$334,220	\$3,435	\$17,090	\$44	\$1,574	\$22,054
RSVA - Retail Transmission Connection Charge	1586	\$100,448	\$96,152	-\$3,840		\$200,440	\$991	\$9,114	-\$312	\$1,279	\$11,696
RSVA - Power (excluding Global Adjustment) ⁴	1588	-\$259,177	-\$230,338	-\$91,702		-\$397,813	-\$3,174	-\$12,073	-\$3,174	\$1,829	-\$10,244
RSVA - Global Adjustment ⁴	1589	-\$327,847	\$114,207	-\$240,225		\$26,584	-\$8,687	\$2,449	-\$9,007	-\$781	\$1,987
Disposition and Recovery/Refund of Regulatory Balances (2018 and pre-2018) ³	1595	-\$17				-\$17	\$0	-\$1			-\$1
Disposition and Recovery/Refund of Regulatory Balances (2019) ³	1595	-\$614,094			\$142,145	-\$471,939	\$464,215	-\$30,881			\$433,334
Disposition and Recovery/Refund of Regulatory Balances (2020) ³	1595	-\$87,498	-\$7		-\$16,744	-\$104,249	\$121,105	-\$4,416			\$116,689
Disposition and Recovery/Refund of Regulatory Balances (2021) ³	1595	\$737,337	\$8		-\$246,468	\$490,877	-\$105,918	\$37,200			-\$68,718
Disposition and Recovery/Refund of Regulatory Balances (2022) ³	1595	-\$166,714	\$121,061			-\$45,653	\$8,678	-\$3,845		-\$1,415	\$3,417
Disposition and Recovery/Refund of Regulatory Balances (2023) ³	1595	\$0	\$183,427	\$296,887		-\$113,460	\$0	-\$6,571	\$10,975		-\$17,546
Disposition and Recovery/Refund of Regulatory Balances (2024) ³	1595	\$0				\$0	\$0				\$0
<i>Refer to the Filing Requirements for Account 1595 disposition eligibility.</i>											
Group 1 total (including Account 1589)		-\$128,628	-\$47,672	\$0	-\$121,067	-\$297,367	\$482,786	\$7,859	\$0	\$1,461	\$492,106
Group 1 total (excluding Account 1589)		\$199,219	-\$161,879	\$240,225	-\$121,067	-\$323,952	\$491,473	\$5,411	\$9,007	\$2,242	\$490,118
RSVA - Global Adjustment	1589	-\$327,847	\$114,207	-\$240,225	\$0	\$26,584	-\$8,687	\$2,449	-\$9,007	-\$781	\$1,987

- These adjustments were reflected in 2023 in the 2025 Cost of Service proceeding as 2023 was the balance year being applied for disposition. Lakeland Power wanted to address these required adjustments at the time, to ensure they were not carried forward and lost in balances being applied for in future rate applications. Lakeland

Power waited until the 2025 Cost of Service balances were approved for disposition to record these adjustments in time for May 1, 2025 rates.

d) See answer to c) above.

INTERROGATORIES ON BEHALF OF THE SCHOOL ENERGY COALITION

SEC-1

[p.33] Please provide for each rate class, separate distribution bill impacts for each of the two z-factor events.

Response

Centennial transformer (revised submission)

Bill impact by customer type	Operating Rate Rider 24 mth	Capital Rate Rider	Total Rate Riders	2025 Rates Sub-Total B	% impact	2025 Rates Total Bill	% impact
RESIDENTIAL	\$ 1.47	\$ 0.25	\$ 1.72	\$ 46.00	3.7%	\$ 138	1.2%
GENERAL SERVICE LESS THAN 50 kW	\$ 2.76	\$ 0.46	\$ 3.22	\$ 86.78	3.7%	\$ 329	1.0%
GENERAL SERVICE 50 TO 4,999 KW	\$ 30.13	\$ 5.07	\$ 35.20	\$ 1,049.59	3.4%	\$ 17,092	0.2%
UNMETERED SCATTERED LOAD	\$ 0.34	\$ 0.12	\$ 0.46	\$ 20.34	2.3%	\$ 48	1.0%
SENTINEL LIGHTING	\$ 0.21	\$ 0.07	\$ 0.28	\$ 12.09	2.3%	\$ 22	1.3%
STREET LIGHTING	\$ 0.09	\$ 0.02	\$ 0.11	\$ 1,006.00	0.0%	\$ 3,545	0.0%

Ice Storm

Bill impact by customer type	Operating Rate Rider 12 mth	Capital Rate Rider	Total Rate Riders	2025 Rates Sub-Total B	% impact	2025 Rates Total Bill	% impact
RESIDENTIAL	\$ 3.71	\$ 0.14	\$ 3.86	\$ 46.00	8.4%	\$ 138	2.8%
GENERAL SERVICE LESS THAN 50 kW	\$ 6.98	\$ 0.27	\$ 7.25	\$ 86.78	8.3%	\$ 329	2.2%
GENERAL SERVICE 50 TO 4,999 KW	\$ 76.17	\$ 2.92	\$ 79.09	\$ 1,049.59	7.5%	\$ 17,092	0.5%
UNMETERED SCATTERED LOAD	\$ 1.74	\$ 0.07	\$ 1.81	\$ 20.34	8.9%	\$ 48	3.8%
SENTINEL LIGHTING	\$ 1.07	\$ 0.04	\$ 1.11	\$ 12.09	9.2%	\$ 22	5.1%
STREET LIGHTING	\$ 0.24	\$ 0.01	\$ 0.25	\$ 1,006.00	0.0%	\$ 3,545	0.0%

SEC-2

[Appendix Z-1, p.5, 11] The Applicant states: “The transformer is currently expected to be fully repaired and returned to operations by Fall 2026 – therefore an update to this Z-factor with additional costs is expected to be filed in 2026.”

- a. Please provide further details regarding this expected update? Is the Applicant proposing a subsequent Z-factor claim in 2026?
- b. Please provide a revised version of Table 1 that shows forecast of Z-factor costs through the end of 2026.

Response

- a) In Lakeland Power’s initial claim preparation (in August 2025) and initial IRM/Z-Factor submission (early October) Lakeland Power was proposing a second subsequent Z-Factor claim for the future transformer related costs. However, with previous key

unknowns now much more certain (namely, transformer repair timelines and cost) Lakeland Power is updating its submission to include all Centennial transformer related costs including estimated costs from October 2025 to expected full completion of the matter in fall 2026. This is a more efficient approach for all parties involved negating the need for a second Z-Factor submission in 2026. Of the remaining costs, the \$90,000 Bracebridge Generation rental is certain, the \$476,100 remaining Surplec costs are relatively certain, and the other smaller costs are all based on previous actuals amount for the same or similar services.

See the response to question b) below for the full costs in the revised claim. See Appendix F. for an updated Z-Factor claim included the following items:

- i. Costs summary (reproduced from response b) below)
- ii. Calculation of capital revenue requirement
- iii. Operating and capital revenue requirement relief requested
- iv. Determination of Operating and Capital rate riders
- v. Bill impact for the Centennial Z-Factor only

Revised detailed bill impacts for all rate classes for the complete IRM are included in Appendix L.

b) See below for an outline of all actual and estimated costs included in the revised submission.

Category	Operating	Capital	Total
Costs to Sept 30th (original submission)			
Install of temporary transformer	\$68,408	\$0	\$68,408
Transformer rental	\$507,000	\$0	\$507,000
Consulting fees / reports	\$9,341	\$1,870	\$11,211
Transformer re-build costs	\$0	\$243,593	\$243,593
Sub-Total	\$584,748	\$245,463	\$830,211
Carrying charges	\$23,462	\$7,893	\$31,355
Sub-Total incl. carrying charges	\$608,210	\$253,356	\$861,566
Costs from Oct'25 to fall 2026			
Install of transformer	\$0	\$64,347	\$64,347
Transformer rental	\$90,000	\$0	\$90,000
Consulting fees / reports	\$0	\$0	\$0
Transformer re-build costs	\$0	\$476,100	\$476,100
Sub-Total	\$90,000	\$540,447	\$630,447
Total Z-Factor Claim Costs	\$698,210	\$793,803	\$1,492,013

SEC-3

[Appendix Z-1, p.5] Please provide copies of all reports provided to the Applicant, whether formally (e.g. reports or other written communications) or informally (e.g. emails or notes on phone or in-person conversations), by KPC Power regarding the failure of the Centennial MS.

Response

Documentation has been provided and listed below.

- a) Phone calls between Lakeland Power Engineering Supervisor and KPC's Division Manager on June 14, 2024 while testing of the failed unit was in progress. Lakeland Power's Engineering Supervisor took notes as shown below:
*"Winding resistance - comparing X1 to X2 to X3, compare to X0
Turns ratio showed overcurrent through white winding, A and C showed the result
Poor insulation resistance"*
- b) Emails between Engineering Supervisor & KPC: See Appendix I.
- c) Emergency Testing & Rental Installation: See Appendix J.

SEC-4

[Appendix Z-1, p.6] Is the Applicant's position that *but for* the lightning storm the Centennial MS would not have failed on that day, or that it would likely not have failed before or near its expected useful life? Please provide evidence to support your answer.

Response

It is Lakeland Power's position that Centennial MS would not have failed on that day if the lightning storm did not occur. Centennial MS underwent full isolation, maintenance and testing in 2022, two years prior to the failure. During the maintenance, the service provider tested the transformer's insulation resistance, winding resistance, and performed turns ratio checks. These same tests were performed after the unit's failure and were the basis for determining that the unit had suffered failure. See Appendix K for the full 2022 maintenance report.

SEC-5

[Appendix Z-1, p.5-6] Please confirm that the Applicant has no direct evidence that the failure of the Centennial MS occurred as result of the lightning storm. For example, no evidence that the transformer was hit by lightning or any other information of that type.

Response

Not confirmed. Lakeland Power has evidence that lightning is very likely the cause of the failure. There were lightning strikes between 7.09pm and 7.23pm in the area; Lakeland

Power SCADA shows that the Centennial feeders tripped at 7.20pm. The Lakeland Power distribution system and the Centennial transformer were functional up to this point. The Hydro One feeder into Bracebridge also tripped at 7.20pm – this left the town and Lakeland Power’s distribution system without power for just under two hours until the Hydro One feeder was re-energized at 9.15pm. At 9.15pm when the system was re-energized the Centennial transformer was found to have had a catastrophic failure with damage to the winding. It is very likely that the transformer experienced the catastrophic failure at 7.20pm. The concurrent timing of the storm, the tripping feeders, and the catastrophic failure provide strong evidence of the failure being caused by the lightning.

SEC-6

[Appendix Z-1, p.9-10] With respect to the transformer rental:

- a. When did Bracebridge Generation purchase the temporary transformer?
- b. Please confirm that Bracebridge Generation purchased a temporary transformer for \$375,000.
- c. Please explain how the monthly rental price with Bracebridge Generation was determined.
- d. Please provide the expected remaining useful life of the temporary transformer.
- e. What is the total cost that Lakeland expects to pay Bracebridge Generation for use of the transformer?
- f. If the Applicant had purchased the temporary transformer, what would the first full-year costs, on a revenue requirement basis? Please provide the calculation.
- g. Please explain how the Applicant believes the transformer rental complies with the transfer pricing provisions of the OEB’s *Affiliate Relationship Code For Electricity Distributors and Transmitters*.
- h. Please provide the Bracebridge Generation’s fully-allocated cost to provide the transformer rental. Please provide all assumptions and calculations.

Response

- a) The temporary transformer was purchased by Bracebridge Generation on February 27, 2025.
- b) Lakeland Power confirms that Bracebridge Generation purchased the transformer for \$375,000.
- c) The monthly rental figure was determined keeping in mind the previous \$33,000 rental figure charged by KPC and the Affiliate Relationships Code - ensuring the rental amount was no more than what a third party would charge, and that Lakeland Power was not in anyway worse off. At the time, the rental period was unknown. When the repair timelines were extended to Fall 2026 it was agreed to cap the rental

payments at \$300,000 which would result in an effective monthly rental of \$15,000 (assuming rental period to October 2026).

- d) The temporary transformer was 15 years old when initially purchased and will have been in service as a replacement for Lakeland Power for two years, for a total of 17 years. With a total expected life of 40 years the remaining useful life would be 23 years. However, as per the IRM / Z-Factor submission (Appendix Z-1 page 8) and OEB Staff 13b it is likely the transformer will be a stranded asset once the existing transformer is recommissioned and an impairment will be required.
- e) Lakeland Power expects to pay a total of \$300,000 to Bracebridge Generation for the use of the transformer.
- f) See OEB Staff-13c.
- g) Lakeland Power believes the transformer rental complies with the transfer pricing provisions as:
 - i. The monthly rental paid to Bracebridge Generation is below the market price paid to KPC and is capped so that the effective monthly rental paid over the rental period is significantly below the price paid to KPC.
 - ii. As shown in the answer to question OEB Staff-13b the total amount paid under the rental scenario is less than if Lakeland Power had purchased the transformer itself.
 - iii. As shown in the answer to question OEB Staff-13c both the operating and capital revenue requirements under the purchase scenario are greater than those in the rental scenario.
- h) The fully allocated cost to Bracebridge Generation is ~\$401,000 which includes the purchase price of \$375,000 and carrying costs of ~\$26,000 on the initial purchase price until October 2026.

SEC-7

[Appendix Z-2, p.11] Please detail how internal incremental labour costs were calculated.

Response

See OEB Staff-18a, and VECC-8b.

SEC-8

[Appendix Z-2, p.11-12] With respect to the capital expenditures incurred:

- a. Please provide a breakdown by asset type and their quantity.

- b. For each asset type, please provide a breakdown of the number of assets replaced in poor or very poor condition, and the total number each year between 2024 and its next forecast rebasing application.

Response

- a) See OEB Staff-14b.
- b) See VECC-9c and f.

INTERROGATORIES

ON BEHALF OF

VECC

VECC-1

Ref: IRM Application p. 30

An emergency temporary replacement unit was sourced and installed on June 19, 2024, and after an extensive search, and price negotiations, a transformer repair vendor was found for the damaged transformer. The latest expected timing for full repair and return of the transformer is Fall 2026.

Please provide the number of transformer failures in the past five years and in the response provide a description of how Lakeland responded to the failure(s) and include a breakdown of costs.

Response

None of LPDL's ten substations have failed in the past five years with the exception of Centennial MS in June 2024.

VECC-2

Ref: IRM Application p. 30

This Z-factor claim is for costs to September 30, 2025, with an updated Z-factor claim to be submitted in 2026. The costs in this Z-factor are for installation and rental of the temporary transformer, consulting and expert fees and a 25% progress payment to the transformer repair vendor.

Please provide the cost estimate to repair the transformer.

Response

The Surplec cost estimate is \$634,000. Please refer to Staff-9. Note this is the repair cost, however there are other costs such as the pre-estimate assessment cost and transportation.

VECC-3

- a) Please provide a list and brief description of Lakeland Power’s previous Z-factor claims and in the response include the amounts requested compared to the amounts approved.
- b) Please provide the percentage of Lakeland’s system that is underground compared to overhead.
- c) Please provide the operating and capital budgets included in base rates related to emergency response, storm response or reactive expenditures.
- d) Please provide the spending actuals for each of the relevant programs in part (c) for the years 2020-2025.

Response

- a) See OEB Staff-8c.
- b) The percentage of Lakeland’s system that is underground is 27% as of 2024 with an average of 26% over the past five years.
- c) The reactive OM&A included in the 2025 Cost of Service base rates was \$320,000. The reactive capital included in the 2025 Cost of Service base rates was \$250,000.
- d) For OM&A costs – see OEB Staff-6c.
 For Capital costs – below.

Reactive Capital	2020	2021	2022	2023	2024	2025
Total Actual	\$127,059	\$127,878	\$248,985	\$134,396	\$81,550	\$155,405

VECC-4

Ref: IRM Appendix Z-2 p. 6

The Ice Storm Event heavily affected Bracebridge, Lakeland Power’s largest municipal territory, accounting for 7,564 of 8,967, or 84%, of customers affected. Other areas of Lakeland Power’s territory were also impacted, but less than Bracebridge.

Please provide an outage map which depicts the service areas impacted by the storm.

Response

See OEB Staff-16a

VECC-5

- a) Please provide the number of interruptions, number of customer interruptions and customer interruption hours for each of the years 2020 to 2025 by cause code.
- b) Please discuss the trend in Tree Contact interruptions.

Response

- a) See OEB Staff-8a.
- b) See OEB Staff-8b.

VECC-6

Ref: IRM Appendix Z-2 p. 8

Contracts for tree trimming are typically awarded by Lakeland Power on a three-year basis with work completed in defined zones.

- a) Please provide a map of Lakeland Power’s tree trimming zones and explain Lakeland Power’s Vegetation Management strategy.
- b) Please provide Lakeland Power’s Vegetation Management budget approved in base rates.
- c) Please complete the following table:

	2020	2021	2022	2023	2024	2025
Planned Trimming Zones						
Actual Trimming Zones						
Vegetation Management Budget \$						
Vegetation Management Actuals \$						

- d) Please explain any variances in planned vegetation management activities and spending by year.

- e) Please explain Lakeland Power's tree trimming specifications and confirm these specifications were met in the affected service areas.

Response

- a) See OEB Staff-15.
- b) Lakeland's tree trimming Budget per the approved 2025 Cost of Service is \$209,755.
- c) See OEB Staff-15e.
- d) Variance explanations are below:
- 2020: Immaterial variance due to a slight increase in the number of reactive vegetation management required.
 - 2021: Immaterial variance due to a slight decrease in the number of reactive vegetation management required.
 - 2022: In this year, there was a material reduction in the number of hazardous trees reporting that required intervention. The cost reduction showed up mostly in a reduction of third-party costs.
 - 2023: Similar to 2022, in 2023 a lower number of hazardous trees were reported to Lakeland Power and required fewer interventions.
 - 2024: The ~\$21K is due to an increase to the three-year tree trimming contract, which was expected due to general cost increases after the pandemic.
 - 2025: Immaterial variance due to a slight decrease in the number of reactive vegetation management required.
- e) A copy of Lakeland Power's tree trimming specifications has been provided in Appendix G.

VECC-7

Ref: IRM Appendix Z-2 p. 8

Lakeland Power relies on its Emergency Response Plan (ERP) which outlines the processes and procedures for responding to power disruptions outside of routine operations.

- a) Please provide a copy of Lakeland Power's ERP.
- b) Please confirm Lakeland Power adhered to its ERP. If not, please explain any variances.
- c) Please provide any lessons learned during the storm that will result in modifications to the ERP.

d) Please describe any steps, if any, to be prepared for or mitigate storm events in the future (i.e., training, process or system improvements)?

Response

- a) See OEB Staff-7.
- b) See OEB Staff-7.
- c) See OEB Staff-7.
- d) See OEB Staff-7.

VECC-8

IRM Appendix Z-2 p. 11

a) Please complete the following Table:

	Internal Resources Operating	Internal Resources Capital	Third-Party Contractors Operating	Third-Party Contractors Capital
Regular Labour Hours				
Overtime Labour Hours				
Regular Labour \$				
Overtime Labour \$				
Materials \$				
Equipment \$				
Vehicles \$				
Indirect Costs \$				
Total \$				

- b) Please confirm no regular hours for internal resources are included in the Z-factor. If not, please explain.
- c) Please discuss how Lakeland Power calculated internal Overtime hours.
- d) Please explain how third-party contractor regular labour and overtime labour costs were determined.

Response

a) See the table below.

	Internal Resources Operating	Internal Resources Capital	Contractors Operating	Contractors Capital
Regular Labour Hours	1,170	598	877	370
Overtime Labour Hours	929	8	1,327	590
Regular Labour \$	78,164	39,665	107,926	37,500
Overtime Labour \$	138,895	1,139	290,192	129,026
Total Labour \$ *	217,058	40,804	398,118	166,526
Materials \$	49,996	143,247	8,452	0
Equipment \$			144,983	83,242
Vehicles \$			15,128	4,571
Other / Indirect Costs \$	1,877		22,043	6,206
Total \$	268,930	184,051	986,842	427,071

b) Yes, regular hours have been included in the Z-Factor claim.

- i. Lakeland Power followed a recent Elexicon Decision and Order EB-2022-0317 where regular hours were included in the claim and were approved.
- ii. Similar to Elexicon’s circumstances, the regular hours were incremental in that the activity and related costs are incremental to it’s base budget amount. Specifically, budgeted OM&A and revenue requirement expenses still need to be incurred at a different time. As shown in response to OEB Staff15c , the activity and costs related to the ice storm including regular labour hours were incremental to the base budget amount, budgeted OM&A and revenue requirement expenses.
- iii. A significant portion of the Lakeland Power team (13 Union lines and engineering employees) spent 1,534 regular hours on the ice storm. This is 2.9 weeks assuming the work was performed all in continuous 40 hours per week time blocks. However, in reality the team worked full 16 hour days (including overtime) in the initial period to April 3rd (~5 days) when 90% of Lakeland Power’s customers’ power was restored; after this crews were required to allocate time between other regular operational priorities as well as continued ice storm work and clean up.
- iv. As a result of above, lower priority normal operations and previously planned work in the two months following the ice storm event were materially disrupted. April and May are key months of the year when a lot of work is planned that requires the period of warmer months to be completed – the ice storm had a significant impact on this period, resulting in a cascade of effects for the rest of summer and fall.
- v. All of the work deferred due to the emergency still needs to be completed and needs to be caught up – there is no planned activity that was no performed due to the above disruptions that does not still need to be scheduled and performed by Lakeland Power crews. The emergency response was therefore incremental to routine activities.

This disruption over two months at a key time of the year was significant and material and resulted in incremental costs, including the regular hours performed.

- c) Internal overtime hours are calculated based on submitted and approved timesheets and any relevant collective bargaining and HR policies.
- d) Contractor regular and overtime hours were determined by each of the contractors according to their own collective bargaining and/or HR policies. Almost all crews involved were part of a concerted around-the-clock, all-hands-on-deck response involving internal line crews, third-party contractors, and mutual assistance partners who worked continuously to restore power safely and efficiently. Contractors were largely used in the initial 5-day period when there were around-the-clock efforts to restore power to Lakeland's customers.

VECC-9

Ref: IRM Appendix Z-2 p. 30

Lakeland Power provided the following damage from the ice storm:

- 48 broken poles
- 6 damaged transformers
- a) Please provide the age, estimated service life and condition of each pole in terms of very good, good, fair, poor or very poor condition.
- b) Please provide the age, estimated service life and condition of each transformer in terms of very good, good, fair, poor or very poor condition.
- c) For each of the assets above, please provide the quantity of assets replaced on a like-for-like basis. If not replaced on a like-for-like basis, please explain.
- d) Please provide the average cost to replace a pole over the 2020-2025 period and show the calculation.
- e) Please explain the damage to each transformer and the costs to repair each transformer.
- f) Please provide the quantity of poles Lakefront Power plans to replace per year over the period 2025 to 2029 and in the response provide the number of poles to be replaced in poor and very poor condition.

Response

- a) Please see table below. The estimated service life (or Useful Economic Life) Lakeland Power uses for poles is 45 years. However, the actual remaining service life of an individual asset is normally longer than the accounting based UEL; actual service life of assets are determined through asset condition assessments. While the age of many of

the damaged poles is greater than 45 years, the condition of all of them was Fair or better. None of these assets damaged were identified for replacement in Lakeland Power’s capital plan.

Damaged Pole Height	Year	Age	Condition of Asset per ACA	Replaced Pole Height	Replacement
40	1982	43	Good	40	like-for-like
40	1955	70	Poor	40	like-for-like
35	1965	60	Good	35	like-for-like
40	1972	53	Good	40	like-for-like
40	2008	17	Very Good	40	like-for-like
40	1969	56	Good	40	like-for-like
45	2023	2	Very Good	45	like-for-like
35	1963	62	Fair	40	Meet USF Clearance Standards (Single Phase Primary & Equipment)
30	1967	58	Good	35	Meet USF Clearance Standards (Secondary)
30	1967	58	Good	35	Meet USF Clearance Standards (Secondary)
45	2008	17	Very Good	45	like-for-like
40	1976	49	Fair	45	Meet USF Clearance Standards (Three Phase Primary)
35	1990	35	Very Good	45	Meet USF Clearance Standards (Single Phase Primary)
50	1988	37	Good	50	like-for-like
45	2020	5	Very Good	45	like-for-like
35	1962	63	Fair	35	like-for-like
35	1962	63	Fair	35	like-for-like
40	1964	61	Fair	35	Secondary only, extra clearance not needed
40	1965	60	Fair	40	like-for-like
35	1965	60	Fair	40	Meet USF Clearance Standards (Single Phase Primary)
35	1978	47	Good	40	Meet USF Clearance Standards (Single Phase Primary)
35	1978	47	Good	40	Meet USF Clearance Standards (Single Phase Primary)
35	1978	47	Good	40	Meet USF Clearance Standards (Single Phase Primary)
40	1966	59	Good	45	Meet USF Clearance Standards (Single Phase Primary & Equipment)
35	1966	59	Good	40	Meet USF Clearance Standards (Single Phase Primary & Equipment)
NA	1951	74	Fair	35	Meet USF Clearance Standards (Secondary)
35	1959	66	Fair	45	Meet USF Clearance Standards (Single Phase Primary)
40	1973	52	Good	40	like-for-like
35	1973	52	Good	45	Meet USF Clearance Standards (Single Phase Primary)
40	1966	59	Good	40	like-for-like
40	1960	65	Fair	45	Meet USF Clearance Standards (Single Phase Primary)
40	1964	61	Fair	45	Meet USF Clearance Standards (Single Phase Primary)
35	1967	58	Good	40	Meet USF Clearance Standards (Single Phase Primary)
35	1966	59	Good	40	Meet USF Clearance Standards (Single Phase Primary)
55	2018	7	Very Good	55	like-for-like
40	1983	42	Good	45	Meet USF Clearance Standards (Single Phase Primary & Equipment)
40	1979	46	Good	45	Meet USF Clearance Standards (Single Phase Primary & Equipment)
40	1963	62	Fair	45	Meet USF Clearance Standards (Single Phase Primary & Equipment)
30	1978	47	Good	35	Meet USF Clearance Standards (Single Phase Primary)
40	1955	70	Poor	40	like-for-like
40	1953	72	Poor	40	like-for-like
55	1957	68	Fair	40	Meet USF Clearance Standards (Single Phase Primary & Equipment)
35	1963	62	Fair	40	Meet USF Clearance Standards (Single Phase Primary)
40	1978	47	Fair	45	Meet USF Clearance Standards (Single Phase Primary & Equipment)
35	1991	34	Very Good	40	Meet USF Clearance Standards (Single Phase Primary)
30	1958	67	Fair	35	Meet USF Clearance Standards (Secondary)
30	1976	49	Good	35	Meet USF Clearance Standards (Secondary)
45	2023	2	Very Good	45	like-for-like

b) Please see table below. The estimated service life (or Useful Economic Life) Lakeland Power uses for transformers is 40 years.

Damaged Transformer (kVA)	Year	Age	Est. Condition	Replaced Transformer Size (kVA)	Reason for replacement
25	1963	62	Good	25	Mechanical damage (like for Like)
50	1985	40	Very Good	50	Mechanical damage (like for Like)
15	1967	58	Good	15	Mechanical damage (like for Like)
50	1981	44	Good	50	Mechanical damage (like for Like)
25	2004	21	Very Good	25	Mechanic damage (like for Like)
15	2010	15	Very Good	50	Mechanical damage (nearby Transformer upgraded from 25 to 50kVA)

c) See tables above in the answers to a) and b).

d) Lakeland Power’s average cost to replace/install a pole is shown in the table below.

Installed Cost/Pole	2020	2021	2022	2023	2024	2025 Est
Total Actual	\$7,720	\$12,160	\$15,600	\$12,904	\$16,821	\$17,000
	Average 2020-2024 Act					\$13,041
	Average 2020-2025 Est					\$13,701

e) As indicated in the table above, the damage sustained by each transformer was classified as mechanical in nature. Consequently, all affected transformers were replaced with new units rather than being repaired.

f) See table and comments below.

Year	2025	2026	2027	2028	2029
Pole Replacement	105	109	132	80	95

The number of poles replaced in each year will be determined through the annual capital planning process and informed by condition assessments, safety and reliability considerations, and approved budgets. The replacement of poles classified as Poor and Very Poor is not assigned fixed annual quantities, however, these poles are always prioritized due to their increased susceptibility to deterioration from environmental and weather conditions and are the major portion of the annual total replacement.

Appendix A

Lakeland Power Emergency Response Plan

Schedule 3.0

Lakeland Power Distribution Ltd. EMERGENCY RESPONSE PLAN (ERP) [Internal document only]

This plan is for use only with major emergencies that entail a major fire or loss of infrastructure, a major public safety incident, significant damage to Lakeland Power's distribution system.

Updated January 1st 2020

EMERGENCY RESPONSE PLAN

DOCUMENT CONTROL

Distribution List

The following Emergency Response Plan is a controlled document. All paper copies shall be listed in the following table. The listed individuals are responsible for keeping their respective copies up to date.

Controlled Document Distribution List

Document	Registered To	Physical Location	Copy #
	Taylor Servos	Compliance Science	1
	Brian Elliott	Brian Elliott Office	2

Revision History

All revisions shall be numbered and listed in the following table of each copy. Revised pages or sections shall be numbered accordingly.

Document Revision History

Rev #	Revision Description	Date
0	Original Document	January 2020
1	Format revision and composed as Schedule 3.0 in the LLH EPRP	November 2020

EMERGENCY RESPONSE PLAN

Table of Contents

DOCUMENT CONTROL.....I

1.0 DEFINITIONS 5

2.0 INTRODUCTION 6

A. Purpose 6

B. Authority 6

C. Description of the Facilities 6

3.0 ROLES AND RESPONSIBILITIES 6

A. INCIDENT OBSERVER AND EMERGENCY PHONE OPERATOR 7

B. FRONT DESK OR AFTERHOURS ON-CALL DUTY PERSON 7

C. MANAGER..... 9

D. EMERGENCY COORDINATOR..... 10

E. SITE COMMAND POST (SCP) 11

F. EMERGENCY COMMAND CENTRE (ECC)..... 11

G. STAFF ASSIGNED TO ASSIST IN THE ECC 11

H. MUNICIPAL OPERATIONS CENTRE (MOC) 12

4.0 NOTIFICATION PROCEDURES AND PROTOCOL 12

A. INTERNAL NOTIFICATION PROTOCOL 13

B. EXTERNAL NOTIFICATION PROTOCOL 13

5.0 EMERGENCY IDENTIFICATION AND EVALUATION..... 20

A. EMERGENCY IDENTIFICATION 20

B. EVALUATION OF ALERT LEVEL 21

6.0 TRAINING, TESTING AND UPDATING 25

EMERGENCY RESPONSE PLAN

A. TRAINING..... 25

B. TESTING 26

C. UPDATING..... 26

CHECKSHEETS 27

APPENDIX 3A – LAKELAND POWER DISTRIBUTION SYSTEM MAPS 32

APPENDIX 3B – EMERGENCY MUTUAL ASSISTANCE AGREEMENT 33

APPENDIX 3C – SOUTH CENTRAL ONTARIO LDC MAP 34

APPENDIX 3D – IESO ONTARIO ELECTRICITY EMERGENCY PLAN..... 35

APPENDIX 3E – IESO ONTARIO POWER SYSTEM RESTORATION PLAN..... 36

EMERGENCY RESPONSE PLAN

1.0 DEFINITIONS

- BGL** Bracebridge Generation Ltd, the Owner of the hydraulic generation stations, dams, SPEEDIER, DEMOCRASI and 870 Cedar Lane.
- LLH** Lakeland Holding Ltd, the Parent Company of BGL, LLP, LEL
- LLP** Lakeland Power Distribution Ltd, the Owner of the overhead and underground electrical infrastructure and substations in their service territory namely, Bracebridge, Burk's Falls, Huntsville, Magnetawan, Parry Sound, and Sundridge.
- LEL** Lakeland Energy Ltd, the Owner of the brand names Interactive North and Lakeland Networks and associated fibre optic networks, towers, POP sites, rental hot water tanks. This division also provides internet, GIS, IT and streetlight services.
- EPRP** Emergency Preparedness Response Plan – The internal master plan used by Lakeland Holdings and its subsidiaries and contains subsequent Emergency Response Plans and Emergency Preparedness Plans relevant to different business units.
- ECC** Emergency Control Centre – The emergency centre setup by Lakeland Holdings to deal with an emergency
- MCG** Municipal Control Group for various towns, townships, or districts. The group includes senior management such as Mayor, CAO, and Fire Chief/CEMP. Group will manage emergency in the MOC.
- MOC** Municipal Operations Centre – The emergency centre setup by the Municipality to deal with an emergency. The location will be set by the municipality if and when deemed necessary.
- SCP** Site Command Post – To be established at the Facility, if deemed necessary, to monitor the situation and oversee operations and maintenance during the emergency.

Bulk Electric System - The Electric system from Ontario Power Generation and the Hydro One network, transmission and transformation facilities to the interfaces with the Lakeland Holding and Its Subsidiaries' Operated-Electric System.

Contingency - A power disruption and/or a probable impeding power shortage on the electric system which threatens human life, public property, or the social and economic well-being of the community.

Major Emergency - any event which, usually with little or no warning, causes or threatens injury or death, serious disruption of essential services or damage to property, the environment or infrastructure beyond the normal capabilities of the principal **emergency** services. A situation, which exists when a power interruption to customers can be restored by a concentrated effort of local forces within approximately 24 hours.

Disaster - A major emergency of more than 24 hours duration, requiring the early organization and assistance of outside help. These may be more widespread in nature and extend beyond municipal boundaries, as would be the case during i.e.: storms, hurricanes, pandemics or other similar severe situations including acts of sabotage.

EMERGENCY RESPONSE PLAN

2.0 INTRODUCTION

Lakeland Power Distribution Ltd. (LLP) governs the response to large scale storms and other natural disasters, civil unrest, major equipment failures, or other emergency events. The information contained in this internal document is not intended to be all inclusive. Some procedures are essential and must be performed, while others may or may not be pertinent to all divisions. This EPP is designed to guide effective emergency management by establishing a clear emergency response structure that is understood by all responders and supports the LLH EPRP.

A. Purpose

These procedures provide the tactical steps for establishing uniform readiness and guidelines for prompt, standardized action to ensure an efficient and coordinated restoration effort for operations. They establish a structure for determining an event's severity (classification) and define the required measures to be implemented during all aspects of service restoration by the organization. Overall, they have been designed to mitigate consequences when, despite vigilance to protect the Lakeland's system to withstand the effects of storms, floods, fires or electric service interruptions if they do occur. LLP strives to continuously improve its response to all emergencies, including storms and storm-like emergencies.

B. Authority

This plan is issued by LLP to fulfil its internal emergency planning requirements.

C. Description of the Facilities

LLP owns infrastructure relevant to their operations and this plan which can be found in Appendix A (Lakeland Holding EPRP Facilities Listing). The locations listed in Appendix A are managed through site specific internal ERP's and the relevant appendix number can be found in the Appendix A listing.

3.0 ROLES AND RESPONSIBILITIES

An emergency notification could be received at Lakeland by anyone at any time and understanding how to activate and implement the EPRP is an important first step.

EMERGENCY RESPONSE PLAN

A. INCIDENT OBSERVER AND EMERGENCY PHONE OPERATOR

The **Incident Observer** is the individual(s) (Lakeland employee or other) who identifies and reports an emergency or potential emergency situation at the site, such as a power outage, potential oil spill concern, infrastructure fire or a public safety incident.

It is foreseeable that the Incident Observer may be (but not limited to):

- The Ontario Provincial Police (OPP) or 911 dispatchers
- Our Lakeland afterhours message service
- A Lakeland staff or contractor on-site performing operations or maintenance, or
- A member of the public or customer

The typical response from an external incident observer would be to call the relevant 24/7 Emergency Phone Line and report the incident.

Emergency Phone Numbers

1 (888) 282-7711 (Press 1) Lakeland Power Distribution Ltd.

If the Observer is an employee, and it is during regular business hours, they may notify the department **Manager** directly.

Upon receiving notification of an incident through the 24/7 Emergency Phone Line, the Emergency Phone Operator will immediately direct the caller to the **On-Call Duty Person**.

B. FRONT DESK OR AFTERHOURS ON-CALL DUTY PERSON

All emergency calls received directly during business hours regarding any emergency or potential emergency shall be directed to the **LLP Manager or Supervisor** and an e-mail to lppoweroutagesday@lakelandpower.on.ca to ensure all parties are made aware of the emergency. The Manager or Supervisor will be responsible for verifying the caller and having Maintenance and/or Operations Personnel complete an initial on-site assessment of the

EMERGENCY RESPONSE PLAN

situation (if possible).

All emergency calls received after hours through the Emergency Phone Operator regarding any emergency or potential emergency shall be directed to the **On-Call Duty Person**. The On-Call Duty Person will be responsible for verifying the caller and having Maintenance and/or Operations Personnel complete an initial on-site assessment of the situation (if possible).

On-Call Duty Person will notify any other parties required and the **Manager** to discuss next steps, if the situation is not easily rectified within a couple of hours without damage to property or harm to the public, a decision to deployment of the respective emergency plan will be made.

At a minimum, the On-Call Duty Person shall collect the following information from the Incident Observer for use in his/her Emergency Report Form:

- Incident Observer name and contact information.
- Time and date the incident was first noticed; and
- Details of the incident or situation that was observed and what, if any, actions were taken by the Incident Observer with respect to the situation.

The On-Call Duty Person is responsible for:

- Completing the Initial **Emergency Report Form** based on discussion with the Incident Observer and submitting it to the **Manager**.
- Notifying **Operational and/or Maintenance Personnel** of the situation as deemed necessary and requesting that they conduct an on-site assessment of the situation.
- Notifying the other impacted agencies or parties of the situation and requesting instructions for any changes.
- Notifying the **Manager** of the situation. If they are not available, the Supervisor shall be notified. In the Manager and Supervisor's absence, the COO or President & CEO shall be notified (in this order of priority).

EMERGENCY RESPONSE PLAN

C. MANAGER

The **Manager**, or designate, will evaluate the situation and determine if the emergency is covered by a site-specific emergency plan as provided in the Appendix listing and follow that plan if applicable. If the emergency is generic or not covered in an Appendix, the duties of the manager are specified below.

The Manager will determine the alert level as described in section 5 and initiate the Internal Notifications Protocols as required. The department Manager (or his/her designate) will continue to monitor the situation and report back to the **Emergency Coordinator**. The department Manager will also notify any required Ministries, municipal partners, etc.

The department Manager is responsible for the following:

- Debriefing the On-Call Duty Person, and Incident Observer as required.
- Establishing and assigning personnel as required to a **Site Command Post (SCP)**, if deemed necessary and advantageous at the site to manage the emergency in the vicinity of the Facility.
- Providing direction to the Operations and/or Maintenance Personnel with respect to possible initial mitigative actions.
- Conducting an on-site inspection of the situation (if possible).
- Liaison with other **utilities** or **service providers**.
- Liaison with the **Town or Municipality** with respect to shared operation or impacts.
- Notifying the Chief Operating Officer and/or President & CEO to determine who will be the official **Emergency Coordinator** and next steps.
- Compiling, preparing, and submitting the following reports to the Emergency Coordinator:
 - First Responder **Checksheet** (prepared by the On-Call Duty Person).

EMERGENCY RESPONSE PLAN

- **Alert Level Evaluation Checksheet**; and
- A **photograph** and/or video record of the situation / condition of the Facility.
- Maintaining the Emergency Response Plan (EPP), including preparing and distributing updates for all copies of both the internal and external versions. This includes updating contact lists as and when needed.
- Conducting training and testing of the EPP as per Section 6.

D. EMERGENCY COORDINATOR

The Manager will coordinate activities until a permanent Emergency Coordinator is designated, if required. Normally the **President & CEO** will coordinate activities, but in the President's absence, the **COO** will assume the role of Emergency Coordinator.

The Emergency Coordinator is responsible for:

- Declaring the Emergency Condition.
- Establishing the location and staffing of the **Emergency Control Centre (ECC)** if deemed necessary, where he/she will coordinate all emergency communications including external notifications, situation updates, ordering materials, and requesting assistance.
- Initiating **Internal Notification Protocols** including notifying the Communications Coordinator, Human Resources, and Chief Financial Officer (CFO), as required.
- Appoint a **Media Spokesperson** and will work closely with this spokesperson to prepare and approve all media statements.
- Initiating **External Notification Protocols** as required.
- Directing and coordinating activities and reporting during the emergency; and
- Declaring the emergency condition terminated.

EMERGENCY RESPONSE PLAN

E. SITE COMMAND POST (SCP)

A **Site Command Post (SCP)** will be established by the department Manager to facilitate management of the activities at the site of the emergency, if deemed necessary.

Management and staffing of the SCP will be assigned by the **Manager** based on the nature of the emergency. If established, staff will monitor the situation and oversee mitigation measures and report back to the **Manager**. Mitigative measures should continue throughout the emergency in so long as it is safe to do so, or until otherwise directed by the Emergency Coordinator or his/her designate. The SCP staff will also warn any members of the public accessing the area around the Facility of the potential danger and attempt to evacuate the area as directed by the **Manager**. This evacuation may require the assistance of local authorities.

F. EMERGENCY COMMAND CENTRE (ECC)

The Emergency Coordinator may establish a corporate **Emergency Control Centre (ECC)** to facilitate the management of the greater response activities that

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

- ★ *During major events, especially after hours, it may be prudent to consider bringing in Customer Service Representatives to assist with the phone call volume.*

G. STAFF ASSIGNED TO ASSIST IN THE ECC

Staff assigned to assist in the ECC will work under the direction of the Emergency Coordinator and report back to their respective department {Directors} as directed. In addition to assisting with notifications and updates, these staff will be responsible for assisting with hiring of contractors, ordering materials, and bringing in additional staff as required. All requests for external goods and services must be approved by the Emergency Coordinator and any external purchases should be done through the Purchasing Manager.

The appointed **Media Spokesperson** will be responsible for preparing and making all media statements after receiving approval from the Emergency

EMERGENCY RESPONSE PLAN

Coordinator. No other staff shall make any statements to the media unless expressly directly to do so by the Emergency Coordinator. Instead, all staff will direct the media inquiries to the appointed Media Spokesperson for comment.

H. MUNICIPAL OPERATIONS CENTRE (MOC)

If the event is widespread and is expected to extend in duration, then consideration should be given to request Municipal partners to activate its Emergency Plan and/or establish a **Municipal Operations Centre (MOC)**. This can be initiated by the Town's **Community Emergency Management Coordinator (CEMC)**. The location of the MOC will be determined by the Municipality.

4.0 NOTIFICATION PROCEDURES AND PROTOCOL

If there are signs of fire, criminal activities or personal injury, the local fire, police and/or emergency medical services (as required) should be contacted immediately at 911 in addition to the following sections.

In the event of an emergency or unusual situation, the following internal and external notification protocols should be followed as depicted in Figures 4.1 and 4.2 respectively. Notifications should include:

- Contact information;
- Site location and access details (if necessary);
- Details of the situation, current status and possible risks if situation worsens;
- Remedial actions being taken;
- Response plan and time available / required for evacuation of staff and/or external stakeholders if needed; and
- Plan to provide future updates / reports (for both status of situation from LLP and status of response efforts from external stakeholders).

EMERGENCY RESPONSE PLAN

A. INTERNAL NOTIFICATION PROTOCOL

The following section outlines the Internal Notification Protocol. It is represented graphically in **Figure 4.1**.

Contact lists are available in Appendix B. These lists should be updated regularly during the plan review under 6.0 (C).

B. EXTERNAL NOTIFICATION PROTOCOL

The following section outlines the External Notification Protocol. It is represented graphically in Figure 4.2. **Contact lists** are provided in Appendix B. These lists should be updated regularly during the plan review under 6.0 (C).

External notifications will be directed by the **Emergency Coordinator**. The Emergency Coordinator will personally notify the Mayor and the Town's Community Emergency Management Coordinator (CEMC). The Emergency Coordinator or his/her designate (through the ECC if established) will notify the remaining external contacts as deemed necessary based on the Alert Level and the nature of emergency, including but not limited to:

- (a) Mayor and Town's Community Emergency Management Coordinator (CEMC).
- (b) Government agencies: Ministry of Environment and Climate Change (MOECC) and Department of Fisheries (DFO) (if sediment release).
- (c) Secondary government agencies as required based on the nature of the emergency, such as Environmental Services, Medical Office of Health; and

Updates – all updates received from external sources shall be reported to the Emergency Coordinator and the ECC, if established. The Emergency Coordinator, or his/her designate, will be responsible for providing regular updates to the CEMC and external stakeholders, as necessary.

COMMUNICATIONS

This section focuses on communications by LLP with people and/or organizations external to the Organization.

To ensure consistent and accurate messaging, all communications external to the

EMERGENCY RESPONSE PLAN

organization, must go through the CEO and Advanced Communications (or their delegate). There are three elements that must form the basis of LLP communications when an interruption occurs. They are:

- The most accurate information must be provided to the public as quickly and as completely as possible.
- Radio, television and internet/social media should be used as the primary source for communication with the public.
- The needs of the media to inform customers of impending and/or existing service interruptions and how customers can deal with them, must be recognized and utilized as much as possible.

Communications with Customers

The better educated and prepared customers are when a power interruption occurs, the easier it will be for LLP to deal with the situation. Therefore, it is in LLP's interest to ensure that its customers are informed of, and are prepared for, power interruptions.

All information should be specific to LLP. LLP will be used its social media platforms to educated customers during declared emergencies'.

Identification and Communications with "Critical" Customers.

LLP has categorized and identified critical customers and service groups for contact in case of a declared emergency.

Communication with "critical" customers can be achieved through hand-delivered messages or by telephone or other means deemed appropriate. Use of radio or newspaper is not considered sufficient for "critical" customers. For purposes of speed and to ensure that the customer does receive notice, telephone contact is usually preferred. In some circumstances, both written and verbal notice may be warranted.

The customer should be informed of the reason for, or cause of the interruption, and the expected duration. The duration of the interruption should be estimated on the "high" side with an explanation that it could take shorter or longer, depending on the circumstances. Many customers complain that their biggest problem in coping with an interruption is not having any idea of how long it will last.

Our first goal in restoring power is safety -- to the public and to our crews. This is

EMERGENCY RESPONSE PLAN

accomplished by locating downed lines and damaged areas and making sure the power to that location is shut off. The following are the major prioritization objectives of Lakeland Power storm restoration efforts where the storm damage is of such severity that available utility construction forces cannot cover the entire volume of system damage locations, efforts will be focused on the following:

- [Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]

[Redacted]

EMERGENCY RESPONSE PLAN

Prior to assigning jobs, repair work must be categorized, coded and sorted in priority order. All outage information is analyzed by restoration personnel, and a determination is made as to the job priority for restoring electrical service on the distribution system. Work is to be assigned in accordance with the following set of general priorities:

- Eliminate unsafe conditions.
- Restore distribution system lockouts.
- Proceed so that each hour of work will return the maximum number of customers to service.

Communications with the Hydro One

Communications with the Hydro One with respect to impending or existing major service interruptions are likely to be as a result of a serious power shortage because of a problem associated with the Bulk Electric System; widespread storm damage to the transmission and/or distribution systems; or as a result of some other localized catastrophe.

Consumers expect to receive information from LLP, particularly when they call the LPP with questions. Also, if load is to be reduced, it is very likely that the LPP may be called on by Hydro One to implement load reduction. It is most important then, that Lakeland Holding Ltd. and Its Subsidiaries obtain from the Hydro One the most up-to-date plan for co-operating with the utility in the event of such an occurrence.

Communications with Politicians and Governments

Depending on the size of the area affected by the interruption and its anticipated duration, it may be that the area's Peacetime Emergency Plan may be actuated, in which case its procedures should provide for keeping politicians and the public informed.

Notwithstanding and prior to the implementation of the Peacetime Emergency Plan, it is essential that the local politicians and agencies be kept informed of the extent of the interruption and the plan for restoration of power and its status.

- Local police and fire services should be kept informed as many people call them in cases of all types of emergency. Police and Fire Departments often have dedicated lines for contact by special groups, such as Utilities.
- All members of the Board of Directors should be kept abreast of the status of the interruption.

EMERGENCY RESPONSE PLAN

- Municipalities' councils shall be informed of major interruptions.
- The local Member of Parliament and Member of the Provincial Parliament, or if not available, their local constituency office, should be informed of major interruptions.

Communications with Media

Successful communication with the media is largely dependent on the development of good, continuing and respectful relations.

During a Contingency

- The CEO and / or the Board of Directors will prepare a news release as soon as possible.
- The CEO will be the single media spokesperson.
- The CEO will take the initiative to contact the targeted media and issue the news release.
- The CEO will issue timely statements throughout the contingency.
- Speculation on crisis events will be absolutely avoided by all staff.

Communication with Answering Service

Communication with the answering service may be limited or possible during major outages and internal staff may be called in to take over phone lines

Contacts

Refer to Appendix B.

Figure 4.1

Internal Notification Protocol

EMERGENCY RESPONSE PLAN

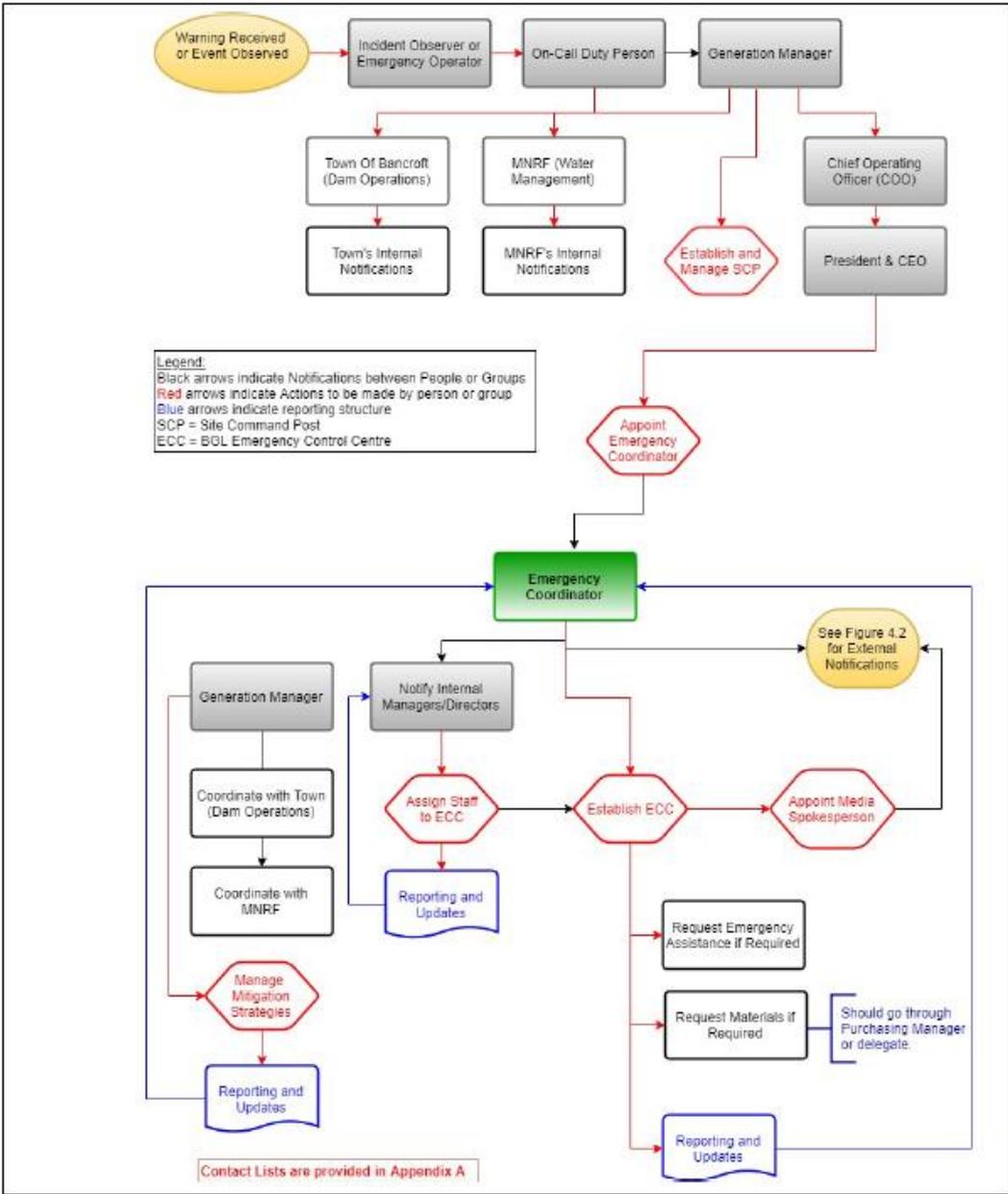
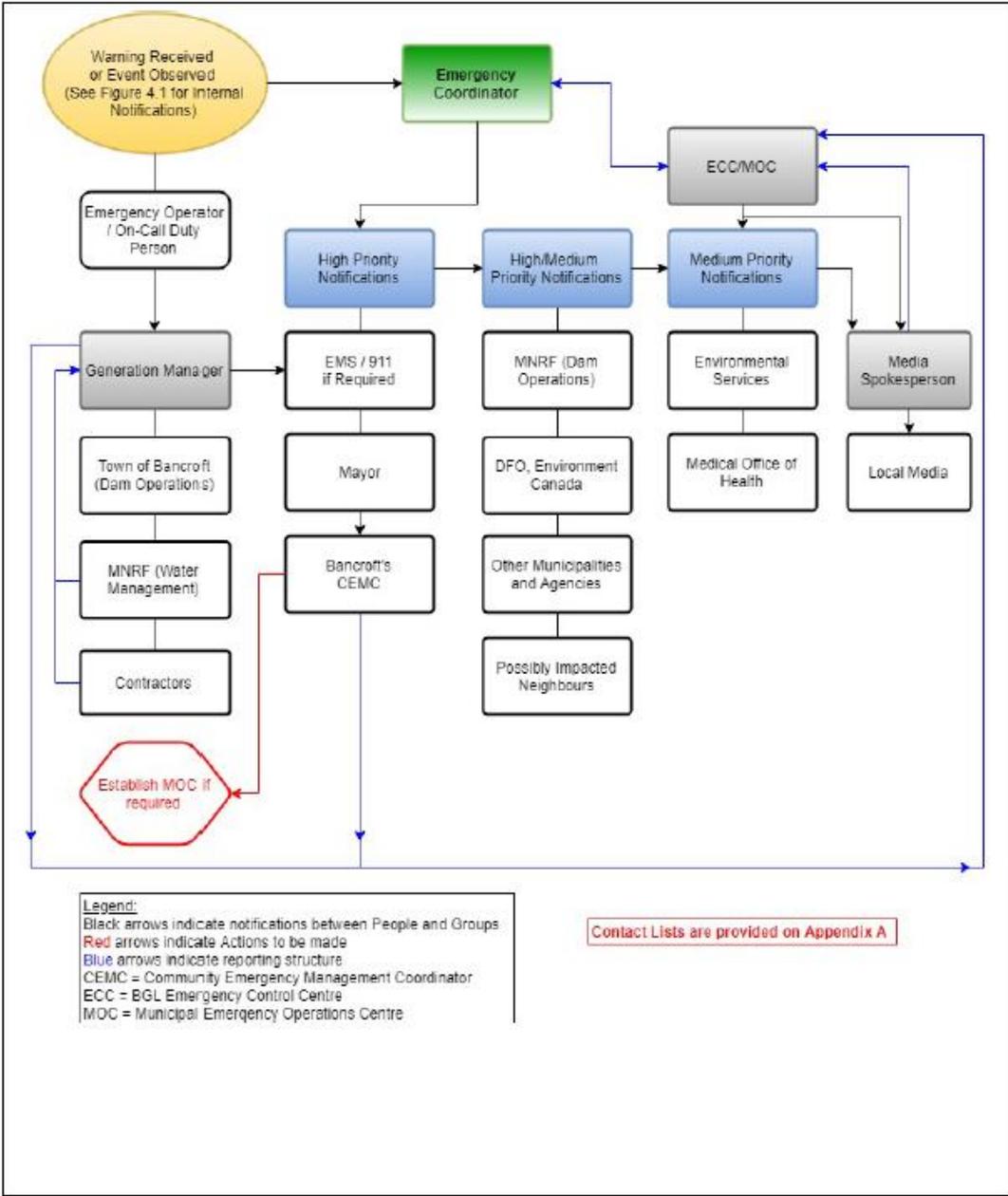


Figure 4.2
External Notification Protocol

EMERGENCY RESPONSE PLAN



EMERGENCY RESPONSE PLAN

5.0 EMERGENCY IDENTIFICATION AND EVALUATION

A. EMERGENCY IDENTIFICATION

This section only covers those emergency situations that could potentially pose a threat to a substation or the distribution system or result in a large-scale prolonged power outage as well as public safety emergencies at a facility.

If there are signs of fire, criminal activities or personal injury, the local fire, police and/or emergency medical services (as required) should be contacted immediately at 911 in addition to the following sections.

Emergency situations covered by this plan may include, but are not limited to the following:

- Failure or suspect impending failure of a substation,
- Formation of sinkholes around a substation,
- Extreme flood event,
- Severe storm,
- Large earthquake,
- Sabotages or other criminal activity,
- Employee or Public Safety emergency requiring changes to the distributions system operations,
- Enactment of the Ontario Electricity Emergency Plan, Appendix 3D
- Enactment of the Ontario Power System Restoration Plan. Appendix 3E

Particular attention should be given to regularly scheduled inspection and maintenance of the facility. All necessary repairs should be made in a timely manner to ensure the integrity of the facility. Additional inspections should be made following all unusual or extreme events. These events should be reported to supervisory personnel as well as the appropriate regulatory agencies.

EMERGENCY RESPONSE PLAN

B. EVALUATION OF ALERT LEVEL

The EPP has been developed to assist LPP staff in the event of major disruptions in the provision of electric service to its customers. The key ingredients of this guide apply to disruptions in the Bulk Electric System and to disruptions in the distribution system of LLP.

For the purpose of LLP, the following criteria has been established as the minimally acceptable standard of distribution system performance. These criteria will be part of the decision process to determine whether a contingency exists:

- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

The following load loss and outage duration listing will act as a guide in determining contingencies:

- less than 20 customers - 12 hours
- more than 20 customers less than 500 customers - 8hours
- more than 500 customers less than 10,000 customers - 4 hours
- more than 10,000 customers - 2 hours
- Loss of sub Transmission system supply – 2 hours
- Loss of Bulk System supply – 1 hour

This indicates that an outage of 500 customers or less has an acceptable outage time of 8 hours maximum (ex. A broken transformer pole could take up to 6 to 8 hours to replace). An outage of over 12 hours is deemed unacceptable and may be addressed by the EPP.

If any of the preceding objectives cannot be met, our EPP may come into play.

If the power line maintainer on call (after hours) or office staff (during regular hours) feel that we may exceed the acceptable outage limits one of the following people must be notified:

EMERGENCY RESPONSE PLAN

1. Supervisor
2. Manager of Operations
3. Chief Operations Officer
4. CEO

This person will act as the Emergency Coordinator and will decide if a contingency should be declared.

Once a contingency is declared, the Emergency Coordinator will need to constantly assess the situation to determine if we need to escalate our plan.

Under circumstances where LLP is able to deal with the contingency, thought needs to be given to the following areas:

- Call in office staff to take the phones back from the answering service (if outside of regular hours).
- Crews may require food and drinks to be brought to them by office staff – the nature of the emergency may determine where the food is to be obtained (e.g., what restaurants have power, weather conditions may dictate hot or cold food and beverages).
- If the outages are ongoing (example: a series of electrical storms) work breaks may be required (staff shall not work over 16 hours but we may require 24-hour coverage).
- Arrangements to deliver material to job sites may be required.
- Alternate fuel arrangements may be required. Under normal circumstances we can obtain diesel fuel from our Bracebridge Operations Centre.
- Supervisor will coordinate all needed truck repairs.

We may wish to communicate with the Municipalities. Services they may be able to offer could include traffic control, assistance with trees or debris, material deliveries, etc.

Timely and Periodic Assessment of Contingency Duration

It is critical that the emergency coordinator frequently assess the contingency to determine whether a situation is improving or deteriorating, and that this information be relayed to the Operations team, Communications team, and

EMERGENCY RESPONSE PLAN

Executive Team. It is important that the right amount of staff be deployed for a contingency of long duration. An outage lasting more than 24 hours will be difficult to manage if all of the staff has been deployed in the first 12 hours and no one is available to relieve them.

In circumstance where the contingency escalates, the following items require consideration:

1. Executives and Board Directors should be notified.
2. Media notification and regular updates may be required.
3. The municipalities depending on the areas affected should be notified. Alternative Emergency Plans may be implemented. The respective areas may have concerns that we need to be aware of, such as buildings being used for emergency shelters that need to be raised on our priority list.
4. Establish priorities and coordinate the overall restoration effort.
5. Communications with staff and the public must be maintained.
6. Police may be required (road blocks or directing traffic).
7. Any LLP staff that have not been called in, should now be called if possible and safe to do so. Staff can provide assistance with communications for out of town crews, nourishment,, material delivery, etc.
8. Crews from other Utilities or contractors will be coordinated by Lines Supervisor and may have an LLP employee assigned to them.
9. EUSA and/or the Electrical Safety Authority may need to be notified.
10. The Public Works Department may require assistance to handle fallen trees or blocked roadways.
11. Accomodations may be required for travelling crews.
12. A communications network should be established with the families of our crews to ensure their needs are being met.
13. Check "Critical Customer" listings.

As staff members become available the Emergency Coordinator should designate many of the above duties.

The Emergency Coordinator will determine the time frames to complete distribution repairs and estimate the time to completion taking into account crew work schedules and the pace of repairs in the first 16 hours of the storm relief. If crews are not able to effectively deal with the existing contingency and / or it appears that the 24-hour outage limit is going to be exceeded, the request for mutual aid assistance is to be forwarded to the required mutual aid partners.

Utilities called upon for assistance must make sure adequate resources are left behind to serve the needs of its community and customers.

EMERGENCY RESPONSE PLAN

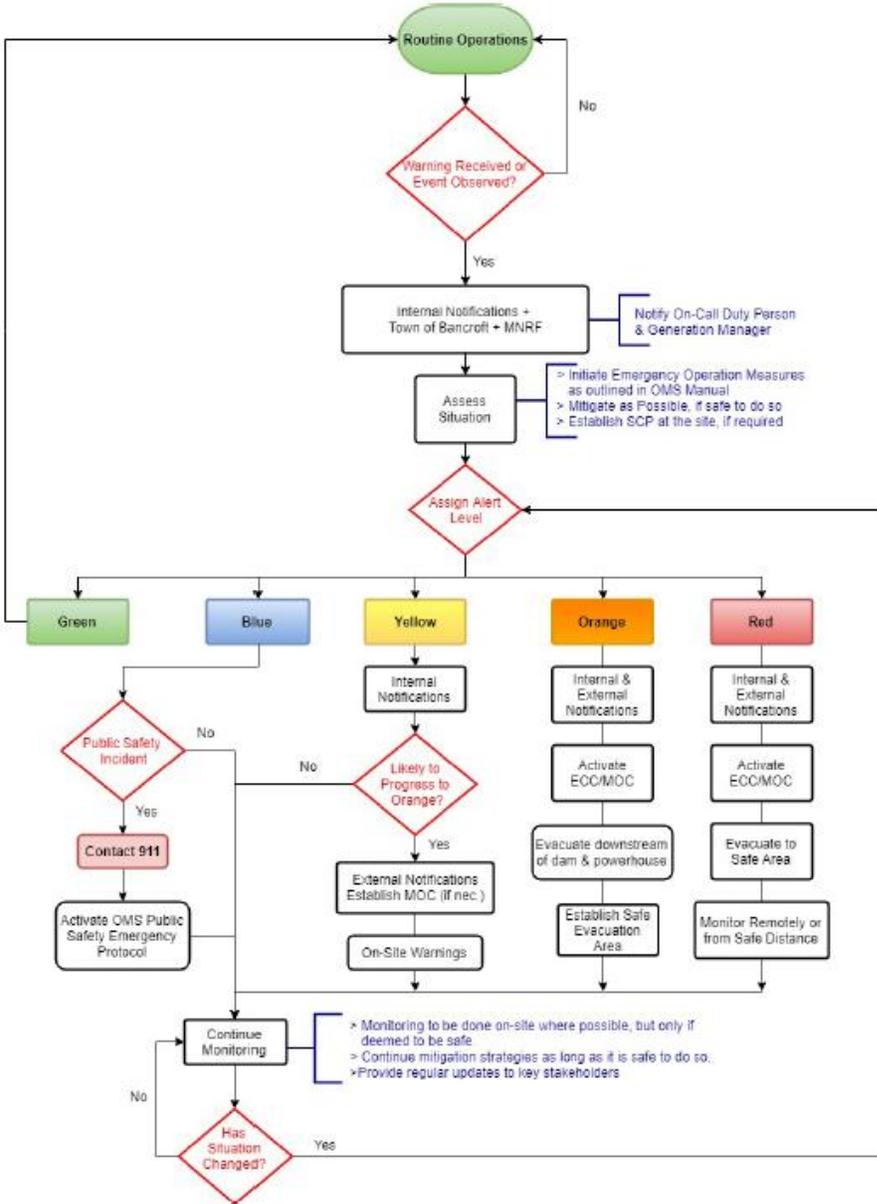
Mutual Aid Partners:

See Mutual Aid Agreements in Appendix 3B and 3C

Figure 5.1

Emergency Response Plan

EMERGENCY RESPONSE PLAN



6.0 TRAINING, TESTING AND UPDATING

A. TRAINING

EMERGENCY RESPONSE PLAN

Training for the EPP should be directed by HR and completed by all staff on an annual basis. Training for the EPP's in the appendices should be based on the applicable workgroup and should also occur on an annual basis.

B. TESTING

The plan will be tested and exercised every 5 years after it has been reviewed. This procedure will consist of contacting all individuals listed in the plan and making sure all resources are available and up to date.

C. UPDATING

A risk assessment will be done on a biennial basis to determine if additional planned responses need to be developed to deal with other emergencies not currently part of the plan.

EMERGENCY RESPONSE PLAN

Checksheets

CHECKSHEET 1: EMERGENCY REPORT FORM

CHECKSHEET 2: FIRST RESPONDER FORM

CHECKSHEET 3: OPERATION MANAGER'S ASSESSMENT

EMERGENCY RESPONSE PLAN

EMERGENCY REPORT FORM



Personal Information of Incident Observer

Form fields for Personal Information of Incident Observer: First Name, Last Name, Position or Occupation, Home/Work Address, Address (Line 2), City, Province, Home Phone, Cell Phone, E-mail, Date & Time Reported.

Description of Incident or Issue

Form fields for Description of Incident or Issue: Site, Where at site?, Type of Event, Time of Start of Breach, Upstream water level, Is Situation Worsening?, Is water level rising/falling?, Current weather, Weather Forecast, Date and Time Observed, General Comments, Work Phone, E-mail.

EMERGENCY RESPONSE PLAN



Reporting, Verification and Notification

Operator Taking Call	<input type="text"/>
Contact Number	<input type="text"/>
Method of Verification	<input type="text"/>
Who Was Notified of Incident?	<input type="text"/>
Date and Time of Above Notification	<input type="text"/>
Signature of Operator	<input type="text"/>

Other information	<input type="text"/>
Follow-up by:	<input type="text"/>
Follow-up Info.	<input type="text"/>

EMERGENCY RESPONSE PLAN

First Responder Checksheet

To be used by First Responder I.e. On-Duty Call Person or Manager

If it is determined that there is a POTENTIAL EMERGENCY, do the following:			
No.	Action	Date	Time
1.	Inspect the hazard. Ensure the hazard site is continuously monitored. Take a photographic record of the condition.		
2.	Immediately notify the Manager		
3.	Take measures to ensure safety is not compromised.		
4.	Begin any mitigation measures only if directed to do so by the Manager, Supervisor, Emergency Coordinator or designate.		
5.	Continue to monitor the site from a safe location until the Emergency Coordinator instructs otherwise. Report any changes in the conditions immediately.		

Notes/Sketches (use additional blank page on back if necessary):

EMERGENCY RESPONSE PLAN

Manager Checksheet

Upon arrival at the SCP or the site, do the following:																	
No.	Action	Date	Time														
1.	Receive a full report on the situation from the On-Call Duty Person or Observer																
2.	Review measures taken to ensure safety is not compromised.																
3.	<p>As soon as possible, view the area of concern, assess and assign the Alert Level of the Emergency as one of the following based on matrix in ERP:</p> <table border="0"> <tr> <td>less than 50 kW</td> <td>12 hours</td> </tr> <tr> <td>more than 50 less than 500 kW</td> <td>4 hours</td> </tr> <tr> <td>more than 500 less than 2500 kW</td> <td>4 hours</td> </tr> <tr> <td>more than 2500 kW less than 10,000 kW</td> <td>4 hours</td> </tr> <tr> <td>more than 10,000 kW less than 25,000 kW</td> <td>2 hours</td> </tr> <tr> <td>more than 25,000 kW less than 100,000 kW</td> <td>2 hours</td> </tr> <tr> <td>more than 100,000 kW</td> <td>2 hours</td> </tr> </table> <p>Continue to monitor the site for changes in condition, until additional technical and engineering support arrives. If the condition appears to be worsening before support arrives, immediately proceed to the next level of emergency.</p>	less than 50 kW	12 hours	more than 50 less than 500 kW	4 hours	more than 500 less than 2500 kW	4 hours	more than 2500 kW less than 10,000 kW	4 hours	more than 10,000 kW less than 25,000 kW	2 hours	more than 25,000 kW less than 100,000 kW	2 hours	more than 100,000 kW	2 hours		
less than 50 kW	12 hours																
more than 50 less than 500 kW	4 hours																
more than 500 less than 2500 kW	4 hours																
more than 2500 kW less than 10,000 kW	4 hours																
more than 10,000 kW less than 25,000 kW	2 hours																
more than 25,000 kW less than 100,000 kW	2 hours																
more than 100,000 kW	2 hours																
4.	Once the Alert Level has been determined, notify CEO and/or President/CEO if required																
5.	Provide updates to outage mapping and duration.																
6.	Obtain a photographic record of the condition and update as required if changes occur																
Notes/Sketches (use additional blank page on back if necessary):																	

Appendix 3A – Lakeland Power Distribution System Maps

EMERGENCY RESPONSE PLAN

Appendix 3B – Emergency Mutual Assistance Agreement

Appendix 3C – South Central Ontario LDC MAP

Appendix 3D – IESO Ontario Electricity Emergency Plan

Appendix 3E – IESO Ontario Power System Restoration Plan

Appendix B

Transformer Purchase Quotes

[Filed Confidentially]

Appendix C

Transformer Repair Quotes

[Filed Confidentially]

Appendix D

Transformer Install Invoice

K.P.C. Power Electrical Ltd.
 395 Westney Road South,
 Ajax, ON L1S 6M6

Tel: 905.683.6636 (24 Hour Service)
 Fax: 905.683.6668



INVOICE

Lakeland Power Distribution Ltd.
 Division of Lakeland Holding Ltd.
 395 Centre St. N., Suite 200
 Huntsville, ON P1H 2M2

Invoice # 24IM-5322

P.O. # PP07483

Invoice Date 6/28/2024

Due Date 7/28/2024

Net 30

ATTENTION: ACCOUNTS PAYABLE

Item	Description	Unit Price	Quantity	Amount
IM Central	Temporary Transformer Install Locations: Centennial MS rate: [REDACTED] Date: June 14, 15 & 18/19	[REDACTED]	1	[REDACTED]
IM Central	LABOUR BREAKDOWN ATTACHED Additional Costs Per diems - see attached labour breakdown	[REDACTED]	1	[REDACTED]

Thank you. We appreciate your business.

EMERGENCY AFTER HRS PHONE # 905.683.6636

Any questions regarding this invoice must be addressed within 10 days or payment is expected in full on the stated 'Due Date' above.

**We have converted to electronic receivables/payments. Kindly email accountsreceivable@kpcpower.com for our EFT info.

Please send remittance advice to accountsreceivable@kpcpower.com

Subtotal

ON TAX - HST

Total

Amount Paid

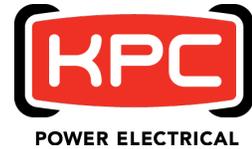
Balance Due

HST # 826174609

ECRA / ESA No. 7009255

K.P.C. Power Electrical Ltd.
 395 Westney Road South,
 Ajax, ON L1S 6M6

Tel: 905.683.6636 (24 Hour Service)
 Fax: 905.683.6668



INVOICE

Lakeland Power Distribution Ltd.
 Division of Lakeland Holding Ltd.
 395 Centre St. N., Suite 200
 Huntsville, ON P1H 2M2

Invoice # 24IM-5322

P.O. #

Invoice Date 6/28/2024

Due Date 7/28/2024

Net 30

ATTENTION: ACCOUNTS PAYABLE

Item	Description	Unit Price	Quantity	Amount
IM Central	Additional Costs - Materials		1	
	Float with labour to Centennial - June 15 & 16			
	Hoist for tx at Ajax - June 15 -			
	Float to del tx to site - June 15			
	Materials -			
	Oil Sampling -			
	HV terminations			
IM Central	Transformer rental		1	
	June 15 - July 15, 2024			

Thank you. We appreciate your business.

EMERGENCY AFTER HRS PHONE # 905.683.6636

Any questions regarding this invoice must be addressed within 10 days or payment is expected in full on the stated 'Due Date' above.

**We have converted to electronic receivables/payments. Kindly email accountsreceivable@kpcpower.com for our EFT info.

Please send remittance advice to accountsreceivable@kpcpower.com

Subtotal CAD

ON TAX - HST CAD

Total CAD

Amount Paid CAD

Balance Due CAD

HST # 826174609

ECRA / ESA No. 7009255

Appendix E

Ice Storm Contractor Invoices 2025

INVOICE



Anixter Power Solutions Canada, Inc.
188 Purdy Rd., P.O. Box 399
Colborne, On K0K 1S0
800-699-4297

CUST #: 7123

BILL TO:

Lakeland Power Distribution L.
200-395 Centre Street North
HUNTSVILLE, ON P1H 2M2



ISO 9001
QMI-SAI Global

SHIP TO:

UPC VENDOR	INVOICE DATE	INVOICE NUMBER
000000	04/01/25	857237-00
PO DATE	P.O. NO.	PAGE #:
03/31/25	PP07989	1 of 1
PLEASE REMIT PAYMENT TO:		
ANIXTER POWER SOLUTIONS CANADA INC C/O T10525 PO BOX 4388, STN A TORONTO ON M5W 3S1		

GST/HST REG # R119425072

Lakeland Power Distribution L.
NICK LOVERING TO P/UP
FOR CUSTOMER
STORM ORDER
BRACEBRIDGE, ON P1L 1V7

INSTRUCTIONS		SHIP POINT			VIA			SHIPPED	TERMS
CALL AHEAD IF LRG PROD REQ.RBD		Anixter Power Solutions Colbor			PICK UP			03/31/25	Net 30 days
LINE	PRODUCT AND DESCRIPTION	ORDERED	B.O.	SHIPPED	U/M	PRICE	UM	DISCOUNT	NET AMOUNT
PUROLATOR SHIPMENTS ARE ACCEPTABLE COLLECT RUSH ORDERS USE ACCT#PURO ACCT# 2029302 ***MUST HAVE TUESDAY DELIVERIES***									
1	GL406A 1/0 ACSR/ASC AUTO SPLICE FULL TENSION Customer Prod: 40-509	50	0	50	EACH		EACH	0.00	
2	GL408 3/0 ACSR/ASC AUTO SPLICE FULL TENSION Customer Prod: 40-510	50	0	50	EACH		EACH	0.00	
3	GL4042A #4 & #2 ACSR/ASC AUTO SPLICE, FULL TENSION Customer Prod: 40-511	50	0	50	EACH		EACH	0.00	
4	GL411 336.4 ASC 19STR/336.4 ACSR 18/1, AUTO SPLICE Customer Prod: 40-523	25	0	25	EACH		EACH	0.00	
5	1568PAO 15" ANGLE POLE TOP BRACKET, LINE POST INSUL Customer Prod: 30-619	10	0	10	EACH		EACH	0.00	
6	KL-28SK 28KV LINE POST INSULATOR UNIVERSAL, SILICONE Customer Prod: 60-111	12	0	12	EACH		EACH	0.00	
7	59011N 2" X 10' PV MOLD HEAVY DUTY SCHEDULE 40 GUARD Customer Prod: 90-118	25	25	0	EACH		EACH	0.00	
8	59013N 3" X 10' PV MOLD HEAVY DUTY SCHEDULE 40 GUARD Customer Prod: 90-119	20	20	0	EACH		EACH	0.00	
9	63411 15" POLE TOP BRACKET 13/16" HOLES WELDED Customer Prod: 30-623	10	0	10	EACH		EACH	0.00	
9	Lines Total			Qty Shipped Total	207		Total G.S.T./H.S.T. Invoice Total		8486.50

ACCOUNT NUMBER 800002631-001	INVOICE NUMBER	19557
Lakeland Power	INVOICE DATE	05-20-2025
DISTRIBUTION	TERMS:NET 30 DAYS	
196 TAYLOR RD	1% per month, 12% per annum	
BRACEBRIDGE, ON	charged on overdue accounts	
P1L 1J9	AMOUNT PAID	_____

PLEASE DETACH AND RETURN TOP PORTION WITH YOUR PAYMENT - THANK YOU

TELEPHONE (905) 332-1851		
ACCOUNT NUMBER 800002631-001	PAGE	1
Lakeland Power		
DISTRIBUTION	INVOICE NUMBER	19557
196 TAYLOR RD		
BRACEBRIDGE, ON	INVOICE DATE	05-20-2025
P1L 1J9		

WORK ORDER 4009775 ACCIDENT: Mutual Aid-Lakeland

Mutual Aid - Lakeland Power Distribution Ltd.
March 30 to April 4, 2025

<u>DESCRIPTION</u>	<u>AMOUNT</u>
LABOUR CHARGES	63563.73
MATERIAL CHARGES	
ENGINEERING	21062.84
CONTRACTOR CHARGES	4312.73
TRANSPORTATION	7348.00
	SUB TOTAL
	96287.30
H.S.T. (REG. #86829 1980)	12517.35
	INVOICE TOTAL
	108804.65



CC Underground Utilities Inc.

8980 Highway 12 West | Oro-Medonte, Ontario L3V 0K1
7053272751 | info@ccunderground.ca | ccunderground.ca

RECIPIENT:

Lakeland Power

200 - 395 Centre Street, North
Huntsville, ON P1H 2M2

SERVICE ADDRESS:

Mccrank Drive
Bracebridge, Ontario P1L

Invoice #20250174

Issued	Apr 14, 2025
Due	May 14, 2025
CREATED BY	Krista Leigh
Purchase Order #	PP08021

Total \$3,661.20

Emergency Call Out Hydro Pole Replacement (Storm)

Product/Service	Description	Qty.	Unit Price	Total
Mar 30, 2025				
Hydro Vac Emergency Call Out After Hours (8hr min) W/O#13542	March 30 CP McCrank Drive Disposal within min			
5% Fuel Surcharge				
Disposal at clean fill site				

Subtotal	\$3,240.00
HST ON (13.0%)	\$421.20
Total	\$3,661.20

Thank you for your business. Please contact us with any questions regarding this invoice.

This invoice is subject to a 2% interest charge per month (26.82%/annum) after 30 days.

Please ensure your company has updated our banking information for payment. See below for current information.

For EFT Payments:

TD Canada Trust at 220 Commerce Valley West, Suite 100, Markham, ON L3T 0A8

Account #: 1085-5500446 | Institution Number#: 004 | Transit Number#: 10852

Cheques make payable to "CC UNDERGROUND UTILITIES INC."

E-transfers send to info@ccunderground.ca.

Please make sure to send an email with the password.

Pay Now



CC Underground Utilities Inc.

8980 Highway 12 West | Oro-Medonte, Ontario L3V 0K1
 7053272751 | info@ccunderground.ca | ccunderground.ca

RECIPIENT:

Lakeland Power

200 - 395 Centre Street, North
 Huntsville, ON P1H 2M2

SERVICE ADDRESS:

268 Beaumont Drive
 Bracebridge, Ontario P1L 1X2

Invoice #20250176

Issued	Apr 14, 2025
Due	May 14, 2025
CREATED BY	Krista Leigh
Purchase Order #	PP08031
Total	\$20,791.30

Emergency Hydrovac Support (Storm)

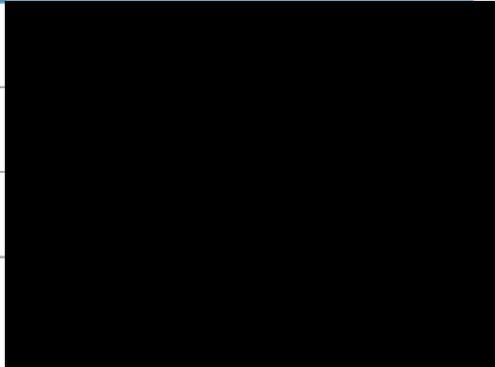
Product/Service	Description	Qty.	Unit Price	Total
Hydro Vac Emergency Call Out After Hours (8hr min) W/O#13688	March 29 GG Beaumont Dr. Disposal within min			
Hydro Vac (one operator - 4hr min) W/O#13543	Hourly charge March 31 BH Patricia Parkway Kevin Cres. Boyd Bay Rd. McCrank Drive Latvian Rd (?)			
Hydro Vac (one operator - 4hr min) W/O#13544	Hourly charge April 01 BH Latvian Rd (?) Campbells Rd Golden Point Rd			
Hydro Vac (one operator - 4hr min) W/O#13545	Hourly charge April 02 BH Sandbar Lane Golden Beach Rd Beaumont Farm Rd Stephens Bay Rd Hamblin Dr.			
Hydro Vac (one operator - 4hr min) W/O#14100	Hourly charge April 02 DB/CP Golden Beach Rd Stephens Bay Rd			
Hydro Vac (one operator - 4hr min) W/O#13546	Hourly charge April 03 BH Beaumont Farm Rd Nichols Rd Bowyers Beach Rd Wildmere Rd			



CC Underground Utilities Inc.

8980 Highway 12 West | Oro-Medonte, Ontario L3V 0K1
 7053272751 | info@ccunderground.ca | ccunderground.ca

Product/Service	Description	Qty.	Unit Price	Total
Travel Time	per hour March 29-April 03			
Disposal Time (1/2hr)	For disposal and clean out of truck 5 Days			
5% Fuel Surcharge				
Disposal at clean fill site	March 29 March 31 x2 April 01 x2 April 02 x2 April 03			



Thank you for your business. Please contact us with any questions regarding this invoice.

This invoice is subject to a 2% interest charge per month (26.82%/annum) after 30 days.

Please ensure your company has updated our banking information for payment. See below for current information.

For EFT Payments:

TD Canada Trust at 220 Commerce Valley West, Suite 100, Markham, ON L3T 0A8

Account #: 1085-5500446 | Institution Number#: 004 | Transit Number#: 10852

Cheques make payable to "CC UNDERGROUND UTILITIES INC."

E-transfers send to info@ccunderground.ca.

Please make sure to send an email with the password.

HST ON 732489810RT001

Subtotal	\$18,399.38
HST ON (13.0%)	\$2,391.92
Total	\$20,791.30

[Pay Now](#)



CC Underground Utilities Inc.

8980 Highway 12 West | Oro-Medonte, Ontario L3V 0K1
7053272751 | info@ccunderground.ca | ccunderground.ca

RECIPIENT:

Lakeland Power

200 - 395 Centre Street, North
Huntsville, ON P1H 2M2

SERVICE ADDRESS:

4 Highview St
Parry Sound, Ontario P2A 1J6

Invoice #20250182

Issued	Apr 14, 2025
Due	May 14, 2025
CREATED BY	Krista Leigh
Purchase Order #	PP08026

Total \$3,737.48

Emergency Hydrovac Support -- Hydro Pole -- Storm

Product/Service	Description	Qty.	Unit Price	Total
Apr 06, 2025				
Hydro Vac Emergency Call Out After Hours (8hr min) W/O#14352	APRIL 06 DB Disposal within min			
Travel Time	per hour			
5% Fuel Surcharge				

Subtotal	\$3,307.50
HST ON (13.0%)	\$429.98
Total	\$3,737.48

Thank you for your business. Please contact us with any questions regarding this invoice.

This invoice is subject to a 2% interest charge per month (26.82%/annum) after 30 days.

Please ensure your company has updated our banking information for payment. See below for current information.

For EFT Payments:
TD Canada Trust at 220 Commerce Valley West, Suite 100, Markham, ON L3T 0A8
Account #: 1085-5500446 | Institution Number#: 004 | Transit Number#: 10852
Cheques make payable to "CC UNDERGROUND UTILITIES INC."
E-transfers send to info@ccunderground.ca.
Please make sure to send an email with the password.

Pay Now



Thank you for
choosing Davey!

~~Amount due: \$33,744.12~~
~~Payment due date: Upon Receipt~~
~~Invoice date: April 16, 2025~~
~~Invoice number: 919390147~~
~~Account number: 6551907~~

Please detach and return this portion of the invoice with your payment to:

Davey Tree Expert Co. of Canada, Limited
 500 - 611 Tradewind Drive
 Ancaster ON L9G 4V5

LAKELAND POWER
 196 TAYLOR ROAD
 BRACEBRIDGE ON P1L 1J9

Account detail Remittance advice



Invoice

Thank you for
choosing Davey!

Davey customer	Account number	Invoice number	Invoice date	Payment due date
LAKELAND POWER	6551907	919390147	April 16, 2025	Upon Receipt
Current services	Date of service	Cost of service	Sales tax (if applies)	Service total
LAKELAND POWER 196 TAYLOR ROAD, BRACEBRIDGE ON				
Ice Storm Emergency Work				
PO - PP08022	4/5/2025			
█ crew hrs x \$█/hr				
Total of applied GST (105207252RT0001) taxes:			\$3,882.07	\$3,882.07
Total of current services		\$29,862.05	\$3,882.07	\$33,744.12



ASK DAVEY

For more information regarding Davey visit us online @ www.davey.com, or contact our experts at your local office. We will be happy to help you!

Your Davey office:

Davey Tree Expert Co. of Canada, Limited
 500 - 611 Tradewind Drive
 Ancaster ON L9G 4V5
 (905) 304-7359

Enova Power Corp.
P.O. Box 9010
301 Victoria Street South
Kitchener ON N2G 4L2



Telephone: 226-896-2200
Fax: 519-749-6187
Email:
accountsreceivable@enovapower.com

To: Lakeland Power
196 Taylor Rd
Bracebridge, ON P1L 1J9

Invoice #: **44309**
Invoice Date: 2025-06-09
Terms: Net 30 days

Attention To: Andrew McDonald-Operations Supervisor
finance@lakelandpower.on.ca

INTEREST CHARGES OF 1.5% PER MONTH
APPLIED ON ACCOUNTS AFTER DUE DATE

Details of Account		Amount Due
Invoice Description:		
Labour to emergency respond and assist with repairs due to Ice Storm on Mar 30-31st, 2025.		
Total labour hours- 330		
Direct labour	\$74,844.29	
Vehicles	\$11,833.54	
Accomodations	\$2937.45	
Meals	\$1362.39	
Fuel	\$1466.26	
Work Order Number	Description	
00026366	Storm Damage - Lakeland Power	\$92,443.56
	Subtotal	\$92,443.56
	Tax	\$12,017.61
	Invoice Total	\$104,461.17

INVOICE



Fowler Construction Company Limited

Box 630 (1206 Rosewarne Drive)
 Bracebridge, ON P1L 1T9
 (705) 645-2214

Business/HST No. 101863033

Invoice #:	84224
Date:	5/04/25
Customer No:	10638
PO #:	PP08016

Sold To:
 Lakeland Power Dist. Ltd.
 200-395 Centre St North
 Huntsville, ON P1H 2M2 CA

Delivered To:

Sale Date	Ticket	Units UM	Unit Price	Unit Freight	TOARC	Total Unit Price	Matl Total	Tax Code	Tax	Total
MATERIAL: Granite Screenings										
2/04/25	120062835.									37.65
3/04/25	120062844.									45.91
Total :	Material	Granite Screenings								83.56
Total Invoice:										83.56

Payment Type: On Account

35 Pay Terms Net 30 days	Total:	111	83.56
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INVOICE



Fowler Construction Company Limited

Box 630 (1206 Rosewarne Drive)
 Bracebridge, ON P1L 1T9
 (705) 645-2214

Business/HST No. 101863033

Invoice #:	84274
Date:	12/04/25
Customer No:	10638
PO #:	PP08016

Sold To:

Lakeland Power Dist. Ltd.
 200-395 Centre St North
 Huntsville, ON P1H 2M2 CA

Delivered To:

Sale Date	Ticket	Units	UM	Unit Price	Unit Freight	TOARC	Total Unit Price	Matl Total	Tax Code	Tax	Total
MATERIAL: Granite Screenings											
9/04/25	120062953.										52.96
Total :	Material			Granite Screenings							52.96
Total Invoice:											52.96

Payment Type: On Account

35 Pay Terms Net 30 days

Total: 52.96

112



K-LINE MAINTENANCE & CONSTRUCTION LIMITED

12731 Highway 48, Stouffville, Ontario, Canada L4A 4A7
Tel: (905) 640-2002 Fax (905) 640-8887 www.K-Line.ca

INVOICE

47424

Date: 3/31/25

PP08045

CUSTOMER 15407

Lakeland Power Distribution Ltd
200-395 Centre Street N
Hunstville, ON P1L 1J9

CUSTOMER REFERENCES

P.O. No.:
Contact: Andrew Mcdonald
Terms: Net 30.00
2% per month charged on overdue accounts

PROJECT DESCRIPTION

2025 Storm Response

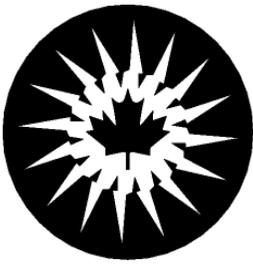
PROJECT REFERENCES

Project No.: 13171-25-10
Project Manager: F. Goard
Last Day Worked: March 2025

DESCRIPTION OF CHARGES

DESCRIPTION OF CHARGES	QTY	RATE	EXTENSION
2025 Ice Storm Response			
March 29, 2025	1.00	43,289.40	43,289.40
March 30, 2025	1.00	68,652.48	68,652.48
March 31, 2025	1.00	54,450.88	54,450.88

Invoice Amount	166,392.76
Subtotal	166,392.76
Tax HST 13%	21,631.05
Total Amount Due	188,023.81



K-LINE MAINTENANCE & CONSTRUCTION LIMITED

12731 Highway 48, Stouffville, Ontario, Canada L4A 4A7
Tel: (905) 640-2002 Fax (905) 640-8887 www.K-Line.ca

INVOICE

47598

Date: 4/05/25

PP08053

CUSTOMER 15407

Lakeland Power Distribution Ltd
200-395 Centre Street N
Hunstville, ON P1L 1J9

CUSTOMER REFERENCES

P.O. No.:
Contact: Andrew Mcdonald
Terms: Net 30.00
2% per month charged on overdue accounts

PROJECT DESCRIPTION

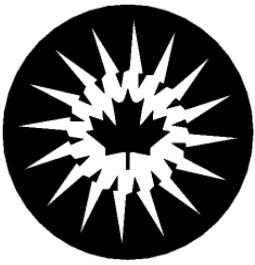
2025 Storm Response

PROJECT REFERENCES

Project No.: 13171-25-10
Project Manager: B. Wetzel
Last Day Worked: April 2025

DESCRIPTION OF CHARGES	QTY	RATE	EXTENSION
2025 Ice Storm Response			
April 1, 2025	1.00	54,556.48	54,556.48
April 2, 2025	1.00	55,682.56	55,682.56
April 3, 2025	1.00	56,106.72	56,106.72
April 4, 2025	1.00	50,463.68	50,463.68
April 5, 2025	1.00	55,007.20	55,007.20

Invoice Amount	271,816.64
Subtotal	271,816.64
Tax HST 13%	35,336.16
Total Amount Due	307,152.80



K-LINE MAINTENANCE & CONSTRUCTION LIMITED

12731 Highway 48, Stouffville, Ontario, Canada L4A 4A7
Tel: (905) 640-2002 Fax (905) 640-8887 www.K-Line.ca

INVOICE

47688

Date: 4/30/25

PP08055

CUSTOMER 15407

Lakeland Power Distribution Ltd
200-395 Centre Street N
Hunstville, ON P1L 1J9

CUSTOMER REFERENCES

P.O. No.:
Contact: Andrew Mcdonald
Terms: Net 30.00
2% per month charged on overdue accounts

PROJECT DESCRIPTION

2025 Storm Response

PROJECT REFERENCES

Project No.: 13171-25-10
Project Manager: B. Wetzel
Last Day Worked: April 2025

DESCRIPTION OF CHARGES

2025 Ice Storm Response - Final Invoice
Support Staff
Hotel Expenses
Meal Expenses

QTY	RATE	EXTENSION
1.00	18,957.99	18,957.99
1.00	7,722.15	7,722.15
1.00	4,834.93	4,834.93

Invoice Amount	31,515.07
Subtotal	31,515.07
Tax HST 13%	2,464.54
Total Amount Due	33,979.61



Summary of Charges

Invoice Date: 2025/05/24
Account Number: 2029302
Invoice Number: 515146631
Amount Due: \$55.34 CAD
Payment Due Date: 2025/05/25

OG LAKELAND POWER DISTRIBUTION LD
200 395 CENTRE ST N
HUNTSVILLE ON P1H 2M2

Summary of your charges

Shipments	\$48.97
Subtotal	\$48.97
Total HST ON	\$6.37
Total HST	\$6.37
Total number of shipments	6
Total number of pieces	6

Amount Due \$55.34 CAD

Invoice Inquiries?

Questions or adjustments – please contact us within 90 days from the invoice date

Service Guarantee Refunds – requests must be made within 15 days from the invoice date

[Terms and Conditions of Service](#)

For a full list of service descriptions please see [Purolator's Invoice legend](#) at www.purolator.com/invoiceservicedescriptions

Payments not received by the payment due date may be subject to late payment charges. Please refer to Purolator Terms and Conditions at Purolator.com for details.

GST/HST registration number: 104116280 RT0001
QST registration number: 1003841452 TQ0001

Need to track your shipment/PIN? Simply visit Purolator.com and enter your PIN or reference number for updates.

Contact Us

Billing and Invoice Inquiries
Live Chat at Purolator.com | Email ontarioar@purolator.com | 1-866-313-4357
General Inquiries 1-888-SHIP-123

Remittance Address

PUROLATOR INC.
PO BOX 4800 STN MAIN
CONCORD, ON L4K 0K1 CANADA



Account #: 2029302
Invoice Number: 515146631

Due Date: 2025/05/25
Amount Due: \$55.34 CAD

Cheque payable to Purolator Inc. along with this remittance stub.

Payments can be made at the Billing Centre via credit card or EFT:
<https://billingcentre.purolator.com/billingcentre/obpp/portal/#/>

For Electronic payments (EFT, Direct Deposit, ACH), please email remittance information to: paymentremit@purolator.com

For questions regarding your invoice, call 1 866 313-4357

Amount Paid:

OG LAKELAND POWER DISTRIBUTION LD

116

111 X 2029302 515146631 00005534

Shipments by Account # 2029302

Service Date:	Shipment #:	Origin:	Destination:	PCS:	Billed Wgt:	Service:	QTY/Rate per Unit:	Total Charges:
2025/05/20	335440203842	Norelco Safecam David Bruno	Lakeland Energy Michael Amosow	1	34 LB	Purolator Ground HST ON		\$13.55
	Order placed through: Web Acct	450 ALDEN RD Suite 1 MARKHAM ON L3R 5H4	196 TAYLOR RD BRACEBRIDGE ON P1L 1J9		Declared Wgt. 34 LB			\$1.76
								\$15.31
	REF 1: IF289272	Manifest #: 335440203842 Billing Remarks: Collect						
2025/05/22	335448191569	Lakeland Power Distributio Operations Coordinators	KLine KLine KLine	1	15 LB	Purolator Express HST ON		\$8.67
	Order placed through: Web Acct	196 TAYLOR RD BRACEBRIDGE ON P1L 1J9	12731 HWY 48 STOUFFVILLE ON L4A 4A7		Declared Wgt. 9 LB			\$1.13
								\$9.80
	REF 1: Ice Storm HATS REF 2: Ice Storm HATS	Manifest #: 335448191569 Billing Remarks: Prepaid						
2025/05/22	335448210583	Lakeland Power Distributio Operations Coordinators	Enova Power Enova Power	1	9 LB	Purolator Express HST ON		\$6.84
	Order placed through: Web Acct	196 TAYLOR RD BRACEBRIDGE ON P1L 1J9	526 COUNTRY SQUIRE R WATERLOO ON N2J 4G8		Declared Wgt. 9 LB			\$0.89
								\$7.73
	REF 1: Ice Storm HATS REF 2: Ice Storm HATS	Manifest #: 335448210583 Billing Remarks: Prepaid						
2025/05/22	335448223883	Lakeland Power Distributio Operations Coordinators	Burlington Hydro Burlington Hydro	1	9 LB	Purolator Express HST ON		\$6.84
	Order placed through: Web Acct	196 TAYLOR RD BRACEBRIDGE ON P1L 1J9	1340 Brant ST BURLINGTON ON L7R 3Z7		Declared Wgt. 9 LB			\$0.89
								\$7.73
	REF 1: Ice Storm HATS REF 2: Ice Storm HATS	Manifest #: 335448223883 Billing Remarks: Prepaid						
2025/05/22	335448235952	Lakeland Power Distributio Operations Coordinators	Oakville Hydro Oakville Hydro	1	6 LB	Purolator Express HST ON		\$6.23
	Order placed through: Web Acct	196 TAYLOR RD BRACEBRIDGE ON P1L 1J9	790 REDWOOD SQ Suite 16 OAKVILLE ON L6L 6N3		Declared Wgt. 6 LB			\$0.81
								\$7.04
	REF 1: Ice Storm HATS REF 2: Ice Storm HATS	Manifest #: 335448235952 Billing Remarks: Prepaid						

Shipments by Account # 2029302 (continued):

Service Date:	Shipment #:	Origin:	Destination:	PCS:	Billed Wgt:	Service:	QTY/Rate per Unit:	Total Charges:
2025/05/22	335448246975	Lakeland Power Distributio Operations Coordinators	North Bay Hydro North Bay Hydro	1	9 LB	Purolator Express HST ON		\$6.84 \$0.89
	Order placed through: Web Acct	196 TAYLOR RD BRACEBRIDGE ON P1L 1J9	74 COMMERCE CRES NORTH BAY ON P1A 0B4		Declared Wgt. 9 LB			\$7.73
REF 1: Ice Storm HATS REF 2: Ice Storm HATS		Manifest #: 335448246975 Billing Remarks: Prepaid						
Subtotal by Account: 2029302		# of Shipments 6	# of Pieces: 6	Charges: Shipments HST		\$48.97 \$6.37 \$55.34		

Total	Total Weight: 82 LB	# of Shipments 6	# of Pieces: 6	Charges: Shipments HST	\$48.97 \$6.37
	Amount Due \$55.34 CAD				



INVOICE

www.lakelandenergy.com (705) 646-9014

www.lakelandnetworks.com (705) 646-1846

BILL TO
Lakeland Power 200-395 Centre St N Huntsville, ON P1H 2M2 Canada

INVOICE DATE	4/30/2025
INVOICE NUMBER	LE034328
CUSTOMER ID	LAKE00001
DUE DATE	5/30/2025

CONTRACT	SERVICE LOCATION	DESCRIPTION	FROM	TO	QTY	UNIT PRICE	AMOUNT
	Intercompany	Labour Regular Time					\$10,562.50
	Intercompany	Equipment - Pickup					\$3,000.00

Intercompany labour charges for Assistance during Ice Storm Mar 29-Apr 4/25 (LP Storm WO # PW25464)

SUBTOTAL	\$13,562.50
GST/HST	\$1,763.13
TOTAL	\$15,325.63

PLEASE REMIT PAYMENT TO
Lakeland Energy Ltd 200-395 Centre St N, Huntsville, ON P1H 2M2

Invoice Summary - Job Codes

Applied Query:

Page 2 of 4

Batch #: 2025-000096

Batch Owner: wt_abonventre

Run: Apr 10, 2025 3:40 PM

Description: Visa Purchases from March 6th - April 5th

Current User: wt_abonventre

Fiscal Period: 3/31/2025

Date	Vendor ID	Vendor Name	Invoice #	Memo	P.O. #	Type	Cheque Date
F70000	517701	303	40.5177.303	1.00 Osmows - Dinner During Fiber	0.00	\$15.49	\$2.01 \$17.50
40300	110302	303	40.1103.200 20.5131.303	1.00 Mucho Burrito - Diner during	0.00	\$62.75	\$7.86 \$70.61
^^ Taxes were manually entered on this line item ^^							
F70000	517701	303	40.5177.303	1.00 Walmart - Air Dust for splicing	0.00	\$12.98	\$1.69 \$14.67

4/1/2025 TDVI-JL TD VISA - JOSH LOVELOCK PO B/CP 611 Josh - 03/25 Visa Purchases from March 6th - April 5th Invoice 4/1/2025

AGINCOURT

Job	Activity	Object Code	G.L. Account	Stock ID	Qty	Line Description	Accomp.	Base Amount	Taxes	Payable
40754	907001	305	40.9070.254		1.00	Barrie Frame and Alignment -	0.00	\$1,500.00	\$195.00	\$1,695.00
40300	110302	303	40.1103.200 20.5131.303		1.00	Firehouse Subs - Meal for LLP	0.00	\$339.60	\$44.15	\$383.75
40300	110302	303	40.1103.200 20.5131.303		1.00	Independent - Meal for LLP and	0.00	\$88.45	\$7.80	\$96.25
^^ Taxes were manually entered on this line item ^^										
40718	907001	303	40.9070.218		1.00	King City Trailers - New Plates	0.00	\$95.00	\$12.35	\$107.35
40300	110302	303	40.1103.200 20.5131.303		1.00	Osmows - Dinner during Ice	0.00	\$22.48	\$2.92	\$25.40
40300	110302	303	40.1103.200 20.5131.303		1.00	A&W - Lunch for Kyle during	0.00	\$22.48	\$2.92	\$25.40
F70000	517701	303	40.5177.303		1.00	Stacked - Storm Appreciation	0.00	\$247.63	\$27.53	\$275.16
^^ Taxes were manually entered on this line item ^^										



Got the wrong receipt from A&W - the visa statement on the next page shows that the total was \$25.40

Apr 3, 2025

A&W BRACEBRIDGE #4374

hst 2.92

\$25.40

20.5131.303

Catering Order

John Nieon

FIREHOUSE SUBS
#3 - 17 Hanes Rd
Huntsville ON P1H1G6
HST#701897308RT00011

John Nieon

Host: TILL 1002 03/30/2025
John Nieon 1:19 PM
20011

Order Type: Catering

4 Large Italian (@15.49)	61.96
(4)White Bread	
(4)Pickle Spear	
4 Large New York Steamer (@17.49)	69.96
(4)White Bread	
(4)Pickle Spear	
4 Large Smokehouse Brisket (@18.99)	75.96
(4)White Bread	
(4)Pickle Spear	
4 Large Steak & Cheese (@16.99)	67.96
(4)White Bread	
(4)Pickle Spear	
4 Large Corned Beef (@15.94)	63.76
(4)White Bread	
(4)Pickle Spear	

Subtotal 339.60

HST Tax 44.15

Total Tax 44.15

Catering Total 383.75

Visa #XXXXXXXXXXXX8505 383.75
Auth:08018G

Fill out our survey below!
Receive a free medium drink
with any medium sub or salad purchase
on your next visit.
<https://go.momos.com/ir5pvP>





HULLOCK'S YIG HUNTSVILLE
131 HOWLAND DRIVE, HUNTSVILLE
Welcome #

21-GROCERY

(2)05557731099	GATORADE, CP	HMRJ	
2 @ \$22.49			44.98
(2)06038369111	PC SPRING WATER	MRJ	
2 @ \$3.00			6.00

33-BAKERY INSTORE

06148301654	FM MUF LEMON POP	2MRJ	5.00
06148301656	FM MUF CARMIL BRW	2MRJ	5.00
06148301657	FM MUF BLBRY 4PK	HMRJ	5.00
2513530	MONSTER COOKIES	MRJ	7.49
2513560	OAT RAISIN COOK	MRJ	7.49
2605850	SLT CRML COOKIE	MRJ	7.49

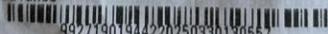
SUBTOTAL 88.45
H-HST 13% 59.98 @ 13.000% 7.80

TOTAL 96.25

Trans. Type: PURCHASE
Account: VISA CAD\$ 96.25
Card Type: CREDIT
Card Number: *****8505 P
Date/Time: 25/03/30 13:05:50
Ref. #: 132622
Auth #: 065606

VISA CREDIT
A0000000031010 0000000000
00 APPROVED - THANK YOU
Retain this copy for statement
validation
*** CUSTOMER COPY ***

CREDIT TN 96.25
PC Optimun
Points Redeemed 0
Closing Balance 101968



99271901944220250330130557

GST # 70764-7491 RT0001
THANK YOU, COME AGAIN!
2025/03/30 URVASHI 203 01 9442 13:05
Tell us how we did today! Visit
storepinion.ca or call 1-800-531-2928
Win a \$1,000 PC gift card or
1,000,000 PC Optimun points
Full contest rules on survey website
CODE: 033025 130501 9442 02719



MUCHO BURRITO
295 Wellington Street
Bracebridge, ON, P1L 1P3

19:18:10 Mon., March 31 2025

#80356

1 MUCHO BARBACOA BURR NO COMBO	\$16.75
1 MUCHO STEAK BURR NO COMBO	\$16.75
X-QUESO (2OZ)	\$1.25
1 REG CHIPS+QUESO	\$3.25
1 BTL POP	\$3.25
1 BTL WATER	\$2.50
1 MUCHO BARBACOA BURR NO COMBO	\$16.75
1 CAN POP	\$2.25

SUB-TOTAL \$62.75

HST 13% \$7.86

TOTAL \$70.61

VISA \$70.61

HST 1 #741538086 RT0001

YOU HAVE BEEN SERVED
BY: RAAJ

TRANSACTION RECORD / CARDHOLDER COPY
DATE/TIME: 25/03/31 19:18:05
VISA - PURCHASE
CARD: *****3633 AMOUNT: \$70.61
REFERENCE #: 66494479 0019380480 C
AUTH#: 04156G 01/027 APPROVED THANK YOU
VISA CREDIT
A0000000031010
8080008000 6800

IMPORTANT - RETAIN THIS
COPY FOR YOUR RECORDS.



Osmow's
SHAWARMA

2025-04-01

09:12 PM

Bill # : 38463
ORDER # : 40648
WORKSTATION : Workstation 2
Operator : OPERATOR 2

***** REPRINT *****

QTY	DESCRIPTION	TOTAL
1	Large Chicken On The ROCKS™ ADD Chicken 5oz	\$22.48
	SUBTOTAL	\$22.48
	DISCOUNT	\$0.00
	COUPON	\$0.00
	HARMONIZED SALES TAX (13%)	\$2.92
	TOTAL	\$25.40
	VISA	\$25.40
	Auth #	073726
	CHANGE	\$0.00
	TIP	\$0.00

P MEDLEY AND SONS LTD.
PO Box 1134
Bracebridge ON P1L 1V3
7056454337
GST/HST Registration No.: 104250147

PP08012

INVOICE

BILL TO
LAKELAND POWER
200-395 Centre St N
Huntsville ON P1H2M2

SHIP TO
PICKED UP

INVOICE # 7563
DATE 04/01/2025

TERMS Net 30

SHIP DATE
03/30/2025

QTY	UNIT	PRODUCT	TICKET/DESCRIPTION	RATE	AMOUNT
		04/01/2025			
		CONCRETE SAND - CS	98745		72.00

We appreciate your business and look forward to helping you again soon.

SUBTOTAL 72.00
HST (ON) @ 13% 9.36
TOTAL 81.36
BALANCE DUE **\$81.36**

P MEDLEY AND SONS LTD.
PO Box 1134
Bracebridge ON P1L 1V3
7056454337
GST/HST Registration No.: 104250147

PP08012

INVOICE

BILL TO

LAKELAND POWER
200-395 Centre St N
Huntsville ON P1H2M2

SHIP TO

STEPHEN;S BAY RD
PLOW ROAD FOR POLE
REPLACEMENT

INVOICE # 7616

DATE 04/03/2025

TERMS Net 30

SHIP DATE

04/02/2025

QTY	UNIT	PRODUCT	TICKET/DESCRIPTION	RATE	AMOUNT
		04/03/2025			
		KUBOTA 7060			562.50
		fuel surcharge -			71.21

We appreciate your business and look forward to helping you again soon.

SUBTOTAL	633.71
HST (ON) @ 13%	82.39
TOTAL	716.10
BALANCE DUE	\$716.10

P MEDLEY AND SONS LTD.
PO Box 1134
Bracebridge ON P1L 1V3
7056454337
GST/HST Registration No.: 104250147

PP08012

INVOICE

BILL TO
LAKELAND POWER
200-395 Centre St N
Huntsville ON P1H2M2

SHIP TO
PLOW HIGH FALLS PARK TO
ACCESS HYDRO POLE AT THE
RIVER

INVOICE # 7618
DATE 04/03/2025
TERMS Net 30

SHIP DATE
04/01/2025

QTY	UNIT	PRODUCT	TICKET/DESCRIPTION	RATE	AMOUNT
		04/03/2025			
		WL - W.LOADER			375.00
		fuel surcharge -			47.48

We appreciate your business and look forward to helping you again soon.

SUBTOTAL 422.48
HST (ON) @ 13% 54.92
TOTAL 477.40
BALANCE DUE **\$477.40**

P MEDLEY AND SONS LTD.
PO Box 1134
Bracebridge ON P1L 1V3
7056454337
GST/HST Registration No.: 104250147

PP08012

INVOICE

BILL TO
LAKELAND POWER
200-395 Centre St N
Huntsville ON P1H2M2

SHIP TO
PICK UP

INVOICE # 7619
DATE 04/03/2025

TERMS Net 30

SHIP DATE
04/01/2025

QTY	UNIT	PRODUCT	TICKET/DESCRIPTION	RATE	AMOUNT
		04/03/2025			
		GRANULAR C/SANDFILL - GC	98746		34.50

We appreciate your business and look forward to helping you again soon.

SUBTOTAL 34.50
HST (ON) @ 13% 4.49
TOTAL 38.99
BALANCE DUE **\$38.99**



74 Commerce Cres
North Bay, ON
P1A 0B4
705-474-8100
705-474-4634

**Invoice to: LAKELAND POWER
196 TAYLOR RD
BRACEBRIDGE, ON P1L 1J9
ATTN: ANDREW MCDONALD**

Date: 09/May/25

Invoice: 6578

**Customer : 523 WF0619160
BRACEBRIDGE
STORM ASSISTANCE
MARCH 31 TO APRIL 3, 2025**

Item	Description	Unit Price	Price
1.0	Labour		\$ 17,684.35
2.0	AP Item(s)		\$ 2,617.48
3.0	Fleet / Equipment		\$ 4,904.60
	SUB TOTAL		\$25,206.43
	HST #882463128RT0001		\$3,276.84
	TOTAL		<u>\$28,483.26</u>

Terms: Net 30 Days

Interest on overdue accounts is charged at the rate of 19.56% annum, 1.5% per month.



Oakville Hydro Electricity Distribution Inc.

Tel: 905-825-9400

Fax: 905-825-5831

Email: receivables@oakvillehydro.com

INVOICE

PP08029

Bill to: **Lakeland Power Distribution**

196 Taylor Road

Bracebridge, ON, P1L 1J9

Invoice:	1001362
Date:	May-29-2025
Service Invoice ID:	2504-0002
Customer:	41964
Payment Terms:	Net 30

Job Location: LAKELAND POWER STORM

Job Description: OH sent crew to help with storm relief.

Equipment:	8,310.00
Materials:	0.00
Labour:	14,548.25
Subcontractors:	0.00
Direct Material:	2,448.25
Subtotal:	\$25,306.50
HST/GST:	\$3,289.85
Total:	\$28,596.35

GST/HST #: 86917 7972 RT0001

Remit Payment to: Oakville Hydro Electricity Distribution Inc.
861 Redwood Square

Oakville, Ontario,, L6K 0C7



Reid Utility Services

1360 Barlochan Road | Gravenhurst, Ontario P1P 1R2
 705-205-7343 | info@reidutilityservices.com |
 reidutilityservices.com

RECIPIENT:

Lakeland Power
 96 Taylor Rd
 Bracebridge, Ontario P1L 1J5

Invoice #111355	
Issued	Apr 18, 2025
Due	May 18, 2025
Total	\$39,521.75
Account Balance	\$39,521.75

Ice Storm April 2025 - PP08020

Product/Service	Description	Qty.	Unit Price	Total
Services	<p>Crew Assistance Following Ice Storm</p> <p>We are providing a detailed breakdown of our crew assistance services following the recent ice storm:</p> <ul style="list-style-type: none"> - Excavator with Operator: <ul style="list-style-type: none"> - [redacted] hours at regular rate: [redacted] per hour - [redacted] hours at overtime rate: [redacted] per hour - Labourer with 5 Ton Truck: <ul style="list-style-type: none"> - [redacted] hours at regular rate: [redacted] per hour - [redacted] hours at overtime rate: [redacted] per hour 	1	[redacted]	[redacted]
Services	<p>Civil Work on Friday April 4th</p> <p>1024 Trillium</p> <ul style="list-style-type: none"> - 2 Rock Bore Installations - 1 Porta Hole with Grit - 1 Rock Anchor Installation <p>1215 Waldemere</p> <ul style="list-style-type: none"> - 1 Rock Bore Installation <p>Crawford Rd</p> <ul style="list-style-type: none"> - 2 Rock Bore Installations - 1 Rock Anchor Installation 	1	[redacted]	[redacted]
Services	<p>Crew assist w/ Boat to McVittie Island</p> <ul style="list-style-type: none"> - Boat with operator - [redacted] hours at overtime rate: [redacted] per hour - Boat rate per day: [redacted] 	1	[redacted]	[redacted]



Reid Utility Services

1360 Barlochan Road | Gravenhurst, Ontario P1P 1R2
705-205-7343 | info@reidutilityservices.com |
reidutilityservices.com

Thank you for your business. Please contact us with any questions regarding this invoice.

HST 727520009RT0001

Subtotal	\$34,975.00
HST ON (13.0%)	\$4,546.75
Total	\$39,521.75
Account balance	\$39,521.75



Reid Utility Services

1360 Barlochan Road | Gravenhurst, Ontario P1P 1R2
 705-205-7343 | info@reidutilityservices.com |
 reidutilityservices.com

RECIPIENT:

Lakeland Power
 196 Taylor Road
 Bracebridge, Ontario P1L 1J9

Invoice #111435

Issued	Jul 02, 2025
Due	Jul 02, 2025
Total	\$33,246.24
Account Balance	\$33,246.24

PP08176

Post Ice Storm Civil Work

Product/Service	Description	Qty.	Unit Price	Total
Services	Post Storm Civil Work	1	\$29,421.45	\$29,421.45
	4x Rock Bore			
	16x Porta Hole w/ Grit			
	3x VAC Hole w/ Sand Backfill			
	5x Plate anchor - RUS Supplied Materials			
	5x Rock Anchor - RUS Supplied Materials			

Thank you for your business. Please contact us with any questions regarding this invoice.

HST 727520009RT0001

Subtotal	\$29,421.45
HST ON (13.0%)	\$3,824.79
Total	\$33,246.24
Account balance	\$33,246.24

P.O. Box 1419
2 Finch Road
Bracebridge, ON
P1L 1V5

PP07990

Date
4/01/2025

Invoice #
27981



"On the level since 1929"

Invoice To

LAKELAND POWER DISTRIBUTION
5-45 CAIRNS CRESCENT
HUNTSVILLE, ON
P1H 2M2
ATTENTION: MR. SHAWN MORRISON

P.O. No. REVISED Job Site LATVIAN ROAD

Qty	Description	Rate	Amount
	MARCH 31, 2025		
	650 JOHN DEERE DOZER RENTAL- CLEAN ROADWAY OF TREES AND SNOW		555.00
	LICENCED MOBILIZATION OF MACHINERY		400.00
	3" MINUS GRANITE CRUSHER RUN MATERIAL BINDING		212.00
	L120C VOLVO 4 YARD BUCKET LOADER		400.00
	HST (ON) on sales		203.71

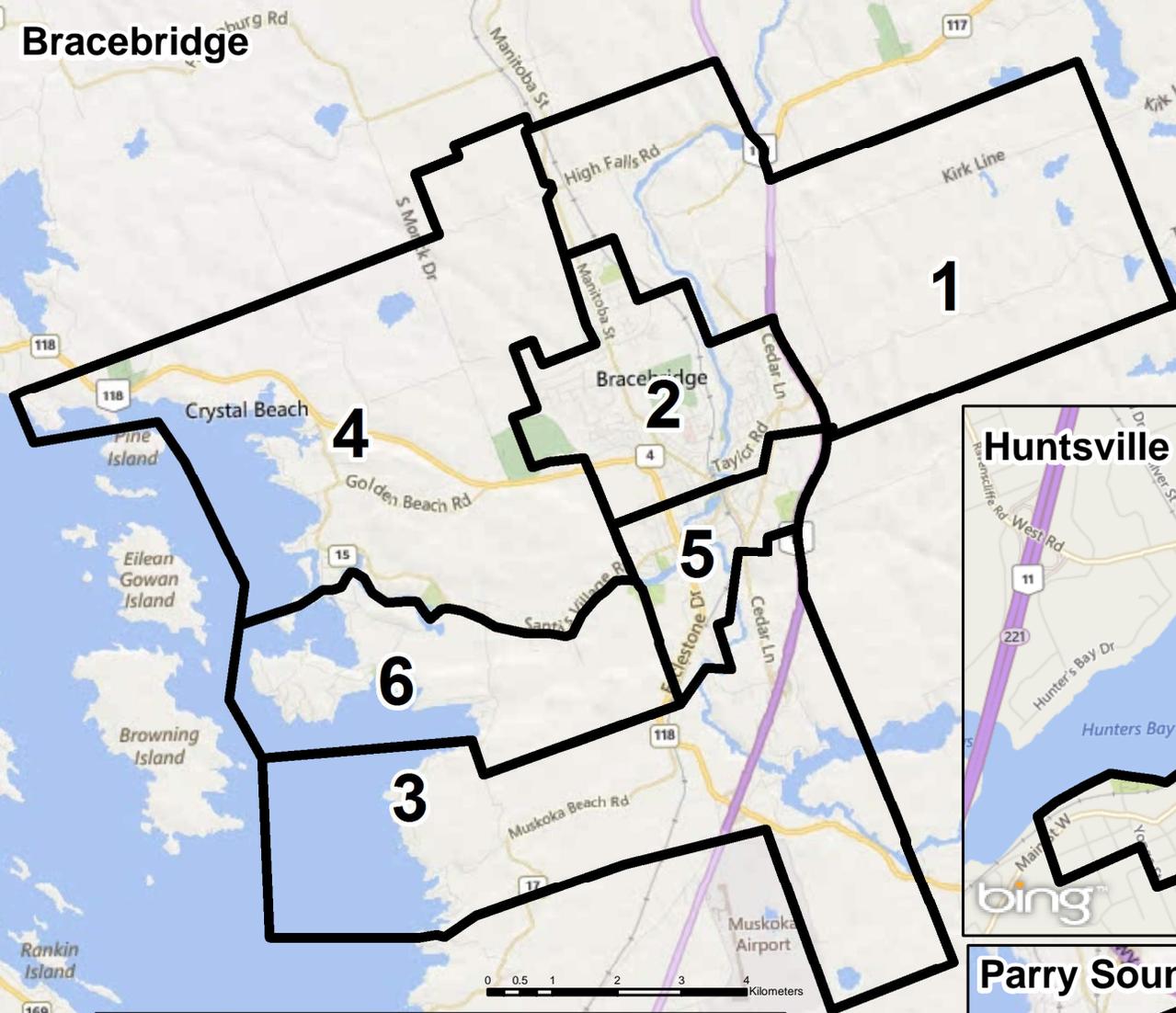
GST/HST No. 105624019

Total \$1,770.71

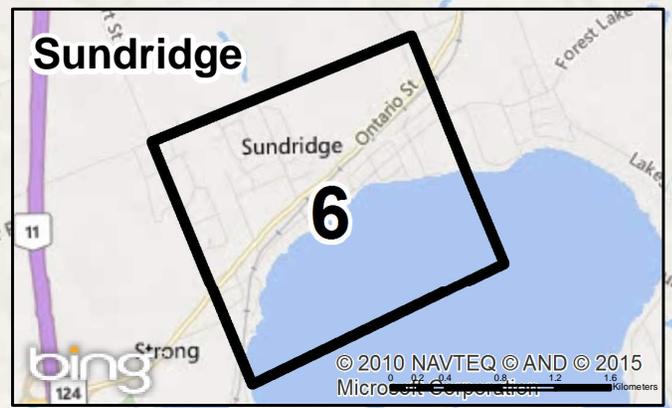
Appendix F

Tree Trimming Cycle Map

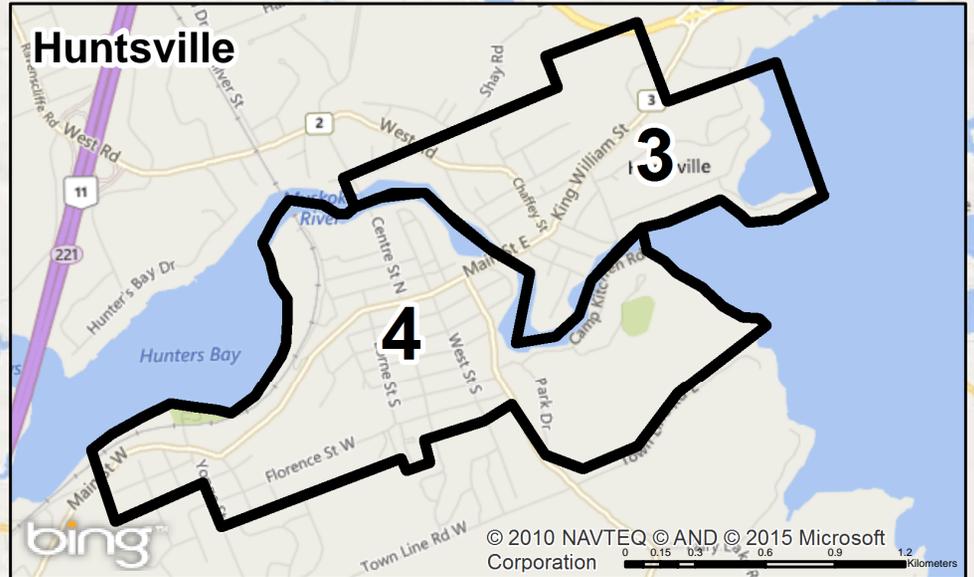
Bracebridge



Sundridge



Huntsville



Parry Sound



Burks Falls



Magnetawan



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Appendix G

Tree Trimming Specifications

SPECIFICATIONS FOR TREE TRIMMING

1. SCOPE

- 1.1 This Specification covers the requirements and standard practices for tree trimming and line clearing operations on all overhead transmission, distribution and secondary service lines of Lakeland Power Distribution.

This specification will also cover the trimming of all attachments to Lakeland Power poles consistent with Lakeland's Joint Use Agreements. This will include, but not limited to, Agilis, Bell, Cogeco, Hydro One, Eastlink and Lakeland Energy.

- 1.2 This Specification will govern all trimming and line clearing operations authorized by Lakeland unless specifically amended or authorized in writing, to meet special conditions and/or circumstances.
- 1.3 Any special requirements that differ from those covered in this Specification will be presented at the time of tender.

2. NOTIFICATION

- 2.1 Any work on trees, either on the public roadways or in private property requires notification to Municipal, Regional or Provincial authorities or private property owners.

Lakeland Power will obtain the necessary permits from Municipal, Regional and/or Provincial authorities.

The Contractor shall formally notify each and every private property owner. This notification shall be given to/delivered to between 7 and 14 calendar days prior to the commencement of work on said property.

Lakeland may assist the Contractor with notification, if required.

3. PROTECTION OF WORK AND PROPERTY

The Contractor shall be responsible for maintaining adequate protection of all their work area from damage and/or injury and restore any property to its original state.

The Contractor shall be responsible for supplying, erecting and maintaining safety items such as guardrails, barriers, night-lights, sidewalk and curb protection, as required by the road authority.

Lakeland Power will provide the necessary hold off protection to the Contractor for the area being worked. Lakeland Power will require (3) Three days' notice for required hold-offs

4. **SAFETY**

The Contractor shall be a member of IHSA (Infrastructure Health & Safety Association) and abide by the Association's rules and regulations regarding tree trimming in the vicinity of energized lines.

The Contractor shall ensure that their employees are knowledgeable of the EUSA/IHSA safety regulations, Occupational Health and Safety Act, Provincial and Federal rules and regulations, and anyone failing to observe them shall be required to leave the work site. All vehicles must have annual inspection certificates and have Manufacture certification in reference to structure, stability and di-electric tests CSA Standard C225-M88 for vehicle mounted aerial devices. Copies of certification must be presented to Lakeland, if awarded the tender. Certificates must be present with vehicles on each and every job site ready to be viewed if inspected by Lakeland, MTO, ESA, Ministry of Labour or other organization of authority.

5. **PERFORMANCE SPECIFICATIONS**

The Contractor shall be required to comply with the following:

- 5.1 Perform the work in accordance with established and/or approved tree-trimming and arboricultural practices.
- 5.2 Comply with all by-laws, rules and regulations established by governmental authorities relating to the work.
- 5.3 Submit a daily/weekly, as agreed upon with Lakeland, progress report showing the area worked, progress made, the degree of trimming and the number of men and vehicles used on the job.
- 5.4 Communicate daily with the Lakeland Operations Supervisor or delegate, before commencing any work, advising of the following:
 - 5.4.1 Location or area of work
 - 5.4.2 Feeders requiring hold-offs
- 5.5 Communicate daily with the Lakeland Operations Supervisor or delegate, after each workday, to inform Lakeland that both the work area and employees are clear and surrender and/or release all hold-offs.
- 5.6 Should a limb fall on any Lakeland overhead plant, or any of Lakeland's Attacher's Plant, advise the Operations Supervisor immediately.

- 5.7 Lakeland Power's Operations Supervisor shall have the sole authority on the acceptance and/or refusal of all work performed. Any doubtful situations should be referred to Lakeland Power's Operations Manager for a decision.
- 5.8 Lakeland Power shall deal with any disputes with consumers resulting from any planned tree trimming operations on private property. It is the Contractor's responsibility to ensure that the utility is informed of any problems.

6. **COMMUNICATIONS EQUIPMENT**

The Contractor shall be required to have a mutually agreed upon communication apparatus allowing direct communication between Lakeland Power and the Work Crews. (i.e., cell phone, text)

7. **CLEARANCES TO ENERGIZED CIRCUITS AND APPARATUS**

- 7.1 Under the Terms and Conditions of all Lakeland Power Joint Use Agreements, the Contractor agrees to trim all attachments.
- 7.2 All branches and limbs in proximity of the 44KV, 27.6 KV, 12.5KV and 4160V lines will be pruned to within 3.0 metres (10 feet) of the lines. All branches and limbs in proximity of 750volts and below will be pruned to within 1.5 metres (5 ft.) of these lines.
- 7.3 All branches and limbs in proximity of Joint Use Attachments including but not limited to Bell, Cable Television, and Fibre Optic Cable will be pruned to within 1.5 metres (5 ft.) of these lines. The Contractor shall consult with the Operations Supervisor in those situations (e.g. unsightly appearance) where the required clearances cannot be achieved. Every effort will be made to remove any fast-growing species including but not limited to White Pine, Balsam, Aspen, Poplar exceeding 6 ft. in height and standing within 10 ft. of the centre line of any overhead services. These sucker growth and saplings of fast growing species will be removed at ground level.
- 7.4 Guy wires and strain insulators should never be in contact with heavy limbs.
- 7.5 Branches and limbs will be pruned to provide a minimum clearance of 1.5 metre (5 ft.) in all directions from pole mounted distribution transformers, drop leads secondary bus and secondary services. In addition, enough space will be cleared to permit a powerline maintainer to climb the pole without being obstructed by branches, limbs or climbing vines.
- 7.6 All dead wood shall be removed regardless of the location of the tree that in falling could strike the conductors or any part of the electrical equipment. Visibly dead trees that are outside of Lakeland's specified trimming distances but in danger of falling into the lines should be noted and communicated to Lakeland in writing.

8. **PROTECTION OF TREE BARK**

Spurs should not be used to climb trees.

9. **PRUNING**

9.1 **Cuts**

9.1.1 Saw and pruner cuts shall be flush with the parent limbs of the trunks of trees. Spring and summer cuts should leave approximately 3 cm. away from trunk. In any case, efforts should be made to make trimming cuts perpendicular to the trimmed branch vs. parallel to the tree trunk. All efforts should be made to protect the collar /branch back ridge at the base of the branch.

9.1.2 Limbs should be removed in such a manner as to prevent stripping of the bark.

9.1.3 If in order to satisfy the specified line clearances more than 30% of a tree's canopy has to be removed and is on public property – if basal area is less than 15 cm. tree is to be removed. If basal area is greater than 15 cm. contact Lakeland and is on private property, contact Lakeland and the customer.

9.2 **Cut branches**

9.2.1 Ropes shall be used for lowering cut branches where necessary, to prevent damage to trees, conductors, fences and other property.

9.2.2 No hangers shall be left on the trees after pruning and no twigs or branches shall be left on the conductors.

9.3 **Corrective Pruning**

Old stubs remaining from previous line clearing operations in excess of 3 cm. long shall be removed as well as any stubs on the line side of the tree, resulting from storm damage.

9.4 **Shaping**

When a line passes through a tree, the opening shall be cut back in a slope, away from the line towards the top, so that the notch is a “V” shape. The cutting of slots is not permitted. The cutting of “V” notches shall be kept to a minimum.

Where lines run alongside a tree, the tree should be trimmed to give correct clearance at the lowest utility line and slope away from the upper circuits.

If, in obtaining the desired line clearance, **trees are rendered unsightly due to lack of symmetry, further pruning to restore their appearance shall be carried out.** The extent of such shaping shall be governed by the location of the trees, the nature of their surroundings, etc.

9.4.1 The removal or shortening by natural or ‘drop-crotch’ method, or branches in crown of tree. Sufficient growth must be left on branches that are cut back to keep them alive. When possible, the branch being removed shall be cut in such a way as to preserve the natural appearance of the tree. ‘Hedge-pruning’ or excessive clipping with pole pruners and brush saws shall be avoided.

9.4.2 Removal or shortening of long straggly branches at side of trees.

9.4.3 Removal or shortening of branches at backs of trees, to restore balance which was suffered as a result of limbs being removed to obtain clearance on the line side.

Care must be exercised to avoid an effect similar to girdling, as a result of removing too many adjacent branches.

9.4.4 Removal or shortening of side branches on line side of tree to eliminate or reduce to a minimum a gouged effect.

9.5 **Limbs under Conductors**

Limbs growing up into the conductors from the side of a tree shall be removed at the main trunk. If this appears impractical or inadvisable, the limbs shall be shortened to avoid whipping up into the line.

9.6 **Limbs Parallel with Conductors**

Limbs that grow out from the side of a tree, parallel with conductors, and could sway or be blown into the conductors, shall be removed wherever practical. Otherwise, they shall be shortened.

9.7 **Trees below a Line**

Young trees of beneficial species growing directly under a line are to be topped and rounded in a pleasing manner. Young trees growing directly under a line of fast grow species as defined in Section 7.2 are to be removed at ground level.

9.8 **Overhanging Limbs**

Limbs directly over the conductors shall be removed if possible; otherwise, they shall be shortened sufficiently to prevent their dropping into the conductors under the additional weight of snow or ice.

9.9 **Dead Limbs**

All dead wood, level with or above the conductors, in trees immediately adjacent to the line, shall be removed. All dead limbs that might be blown into the line from trees located across the road or elsewhere in the near vicinity shall also be removed.

9.10 **Tops of Weak-Wooded Trees to be lowered**

All tall, weak-wooded trees, towering above the line, shall have their tops lowered as much as practical. The lower the tops, the “drop-crotch” method shall be used so that the tree will not appear to have been chopped off at a definite height.

10. **MINIMUM LINE CLEARANCE**

10.1 **Major Operations**

Clearance shall provide for at least six (6) years growth, except when this would seriously mutilate the tree. A discussion with Lakeland/landowner is required. This should be particularly borne in mind when dealing with fast growing trees such as Manitoba Maple, White Pine, etc. All Limbs that, by falling, swaying or other means are liable to contact the conductor, shall be removed wherever practical.

10.2 **Children Climbing**

In establishing clearances, the possibility of children climbing trees and making contact with live apparatus must always be borne in mind. Particular caution shall be exercised regarding trees on or near schoolyards and playground areas.

Where adequate clearance cannot be obtained without mutilating the tree, the Contractor shall inform Lakeland in writing, immediately.

11. **DISPOSAL OF WOOD, BRUSH AND DEBRIS**

The disposal of brush, wood, and other debris resulting from the Contractor’s activities shall be governed by the following:

11.1 The Contractor shall dispose of all brush, wood and other debris at an approved dumping site. Any expense involved in the disposal shall be borne by the Contractor.

11.2 Brush, wood and debris, shall not be left lying overnight along streets, highways, country roads or any main travelled road. Brush left overnight on lightly travelled roads shall be stacked neatly so as not to obstruct traffic and shall be removed the following day. Lawns and grassed areas shall be raked to eliminate small twigs, branches and debris.

- 11.3 All tree trimming operations performed on trees that are growing (the majority of the trunk lies within) on Town or District road allowances will be cleaned up. All trimming operations performed on privately owned trees will be the cleanup responsibility of the contractor.

12. **TREES OF DOUBTFUL STRENGTH**

The Contractor shall report in writing all trees of doubtful strength that, in falling, could strike the Corporation's lines. These shall include all trees that are over mature, diseased, or showing signs of decay. All oak, beech and basswood trees, regardless of their outward appearance, shall also be reported, since trees of these species are particularly prone to internal decay.

13. **INSPECTION**

The work done by the Contractor shall be subject to regular inspections by Lakeland's representatives. It is the Contractor's responsibility to point out any doubtful or difficult situations and/or discuss methods to rectify them with Lakeland's representatives.

Lakeland has sole authority on the acceptance or refusal of work performed.

14. **PAYMENT**

Payment in full shall be made only upon satisfactory completion of the work covered by the contract. Any deficiencies outstanding, as noted by the Utilities Inspector(s), shall have to be addressed to the satisfaction of Lakeland and no payment shall be made until all issues are resolved.

Appendix H

Transformer Z-Factor updated submission including 2026 costs

Revised Centennial Transformer Failure Z-Factor Claim

Updated to include costs from October 2025 to fall 2026

Updated Z-Factor #1 Centennial MS Substation Transformer Failure June 2024

This appendix is a short-form updated Z-Factor now including all costs expected to fall 2026 when the matter is expected to be complete. All relevant details of the claim are outlined in the original October 9th submission, and in the interrogatories responses that this appendix is attached to.

This appendix will outline the revised costs, revenue requirements, rate riders, bill impacts and relevant calculations.

Revised Cost summary

A revised cost summary is below. The costs to September 30th have not changed from the October 9th submission. The only change is the addition of the costs from October 2025 to fall 2026.

Category	Operating	Capital	Total
Costs to Sept 30th (original submission)			
Install of temporary transformer	\$68,408	\$0	\$68,408
Transformer rental	\$507,000	\$0	\$507,000
Consulting fees / reports	\$9,341	\$1,870	\$11,211
Transformer re-build costs	\$0	\$243,593	\$243,593
Sub-Total	\$584,748	\$245,463	\$830,211
Carrying charges	\$23,462	\$7,893	\$31,355
Sub-Total incl. carrying charges	\$608,210	\$253,356	\$861,566
Costs from Oct'25 to fall 2026			
Install of transformer	\$0	\$64,347	\$64,347
Transformer rental	\$90,000	\$0	\$90,000
Consulting fees / reports	\$0	\$0	\$0
Transformer re-build costs	\$0	\$476,100	\$476,100
Sub-Total	\$90,000	\$540,447	\$630,447
Total Z-Factor Claim Costs	\$698,210	\$793,803	\$1,492,013

An explanation of the expected costs appears below. All costs are known with high degree of confidence.

- Installation of transformer – this includes an estimated \$62,334 in line with the invoice from KPC for the installation of the temporary transformer, as well as \$2013 for crane rental, also in line with the previously invoiced amount.
- Transformer rental – 3 months of rent from October to December. With this \$90,000 the rental cap of \$300,000 referred to in various interrogatory responses has been reached.
- Transformer rebuild costs - the remaining three Surplec progress payments.

Capital Rate Rider calculation

Return on Rate Base			
Incremental Capital		\$	793,803
Depreciation Expense (Full Year)		\$	15,876
Incremental Capital in Rate Base (Average NBV in Year)		\$	777,927
Deemed Short Term Interest 4%	3.91%	\$	1,217
Deemed Long Term Interest 56%	4.76%	\$	20,736
Deemed Return on Equity 40%	9.00%	\$	28,005
Return on Rate Base - Total		\$	49,958

Grossed Up Taxes / PILs			
Regulatory Taxable Income		\$	28,005
Add Back Amortization Expense		\$	15,876
Deduct CCA		\$	63,504
Incremental Taxable Income		-\$	19,623
Income Tax / PILs Before Gross-Up @ 26.5%		-\$	5,200
Income Tax / PILs Grossed Up		-\$	7,075

Incremental Revenue Requirement			
Return on Rate Base - Total		\$	49,958
Amortization Expense - Total		\$	15,876
Grossed Up Taxes / PILs - Total		-\$	7,075
Eligible Incremental Revenue Requirement(s)		\$	58,760

Relief requested

Category	Recovery period	Total
Operating costs	2 years	\$698,210
Capital Expenditure revenue requirement	Until re-basing	\$58,760

Rate Rider Calculations

Operating costs	2025 CoS Revenue Requirement (RR)	% Allocation of 2025 RR	Allocation of Z Factor to Rate Classes	Number of Customers / Connections	Fixed Rate Rider
Residential	\$ 6,002,355	63%	\$ 440,763	12,503	\$ 1.47
General Service <50kW	\$ 2,021,248	21%	\$ 148,424	2,241	\$ 2.76
General Service >50kW	\$ 1,378,479	14%	\$ 101,224	140	\$ 30.13
Unmetered Scattered Load *	\$ 14,168	0%	\$ 1,040	63	\$ 0.34
Sentinel Lighting *	\$ 4,287	0%	\$ 315	31	\$ 0.21
Street Lighting	\$ 87,748	1%	\$ 6,443	2,851	\$ 0.09
Total	\$ 9,508,285		\$ 698,210	17,829	

* 48-month fixed rate rider

Capital Expenditure - Revenue requirement	2025 CoS Revenue Requirement (RR)	% Allocation of 2025 RR	Allocation of Z Factor to Rate Classes	Number of Customers / Connections	Fixed Rate Rider
Residential	\$ 6,002,355	63%	\$ 37,094	12,503	\$ 0.25
General Service <50kW	\$ 2,021,248	21%	\$ 12,491	2,241	\$ 0.46
General Service >50kW	\$ 1,378,479	14%	\$ 8,519	140	\$ 5.07
Unmetered Scattered Load	\$ 14,168	0%	\$ 88	63	\$ 0.12
Sentinel Lighting	\$ 4,287	0%	\$ 26	31	\$ 0.07
Street Lighting	\$ 87,748	1%	\$ 542	2,851	\$ 0.02
Total	\$ 9,508,285		\$ 58,760	17,829	

Bill impacts (this Z-Factor#1 claim only)

Bill impact by customer type	Operating Rate Rider 24 mth	Capital Rate Rider	Total Rate Riders	2025 Rates Sub-Total B	% impact	2025 Rates Total Bill	% impact
RESIDENTIAL	\$ 1.47	\$ 0.25	\$ 1.72	\$ 46.00	3.7%	\$ 138	1.2%
GENERAL SERVICE LESS THAN 50 kW	\$ 2.76	\$ 0.46	\$ 3.22	\$ 86.78	3.7%	\$ 329	1.0%
GENERAL SERVICE 50 TO 4,999 KW	\$ 30.13	\$ 5.07	\$ 35.20	\$ 1,049.59	3.4%	\$ 17,092	0.2%
UNMETERED SCATTERED LOAD	\$ 0.34	\$ 0.12	\$ 0.46	\$ 20.34	2.3%	\$ 48	1.0%
SENTINEL LIGHTING	\$ 0.21	\$ 0.07	\$ 0.28	\$ 12.09	2.3%	\$ 22	1.3%
STREET LIGHTING	\$ 0.09	\$ 0.02	\$ 0.11	\$ 1,006.00	0.0%	\$ 3,545	0.0%

Appendix I

Transformer Failure Correspondence - KPC

Dawn Punkari

From: Tim Robertshaw <trobertshaw@kpcpower.com>
Sent: June 19, 2024 8:08 PM
To: Jordan Nickason
Cc: Akif Sarosh; Vern George
Subject: Centennial MS - Temporary Transformer Install

Follow Up Flag: Flag for follow up
Flag Status: Flagged

EXTERNAL Email Disclaimer

CAUTION: This email originated from outside the organization. Exercise caution when clicking on links or opening attachments even if you recognize the sender.

Hey Jordan,

Thank you for the drawings. I am just writing to provide an update for the work performed during the initial emergency call at Centennial MS and the temporary transformer install. We will be following up with a more detailed report but I can provide this information preliminarily.

Friday June 14

Called to investigate fault condition at Centennial MS
Transformer Testing Failed

- Ratio Testing Indicated B phase winding ratio off by a considerable amount
- Winding Resistance failed for secondary b phase winding
- Secondary windings had very poor insulation resistance readings
- Visual inspection of oil passed – (Clear)
- **A big thing we are still waiting on is the laboratory oil test results so I will provide as soon as they become available.**

Found possible temp replacement

Saturday June 15

Removed Faulted transformer and moved to your shop
Craned temp transformer into place
Created a plan for Install
Tested temporary Tx ALL Taps – Testing passed

Monday June 17

Procured materials

Tuesday June 18

Completed the Install of temporary tx

Wednesday June 19

Energization Support

- Blown PT Fuse
- B Phase PT failed insulation resistance testing
- Removed PT from cabinet.
- Recommend Replacing all 3 PTs with compatible. Would you like me to send for pricing or do you have a supplier?

I will provide updates as the info becomes available. Let me know if you have any questions or anything to add

Thank you

Tim Robertshaw | Project Manager, Industrial Maintenance Group



A DIVISION OF  UTILITY SOLUTIONS GROUP

K.P.C. Power Electrical Ltd.

395 Westney Road S., Ajax, ON Canada L1S 6M6

T 905.683.6636 | **F** 905.683.6668 | **M** 289.314.1396

Appendix J

Transformer Failure Report – KPC



High Voltage Utility Solutions Group

REPORT

**Emergency Call - Defective
Transformer
Centennial MS**

LAKELAND POWER



High Voltage Utility Solutions Group

June 28, 2024

Lakeland Power Distribution Ltd.

359 Centre Street North
Huntsville, ON P1H 2M2

Attention	Jordan Nickason
Project	Emergency Call – Defective Transformer
Location	Centennial MS
Job #	24IM-5322

Dear Jordan,,

K.P.C. Power Electrical Ltd. (KPC Power) completed the investigation and temporary rental replacement of the defective transformer at Centennial MS located at 109 Wellington Street, Bracebridge from Jun.14 to 19, 2024.

Included in this report are the Observations, Actions, Fault Analysis, Test Results and Oil Analysis Reports.

Please feel at liberty to contact our office should you have any questions or concerns. Thank you for the opportunity to have been of service.

Thank you,

Andrew Nolan

Field Supervisor, Substations

KPC POWER ELECTRICAL LTD.

395 Westney Road S., Ajax ON L1S 6M6 T 905.683.6636 (24-Hour Emergency Response)



TABLE OF CONTENTS

FAULT ANALYSIS AND ACTIONS	4
APPENDICES	7-20
1. DEFECTIVE TRANSFORMER TEST RESULTS	7
2. RELATED EQUIPMENT TEST RESULTS	9
3. RENTAL REPLACEMENT TRANSFORMER TEST RESULTS	12
4. OIL ANALYSIS ON DEFECTIVE TRANSFORMER	17
5. OIL ANALYSIS ON RENTAL REPLACEMENT TRANSFORMER	20



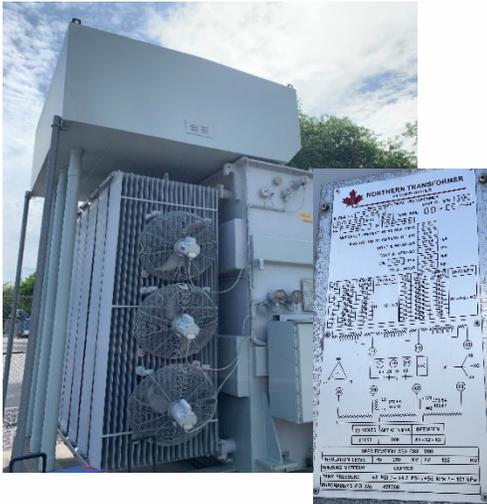
High Voltage Utility Solutions Group

Fault Analysis And Actions

109 Wellington Street, Bracebridge



Fault Transformer and it's Nameplate:



Reason to the Site:

KPC Power was called to troubleshoot the fuses blown out on the 44kV incoming pole.

Actions and Observations:

1. KPC technicians disconnected Main Transformer primary cables and secondary bus bars, and also the primary LA's.
2. While conducting inspection and testing on the transformer, KPC technicians noted that fault note "Over Current" was displaced on "B" phase winding during Transformer Turns Ratio test. "A" and "C" phases had passed results.
3. The "B" phase winding defective was confirmed by Winding Resistance Measurement, and low insulation resistance results, see test results in Appendix 1.
4. From oil analysis report, the high levels on Methane, Ethane, Ethylene and Acetylene confirmed that the transformer has internal failures, see Appendix 4.
5. KPC technicians tested the Transformer Primary Lightning Arresters, and Bus Bars on switchgear connected to transformer secondary windings and got satisfied test results, see Appendix 2.
6. Based on customer's request, KPC found a temporary rental replacement transformer, conducted all tests on all taps and got satisfied results, see Appendix 3 & 5.
7. KPC created a transformer switching plan and procured the materials.
8. On June 18, KPC completed temporary transformer installation.
9. During energization support on Jun.19, because of the blown PT fuses, KPC technicians conducted the Insulation Resistance test on PTs and found the failed PT ("B" phase) and removed the failed PT from cabinet.

Rental Replacement Transformer and it's Nameplate:





Blown Fuses



New Fuses

Observation:

When KPC technicians reached the substation, all three phases' fuses were found blown up.

Action:

KPC technicians replaced the fuses and tested them with acceptable results, see Appendix 3.



Observation:

When supporting energization of the substation, KPC technicians noted that PT fuses were blown up.

Action and recommendation:

KPC technicians conducted the Insulation Resistance test on PTs and noted that the "B" phase PT was defective, and removed the PT from its cabinet.



High Voltage Utility Solutions Group

Appendix 1

109 Wellington Street, Bracebridge



Client Information

Customer	Lakeland Power	Date Tested	14-Jun-24
File Number	24IM-5322	Customer Ref.	Jordan Nickason
Location	109 Wellington Street, Bracebridge	Ambient Temp	20 °C
Substation	Centennial Station	Tested By	RV/WW
Equipment I.D.	Main Power Transformer	Approved By	AN

Power Transformer - Electrical

Nameplate Data														
Manufacturer		Northern Transformer				Vector Group			Dyn1		NGR	Solid	X	
Year Built		2008				Serial #			08-2256		Res.		Ω	
Type		ONAN/ONAF				Liquid Type/Volume			Mineral Oil		7633	L.		
Sealed	X	Conservator		Dry Type		Total Weight			27125		Kg.			
Rating		10000				kVA	Primary Voltage			44		kVolts		
Impedance		5.73				%	Secondary Voltage			27600		Volts		
Phase		3				φ	BIL (Primary)		250	kV	BIL (Secondary)		125	kV
Oil Temp	40	°C	Max Oil Temp	59	°C	Winding Temp		N/A	°C	Max Winding Temp	60	°C		
Insulation Resistance														
Test Voltage	Hi	10	Low	10	kVdc	H to L + Grnd		L to H + Grnd		H to L		Core		
GΩ @ 20 °C						10.89		0.976		0.1173				
Corrected to 20 °C						10.89		0.976		0.1173				
Capacitance & Dissipation Factor														
Test Voltage	High	10	Low	10		C _{H-L} + C _{H-G}		C _{H-G}		C _{H-L}		C _{L-G}	C _{L-H} + C _{L-G}	
Capacitance (pF)														
Current (mA)														
Watts (W)														
Power Factor														
Corrected to 20 °C														
Turns Ratio Test														
Tap	Primary Volts		Calculated Ratio		<u>H1-H2</u> X0-X2			<u>H2-H3</u> X0-X3			<u>H3-H1</u> X0-X1			
					Ratio	Dev%	mA	Ratio	Dev%	mA	Ratio	Dev%	mA	
10	43450		2.72672		2.7264	-0.01	5.1	Over Current			2.7264	-0.01	4.7	
10	42900		2.69221		2.7272	1.30	9.8	Over Current			2.7272	1.30	9.2	
Winding Resistance														
Tap	Current Scale	Resistance Unit		H1-H2	H2-H3	H3-H1	X0-X1	X0-X2	X0-X3					
10	1A/5A	mΩ/mΩ		685.15	684.75	684.6	104.78	46.78	104.53					
Tap	Current Scale	Resistance Unit		H1-H2	H2-H3	H3-H1	X1-X2	X2-X3						
10	1A/5A	mΩ/mΩ		685.15	684.75	684.6	139.95	150.57						
Tap Position Found & Left			10/10											
Results Satisfactory			POOR											
Test Equipment			Raytech Turns Ratio / Winding Resistance / AEMC 10kV MEGOHMMETER											
Notes: Transformer unit could not get B phase turns ratio (OverCurrent) and had a failed winding resistance measurement on B phase secondary winding.														



High Voltage Utility Solutions Group

Appendix 2

109 Wellington Street, Bracebridge



Client Information

Customer	Lakeland Power		Date Tested	14-Jun-24	
File Number	24IM-5322	Customer Ref.	Jordan Nickason	Ambient Temp	20 °C
Location	109 Wellington Street, Bracebridge			Tested By	RV/WW
Substation	Centennial Station			Approved By	AN
Equipment I.D.	Transformer Primary Surge Protection LA				

Lightning Arrester Inspection

Nameplate Data							
Manufacturer	General Electric			Voltage	46	kVolts	
Cat #	9L12PPA048AS			MCOV	N/A	kVolts	
Serial #	K87588	K87586	K87587	Duty Cycle Rating	48	kVolts	
Capacitance and Power Factor Test							
Insulation Tested	Test Mode	kV	Cap (pF)	Power factor		mA	Watts
				Measured	Cor. to 20°C		
CH-G - Aφ	GrndST						
CH-G - Bφ	GrndST						
CH-G - Cφ	GrndST						
Insulation Resistance (GΩ)							
@	10	kVDC					
Ins. Type	X	Solid	Oil	φ A	φ B	φ C	
Insulation Res.	@	20	°C	462	430	422	
Corrected to 20°C				462	430	422	
Mechanical Inspections							
Description of Inspection		Status		Comments			
		OK/FAIR/POOR/NA					
Insulator Surface Condition		OK		Inspected			
Connector Condition		OK		Inspected			
Grounding		OK		Inspected			
Support Structure		OK		Inspected			
Test Conditions		Clear					
Results Satisfactory		OK					
Test Equipment		AEMC 10kV MEGOHMMETER					
Notes:							



Client Information

Customer	Lakeland Power	Date Tested	14-Jun-24
File Number	241M-5322	Customer Ref.	Jordan Nickason
Location	109 Wellington Street, Bracebridge	Ambient Temp	20 °C
Substation	Centennial Station	Tested By	WW/NA
Equipment I.D.	Feeder Switchgear	Approved By	AN

Switchgear Assembly Inspection

Nameplate Data

Manufacturer	S&C Electric	Voltage	27.6	kVolts
Type	Metal Enclosed/3R	Current	600	Amps
Style/Cat #	CDT-27693	B.I.L	150	kVolts
Phase/Wire	3/4	Serial #	LL-12794	

Mechanical Inspections

Description of Inspection	Status	Comments
		OK/FAIR/POOR/NA
Identification / Warning Signs	FAIR	ID signs faded
Lightning Arresters	OK	Inspected
Grounding	OK	Inspected
Bus Support Insulators	OK	Inspected
Bus Torque	OK	Inspected
Phase Barriers	OK	Inspected
Compartment Barriers	OK	Inspected
C.T. Wiring	OK	Inspected
P.T. Wiring	OK	Inspected
Indicating Meters	OK	Inspected
Control Wiring	OK	Inspected
Paint Condition	OK	Inspected
Mechanical Integrity of Enclosure	OK	Inspected
Heaters	OK	Inspected
Interior Dry	OK	Inspected

Electrical Tests

Test Description	GΩ	φ A	φ B	φ C	A/B	B/C	C/A
Insulation Resistance @ 10 kV	3338	740	1740	3527	5540	4560	
AC Hi-Pot @ kV	μA	N/A	N/A	N/A	N/A	N/A	N/A

Test Conditions	Clear
Results Satisfactory	OK
Test Equipment	AEMC 10kV MEGOHMMETER

Notes:



High Voltage Utility Solutions Group

Appendix 3

109 Wellington Street, Bracebridge



Client Information

Customer	Lakeland Power	Date Tested	15-Jun-24
File Number	24IM-5322	Customer Ref.	Jordan Nickason
Location	109 Wellington Street, Bracebridge		Ambient Temp
Substation	Centennial Station	Tested By	NA/WW
Equipment I.D.	Main Power Transformer (Rental Replacement Transformer)		
		Approved By	AN

Power Transformer - Electrical

Nameplate Data

Manufacturer	CARTE International Inc.		Vector Group	Dyn1	NGR		Solid	X
Year Built	2009		Serial #	28609-001	Res.			Ω
Type	ONAN		Liquid Type/Volume	5617	N/A			L.
Sealed	X	Conservator		Dry Type		Total Weight	17045	Kg.
Rating	7500		kVA	Primary Voltage	44			kVolts
Impedance	7.3		%	Secondary Voltage	27600Y/15935			Volts
Phase	3		φ	BIL (Primary)	250	kV	BIL (Secondary)	200
Oil Temp	25	°C	Max Oil Temp	55	°C	Winding Temp	N/A	°C
						Max Winding Temp	N/A	°C

Insulation Resistance

Test Voltage	Hi	10	Low	10	kVdc	H to L + Grnd	L to H + Grnd	H to L	Core
GΩ @ 20 °C						18.01	5.49	48.7	
Corrected to 20 °C						18.01	5.49	48.7	

Capacitance & Dissipation Factor

Test Voltage	High	10	Low	10	C _{H-L} + C _{H-G}	C _{H-G}	C _{H-L}	C _{L-G}	C _{L-H} + C _{L-G}
Capacitance (pF)					15379.6	3635.3	11744.6	11803.6	23532
Current (mA)					57.99	13.72	44.28	44.52	88.73
Watts (mW)					1767.89	490.34	1276.29	2811.56	4107.8
Power Factor (%)					0.3049	0.3575	0.2883	0.4629	0.6316
Corrected to 20 °C (%)					0.27441	0.32175	0.25947	0.41661	0.56844

Turns Ratio Test

Tap	Primary Volts	Calculated Ratio	<u>H1-H2</u> X0-X2			<u>H2-H3</u> X0-X3			<u>H3-H1</u> X0-X1		
			Ratio	Dev%	mA	Ratio	Dev%	mA	Ratio	Dev%	mA
1	46200	2.89930	2.9031	0.13	8.68	2.9016	0.08	5.15	2.9026	0.11	7.66
2	45100	2.83027	2.8331	0.10	9.21	2.8316	0.05	5.36	2.8326	0.08	8.08
3	44000	2.76124	2.7666	0.19	9.62	2.7651	0.14	5.63	2.7661	0.18	8.48
4	42900	2.69221	2.6964	0.16	10.08	2.6949	0.10	5.94	2.6959	0.14	8.92
5	41800	2.62318	2.6231	0.00	1.98	2.623	-0.01	1.34	2.6229	-0.01	1.31

Winding Resistance

Tap	Current Scale	Resistance Unit	H1-H2	H2-H3	H3-H1	X0-X1	X0-X2	X0-X3
3	5A/5A	mΩ/mΩ	See Winding Resistance Page			158.45	152.052	169.602

Tap Position Found & Left 3/3

Results Satisfactory OK

Test Equipment TESTRANO 600 / 10kV MEGOHMMETER

Notes:



Client Information

Customer	Lakeland Power			Date Tested	15-Jun-24	
File Number	24IM-5322	Customer Ref.	Jordan Nickason	Ambient Temp	20	°C
Location	109 Wellington Street, Bracebridge			Tested By	NA/WW	
Substation	Centennial Station			Approved By	AN	
Equipment I.D.	Main Power Transformer (Rental Replacement Transformer)					

Power Transformer (Liquid Filled) - Mechanical

Mechanical Inspections						
Description of Inspection	Status			Comments		
	OK/FAIR/POOR/NA					
Breather & Silica Gel	N/A					
Conservator Tank Gaskets	N/A					
Explosion Vent Gaskets	N/A					
Inspection Cover Gaskets	OK			Inspected		
Main Cover Gaskets	OK			Inspected		
Primary Bushing Gaskets	OK			Inspected		
Primary Bushing Porcelain	OK			Inspected		
Primary Bushing Connections	OK			Inspected		
Primary Throat Gaskets	OK			Inspected		
Secondary Bushing Gaskets	OK			Inspected		
Secondary Bushing Porcelain	OK			Inspected		
Secondary Bushing Connections	OK			Inspected		
Secondary Throat Gaskets	OK			Inspected		
Pressure Relief Device	OK			Inspected	PSI	-0.7
Gas Relay	N/A					
Fan Operation	N/A					
Control Wiring	N/A					
Tap Changer	OK			Inspected		
Paint Condition	OK			Inspected	Colour	Grey
Pads	N/A					
Grounding	OK			Inspected		
Radiator	OK			Inspected		
Oil Level	OK			Inspected		
Pressure Gauge	OK			Inspected		
Oil Temperature Gauge	OK			Inspected		
Winding Temperature Gauge	N/A					
Oil Temperature	Run	Max	25	°C	55	°C
Winding Temperature	Run	Max	N/A	°C	N/A	°C
Results Satisfactory	OK					
Test Equipment	Visual Inspection					

Notes:



Client Information

Customer	Lakeland Power	Date Tested	15-Jun-24	
File Number	24IM-5322	Customer Ref.	Jordan Nickason	
Location	109 Wellington Street, Bracebridge		Ambient Temp	20 °C
Substation	Centennial Station	Tested By	WW	
Equipment I.D.	Protection Fuses on Incoming Pole			
Approved By	AN			

High Voltage Power Fuse

Fuse Holder Nameplate Data

Manufacturer	S&C Electric	Max Voltage	48.3	kVolt
Type	Alduti With Power Fuses (SMD)	Max Current	300E	Amps
Style/Cat #	145825R10-E	Serial #	N/A	

Fuse Link Nameplate Data

Type	SMD-2C	TCC	153-1
Style/Cat #	465200R3	Amps	200E

Mechanical Inspections

Description of Inspection	Status	Comments
		OK/FAIR/POOR/NA
Operating Mechanism	OK	Operated and Inspected
Contact Surfaces	OK	Cleaned, Greased and Inspected
Contact Penetration	OK	Inspected
Contact Alignment	OK	Inspected
Expulsion-Limiting Filters	N/A	
Fuse Barrel Condition	N/A	
Connector Condition	OK	Inspected
Insulator Condition	OK	Inspected
Phase Barrier Condition	N/A	
Support Structure	OK	Inspected
Heaters & Thermostat	N/A	
Spare Fuse Quality	OK	Inspected
Spare Fuse Quantity	OK	Inspected

Electrical Tests

Test Description		φ A	φ B	φ C	A/B	B/C	C/A
Insulation Resistance	@ kV GΩ	N/A	N/A	N/A	N/A	N/A	N/A
Contact Resistance	@ 10 A μΩ	444	420	446			

Test Conditions	Clear
Results Satisfactory	OK
Test Equipment	AEMC 10A MICRO-OHMMETER

Notes:



High Voltage Utility Solutions Group

Appendix 4

109 Wellington Street, Bracebridge



KPC Power Electrical Ltd
 395 WESTNEY RD S

AJAX , . L1S 6M6 CA
 ATTN: ELAINE OWEN
 PO#: 24IM-5322

Project ID: LAKELAND
Customer ID: T1

Serial#: 082256
Location: 109 WELLINGTON ST
Equipment: TRANSFORMER
Compartment: MAIN(BOTTOM)
Breathing: SEAL
Bank: Phase: 3
Fluid: MIN Liters: 7633

Mfr: NORTHERN
kV: 44
kVA: 13555
Year Mf'd: 2008
Syringe ID: 8006205
Bottle ID:
Sampled By: WW

Control#: 7749695
Order#: 725715
Account: 6541
Received: 06/19/2024
Reported: 06/20/2024

	Lab Control Number:	7749695	7698716	7562484	7522291	7424867
	Date Sampled:	06/14/2024	11/29/2023	07/13/2022	02/15/2022	02/10/2021
	Order Number:	725715	713241	680510	670904	646760
	Oil Temp:	25	40	25	20	20
Dissolved Gas Analysis (DGA)	O2/N2 Ratio:	0.02	0.11	0.31	0.33	0.34
ASTM	Transformer Age (yrs):	16	15	14	14	13
D-3612¹	Hydrogen (H2) (µL/L):	866	114	10	9	11
	Methane (CH4) (µL/L):	820	398	4	4	4
	Ethane (C2H6) (µL/L):	220	156	1	2	2
	Ethylene (C2H4) (µL/L):	1234	597	27	28	26
	Acetylene (C2H2) (µL/L):	534	6	2	1	1
	Carbon Monoxide (CO) (µL/L):	2414	1147	338	328	328
	Carbon Dioxide (CO2) (µL/L):	8222	5266	1396	1072	1065
	Nitrogen (N2) (µL/L):	71809	69288	55370	57359	67653
	Oxygen (O2) (µL/L):	1188	7757	17372	19047	22670

Dissolved Gas Analysis Diagnostics – IEEE Std C57.104-2019

Gas	Absolute Gas Levels (µL/L)		Gas Level Deltas(µL/L) (2 most recent samples)		Gas Generation Rates (µL/L per yr) (3-6 most recent samples within 4-24 mos.)	
	Level	Diagnostic	Delta	Diagnostic	Rate	Diagnostic
Hydrogen (H2)	866	High (> 200)	752	Excessive Variation (> 40)	372	Probable active gassing (> 20)
Methane (CH4)	820	High (> 150)	422	Excessive Variation (> 30)	396	Probable active gassing (> 10)
Ethane (C2H6)	220	High (> 175)	64	Excessive Variation (> 25)	113	Probable active gassing (> 9)
Ethylene (C2H4)	1234	High (> 95)	637	Excessive Variation (> 20)	584	Probable active gassing (> 7)
Acetylene (C2H2)	534	High (> 2)	528	Excessive Variation (> 0)	222	Probable active gassing (> 0)
Carbon Monoxide (CO)	2414	High (> 1100)	1267	Excessive Variation (> 250)	981	Probable active gassing (> 100)
Carbon Dioxide (CO2)	8222	Normal (<= 10000)	2956	Excessive Variation (> 2500)	3397	Probable active gassing (> 1000)
DGA Diagnostics	Roger's Ratio	Arcing - High-energy discharge				
	Duval Triangles	Triangle 1: electrical/thermal Diagnostic not applicable – Triangle 4 gas levels normal. Diagnostic not applicable – Triangle 5 gas levels normal.				
	Duval Pentagons	Pentagon 1: High energy discharge Pentagon 2: High energy discharge				
	Cellulose insulation	CO2/CO ratio = 3 (3< ratio <= 20) - No indication of a fault involving paper				
	DGA Status	Status 3 - High gas levels and/or probable active gassing. Probably suspicious - perform fault identification and transformer assessment. Take appropriate action based on transformer assessment results and company policy.				
	Resampling Protocol	Surveillance				
	AVO Resampling Recommendation	Increase frequency to verify gassing rates. Consider online monitoring and comprehensive engineering assessment.				

Notations: 1. Analysis is ISO/IEC 17025:2017 accredited, ANAB 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 AVO Diagnostic Services Laboratory other than Primary Lab. 6. AVO Diagnostic Services Laboratory has received ISO Standard 17025 accreditation for this test. 7. Imported Sample: AVO Diagnostic Services 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. AVO Diagnostic Services 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 AVO Diagnostic Services. AVO Diagnostic Services 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.



AVO DIAGNOSTIC SERVICES

919 FRASER DR. UNIT 13 + BURLINGTON, ON + L7L 4X8
905 632 8697 + 905 632 7476
WWW.AVODIAGNOSTICS.COM

TEST REPORT

01-7749695-725715-00

Page 2 of 2

KPC Power Electrical Ltd
395 WESTNEY RD S

AJAX , . L1S 6M6 CA
ATTN: ELAINE OWEN
PO#: 24IM-5322

Project ID: LAKELAND
Customer ID: T1

Serial#: 082256
Location: 109 WELLINGTON ST
Equipment: TRANSFORMER
Compartment: MAIN(BOTTOM)
Breathing: SEAL
Bank: Phase: 3
Fluid: MIN Liters: 7633

Mfr: NORTHERN
kV: 44
kVA: 13555
Year Mfd: 2008
Syringe ID: 8006205
Bottle ID:
Sampled By: WW

Control#: 7749695
Order#: 725715
Account: 6541
Received: 06/19/2024
Reported: 06/20/2024

Table with 6 columns: Lab Control Number, Date Sampled, Order Number, Oil Temp, and two unlabeled columns. Rows include values for 7749695, 7698716, 7562484, 7522291, 7424867.

Comment:

General Oil Quality (GOQ)

Table with 6 columns and 8 rows of test results including Moisture in Oil, Interfacial Tension, Acid Number, Color Number, Visual Exam, Sediment Exam, Dielectric Breakdown, and Density.

Table with 2 columns: Diagnostic Name (e.g., Moisture in Oil, Interfacial Tension) and Description (e.g., Acceptable for in-service oil).

Comment:

End of Test Report

Authorized By: JANET KAROLAT
SUPV CHEMIST

Notations: 1. Analysis is ISO/IEC 17025:2017 accredited, ANAB 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 AVO Diagnostic Services Laboratory other than Primary Lab. 6. AVO Diagnostic Services Laboratory has received ISO Standard 17025 accreditation for this test. 7. Imported Sample: AVO Diagnostic Services accepts no responsibility for these results; accreditation status does not apply to these results. 8. Imported Equipment 10. mg/kg, ug/g, ug/mL, uL/L = ppm, ug/L = ppb, mN/m = dynes/cm, mm^2/s = cSt

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High Voltage Utility Solutions Group

Appendix 5

109 Wellington Street, Bracebridge

Petro Laboratories Inc.

1295 Matheson Blvd. East, Mississauga, Ontario, L4W 1R1 Tel: (905) 361-2388 Fax: (905) 361-2411
E-mail: petrolab@gmail.com

LABORATORY REPORT

P.B.W. High Voltage Ltd.
#3 Strathearn Ave,
Brampton, Ontario
L6T 4P1

Lab no.: 8298-2
Report Date: Sept 1, 2017
Sample in: Aug 31, 2017
PO. No.: 17-001

Attn: Mr. Dilip Mistry

Re: One transformer oil sample for PCB's content.

Tests	Sample ID.	CARTE TX Ser# 28609-001, 7500 KVA
1. PCB's content in ppm by GC/ECD method		<1

* Detection limit for PCB's in oil is 1 ppm

Tested by : ZH..(chemist)
Member of ASTM
JS:LN

Approved by

James Szeto

James Szeto
Chief Chemist

PBW High Voltage Ltd

Serial#: 28609001
 Location: SHOP
 Equipment: TRANSFORMER
 Compartment: MAIN(BOTTOM)
 Breathing:
 Bank: Phase: 3
 Fluid: MIN Liters: 5617

Mfr: CARTE
 kV: 44
 kVA: 7500
 Year Mfd: 2009
 Syringe ID: 8004165
 Bottle ID:
 Sampled By:

Control#: 6868809
 Order#: 501349
 Account: 109583
 Received: 12/30/2015
 Reported: 01/12/2016

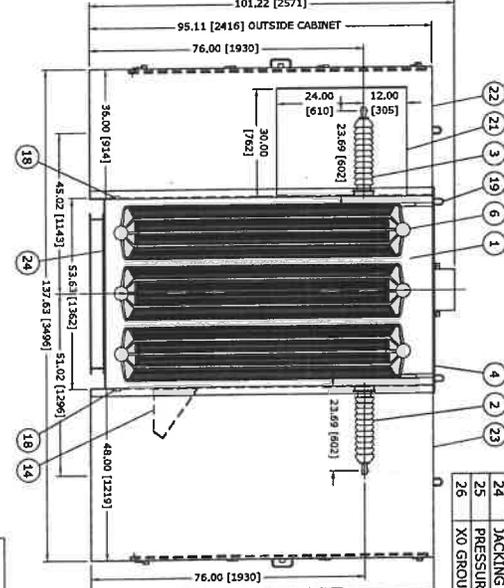
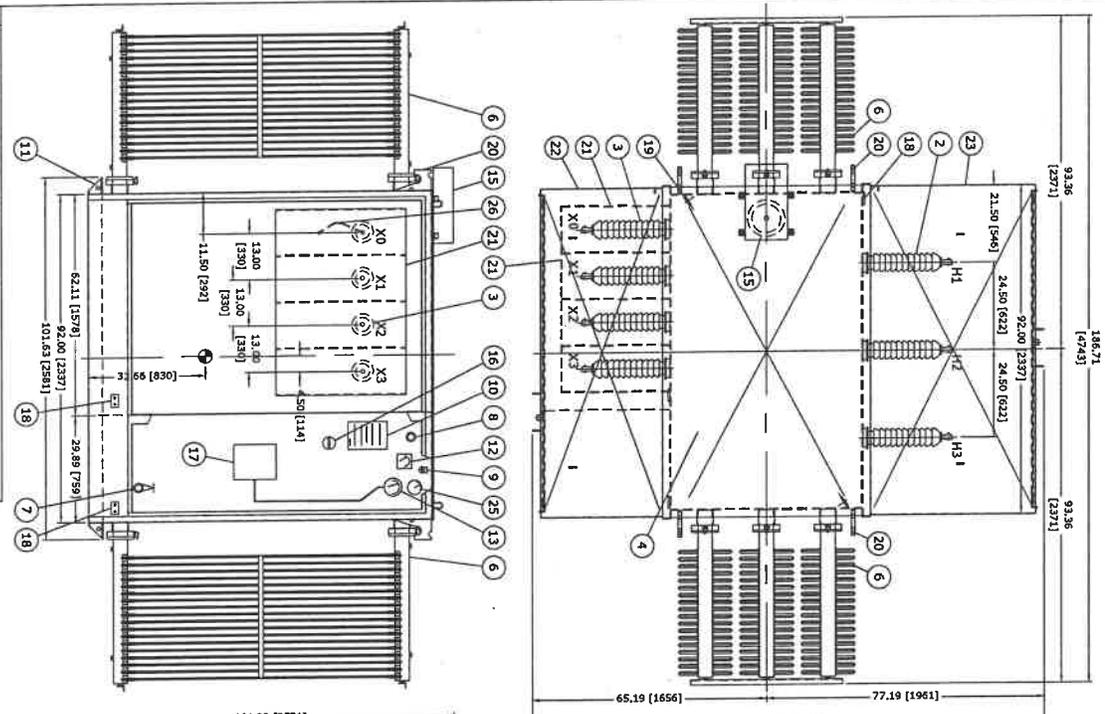
BRAMPTON, ON L6T 4P1 CA
 ATTN: MAGDA DALIPSINGH
 PO#: 15-01
 Project ID:
 Customer ID:

Lab Control Number: 6868809	
Date Sampled: 12/24/2015	
Order Number: 501349	
Oil Temp:	
Dissolved Gas Analysis (DGA) ASTM D-3612¹	Hydrogen (H2) (ppm): 9
	Methane (CH4) (ppm): 7
	Ethane (C2H6) (ppm): 3
	Ethylene (C2H4) (ppm): 14
	Acetylene (C2H2) (ppm): <1
	Carbon Monoxide (CO) (ppm): 195
	Carbon Dioxide (CO2) (ppm): 257
	Nitrogen (N2) (ppm): 52049
	Oxygen (O2) (ppm): 10279
	Total Dissolved Gas (TDG) (ppm): 62813
	Total Dissolved Combustible Gas (TDCG) (ppm): 228
Equivalent TCG (%): 0.2766	
DGA Diagnostics	DGA Keys Gas / Interpretive Method: (most recent sample) Hydrogen within condition 1 limits (100 ppm). Methane within condition 1 limits (120 ppm). Ethane within condition 1 limits (65 ppm). Ethylene within condition 1 limits (1 ppm). Acetylene within condition 1 limits (1 ppm). Carbon Monoxide within condition 1 limits (350 ppm). Carbon Dioxide within condition 1 limits (2500 ppm). TDCG within condition 1 limits (720 ppm).
	DGA TDCG Rate Interpretive Method: (two most recent sample) No previous sample available.
	DGA Cellulose (Paper) Insulation: CO2/CO Ratio not applicable - at least one gas doesn't exceed its limit.
WDS DGA Condition Code: NORMAL	
WDS Recommended Action: Continue normal operation. Resample for testing within one year.	
Comment:	
General Oil Quality (GOQ)	
D-1533¹ Moisture in Oil (ppm):	12
D-971¹ Interfacial Tension (dynes/cm):	42.59
D-974¹ Acid Number (mg KOH/g):	0.003
D-1500¹ Color Number (Relative):	L0.5
D-1524¹ Visual Exam. (Relative):	CLR&SPRK
D-1524¹ Sediment Exam. (Relative):	TRACE
D1816¹ Dielectric Breakdown 2 mm (kV mm-C):	67 (2-23C)
D-1298 Specific Gravity (Relative):	0.8924
GOQ Diagnostics PER IEEE C57.106-2006 & 637-1985 (most recent sample)	Moisture in Oil: Acceptable for reclaimed oil (35 ppm max). Interfacial Tension: Acceptable for reclaimed oil (35dynes/cm min). Acid Number: Acceptable for reclaimed oil (0.05 mg KOH/g max).

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

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REVISIONS
 1 Removed Item 5 (main-bus) per customer request. Nov. 15, 2009 SC



Transcanada Transformer & Switchgear Inc.
 968 Dillingham Rd., Pickering, ON, L1W 1Z0 Canada
 Telephone: 1-800-268-6803
 Email: info@ttscanada.ca

ITEM	DESCRIPTION
1	TRANSFORMER COMPARTMENT
2	PRIMARY PORCELAIN BUSHING, 46KV, 250 BIL, 208 AMP C/W 5/8" EYE
3	SECONDARY PORCELAIN BUSHING, 46KV, 250 BIL, 208 AMP, C/W 5/8" EYE
4	WELDED COVER
5	---
6	BOLT-ON RADIATORS
7	DRAIN VALVE, 1" W/SAMPLER
8	LIQUID FILL PLUG, 1"
9	PRESSURE RELIEF VALVE
10	NAMEPLATE, ALUMINUM
11	TANK SKID BASE, SUITABLE FOR SKIDDING
12	LIQUID LEVEL GAUGE
13	THERMOMETER C/W 2 CONTACTS
14	PROVISION FOR INTERMEDIATE CLASS ARRESTERS
15	LARGE PBD C/W TAMPERPROOF HOOD
16	TAP SWITCH C/W PADLOCKING FACILITIES
17	FIBREGLASS ENCLOSURE
18	3 GROUND PADS
19	COVER LIFTING LUG
20	TANK LIFTING LUG
21	INSULATING BARRIERS, C/W REMOVABLE FRONT
22	SECONDARY CABINET C/W HINGED PADLOCKABLE DOORS, BOTTOM OPENING 89"x32.5", AND 3 PENTAHED BOLTS WITH CUPWASHERS
23	C/W METAL DIVIDER PLATE AND 1/2" DOOR LOCKING BOLT FOR SECONDARY BUSHING COMPARTMENT
24	PRIMARY CABINET C/W HINGED PADLOCKABLE DOORS, BOTTOM OPENING 89"x44.5", 4 HINGES ON DOORS AND 3 PENTAHED BOLTS WITH CUPWASHER
25	JACKING AREA
26	PRESSURE VACUUM GAUGE
26	XO GROUND STRAP

MAIN VIEW
 SCALE 1/21
 PURCHASE ORDER: 28609-001
 SHOP ORDER: 28609-001
 FILE: Q:\3083\2860_2860\3083\PCACAD\CON.DWG

NOTES
 1. ϕ INDICATES CENTER OF GRAVITY
 2. PAINT FINISH: ASA 70 GREY
 3. DIMENSIONS IN BRACKETS [] ARE mm

UNIT INFORMATION
 TEMPERATURE RISE: 65°C
 HIGH VOLTAGE: 44000 DELTA
 LOW VOLTAGE: 276000V/15935
 HV WINDING MATERIAL: ALUMINUM
 LV WINDING MATERIAL: ALUMINUM
 SPEC: CAN/CSA C88-M90

WEIGHTS

LB.	KG.
16511	7505
10046	4566
10943	4974
37500	17045
TOTAL	17045

TANK & FITTINGS
 OIL QTY 1236 GAL. 5617

DIMENSIONS: INCH (mm)

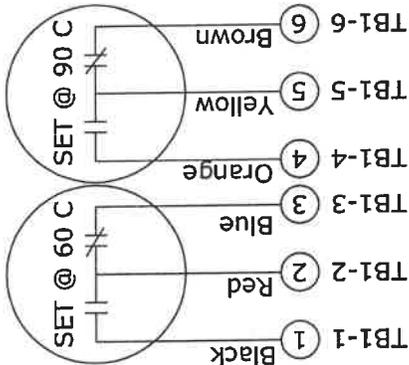
PROPRIETARY INFORMATION
 THE INFORMATION CONTAINED ON THIS DRAWING IS CONFIDENTIAL AND NOT BE REPRODUCED OR USED FOR THE MANUFACTURE OF ANY PART WITHOUT THE WRITTEN PERMISSION OF CARTE INTERNATIONAL INC.

CARTE INTERNATIONAL INC.
 WINNIPEG, CANADA

TITLE: 3PH SMALL POWER TRANSFORMER
 DRAWN/APPROVED BY: IE
 DATE: NOV 2, 2009
 DWG. NO.: PCACAD000

Thermometer - Orto

SW# 1 SW# 2
ADJUSTABLE ADJUSTABLE



Transcanada Transformers
& Switchgear Inc.
968 Dillingham Rd., Pickering, ON, L1W 1Z6 Canada
Telephone: 1-800-268-6803
Email: info@ttscanada.ca

MAIN VIEW
SCALE 1/1

FILE: Q:\JOBS\19000_9099\19008\425ACY7ACD.DWG

TOLERANCES (EXCEPT AS NOTED) EXTERNAL SUPPLIERS: 2 PLC DEC. +/- 0.06" 2 PLC DEC. +/- 1.59mm 3 PLC DEC. +/- 0.005" 3 PLC DEC. +/- 0.127mm ANGULAR +/- 2 DEG. CARTE MANUFACTURING: SEE FORM CIII11	DIMENSIONS: $\frac{\text{INCH}}$ [mm]	CARTE INTERNATIONAL INC. WINNIPEG, CANADA
	TITLE: CONNECTION WIRING DIAGRAM THERMOMETER (2C)-ORTO DRAWN/APPROVED BY: NP DATE: 1/21/2005 DWG NO: 425ACY7ACD	

REVISIONS

Appendix K

Maintenance Report on Centennial MS transformer 2022



High Voltage Utility Solutions Group

REPORT

Substation Maintenance Centennial MS

LAKELAND POWER



High Voltage Utility Solutions Group

July 19, 2022

Lakeland Power Distribution Ltd.

359 Centre Street North
Huntsville, ON P1H 2M2

Attention	Ryan Reay
Project	Substation Maintenance
Location	Centennial MS
Job #	22IM-5285

Dear Ryan,

K.P.C. Power Electrical Ltd. (KPC Power) completed the Substation Maintenance Program as requested at Centennial MS located at 109 Wellington Street, Bracebridge on July 12, 2022.

Included in this report are the Observations, Recommendations, and Test Results.

Please feel at liberty to contact our office should you have any questions or concerns. Thank you for the opportunity to have been of service.

Thank you,

Andrew Nolan

Field Supervisor, Substations



TABLE OF CONTENTS

OBSERVATIONS AND RECOMMENDATIONS.....	4
INSPECTION SHEETS.....	9
OIL ANALYSIS.....	34



High Voltage Utility Solutions Group

Observations & Recommendations

109 Wellington Street, Bracebridge



Observations:

During maintenance and inspection of the Feeder 3 Surge Protection, all 3 of Feeder 3's Lightning Arresters failed Insulation Resistance testing. The three LAs were swapped out with temporary replacements.

Recommendations:

Replace all of Feeder 3's Lightning Arresters immediately.





Observations:

During maintenance and inspection of the Primary/Secondary Cables, KPC Technicians found damaged semi-con on all 3 phases of LR1 to Street. Rubber tape and Vinyl were applied on site.

Recommendations:

Recommend repairing damaged semi-con on all three phases.





Observations:

During maintenance and inspection of the Main Power Transformer, the pressure gauge was found to be faded and weathered.

Recommendations:

Recommend replacement of the pressure gauge.



Observations:

No spare fuses were found during maintenance and inspection of the PT Fuses.

Recommendations:

Have 3 spare 25CLPT-.5E 25.5kV fuses on site at all times for emergency replacement purposes. KPC Power can provide fusing upon request.



Observations:

During inspection of the Main Substation Yard, it was found that the switchgear ID signs were faded, and that various barb wire were damaged.

Recommendations:

Faded switchgear ID signs and damaged barb wire standoffs should be replaced.





High Voltage Utility Solutions Group

Inspection Sheets

109 Wellington Street, Bracebridge



Client Information

Customer	Lakeland Power			Date Tested	07/12/2022	
File Number	221M-5285	Customer Ref.	Ryan Reay	Ambient Temp	25	°C
Location	109 Wellington Street, Bracebridge			Tested By	CP	
Substation	Centennial Station			Approved By	VG	
Equipment I.D.	Main Substation Yard					

Substation Yard General Inspection

Mechanical Inspections						
Description of Inspection		Status		Comments		
		OK/FAIR/POOR/NA				
Tower Structure		OK		Inspected - Concrete tower		
Metal Enclosed Switchgear		OK		Cleaned and Inspected		
Identification Signs		FAIR		Switchgear ID signs faded		
Warning Signs		OK		Inspected		
Yard Debris		OK		Cleaned and Inspected		
Weed Control		OK		No weeds present		
Ground Connections on Tower		OK		Inspected		
Ground Connections on Switchgear		OK		Inspected		
Ground Connections on Fence		OK		Inspected		
Ground Connections on Gates		OK		Inspected		
Ground Connections on Arresters		OK		Inspected		
Ground Connections on Transformer(s)		OK		Inspected		
Ground Grid + Rods Intact		OK		Inspected		
Gradient Mat		OK		Inspected		
Fence Assembly		FAIR		Damaged barb wire standoff		
Barbed Wire		OK		Inspected		
Crushed Stone Depth		OK		Inspected		
Lightning Arresters						
Manufacturer	See L.A. Sheet			Voltage	See L.A. Sheet	
Type/Cat #	See L.A. Sheet			MCOV	See L.A. Sheet	
Electrical Tests						
Test Description						
Ground Resistance	Ω	N/A				
Test Conditions		Humid/Overcast				
Results Satisfactory		FAIR				
Test Equipment		Visual				
Notes:						



Client Information

Customer	Lakeland Power	Date Tested	07/12/2022
File Number	22IM-5285	Customer Ref.	Ryan Reay
Location	109 Wellington Street, Bracebridge	Ambient Temp	25 °C
Substation	Centennial Station	Tested By	GR
Equipment I.D.	Incoming 44kV - No Pole ID	Approved By	VG

High Voltage Air/Load Break Switch

Nameplate Data

Manufacturer	S&C Electric	Voltage	46	kVolt
Type	Alduti With Power Fuses	Current	600	Amps
Style #	N/A	B.I.L.	250	kVolt
Cat #	145825R10-E	Serial #	N/A	

Mechanical Inspections

Description of Inspection	Status	Comments
		OK/FAIR/POOR/NA
Operating Mechanism	OK	Operated and Inspected
Stationary Contact Surfaces	OK	Cleaned and Inspected
Moving Contact Surfaces	OK	Cleaned, Greased and Inspected
Arcing Contact Surfaces	OK	Cleaned and Inspected
Contact Alignment	OK	Inspected
Arcing Interrupter	OK	Inspected
Connector Condition	OK	Cleaned and Inspected
Insulator Condition	OK	Cleaned and Inspected
Phase Barrier Condition	N/A	
Grounding	OK	Inspected
Lightning Arrester	OK	Inspected
Gradient Mat	OK	Inspected
Key Interlock	N/A	
Heaters & Thermostat	N/A	
Support Structure Condition	OK	Inspected
Potential Indicators	OK	Inspected

Electrical Tests

Test Description	φ A	φ B	φ C	A/B	B/C	C/A
Insulation Resistance @ 10 kV	GΩ	984	1877	932	1250	1646
Contact Resistance @ 10 A	μΩ	103	105	101		
Arc Interrupter Resistance	Ω	OK	OK	OK		

Test Conditions	Sunny
Results Satisfactory	OK
Test Equipment	10kV Megger, Ductor

Notes:



Client Information

Customer	Lakeland Power	Date Tested	07/12/2022
File Number	22IM-5285	Customer Ref.	Ryan Reay
Location	109 Wellington Street, Bracebridge	Ambient Temp	25 °C
Substation	Centennial Station	Tested By	GR
Equipment I.D.	Incoming 44kV	Approved By	VG

High Voltage Power Fuse

Fuse Holder Nameplate Data

Manufacturer	S&C Electric	Max Voltage	48.3	kVolt
Type	Alduti With Power Fuses (SMD)	Max Current	300E	Amps
Style/Cat #	145825R10-E	Serial #	N/A	

Fuse Link Nameplate Data

Type	SMD-2C	TCC	153-1
Style/Cat #	465200R3	Amps	200E

Mechanical Inspections

Description of Inspection	Status	Comments
	OK/FAIR/POOR/NA	
Operating Mechanism	OK	Operated and Inspected
Contact Surfaces	OK	Cleaned, Greased and Inspected
Contact Penetration	OK	Inspected
Contact Alignment	OK	Inspected
Expulsion-Limiting Filters	N/A	
Fuse Barrel Condition	OK	Cleaned and Inspected
Connector Condition	OK	Cleaned and Inspected
Insulator Condition	OK	Cleaned and Inspected
Phase Barrier Condition	N/A	
Support Structure	OK	Inspected
Heaters & Thermostat	N/A	
Spare Fuse Quality	OK	
Spare Fuse Quantity	OK	3 Spares

Electrical Tests

Test Description	φ A	φ B	φ C	A/B	B/C	C/A
Insulation Resistance @ 10 kV GΩ	984	1877	932	1250	1646	2320
Contact Resistance @ 10 A μΩ	623	517	523			

Test Conditions	Sunny
Results Satisfactory	OK
Test Equipment	10kV Megger, Ductor

Notes:



Client Information

Customer	Lakeland Power	Date Tested	07/12/2022
File Number	22IM-5285	Customer Ref.	Ryan Reay
Location	109 Wellington Street, Bracebridge	Ambient Temp	25 °C
Substation	Centennial Station	Tested By	GR
Equipment I.D.	Primary Surge Protection	Approved By	VG

Lightning Arrester Inspection

Nameplate Data

Manufacturer	General Electric	Voltage	46	kVolts
Cat #	9L12PPA048AS	MCOV	N/A	kVolts
Serial #	K87588	K87586	K87587	Duty Cycle Rating
				48
				kVolts

Capacitance and Power Factor Test

Insulation Tested	Test Mode	kV	Cap (pF)	Power factor		mA	Watts
				Measured	Cor. to 20°C		
CH-G - Aφ	GrndST						
CH-G - Bφ	GrndST						
CH-G - Cφ	GrndST						

Insulation Resistance (GΩ)

@	10	kVDC					
Ins. Type	X	Solid		Oil	φ A	φ B	φ C
Insulation Res.	@	25	°C		489	420	453
			Corrected to 20°C		611.25	525	566.25

Mechanical Inspections

Description of Inspection	Status	Comments
	OK/FAIR/POOR/NA	
Insulator Surface Condition	OK	Cleaned and Inspected
Connector Condition	OK	Cleaned and Inspected
Grounding	OK	Inspected
Support Structure	OK	Inspected

Test Conditions	Sunny
Results Satisfactory	OK
Test Equipment	10kV Megger

Notes:



Client Information

Customer	Lakeland Power	Date Tested	07/12/2022
File Number	221M-5285	Customer Ref.	Ryan Reay
Location	109 Wellington Street, Bracebridge	Ambient Temp	25 °C
Substation	Centennial Station	Tested By	AN
Equipment I.D.	Main 44kV Surge Arresters	Approved By	VG

Lightning Arrester Inspection

Nameplate Data

Manufacturer	Cooper Power Systems	Voltage	48	kVolts
Cat #	V10480392631A	MCOV	39	kVolts
Serial #	20853001591 20853001595 ...3001593	Duty Cycle Rating	48	kVolts

Capacitance and Power Factor Test

Insulation Tested	Test Mode	kV	Cap (pF)	Power factor		mA	Watts
				Measured	Cor. to 20°C		
CH-G - Aφ	GrndST						
CH-G - Bφ	GrndST						
CH-G - Cφ	GrndST						

Insulation Resistance (GΩ)

@	10	kVDC			
Ins. Type	X	Solid	Oil	φ A	φ B
Insulation Res.	@ 25 °C			1035	1167
Corrected to 20°C				1293.75	1458.75
					1560

Mechanical Inspections

Description of Inspection	Status	Comments
	OK/FAIR/POOR/NA	
Insulator Surface Condition	OK	Cleaned and Inspected
Connector Condition	OK	Inspected
Grounding	OK	Inspected
Support Structure	OK	Inspected

Test Conditions	Sunny, Isolated
Results Satisfactory	OK
Test Equipment	10kV Megger

Notes:



Client Information

Customer	Lakeland Power	Date Tested	07/12/2022
File Number	22IM-5285	Customer Ref.	Ryan Reay
Location	109 Wellington Street, Bracebridge	Ambient Temp	25 °C
Substation	Centennial Station	Tested By	AN
Equipment I.D.	Main Power Transformer	Approved By	VG

Power Transformer - Electrical

Nameplate Data

Manufacturer	Northern Transformer	Vector Group	Dyn1	NGR		Solid	X
Year Built	2008	Serial #	08-2256	Res.			Ω
Type	ONAN/ONAF	Liquid Type/Volume	Mineral Oil	7633			L.
Sealed	X	Conservator		Dry Type		Total Weight	27125 Kg.
Rating	10000	kVA		Primary Voltage	44		kVolts
Impedance	5.73	%		Secondary Voltage	27600		Volts
Phase	3	φ		BIL (Primary)	250 kV	BIL (Secondary)	125 kV
Oil Temp	40 °C	Max Oil Temp	59 °C	Winding Temp	N/A °C	Max Winding Temp	N/A °C

Insulation Resistance

Test Voltage	Hi	10	Low	10	kVdc	H to L + Grnd	L to H + Grnd	H to L	Core
GΩ @ 25 °C						83.5	116.4	98.6	N/A
Corrected to 20 °C						121.075	168.78	142.97	N/A

Capacitance & Dissipation Factor

Test Voltage	High	10	Low	10	C_{H-L} + C_{H-G}	C_{H-G}	C_{H-L}	C_{L-G}	C_{L-H} + C_{L-G}
Capacitance (pF)					8662.3	2801.2	5861.4	6612.7	12474.6
Current (mA)					32.66	10.57	22.1	24.94	47.04
Watts (W)					1168.6	701.43	467.36	712.53	1177.03
Power Factor					0.3578	0.6636	0.2115	0.2857	0.2503
Corrected to 20 °C					0.23257	0.43134	0.137475	0.185705	0.162695

Turns Ratio Test

Tap	Primary Volts	Calculated Ratio	<u>H1-H2</u> X0-X2			<u>H2-H3</u> X0-X3			<u>H3-H1</u> X0-X1		
			Ratio	Dev%	mA	Ratio	Dev%	mA	Ratio	Dev%	mA
1											
2											
11	42900	1.5543	1.5542	0.01	1.39	1.5542	0.01	1.87	1.5543	0	2.21
4											
5											

Winding Resistance

Tap	Current Scale	Resistance Unit	H1-H2	H2-H3	H3-H1	X0-X1	X0-X2	X0-X3
11	5A/5A	mΩ/mΩ	732.745	726.608	722.965	108.323	108.462	108.262

Tap Position Found & Left	11/11
Results Satisfactory	OK
Test Equipment	Testrano/CPTD

Notes:



Client Information

Customer	Lakeland Power	Date Tested	07/12/2022	
File Number	22IM-5285	Customer Ref.	Ryan Reay	Ambient Temp
Location	109 Wellington Street, Bracebridge	Tested By	AN	
Substation	Centennial Station	Approved By	VG	
Equipment I.D.	Main Power Transformer			

Power Transformer (Liquid Filled) - Mechanical

Mechanical Inspections						
Description of Inspection	Status			Comments		
	OK/FAIR/POOR/NA					
Breather & Silica Gel	N/A					
Conservator Tank Gaskets	N/A					
Explosion Vent Gaskets	OK			Inspected		
Inspection Cover Gaskets	OK			Inspected		
Main Cover Gaskets	OK			Inspected		
Primary Bushing Gaskets	OK			Inspected		
Primary Bushing Porcelain	OK			Cleaned and Inspected		
Primary Bushing Connections	OK			Cleaned, Torqued and Inspected		
Primary Throat Gaskets	OK			Inspected		
Secondary Bushing Gaskets	OK			Inspected		
Secondary Bushing Porcelain	OK			Cleaned and Inspected		
Secondary Bushing Connections	OK			Cleaned, Torqued and Inspected		
Secondary Throat Gaskets	OK			Inspected		
Pressure Relief Device	OK			PSI	0	
Gas Relay	N/A					
Fan Operation	OK			Inspected		
Control Wiring	OK			Inspected		
Tap Changer	OK			Inspected		
Paint Condition	OK			Colour	Grey	
Pads	OK			Inspected		
Grounding	OK			Inspected		
Radiator	OK			Inspected		
Oil Level	OK			Inspected		
Pressure Gauge	FAIR			Faded/weathered - recommend replacing		
Oil Temperature Gauge	OK			Faceplate faded/cloudy		
Winding Temperature Gauge	OK			Faceplate faded/cloudy		
Oil Temperature	Run Max	40	°C	59	°C	
Winding Temperature	Run Max	N/A	°C	N/A	°C	
Results Satisfactory	FAIR					
Test Equipment	Visual					

Notes:



Client Information

Customer	Lakeland Power			Date Tested	07/12/2022	
File Number	221M-5285	Customer Ref.	Ryan Reay	Ambient Temp	25	°C
Location	109 Wellington Street, Bracebridge			Tested By	CP/TR	
Substation	Centennial Station			Approved By	VG	
Equipment I.D.	Feeder Switchgear					

Switchgear Assembly Inspection

Nameplate Data								
Manufacturer	S&C Electric		Voltage	27.6	kVolts			
Type	Metal Enclosed/3R		Current	600	Amps			
Style/Cat #	CDT-27693		B.I.L	150	kVolts			
Phase/Wire	3/4		Serial #	LL-12794				
Mechanical Inspections								
Description of Inspection	Status		Comments					
	OK/FAIR/POOR/NA							
Identification / Warning Signs	FAIR		ID signs faded					
Lightning Arresters	FAIR		Replaced Feeder 3 LAs					
Grounding	OK		Inspected					
Bus Support Insulators	OK		Torqued and Inspected					
Bus Torque	OK		Torqued and Inspected					
Phase Barriers	OK		Cleaned and Inspected					
Compartment Barriers	OK		Cleaned and Inspected					
C.T. Wiring	OK		Inspected					
P.T. Wiring	OK		Inspected					
Indicating Meters	OK		Inspected					
Control Wiring	OK		Inspected					
Paint Condition	OK		Inspected					
Mechanical Integrity of Enclosure	OK		Inspected					
Heaters	OK		Inspected					
Interior Dry	OK		Inspected					
Electrical Tests								
Test Description			φ A	φ B	φ C	A/B	B/C	C/A
Insulation Resistance @ 10 kV	GΩ		321	282	335	630	482	698
AC Hi-Pot @ kV	μA		N/A	N/A	N/A	N/A	N/A	N/A
Test Conditions	Humid/Overcast							
Results Satisfactory	FAIR							
Test Equipment	10kV Megger							

Notes:



Client Information

Customer	Lakeland Power	Date Tested	07/12/2022
File Number	22IM-5285	Customer Ref.	Ryan Reay
Location	109 Wellington Street, Bracebridge	Ambient Temp	25 °C
Substation	Centennial Station	Tested By	CP
Equipment I.D.	Secondary PTs	Approved By	VG

Potential Transformer Ratio Test

Nameplate Data			
Manufacturer	ABB	Primary Voltage	16.8 kVolts
Type	V12-156	B.I.L.	150 kVolts
Style/Cat #	9629A82616	Accuracy	0.3W though 2
In Use Ratio	140:1	Available Ratio Taps	140:1
Electrical Tests			
Phase	ϕ A	ϕ B	ϕ C
Position			
Serial #			
Insulation Resistance (G Ω)			
Winding	A	B	C
Primary	321	282	335
Winding Resistance (Ω)			
Winding	A	B	C
Primary	1048	1051	1058
Secondary	0.3	0.3	0.3
Ratio & Polarity			
Winding	Calc. Ratio		
Polarity Confirmed:			
Test Conditions	Humid/Overcast		
Results Satisfactory	OK		
Test Equipment	Fluke 117, AEMC Megger		
Notes:			



Client Information

Customer	Lakeland Power	Date Tested	07/12/2022
File Number	22IM-5285	Customer Ref.	Ryan Reay
Location	109 Wellington Street, Bracebridge	Ambient Temp	25 °C
Substation	Centennial Station	Tested By	CP
Equipment I.D.	PT Fuses	Approved By	VG

High Voltage Power Fuse

Fuse Holder Nameplate Data

Manufacturer	Eaton	Max Voltage	25.5	kVolt
Type	CLPT	Max Current	43.5	Amps
Style/Cat #	N/A	Serial #	677CU52604	

Fuse Link Nameplate Data

Type	25CLPT	TCC	N/A
Style/Cat #	N/A	Amps	0.5E

Mechanical Inspections

Description of Inspection	Status	Comments
	OK/FAIR/POOR/NA	
Operating Mechanism	OK	Operated and Inspected
Contact Surfaces	OK	Cleaned, Greased and Inspected
Contact Penetration	OK	Inspected
Contact Alignment	OK	Inspected
Expulsion-Limiting Filters	OK	Inspected
Fuse Barrel Condition	OK	Cleaned and Inspected
Connector Condition	OK	Cleaned and Inspected
Insulator Condition	OK	Cleaned and Inspected
Phase Barrier Condition	N/A	
Support Structure	OK	Inspected
Heaters & Thermostat	N/A	
Spare Fuse Quality	POOR	
Spare Fuse Quantity	POOR	No spares found on site

Electrical Tests

Test Description	φ A	φ B	φ C	A/B	B/C	C/A
Insulation Resistance @ kV GΩ	N/A	N/A	N/A	N/A	N/A	N/A
Contact Resistance @ N/A A μΩ	20.6	20.6	20.2			

Test Conditions	Humid/Overcast
Results Satisfactory	POOR
Test Equipment	Fluke 117 Multimeter

Notes: Recommend keeping 3 spare fuses on site at all times.



Client Information

Customer	Lakeland Power	Date Tested	07/12/2022
File Number	22IM-5285	Customer Ref.	Ryan Reay
Location	109 Wellington Street, Bracebridge	Ambient Temp	25 °C
Substation	Centennial Station	Tested By	CP/TR
Equipment I.D.	CENT - LT1 Switch	Approved By	VG

High Voltage Air/Load Break Switch

Nameplate Data

Manufacturer	S&C Electric	Voltage	25 Nom/29 Max	kVolt
Type	Alduti Rupter (Indoor Distribution)	Current	600	Amps
Style #	N/A	B.I.L.	150	kVolt
Cat #	34063R4T	Serial #	N/A	

Mechanical Inspections

Description of Inspection	Status	Comments
		OK/FAIR/POOR/NA
Operating Mechanism	OK	Operated and Inspected
Stationary Contact Surfaces	OK	Cleaned, Greased and Inspected
Moving Contact Surfaces	OK	Cleaned, Greased and Inspected
Arcing Contact Surfaces	OK	Cleaned, Greased and Inspected
Contact Alignment	OK	Inspected
Arcing Interrupter	OK	Verified
Connector Condition	OK	Inspected
Insulator Condition	OK	Cleaned and Inspected
Phase Barrier Condition	OK	Cleaned and Inspected
Grounding	OK	Inspected
Lightning Arrester	OK	Cleaned and Inspected
Gradient Mat	N/A	
Key Interlock	OK	Inspected
Heaters & Thermostat	OK	Inspected
Support Structure Condition	OK	Inspected
Potential Indicators	N/A	

Electrical Tests

Test Description	GΩ	φ A	φ B	φ C	A/B	B/C	C/A
Insulation Resistance @ 10 kV	GΩ	161.3	267.8	149.3	N/A	N/A	N/A
Contact Resistance @ 10 A	μΩ	84	83	84			
Arc Interrupter Resistance	Ω	OK	OK	OK			

Test Conditions	Humid/Overcast
Results Satisfactory	OK
Test Equipment	10kV Megger, Ductor

Notes:



Client Information

Customer	Lakeland Power	Date Tested	07/12/2022
File Number	221M-5285	Customer Ref.	Ryan Reay
Location	109 Wellington Street, Bracebridge		Ambient Temp
Substation	Centennial Station	Tested By	CP/TR
Equipment I.D.	CENT - LT1 Lightning Arrester		Approved By
			VG

Lightning Arrester Inspection

Nameplate Data

Manufacturer	Ohio Brass	Voltage	27.6	kVolts
Cat #	300017	MCOV	17	kVolts
Serial #	N79838	N79830	N79266	Duty Cycle Rating
			21	kVolts

Capacitance and Power Factor Test

Insulation Tested	Test Mode	kV	Cap (pF)	Power factor		mA	Watts
				Measured	Cor. to 20°C		
CH-G - Aφ	GrndST						
CH-G - Bφ	GrndST						
CH-G - Cφ	GrndST						

Insulation Resistance (GΩ)

@	10	kVDC			
Ins. Type	X	Solid	Oil	φ A	φ B
Insulation Res.	@ 25 °C			30.53	40.05
Corrected to 20°C				38.1625	50.0625
					38.025

Mechanical Inspections

Description of Inspection	Status	Comments
	OK/FAIR/POOR/NA	
Insulator Surface Condition	OK	Cleaned and Inspected
Connector Condition	OK	Cleaned, Torqued and Inspected
Grounding	OK	Inspected
Support Structure	OK	Inspected

Test Conditions	Humid/Overcast
Results Satisfactory	OK
Test Equipment	10kV Megger

Notes:



Client Information

Customer	Lakeland Power	Date Tested	07/12/2022
File Number	22IM-5285	Customer Ref.	Ryan Reay
Location	109 Wellington Street, Bracebridge	Ambient Temp	25 °C
Substation	Centennial Station	Tested By	CP/TR
Equipment I.D.	CENT - LT2 Switch	Approved By	VG

High Voltage Air/Load Break Switch

Nameplate Data

Manufacturer	S&C Electric	Voltage	25 Nom/29 Max	kVolt
Type	Alduti Rupter (Indoor Distribution)	Current	600	Amps
Style #	N/A	B.I.L.	150	kVolt
Cat #	34063R4T	Serial #	N/A	

Mechanical Inspections

Description of Inspection	Status	Comments
OK/FAIR/POOR/NA		
Operating Mechanism	OK	Operated and Inspected
Stationary Contact Surfaces	OK	Cleaned, Greased and Inspected
Moving Contact Surfaces	OK	Cleaned, Greased and Inspected
Arcing Contact Surfaces	OK	Cleaned, Greased and Inspected
Contact Alignment	OK	Inspected
Arcing Interrupter	OK	Verified
Connector Condition	OK	Inspected
Insulator Condition	OK	Cleaned and Inspected
Phase Barrier Condition	OK	Cleaned and Inspected
Grounding	OK	Inspected
Lightning Arrester	OK	Cleaned and Inspected
Gradient Mat	N/A	
Key Interlock	OK	Inspected
Heaters & Thermostat	OK	Inspected
Support Structure Condition	OK	Inspected
Potential Indicators	N/A	

Electrical Tests

Test Description	φ A	φ B	φ C	A/B	B/C	C/A
Insulation Resistance @ 10 kV GΩ	98.4	92.1	149.3	N/A	N/A	N/A
Contact Resistance @ 10 A μΩ	87	86	84			
Arc Interrupter Resistance Ω	OK	OK	OK			

Test Conditions	Humid/Overcast
Results Satisfactory	OK
Test Equipment	10kV Megger, Ductor

Notes:



Client Information

Customer	Lakeland Power	Date Tested	07/12/2022
File Number	221M-5285	Customer Ref.	Ryan Reay
Location	109 Wellington Street, Bracebridge		Ambient Temp
Substation	Centennial Station	Tested By	CP/TR
Equipment I.D.	CENT - LT2 Lightning Arrester		Approved By
			VG

Lightning Arrester Inspection

Nameplate Data

Manufacturer	Ohio Brass	Voltage	27.6	kVolts
Cat #	300017	MCOV	17	kVolts
Serial #	N79668	N79828	N79663	Duty Cycle Rating
			21	kVolts

Capacitance and Power Factor Test

Insulation Tested	Test Mode	kV	Cap (pF)	Power factor		mA	Watts
				Measured	Cor. to 20°C		
CH-G - Aφ	GrndST						
CH-G - Bφ	GrndST						
CH-G - Cφ	GrndST						

Insulation Resistance (GΩ)

@	10	kVDC			
Ins. Type	X	Solid	Oil	φ A	φ B
Insulation Res.	@ 25 °C			31.7	33.76
Corrected to 20°C				39.625	42.2
					47.95

Mechanical Inspections

Description of Inspection	Status	Comments
	OK/FAIR/POOR/NA	
Insulator Surface Condition	OK	Cleaned and Inspected
Connector Condition	OK	Cleaned, Torqued and Inspected
Grounding	OK	Inspected
Support Structure	OK	Inspected

Test Conditions	Humid/Overcast
Results Satisfactory	OK
Test Equipment	10kV Megger

Notes:



Client Information

Customer	Lakeland Power	Date Tested	07/12/2022
File Number	22IM-5285	Customer Ref.	Ryan Reay
Location	109 Wellington Street, Bracebridge	Ambient Temp	25 °C
Substation	Centennial Station	Tested By	CP/TR
Equipment I.D.	CENT - LT3 Switch	Approved By	VG

High Voltage Air/Load Break Switch

Nameplate Data

Manufacturer	S&C Electric	Voltage	25 Nom/29 Max	kVolt
Type	Alduti Rupter (Indoor Distribution)	Current	600	Amps
Style #	N/A	B.I.L.	150	kVolt
Cat #	34063R4T	Serial #	N/A	

Mechanical Inspections

Description of Inspection	Status	Comments
		OK/FAIR/POOR/NA
Operating Mechanism	OK	Operated and Inspected
Stationary Contact Surfaces	OK	Cleaned, Greased and Inspected
Moving Contact Surfaces	OK	Cleaned, Greased and Inspected
Arcing Contact Surfaces	OK	Cleaned, Greased and Inspected
Contact Alignment	OK	Inspected
Arcing Interrupter	OK	Verified
Connector Condition	OK	Inspected
Insulator Condition	OK	Cleaned and Inspected
Phase Barrier Condition	OK	Cleaned and Inspected
Grounding	OK	Inspected
Lightning Arrester	OK	Cleaned and Inspected
Gradient Mat	N/A	
Key Interlock	OK	Inspected
Heaters & Thermostat	OK	Inspected
Support Structure Condition	OK	Inspected
Potential Indicators	N/A	

Electrical Tests

Test Description	@	kV	GΩ	φ A	φ B	φ C	A/B	B/C	C/A
Insulation Resistance				N/A	N/A	N/A	N/A	N/A	N/A
Contact Resistance		@ 10 A	μΩ	81	81	79			
Arc Interrupter Resistance			Ω	OK	OK	OK			

Test Conditions	Humid/Overcast
Results Satisfactory	OK
Test Equipment	Ductor

Notes:



Client Information

Customer	Lakeland Power	Date Tested	07/12/2022
File Number	22IM-5285	Customer Ref.	Ryan Reay
Location	109 Wellington Street, Bracebridge	Ambient Temp	25 °C
Substation	Centennial Station	Tested By	CP/TR
Equipment I.D.	CENT - LT3 Old Lightning Arresters		
Approved By	VG		

Lightning Arrester Inspection

Nameplate Data

Manufacturer	General Electric	Voltage	27.6	kVolts
Cat #	9112PPA021	MCOV	17	kVolts
Serial #	L01872 L01874 L01870	Duty Cycle Rating	21	kVolts

Capacitance and Power Factor Test

Insulation Tested	Test Mode	kV	Cap (pF)	Power factor		mA	Watts
				Measured	Cor. to 20°C		
CH-G - Aφ	GrndST						
CH-G - Bφ	GrndST						
CH-G - Cφ	GrndST						

Insulation Resistance (MΩ)

@ 10 kVDC		φ A	φ B	φ C
Ins. Type	X Solid Oil			
Insulation Res.	@ 25 °C	26.81	21.22	23.06
Corrected to 20°C		33.5125	26.525	28.825

Mechanical Inspections

Description of Inspection	Status	Comments
	OK/FAIR/POOR/NA	
Insulator Surface Condition	OK	Cleaned and Inspected
Connector Condition	OK	Cleaned, Torqued and Inspected
Grounding	OK	Inspected
Support Structure	OK	Inspected

Test Conditions	Humid/Overcast
Results Satisfactory	POOR
Test Equipment	10kV Megger

Notes: All 3 arresters failed insulation resistance testing. Existing LAs replaced with 2 LAs removed from Golden Beach DS and 1 spare on site. All LAs that were installed are near the end of their lives. Spare: A - 283.2MΩ, B - 389.3MΩ, C - 1.379GΩ, D - 11.48GΩ, E - 24.7GΩ



Client Information

Customer	Lakeland Power	Date Tested	07/12/2022
File Number	221M-5285	Customer Ref.	Ryan Reay
Location	109 Wellington Street, Bracebridge	Ambient Temp	25 °C
Substation	Centennial Station	Tested By	CP/TR
Equipment I.D.	CENT - LT2 Replacement Lightning Arresters		

Lightning Arrester Inspection

Nameplate Data

Manufacturer	General Electric	Voltage	27.6	kVolts
Cat #	9112PPA021	MCOV	17	kVolts
Serial #	Faded	Faded	L11837	Duty Cycle Rating
			21	kVolts

Capacitance and Power Factor Test

Insulation Tested	Test Mode	kV	Cap (pF)	Power factor		mA	Watts
				Measured	Cor. to 20°C		
CH-G - Aφ	GrndST						
CH-G - Bφ	GrndST						
CH-G - Cφ	GrndST						

Insulation Resistance (GΩ)

@	10	kVDC					
Ins. Type	X	Solid		Oil	φ A	φ B	φ C
Insulation Res.	@	25	°C		1.379	11.48	24.7
Corrected to 20°C					1.72375	14.35	30.875

Mechanical Inspections

Description of Inspection	Status	Comments
	OK/FAIR/POOR/NA	
Insulator Surface Condition	OK	Cleaned and Inspected
Connector Condition	OK	Cleaned, Torqued and Inspected
Grounding	OK	Inspected
Support Structure	OK	Inspected

Test Conditions	Humid/Overcast
Results Satisfactory	OK
Test Equipment	10kV Megger

Notes:



Client Information

Customer	Lakeland Power			Date Tested	07/12/2022	
File Number	221M-5285	Customer Ref.	Ryan Reay	Ambient Temp	25	°C
Location	109 Wellington Street, Bracebridge			Tested By	TR	
Substation	Centennial Station			Approved By	VG	
Equipment I.D.	CENT LR1					

High Voltage Recloser

Nameplate Data

Manufacturer	G&W			Voltage	38	kVolts
Type	Viper ST			Current	800	Amps
Style/Cat #	PME-V1P398ER-12-1-ST-P1			Interrupting Cap.	12500	Amps
Serial #'s	E2264	E2265	E2268	B.I.L.	150	kVolts
No. of Operations	N/A	N/A	N/A	Oil Volume	N/A	gal.(US)

Mechanical Inspections

Description of Inspection	Status	Comments
	OK/FAIR/POOR/NA	
Operating Mechanism	OK	Operated and Inspected
Stationary Contact Surfaces	N/A	Enclosed
Moving Contact Surfaces	N/A	Enclosed
Arcing Contact Surfaces	N/A	Enclosed
Contact Alignment	N/A	Enclosed
Arc Chutes	N/A	Enclosed
Closing Solenoid	N/A	Enclosed
Phase Barrier Condition	N/A	
Bushings	OK	Cleaned, Greased and Inspected
Connections & Terminals	OK	Cleaned, Greased and Inspected
Tank & Head Casting Condition	N/A	
Grounding	OK	Inspected
O-Ring Gasket	N/A	
Oil Leaks	N/A	
Lifting Strap	N/A	

Electrical Tests

Test Description		φ A	φ B	φ C	A/B	B/C	C/A
Insulation Resistance @ 10 kV	GΩ	193.8	166.5	283.1	495	904	839
Open Insulation Res. @ 10 kV	GΩ	210.1	118.1	230.9			
Contact Resistance @ 10 A	μΩ	89	91	88			

Test Conditions	Humid/Overcast
Results Satisfactory	OK
Test Equipment	Megger, Ductor

Notes:



Client Information

Customer	Lakeland Power			Date Tested	07/12/2022	
File Number	221M-5285	Customer Ref.	Ryan Reay	Ambient Temp	25	°C
Location	109 Wellington Street, Bracebridge			Tested By	TR	
Substation	Centennial Station			Approved By	VG	
Equipment I.D.	CENT LR2					

High Voltage Recloser

Nameplate Data

Manufacturer	G&W			Voltage	38	kVolts
Type	Viper ST			Current	800	Amps
Style/Cat #	PME-V1P398ER-12-1-ST-P1			Interrupting Cap.	12500	Amps
Serial #'s	E1296	E1296	E1291	B.I.L.	150	kVolts
No. of Operations	N/A	N/A	N/A	Oil Volume	N/A	gal.(US)

Mechanical Inspections

Description of Inspection	Status	Comments
	OK/FAIR/POOR/NA	
Operating Mechanism	OK	Operated and Inspected
Stationary Contact Surfaces	N/A	Enclosed
Moving Contact Surfaces	N/A	Enclosed
Arcing Contact Surfaces	N/A	Enclosed
Contact Alignment	N/A	Enclosed
Arc Chutes	N/A	Enclosed
Closing Solenoid	N/A	Enclosed
Phase Barrier Condition	N/A	
Bushings	OK	Cleaned, Greased and Inspected
Connections & Terminals	OK	Cleaned, Greased and Inspected
Tank & Head Casting Condition	N/A	
Grounding	OK	Inspected
O-Ring Gasket	N/A	
Oil Leaks	N/A	
Lifting Strap	N/A	

Electrical Tests

Test Description		φ A	φ B	φ C	A/B	B/C	C/A
Insulation Resistance @ 10 kV	GΩ	268.6	283.4	287.2	526	735	813
Open Insulation Res. @ 10 kV	GΩ	221.2	219.4	269.5			
Contact Resistance @ 10 A	μΩ	90	92	94			

Test Conditions	Humid/Overcast
Results Satisfactory	OK
Test Equipment	Megger, Ductor

Notes:



Client Information

Customer	Lakeland Power	Date Tested	07/12/2022
File Number	221M-5285	Customer Ref.	Ryan Reay
Location	109 Wellington Street, Bracebridge	Ambient Temp	25 °C
Substation	Centennial Station	Tested By	TR
Equipment I.D.	CENT LR3	Approved By	VG

High Voltage Recloser

Nameplate Data							
Manufacturer	G&W			Voltage	38	kVolts	
Type	Viper ST			Current	800	Amps	
Style/Cat #	PME-V1P398ER-12-1-ST			Interrupting Cap.	12500	Amps	
Serial #'s	E1768	E1768	E1768	B.I.L.	150	kVolts	
No. of Operations	N/A	N/A	N/A	Oil Volume	N/A	gal.(US)	
Mechanical Inspections							
Description of Inspection	Status			Comments			
	OK/FAIR/POOR/NA						
Operating Mechanism	OK			Operated and Inspected			
Stationary Contact Surfaces	N/A			Enclosed			
Moving Contact Surfaces	N/A			Enclosed			
Arcing Contact Surfaces	N/A			Enclosed			
Contact Alignment	N/A			Enclosed			
Arc Chutes	N/A			Enclosed			
Closing Solenoid	N/A			Enclosed			
Phase Barrier Condition	N/A						
Bushings	OK			Cleaned, Greased and Inspected			
Connections & Terminals	OK			Cleaned, Greased and Inspected			
Tank & Head Casting Condition	N/A						
Grounding	OK			Inspected			
O-Ring Gasket	N/A						
Oil Leaks	N/A						
Lifting Strap	N/A						
Electrical Tests							
Test Description	φ A	φ B	φ C	A/B	B/C	C/A	
Insulation Resistance @ 10 kV	GΩ	297.4	263.9	151.7	673	642	841
Open Insulation Res. @ 10 kV	GΩ	237.1	250.8	273.2			
Contact Resistance @ 10 A	μΩ	92	90	99			
Test Conditions	Humid/Overcast						
Results Satisfactory	OK						
Test Equipment	Megger, Ductor						
Notes:							



High Voltage Utility Solutions Group

Oil Analysis

109 Wellington Street, Bracebridge

KPC Power Electrical Ltd
 395 WESTNEY RD S

AJAX , . L1S 6M6 CA
 ATTN: ELAINE OWEN
 PO#: 22IM-5285

Project ID: CENTENNIAL STATION
Customer ID: T1

Serial#: 082256
Location: 109 WELLINGTON ST
Equipment: TRANSFORMER
Compartment: MAIN(BOTTOM)
Breathing: SEAL
Bank: Phase: 3
Fluid: MIN Liters: 7633

Mfr: NORTHERN
kV: 44
kVA: 13555
Year Mf'd: 2008
Syringe ID: 8007024
Bottle ID:
Sampled By: CP

Control#: 7562484
Order#: 680510
Account: 6541
Received: 07/19/2022
Reported: 08/04/2022

	Lab Control Number:	7562484	7522291	7424867	7332566	7222763
	Date Sampled:	07/13/2022	02/15/2022	02/10/2021	04/16/2020	03/12/2019
	Order Number:	680510	670904	646760	617654	589537
	Oil Temp:	25	20	20	20	20
Dissolved Gas Analysis (DGA)	O2/N2 Ratio:	0.31	0.33	0.34	0.37	0.39
ASTM	Transformer Age (yrs):	14	14	13	12	11
D-3612¹	Hydrogen (H2) (µL/L):	10	9	11	7	9
	Methane (CH4) (µL/L):	4	4	4	4	4
	Ethane (C2H6) (µL/L):	1	2	2	2	2
	Ethylene (C2H4) (µL/L):	27	28	26	20	17
	Acetylene (C2H2) (µL/L):	2	1	1	2	2
	Carbon Monoxide (CO) (µL/L):	338	328	328	257	194
	Carbon Dioxide (CO2) (µL/L):	1396	1072	1065	934	783
	Nitrogen (N2) (µL/L):	55370	57359	67653	66971	71405
	Oxygen (O2) (µL/L):	17372	19047	22670	24689	27718

Dissolved Gas Analysis Diagnostics – IEEE Std C57.104-2019

Gas	Absolute Gas Levels (µL/L)		Gas Level Deltas(µL/L) (2 most recent samples)		Gas Generation Rates (µL/L per yr) (3-6 most recent samples within 4-24 mos.)	
	Level	Diagnostic	Delta	Diagnostic	Rate	Diagnostic
Hydrogen (H2)	10	Normal (<= 40)	1	Normal Variation (<= 25)	-1	No active gassing (<= 10)
Methane (CH4)	4	Normal (<= 20)	0	Normal Variation (<= 10)	0	No active gassing (<= 3)
Ethane (C2H6)	1	Normal (<= 15)	-1		-1	No active gassing (<= 2)
Ethylene (C2H4)	27	Normal (<= 60)	-1		1	No active gassing (<= 5)
Acetylene (C2H2)	2	Normal (<= 2)	1	Excessive Variation (> 0)	1	Probable active gassing (> 0)
Carbon Monoxide (CO)	338	Normal (<= 500)	10	Normal Variation (<= 175)	6	No active gassing (<= 80)
Carbon Dioxide (CO2)	1396	Normal (<= 5500)	324	Normal Variation (<= 1750)	189	No active gassing (<= 800)

DGA Diagnostics	Roger's Ratio	Diagnostic not applicable - Gas levels normal.
	Duval Triangles	Diagnostic not applicable – Triangle 1 gas levels normal. Diagnostic not applicable – Triangle 4 gas levels normal. Diagnostic not applicable – Triangle 5 gas levels normal.
	Duval Pentagons	Diagnostic not applicable - Gas levels normal.
	Cellulose insulation	CO and CO2 levels are normal. No indication of a fault involving paper.
	DGA Status	Status 3 - High gas levels and/or probable active gassing. Probably suspicious - perform fault identification and transformer assessment. Take appropriate action based on transformer assessment results and company policy.
	Resampling Protocol	Surveillance
	Weidmann Resampling Recommendation	Increase frequency to verify gassing rates. Consider online monitoring and comprehensive engineering assessment.

Comment:

Notations: 1. Analysis is ISO/IEC 17025:2017 accredited, ANAB 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.

KPC Power Electrical Ltd 395 WESTNEY RD S AJAX , . L1S 6M6 CA ATTN: ELAINE OWEN PO#: 22IM-5285 Project ID: CENTENNIAL STATION Customer ID: T1	Serial#: 082256 Location: 109 WELLINGTON ST Equipment: TRANSFORMER Compartment: MAIN(BOTTOM) Breathing: SEAL Bank: Phase: 3 Fluid: MIN Liters: 7633	Mfr: NORTHERN kV: 44 kVA: 13555 Year Mf'd: 2008 Syringe ID: 8007024 Bottle ID: Sampled By: CP	Control#: 7562484 Order#: 680510 Account: 6541 Received: 07/19/2022 Reported: 08/04/2022
---	--	--	---

	Lab Control Number:				
	Date Sampled:	7562484	7522291	7424867	7332566
	Order Number:	07/13/2022	02/15/2022	02/10/2021	04/16/2020
	Oil Temp:	680510	670904	646760	617654
		25	20	20	20
General Oil Quality (GOQ)					
ASTM D-1533¹	Moisture in Oil (mg/kg):	6	<2	2	<2
ASTM D-971¹	Interfacial Tension (mN/m):	38.21	38.88	39.35	39.22
ASTM D-974¹	Acid Number (mg KOH/g):	0.011	0.011	0.013	0.006
ASTM D-1500¹	Color Number (ASTM):	L1.0	L1.0	1.0	1.0
ASTM D-1524¹	Visual Exam. (Relative):	PASS	PASS	PASS	PASS
		CLR&BRIGHT	CLR&BRIGHT	CLR&BRIGHT	CLR&BRIGHT
ASTM D-1524¹	Sediment Exam. (Relative):	ND	ND	ND	ND
ASTM D-1816¹	Dielectric Breakdown 2 mm (kV °C):	56 (23 C)	53 (22°C)	69 (23°C)	53 (22°C)
ASTM D-4052¹	Density @15°C (g/mL):	0.8832	0.8825	0.8813	0.8833
GOQ Diagnostics	Moisture in Oil:	Acceptable for in-service oil (35 mg/kg max).			
PER IEEE C57.106-2015	Interfacial Tension:	Acceptable for in-service oil (25 mN/m min).			
(most recent sample)	Acid Number:	Acceptable for in-service oil (0.2 mg KOH/g max).			
	Color Number and Visual:	Diagnostic not applicable. Diagnostic not applicable.			
	Dielectric Breakdown ASTM D-1816:	Acceptable for in-service oil (40 kV min @ 2mm).			
Comment:					

End of Test Report


 Authorized By: _____
JANET KAROLAT
 SUPV CHEMIST

Notations: 1. Analysis is ISO/IEC 17025:2017 accredited, ANAB 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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High Voltage Utility Solutions Group

REPORT

2022 Infrared Thermographic Inspection & PD Report

Lakeland Power



High Voltage Utility Solutions Group

October 31, 2022

Lakeland Power

395 Centre St. N.

Suite 200

Huntsville, ON P1H 2M2

Attention	Ryan Reay
Project	IR Inspection
Location	Centennial MS
Reference #	22IM-5372

Dear Ryan,

K.P.C. Power Electrical Ltd. (KPC Power) completed the Infrared Thermography Inspection and PD AT Centennial MS located at 109 Wellington Street, Bracebridge on September 1, 2022.

The inspection conducted during normal business hours revealed one thermal anomaly which should be addressed with respect to the NETA severity classifications. Reference images have been included. The results of the PD is also included in this report.

Please feel at liberty to contact our office should you have any questions or concerns. Thank you for the opportunity to have been of service.

Thank you,

Dmitry Starikov
Technical Field Service Representative

Severity Classifications

Severity Levels	Temperature difference (ΔT) based on comparisons between similar components under similar loading	Temperature difference (ΔT) based on comparisons between component and ambient air temperatures	Recommended action
Severity Level 1	1 °C to 3 °C	1 °C to 10 °C	Possible deficiency; warrants investigation.
Severity Level 2	4 °C to 15 °C	11 °C to 20 °C	Indicates probable deficiency; repair as time permits.
Severity Level 3	-----	21 °C to 40 °C	Monitor until corrective measures can be accomplished.
Severity Level 4	>15 °C	>40 °C	Major discrepancy; repair immediately.

Table 100.18 "Thermographic Survey Suggested Actions Based on Temperature Rise" Courtesy InterNational Electrical Testing Association (NETA) ANSI/MTS-07



TABLE OF CONTENTS

THERMAL ANOMALY	5
THERMAL REFERENCE IMAGES	7
PARTIAL DISCHARGE	11



High Voltage Utility Solutions Group

Thermal Anomaly

109 Wellington Street, Bracebridge

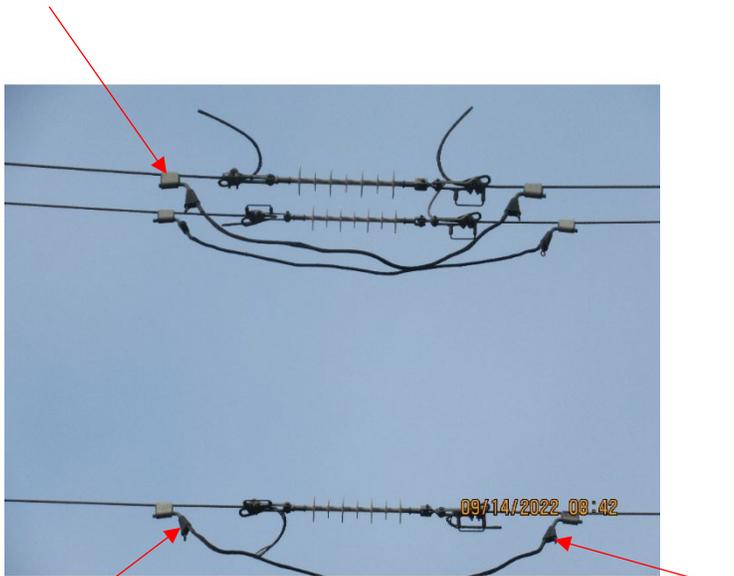
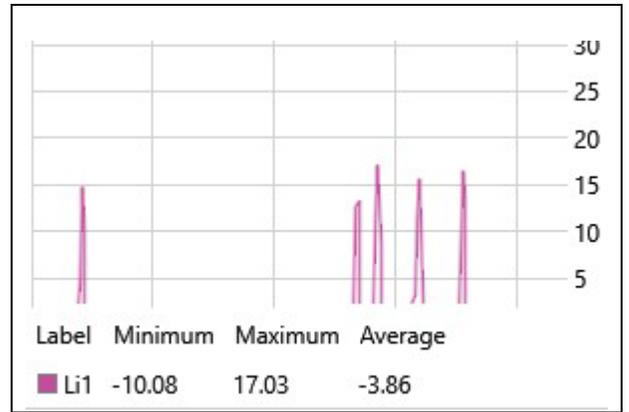
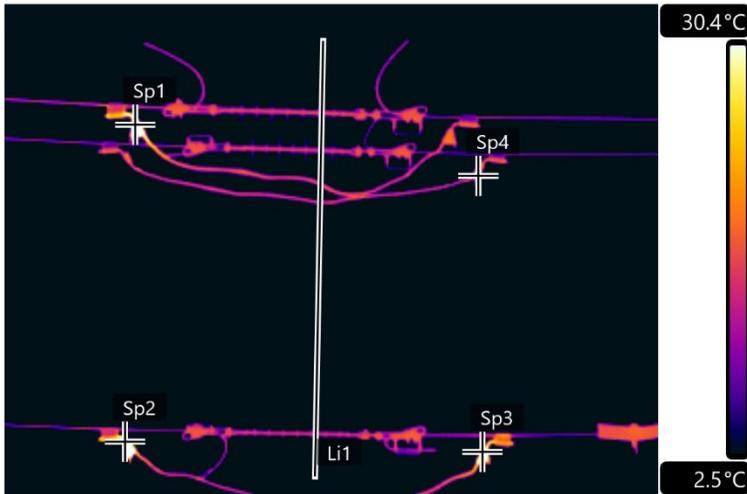


Image Date&Time	2022-09-14 8:43:15 AM
Image Camera Model	FLIR E75
Object Distance	6.0 m
Relative humidity	76%
Object Emissivity	0.98
Li1 Maximum	17.0 °C
Sp1	37.8 °C
Sp2	37.4 °C
Sp3	34.7 °C
Sp4	18.9 °C
Temp.Difference	18.8 °C

Client Location:	Lakeland Power – Centennial MS Substation, 109 Wellington St, Bracebridge							
Equipment location:	Centennial MS Substation, by pole 7X-657/LC-A05							
Equipment Identification:	44kV In-line Switch BRA-LLO							
Loading Amps	"A" Phase	N/A	"B" Phase	N/A	"C" Phase	N/A	Neutral	N/A
Analysis & Recommendations:								
<p>During the infrared inspection thermal variance was detected across "Blue and Red Phases" on the Ampact Wedge Connection.</p> <p>Recommendation: Replace ampact wedge connections and rescan once repairs are complete.</p>								
SEVERITY RESPONSE:	LOW	MEDIUM	HIGH	IMMEDIATE				



High Voltage Utility Solutions Group

Thermal Reference Images

109 Wellington Street, Bracebridge

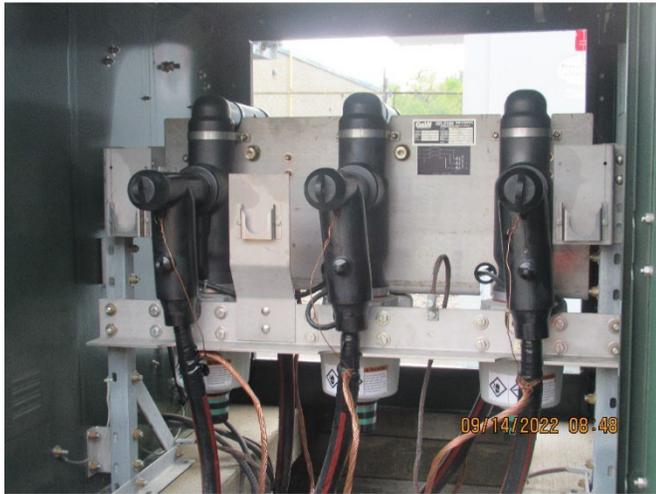
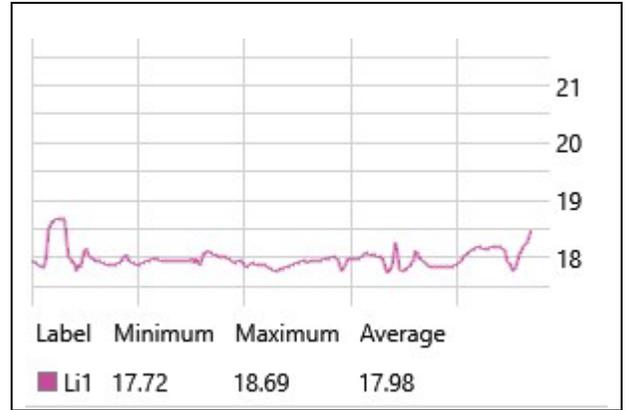
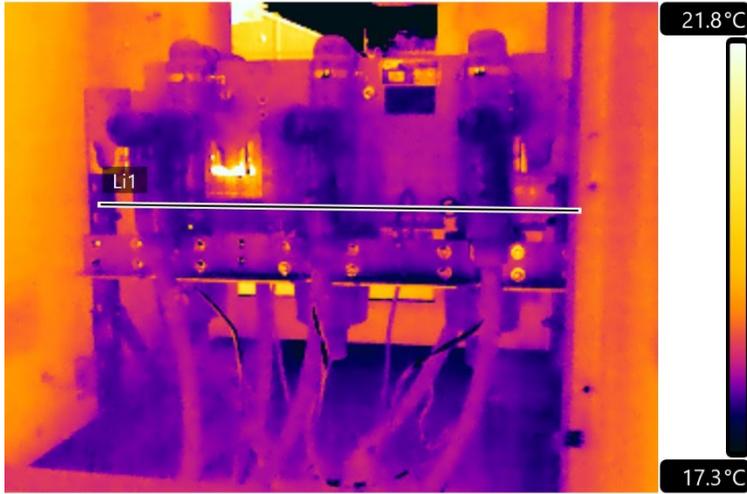


Image Date&Time	2022-09-14 8:49:08 AM
Image Camera Model	FLIR E75
Object Distance	2.0 m
Relative humidity	76%
Object Emissivity	0.98
Li1 Maximum	18.7 °C

Client Location:	Lakeland Power – Centennial MS Substation, 109 Wellington St, Bracebridge							
Equipment location:	Centennial MS Substation							
Equipment Identification:	27.6kV Recloser CENT-LR1, street side							
Loading Amps	"A" Phase	N/A	"B" Phase	N/A	"C" Phase	N/A	Neutral	N/A
Analysis & Recommendations:	During the infrared inspection no thermal anomalies detected. The above images are for reference only.							

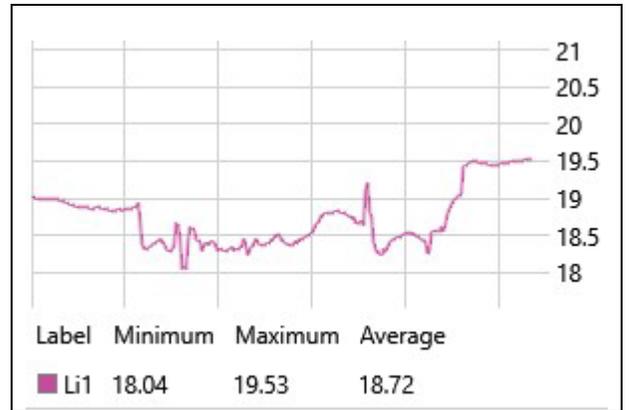
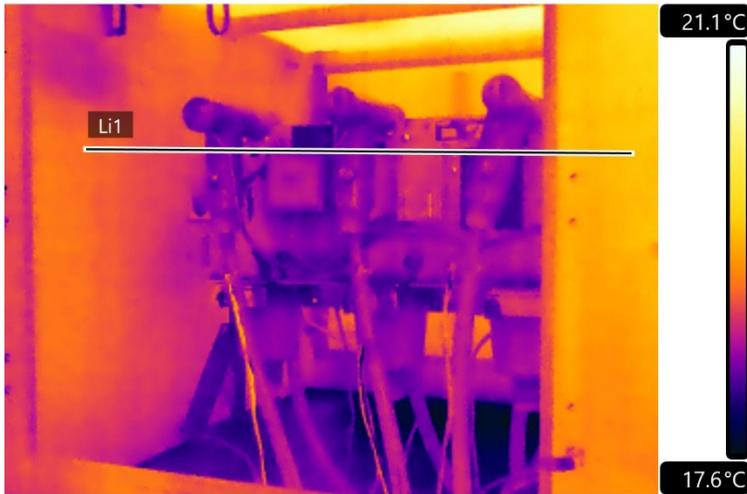


Image Date&Time	2022-09-14 8:50:54 AM
Image Camera Model	FLIR E75
Object Distance	2.0 m
Relative humidity	76%
Object Emissivity	0.98
Li1 Maximum	19.5 °C

Client Location:	Lakeland Power – Centennial MS Substation, 109 Wellington St, Bracebridge							
Equipment location:	Centennial MS Substation							
Equipment Identification:	27.6kV Recloser CENT-LR1							
Loading Amps	"A" Phase	N/A	"B" Phase	N/A	"C" Phase	N/A	Neutral	N/A
Analysis & Recommendations:								
During the infrared inspection no thermal anomalies detected. The above images are for reference only.								

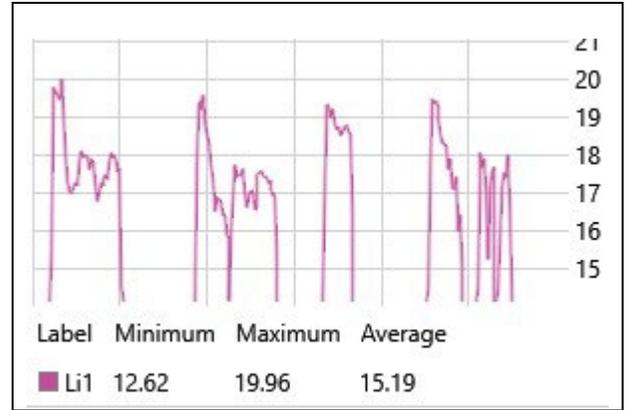
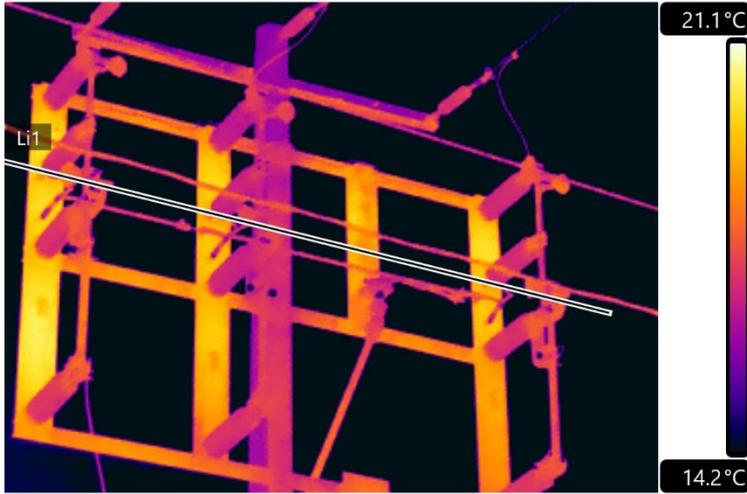


Image Date&Time	2022-09-14 8:58:07 AM
Image Camera Model	FLIR E75
Object Distance	6.0 m
Relative humidity	76%
Object Emissivity	0.98
Li1 Maximum	20.0 °C

Client Location:	Lakeland Power – Centennial MS Substation, 109 Wellington St, Bracebridge							
Equipment location:	Centennial MS Substation							
Equipment Identification:	44kV Air Breake Switch CENT-LBS							
Loading Amps	"A" Phase	N/A	"B" Phase	N/A	"C" Phase	N/A	Neutral	N/A
Analysis & Recommendations:								
During the infrared inspection no thermal anomalies detected. The above images are for reference only.								



High Voltage Utility Solutions Group

PD Analysis

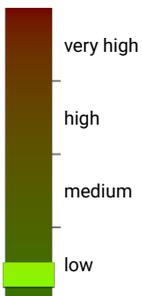
109 Wellington Street, Bracebridge

Partial Discharge Report

Snapshots	1
Minimum level	9.2 dB
Maximum level	9.2 dB
Snapshots without results	0



Severity



Description

This is classified as corona, i.e., partial discharge into air. In most cases, corona is harmless.

Recommendation

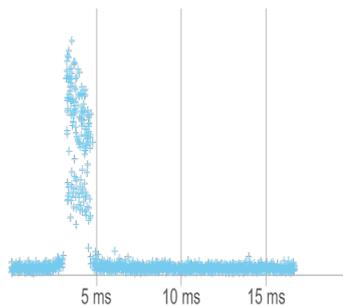
Typically no action required unless power loss, audible noise, electromagnetic interference, or deterioration of nearby polymer insulators is a problem.

Properties

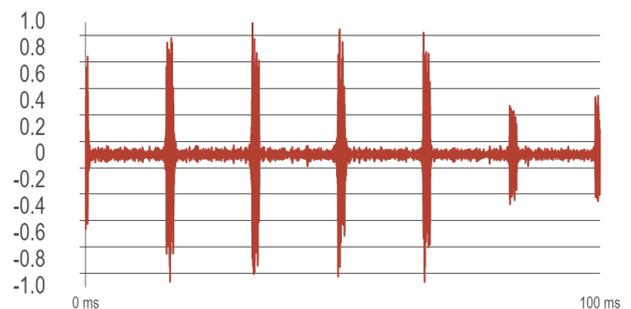
Level	9.2 dB
Date created	14.9.2022
Device	AC13F096
Device Label	AC13F096_00173_220914_0904_0173
Distance	5 m
Voltage	44 kV
Location	cable termination

Partial discharge type PRPD

- negative corona
- positive and negative corona
- floating discharge
- surface or internal discharge



Waveform



Comments

Appendix L

Revised Total IRM Bill Impacts

Revised Total IRM Bill Impacts

Table 2

RATE CLASSES / CATEGORIES <i>(eg: Residential TOU, Residential Retailer)</i>	Units	Sub-Total						Total	
		A		B		C		Total Bill	
		\$	%	\$	%	\$	%	\$	%
RESIDENTIAL SERVICE CLASSIFICATION - RPP	kWh	\$ 7.89	20.2%	\$ 13.39	28.2%	\$ 14.34	23.8%	\$ 12.84	8.9%
GENERAL SERVICE LESS THAN 50 kW SERVICE CLASSIFICATION - RPP	kWh	\$ 15.67	22.6%	\$ 29.87	33.0%	\$ 32.00	26.3%	\$ 28.64	8.2%
GENERAL SERVICE 50 to 4,999 kW SERVICE CLASSIFICATION - Non-RPP (Other)	kW	\$ 266.96	35.0%	\$ 574.04	54.7%	\$ 661.28	29.1%	\$ 747.25	4.4%
UNMETERED SCATTERED LOAD SERVICE CLASSIFICATION - RPP	kWh	\$ 3.25	17.6%	\$ 4.73	22.8%	\$ 4.97	20.5%	\$ 4.44	9.1%
SENTINEL LIGHTING SERVICE CLASSIFICATION - RPP	kW	\$ 1.99	17.3%	\$ 2.13	17.4%	\$ 2.20	16.6%	\$ 1.97	9.1%
STREET LIGHTING SERVICE CLASSIFICATION - Non-RPP (Other)	kW	\$ 163.06	17.8%	\$ 211.71	19.9%	\$ 222.13	18.3%	\$ 251.01	7.1%
RESIDENTIAL SERVICE CLASSIFICATION - Non-RPP (Retailer)	kWh	\$ 7.89	20.2%	\$ 15.41	30.7%	\$ 16.37	25.9%	\$ 18.50	8.8%

Customer Class:	RESIDENTIAL SERVICE CLASSIFICATION	
RPP / Non-RPP:	RPP	
Consumption	750	kWh
Demand	-	kW
Current Loss Factor	1.0652	
Proposed/Approved Loss Factor	1.0652	

	Current OEB-Approved			Proposed			Impact	
	Rate (\$)	Volume	Charge (\$)	Rate (\$)	Volume	Charge (\$)	\$ Change	% Change
Monthly Service Charge	\$ 40.01	1	\$ 40.01	\$ 41.43	1	\$ 41.43	\$ 1.42	3.55%
Distribution Volumetric Rate	\$ -	750	\$ -	\$ -	750	\$ -	\$ -	-
DRP Adjustment	\$ -	750	\$ -	\$ -	750	\$ -	\$ -	-
Fixed Rate Riders	\$ (0.90)	1	\$ (0.90)	\$ 5.57	1	\$ 5.57	\$ 6.47	-718.89%
Volumetric Rate Riders	\$ -	750	\$ -	\$ -	750	\$ -	\$ -	-
Sub-Total A (excluding pass through)			\$ 39.11			\$ 47.00	\$ 7.89	20.17%
Line Losses on Cost of Power	\$ 0.1275	49	\$ 6.24	\$ 0.1275	49	\$ 6.24	\$ -	0.00%
Total Deferral/Variance Account Rate Riders	\$ 0.0020	750	\$ (1.50)	\$ 0.0048	750	\$ 3.60	\$ 5.10	-340.00%
CBR Class B Rate Riders	\$ -	750	\$ -	\$ 0.0001	750	\$ 0.08	\$ 0.08	-
GA Rate Riders	\$ -	750	\$ -	\$ -	750	\$ -	\$ -	-
Low Voltage Service Charge	\$ 0.0042	750	\$ 3.15	\$ 0.0046	750	\$ 3.45	\$ 0.30	9.52%
Smart Meter Entity Charge (if applicable)	\$ 0.42	1	\$ 0.42	\$ 0.42	1	\$ 0.42	\$ -	0.00%
Additional Fixed Rate Riders	\$ (0.02)	1	\$ (0.02)	\$ -	1	\$ -	\$ 0.02	-100.00%
Additional Volumetric Rate Riders	\$ -	750	\$ -	\$ -	750	\$ -	\$ -	-
Sub-Total B - Distribution (includes Sub-Total A)			\$ 47.40			\$ 60.78	\$ 13.39	28.24%
RISR - Network	\$ 0.0089	799	\$ 7.11	\$ 0.0096	799	\$ 7.67	\$ 0.56	7.87%
RISR - Connection and/or Line and Transformation Connection	\$ 0.0072	799	\$ 5.75	\$ 0.0077	799	\$ 6.15	\$ 0.40	6.94%
Sub-Total C - Delivery (including Sub-Total B)			\$ 60.26			\$ 74.60	\$ 14.34	23.80%
Wholesale Market Service Charge (WMSC)	\$ 0.0047	799	\$ 3.75	\$ 0.0047	799	\$ 3.75	\$ -	0.00%
Rural and Remote Rate Protection (RRRP)	\$ 0.0006	799	\$ 0.48	\$ 0.0006	799	\$ 0.48	\$ -	0.00%
Standard Supply Service Charge	\$ 0.25	1	\$ 0.25	\$ 0.25	1	\$ 0.25	\$ -	0.00%
TOU - Off Peak	\$ 0.0980	480	\$ 47.04	\$ 0.0980	480	\$ 47.04	\$ -	0.00%
TOU - Mid Peak	\$ 0.1570	135	\$ 21.20	\$ 0.1570	135	\$ 21.20	\$ -	0.00%
TOU - On Peak	\$ 0.2030	135	\$ 27.41	\$ 0.2030	135	\$ 27.41	\$ -	0.00%
Total Bill on TOU (before Taxes)			\$ 160.38			\$ 174.73	\$ 14.34	8.94%
HST	13%		\$ 20.85	13%		\$ 22.71	\$ 1.86	8.94%
Ontario Electricity Rebate	23.5%		\$ (37.69)	23.5%		\$ (41.06)	\$ (3.37)	-
Total Bill on TOU			\$ 143.54			\$ 156.38	\$ 12.84	8.94%

In the manager's summary, discuss the reas

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Customer Class:	GENERAL SERVICE LESS THAN 50 KW SERVICE CLASSIFICATION
RPP / Non-RPP:	RPP
Consumption	2,000 kWh
Demand	- kW
Current Loss Factor	1.0652
Proposed/Approved Loss Factor	1.0652

	Current OEB-Approved			Proposed			Impact	
	Rate (\$)	Volume	Charge (\$)	Rate (\$)	Volume	Charge (\$)	\$ Change	% Change
Monthly Service Charge	\$ 45.05	1	\$ 45.05	\$ 46.65	1	\$ 46.65	\$ 1.60	3.55%
Distribution Volumetric Rate	\$ 0.0135	2000	\$ 27.00	\$ 0.0140	2000	\$ 28.00	\$ 1.00	3.70%
Fixed Rate Riders	\$ -	1	\$ -	\$ 10.47	1	\$ 10.47	\$ 10.47	
Volumetric Rate Riders	\$ 0.0013	2000	\$ (2.60)	\$ -	2000	\$ -	\$ 2.60	-100.00%
Sub-Total A (excluding pass through)			\$ 69.45			\$ 85.12	\$ 15.67	22.56%
Line Losses on Cost of Power	\$ 0.1275	130	\$ 16.63	\$ 0.1275	130	\$ 16.63	\$ -	0.00%
Total Deferral/Variance Account Rate Riders	\$ 0.0019	2,000	\$ (3.80)	\$ 0.0048	2,000	\$ 9.60	\$ 13.40	-352.63%
CBR Class B Rate Riders	\$ -	2,000	\$ -	\$ 0.0001	2,000	\$ 0.20	\$ 0.20	
GA Rate Riders	\$ -	2,000	\$ -	\$ -	2,000	\$ -	\$ -	
Low Voltage Service Charge	\$ 0.0039	2,000	\$ 7.80	\$ 0.0042	2,000	\$ 8.40	\$ 0.60	7.69%
Smart Meter Entity Charge (if applicable)	\$ 0.42	1	\$ 0.42	\$ 0.42	1	\$ 0.42	\$ -	0.00%
Additional Fixed Rate Riders	\$ -	1	\$ -	\$ -	1	\$ -	\$ -	
Additional Volumetric Rate Riders	\$ -	2,000	\$ -	\$ -	2,000	\$ -	\$ -	
Sub-Total B - Distribution (includes Sub-Total A)			\$ 90.50			\$ 120.37	\$ 29.87	33.01%
RTSR - Network	\$ 0.0081	2,130	\$ 17.26	\$ 0.0087	2,130	\$ 18.53	\$ 1.28	7.41%
RTSR - Connection and/or Line and Transformation Connection	\$ 0.0066	2,130	\$ 14.06	\$ 0.0070	2,130	\$ 14.91	\$ 0.85	6.06%
Sub-Total C - Delivery (including Sub-Total B)			\$ 121.82			\$ 153.82	\$ 32.00	26.27%
Wholesale Market Service Charge (WMSC)	\$ 0.0047	2,130	\$ 10.01	\$ 0.0047	2,130	\$ 10.01	\$ -	0.00%
Rural and Remote Rate Protection (RRRP)	\$ 0.0006	2,130	\$ 1.28	\$ 0.0006	2,130	\$ 1.28	\$ -	0.00%
Standard Supply Service Charge	\$ 0.25	1	\$ 0.25	\$ 0.25	1	\$ 0.25	\$ -	0.00%
TOU - Off Peak	\$ 0.0980	1,280	\$ 125.44	\$ 0.0980	1,280	\$ 125.44	\$ -	0.00%
TOU - Mid Peak	\$ 0.1570	360	\$ 56.52	\$ 0.1570	360	\$ 56.52	\$ -	0.00%
TOU - On Peak	\$ 0.2030	360	\$ 73.08	\$ 0.2030	360	\$ 73.08	\$ -	0.00%
Total Bill on TOU (before Taxes)			\$ 388.40			\$ 420.40	\$ 32.00	8.24%
HST	13%		\$ 50.49	13%		\$ 54.65	\$ 4.16	8.24%
Ontario Electricity Rebate	23.5%		\$ (91.27)	23.5%		\$ (98.79)	\$ (7.52)	
Total Bill on TOU			\$ 347.61			\$ 376.26	\$ 28.64	8.24%

In the manager's summary, discuss the reasons for the change.

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Customer Class:	GENERAL SERVICE 50 to 4,999 KW SERVICE CLASSIFICATION
RPP / Non-RPP:	Non-RPP (Other)
Consumption	72,866 kWh
Demand	189 kW
Current Loss Factor	1.0652
Proposed/Approved Loss Factor	1.0652

	Current OEB-Approved			Proposed			Impact	
	Rate (\$)	Volume	Charge (\$)	Rate (\$)	Volume	Charge (\$)	\$ Change	% Change
Monthly Service Charge	\$ 271.06	1	\$ 271.06	\$ 280.68	1	\$ 280.68	\$ 9.62	3.55%
Distribution Volumetric Rate	\$ 3.2379	189,11353	\$ 612.33	\$ 3.3528	189,1135266	\$ 634.06	\$ 21.73	3.55%
Fixed Rate Riders	\$ -	1	\$ -	\$ 114.29	1	\$ 114.29	\$ 114.29	
Volumetric Rate Riders	\$ 0.6415	189,11353	\$ (121.32)	\$ -	189,1135266	\$ -	\$ 121.32	-100.00%
Sub-Total A (excluding pass through)			\$ 762.07			\$ 1,029.03	\$ 266.96	35.03%
Line Losses on Cost of Power	\$ -	-	\$ -	\$ -	-	\$ -	\$ -	
Total Deferral/Variance Account Rate Riders	\$ 0.7380	189	\$ (139.57)	\$ 0.2337	189	\$ (44.20)	\$ 95.37	-68.33%
CBR Class B Rate Riders	\$ -	189	\$ -	\$ 0.0403	189	\$ 7.62	\$ 7.62	
GA Rate Riders	\$ 0.0017	72,866	\$ 123.87	\$ 0.0044	72,866	\$ 320.61	\$ 196.74	158.82%
Low Voltage Service Charge	\$ 1.6033	189	\$ 303.21	\$ 1.6422	189	\$ 310.56	\$ 7.36	2.43%
Smart Meter Entity Charge (if applicable)	\$ -	1	\$ -	\$ -	1	\$ -	\$ -	
Additional Fixed Rate Riders	\$ -	1	\$ -	\$ -	1	\$ -	\$ -	
Additional Volumetric Rate Riders	\$ -	189	\$ -	\$ -	189	\$ -	\$ -	
Sub-Total B - Distribution (includes Sub-Total A)			\$ 1,049.59			\$ 1,623.63	\$ 574.04	54.69%
RTSR - Network	\$ 3.5495	189	\$ 671.26	\$ 3.8163	189	\$ 721.71	\$ 50.46	7.52%
RTSR - Connection and/or Line and Transformation Connection	\$ 2.9129	189	\$ 550.87	\$ 3.1074	189	\$ 587.65	\$ 36.78	6.68%
Sub-Total C - Delivery (including Sub-Total B)			\$ 2,271.71			\$ 2,933.00	\$ 661.28	29.11%
Wholesale Market Service Charge (WMSC)	\$ 0.0047	77,617	\$ 364.80	\$ 0.0047	77,617	\$ 364.80	\$ -	0.00%
Rural and Remote Rate Protection (RRRP)	\$ 0.0006	77,617	\$ 46.57	\$ 0.0006	77,617	\$ 46.57	\$ -	0.00%
Standard Supply Service Charge	\$ 0.25	1	\$ 0.25	\$ 0.25	1	\$ 0.25	\$ -	0.00%
Average IESO Wholesale Market Price	\$ 0.1596	77,617	\$ 12,387.72	\$ 0.1596	77,617	\$ 12,387.72	\$ -	0.00%
Total Bill on Average IESO Wholesale Market Price			\$ 15,071.06			\$ 15,732.34	\$ 661.28	4.39%
HST	13%		\$ 1,959.24	13%		\$ 2,045.20	\$ 85.97	4.39%
Ontario Electricity Rebate	23.5%		\$ -	23.5%		\$ -	\$ -	
Total Bill on Average IESO Wholesale Market Price			\$ 17,030.30			\$ 17,777.54	\$ 747.25	4.39%

In the manager's summary, discuss the reasons for the change.

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Customer Class:	UNMETERED SCATTERED LOAD SERVICE CLASSIFICATION
RPP / Non-RPP:	RPP
Consumption	224 kWh
Demand	- kW
Current Loss Factor	1.0652
Proposed/Approved Loss Factor	1.0652

	Current OEB-Approved			Proposed			Impact	
	Rate (\$)	Volume	Charge (\$)	Rate (\$)	Volume	Charge (\$)	\$ Change	% Change
Monthly Service Charge	\$ 13.03	1	\$ 13.03	\$ 13.49	1	\$ 13.49	\$ 0.46	3.53%
Distribution Volumetric Rate	\$ 0.0254	224.41402	\$ 5.70	\$ 0.0263	224.4140212	\$ 5.90	\$ 0.20	3.54%
Fixed Rate Riders	\$ -	1	\$ -	\$ 2.27	1	\$ 2.27	\$ 2.27	
Volumetric Rate Riders	\$ -	224.41402	\$ (0.31)	\$ -	224.4140212	\$ -	\$ 0.31	-100.00%
Sub-Total A (excluding pass through)			\$ 18.42			\$ 21.66	\$ 3.25	17.63%
Line Losses on Cost of Power	\$ 0.1275	15	\$ 1.87	\$ 0.1275	15	\$ 1.87	\$ -	0.00%
Total Deferral/Variance Account Rate Riders	\$ 0.0018	224	\$ (0.40)	\$ 0.0044	224	\$ 0.99	\$ 1.39	-344.44%
CBR Class B Rate Riders	\$ -	224	\$ -	\$ 0.0001	224	\$ 0.02	\$ 0.02	
GA Rate Riders	\$ -	224	\$ -	\$ -	224	\$ -	\$ -	
Low Voltage Service Charge	\$ 0.0039	224	\$ 0.88	\$ 0.0042	224	\$ 0.94	\$ 0.07	7.69%
Smart Meter Entity Charge (if applicable)	\$ -	1	\$ -	\$ -	1	\$ -	\$ -	
Additional Fixed Rate Riders	\$ -	1	\$ -	\$ -	1	\$ -	\$ -	
Additional Volumetric Rate Riders	\$ -	224	\$ -	\$ -	224	\$ -	\$ -	
Sub-Total B - Distribution (includes Sub-Total A)			\$ 20.75			\$ 25.48	\$ 4.73	22.78%
RTSR - Network	\$ 0.0081	239	\$ 1.94	\$ 0.0087	239	\$ 2.08	\$ 0.14	7.41%
RTSR - Connection and/or Line and Transformation Connection	\$ 0.0066	239	\$ 1.58	\$ 0.0070	239	\$ 1.67	\$ 0.10	6.86%
Sub-Total C - Delivery (including Sub-Total B)			\$ 24.27			\$ 29.23	\$ 4.97	20.47%
Wholesale Market Service Charge (WMSC)	\$ 0.0047	239	\$ 1.12	\$ 0.0047	239	\$ 1.12	\$ -	0.00%
Rural and Remote Rate Protection (RRRP)	\$ 0.0006	239	\$ 0.14	\$ 0.0006	239	\$ 0.14	\$ -	0.00%
Standard Supply Service Charge	\$ 0.25	1	\$ 0.25	\$ 0.25	1	\$ 0.25	\$ -	0.00%
TOU - Off Peak	\$ 0.0980	144	\$ 14.08	\$ 0.0980	144	\$ 14.08	\$ -	0.00%
TOU - Mid Peak	\$ 0.1570	40	\$ 6.34	\$ 0.1570	40	\$ 6.34	\$ -	0.00%
TOU - On Peak	\$ 0.2030	40	\$ 8.20	\$ 0.2030	40	\$ 8.20	\$ -	0.00%
Total Bill on TOU (before Taxes)			\$ 54.40			\$ 59.37	\$ 4.97	9.13%
HST	13%		\$ 7.07	13%		\$ 7.72	\$ 0.65	9.13%
Ontario Electricity Rebate	23.5%		\$ (12.78)	23.5%		\$ (13.95)	\$ (1.17)	
Total Bill on TOU			\$ 48.69			\$ 53.13	\$ 4.44	9.13%

In the manager's summary, discuss the reasons for the change.

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Customer Class:	SENTINEL LIGHTING SERVICE CLASSIFICATION
RPP / Non-RPP:	RPP
Consumption	80 kWh
Demand	0 kW
Current Loss Factor	1.0652
Proposed/Approved Loss Factor	1.0652

	Current OEB-Approved			Proposed			Impact	
	Rate (\$)	Volume	Charge (\$)	Rate (\$)	Volume	Charge (\$)	\$ Change	% Change
Monthly Service Charge	\$ 6.55	1	\$ 6.55	\$ 6.78	1	\$ 6.78	\$ 0.23	3.51%
Distribution Volumetric Rate	\$ 22.7983	0.2239583	\$ 5.11	\$ 23.6076	0.223958333	\$ 5.29	\$ 0.18	3.55%
Fixed Rate Riders	\$ -	1	\$ -	\$ 1.39	1	\$ 1.39	\$ 1.39	
Volumetric Rate Riders	\$ 0.8343	0.2239583	\$ (0.19)	\$ -	0.223958333	\$ -	\$ 0.19	-100.00%
Sub-Total A (excluding pass through)			\$ 11.47			\$ 13.46	\$ 1.99	17.33%
Line Losses on Cost of Power	\$ 0.1275	5	\$ 0.67	\$ 0.1275	5	\$ 0.67	\$ -	0.00%
Total Deferral/Variance Account Rate Riders	\$ 0.6858	0	\$ (0.15)	\$ 0.1953	0	\$ (0.04)	\$ 0.11	-71.52%
CBR Class B Rate Riders	\$ -	0	\$ -	\$ 0.0466	0	\$ 0.01	\$ 0.01	
GA Rate Riders	\$ -	80	\$ -	\$ -	80	\$ -	\$ -	
Low Voltage Service Charge	\$ 1.1401	0	\$ 0.26	\$ 1.2433	0	\$ 0.28	\$ 0.02	9.05%
Smart Meter Entity Charge (if applicable)	\$ -	1	\$ -	\$ -	1	\$ -	\$ -	
Additional Fixed Rate Riders	\$ -	1	\$ -	\$ -	1	\$ -	\$ -	
Additional Volumetric Rate Riders	\$ -	0	\$ -	\$ -	0	\$ -	\$ -	
Sub-Total B - Distribution (includes Sub-Total A)			\$ 12.24			\$ 14.37	\$ 2.13	17.42%
RTSR - Network	\$ 2.5258	0	\$ 0.57	\$ 2.7156	0	\$ 0.61	\$ 0.04	7.51%
RTSR - Connection and/or Line and Transformation Connection	\$ 2.0713	0	\$ 0.46	\$ 2.2096	0	\$ 0.49	\$ 0.03	6.68%
Sub-Total C - Delivery (including Sub-Total B)			\$ 13.27			\$ 15.47	\$ 2.20	16.62%
Wholesale Market Service Charge (WMSC)	\$ 0.0047	86	\$ 0.40	\$ 0.0047	86	\$ 0.40	\$ -	0.00%
Rural and Remote Rate Protection (RRRP)	\$ 0.0006	86	\$ 0.05	\$ 0.0006	86	\$ 0.05	\$ -	0.00%
Standard Supply Service Charge	\$ 0.25	1	\$ 0.25	\$ 0.25	1	\$ 0.25	\$ -	0.00%
TOU - Off Peak	\$ 0.0980	51	\$ 5.04	\$ 0.0980	51	\$ 5.04	\$ -	0.00%
TOU - Mid Peak	\$ 0.1570	14	\$ 2.27	\$ 0.1570	14	\$ 2.27	\$ -	0.00%
TOU - On Peak	\$ 0.2030	14	\$ 2.94	\$ 0.2030	14	\$ 2.94	\$ -	0.00%
Total Bill on TOU (before Taxes)			\$ 24.23			\$ 26.43	\$ 2.20	9.10%
HST	13%		\$ 3.15	13%		\$ 3.44	\$ 0.29	9.10%
Ontario Electricity Rebate	23.5%		\$ (5.69)	23.5%		\$ (6.21)	\$ (0.52)	
Total Bill on TOU			\$ 21.68			\$ 23.65	\$ 1.97	9.10%

In the manager's summary, discuss the reasons for the change.

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Customer Class:	STREET LIGHTING SERVICE CLASSIFICATION
RPP / Non-RPP:	Non-RPP (Other)
Consumption	11,061 kWh
Demand	32 kW
Current Loss Factor	1.0652
Proposed/Approved Loss Factor	1.0652

	Current OEB-Approved			Proposed			Impact	
	Rate (\$)	Volume	Charge (\$)	Rate (\$)	Volume	Charge (\$)	\$ Change	% Change
Monthly Service Charge	\$ 1.83	356.375	\$ 652.17	\$ 1.89	356.375	\$ 673.55	\$ 21.38	3.28%
Distribution Volumetric Rate	\$ 8.3565	32,104.167	\$ 268.28	\$ 8.6532	32,104.16667	\$ 277.80	\$ 9.53	3.55%
Fixed Rate Riders	\$ -	356.375	\$ -	\$ 0.36	356.375	\$ 128.30	\$ 128.30	
Volumetric Rate Riders	\$ 0.1200	32,104.167	\$ (3.85)	\$ -	32,104.16667	\$ -	\$ 3.85	-100.00%
Sub-Total A (excluding pass through)			\$ 916.59			\$ 1,079.65	\$ 163.06	17.79%
Line Losses on Cost of Power	\$ 0.1596	721	\$ 115.10	\$ 0.1596	721	\$ 115.10	\$ -	0.00%
Total Deferral/Variance Account Rate Riders	\$ 0.6469	32	\$ (20.77)	\$ 0.2033	32	\$ (6.53)	\$ 14.24	-68.57%
CBR Class B Rate Riders	\$ -	32	\$ -	\$ 0.0393	32	\$ 1.26	\$ 1.26	
GA Rate Riders	\$ 0.0017	11,061	\$ 18.80	\$ 0.0044	11,061	\$ 48.67	\$ 29.87	158.82%
Low Voltage Service Charge	\$ 1.1299	32	\$ 36.27	\$ 1.2322	32	\$ 39.56	\$ 3.28	9.05%
Smart Meter Entity Charge (if applicable)	\$ -	356.375	\$ -	\$ -	356.375	\$ -	\$ -	
Additional Fixed Rate Riders	\$ -	356.375	\$ -	\$ -	356.375	\$ -	\$ -	
Additional Volumetric Rate Riders	\$ -	32	\$ -	\$ -	32	\$ -	\$ -	
Sub-Total B - Distribution (includes Sub-Total A)			\$ 1,066.00			\$ 1,277.71	\$ 211.71	19.86%
RTSR - Network	\$ 2.4972	32	\$ 80.17	\$ 2.6849	32	\$ 86.20	\$ 6.03	7.52%
RTSR - Connection and/or Line and Transformation Connection	\$ 2.0528	32	\$ 65.90	\$ 2.1898	32	\$ 70.30	\$ 4.40	6.67%
Sub-Total C - Delivery (including Sub-Total B)			\$ 1,212.08			\$ 1,434.21	\$ 222.13	18.33%
Wholesale Market Service Charge (WMSC)	\$ 0.0047	11,782	\$ 55.38	\$ 0.0047	11,782	\$ 55.38	\$ -	0.00%
Rural and Remote Rate Protection (RRRP)	\$ 0.0006	11,782	\$ 7.07	\$ 0.0006	11,782	\$ 7.07	\$ -	0.00%
Standard Supply Service Charge	\$ 0.25	356.375	\$ 89.09	\$ 0.25	356.375	\$ 89.09	\$ -	0.00%
Average IESO Wholesale Market Price	\$ 0.1596	11,061	\$ 1,765.37	\$ 0.1596	11,061	\$ 1,765.37	\$ -	0.00%
Total Bill on Average IESO Wholesale Market Price			\$ 3,128.99			\$ 3,351.12	\$ 222.13	7.10%
HST	13%		\$ 406.77	13%		\$ 435.65	\$ 28.88	7.10%
Ontario Electricity Rebate	23.5%		\$ -	23.5%		\$ -	\$ -	
Total Bill on Average IESO Wholesale Market Price			\$ 3,535.76			\$ 3,786.77	\$ 251.01	7.10%

In the manager's summary, discuss the reasons for the change in the total bill on average IESO Wholesale Market Price.