Lindsay Baxter
Manager, Regulatory and Clean Energy Strategy
lbaxter@duqlight.com
(412) 393-6224

May 26, 2022

VIA OVERNIGHT MAIL

Ms. Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
2nd Floor, Room-N201
400 North Street
Harrisburg, PA 17120

Re: **Duquesne Light Company**
Amended Quarterly Electric Reliability Report – 4th Quarter 2021
Docket No. M-2016-2522508

Dear Secretary Chiavetta:

Enclosed please find an amended Quarterly Electric Reliability Report for the fourth quarter of 2021 that corrects errors in the original filing. Duquesne Light Company recently identified an error in a query used in the creation of this report that incorrectly identified the device that operated most frequently (i.e. opened or closed by Operator action or automatically due to a fault) for each circuit.

This error impacted Duquesne Light's Q4 2020 report, and all four quarterly reports filed in 2021. Amended reports are being filed for all five quarters with corrections to the worst performing circuits list and Attachment A. The amended reports are being filed in redlined and clean versions.

This amended report should replace the previously filed report in its entirety and Duquesne Light requests that the original filing be removed from the docket.

The report is submitted in two versions, proprietary and non-proprietary. The proprietary version contains all the information required by 52 Pa. Code § 57.195 and is marked as "**Confidential**." Duquesne Light Company respectfully requests that the proprietary version of the Quarterly Electric Reliability Report not be made available to the public.

The non-proprietary version has been e-filed at the above referenced docket.

If you have any questions regarding the information contained in this filing, please feel free to contact me.

Sincerely,

Lindsay A. Baxter
Manager, Regulatory and Clean Energy Strategy

Enclosure
cc (w/ redacted version):
Dan Searfoorce (dsearfoorc@pa.gov)
John Van Zant (jvanzant@pa.gov)
Harry Bidelspach (hbidelspac@pa.gov)
Patrick Cicero (pcicero@paoca.org)
Stephen Gray (sgray@pa.gov)
Sharon Webb (swebb@pa.gov)

Duquesne Light Company
Fourth Quarter 2021

Electric Reliability Report

to the

Pennsylvania Public Utility Commission

January 31, 2022
Revised: May 26, 2022

57.195 Reporting Requirements

(e)(1) *A description of each major event that occurred during the preceding quarter, including the time and duration of the event, the number of customers affected, the cause of the event and any modified procedures adopted in order to avoid or minimize the impact of similar events in the future.*

No major events occurred during the fourth quarter of 2021.

(e)(2) *Rolling 12-month reliability index values (SAIFI, CAIDI, SAIDI, and if available, MAIFI) for the electric distribution company's service territory for the preceding quarter. The report shall include the data used in calculating the indices, namely the average number of customers served, the number of sustained customer interruptions, the number of customers affected, and the customer minutes of interruption. If MAIFI values are provided, the report shall also include the number of customer momentary interruptions.*

RELIABILITY BENCHMARKS AND STANDARDS
Duquesne Light Company
System Performance Measures with Major Events Excluded

Entire System				
	SAIDI	**SAIFI**	**CAIDI**	**MAIFI**
Benchmark	126	1.17	108	*
12 Month Standard	182	1.40	130	*
2021 4Q (Rolling 12 mo)	173	0.93	187	*

* Sufficient information to calculate MAIFI is unavailable.

Duquesne Light has been a strong performer in reliability over the past 15 years. The Company's success in this area can be at least partially attributed to the wide deployment of intelligent devices on the system that can quickly isolate a fault to the least number of customers.

Through the fourth quarter of 2021, Duquesne Light's CAIDI is above both the benchmark and the 12-month standard, while SAIFI performance is below both the benchmark and standard and SAIDI is below the standard. The increase in CAIDI is primarily attributable to weather impacts. Over the past decade, fluctuations have been observed in the average, minimum, and maximum temperature; wind speed; total inches of precipitation; and the number of days with precipitation. Notable increases of approximately 20 mph have been observed in both sustained and gust wind as well as amount of and days with precipitation. During the trailing 12 months, Duquesne Light has had multiple reported storms impacting our system. Five of those storms affected over 40,000 customers, with the largest storm having over 51,000 customers impacted

which is just below the threshold for an excludable event (10% of customers or approximately 60,000 customers).[1]

Formulas used in calculating the indices

$$SAIFI = \frac{\text{(Total KVA interrupted) - (KVA impact of major events)}}{\text{System Connected KVA}}$$

$$SAIDI = \frac{\text{(Total KVA-minutes interrupted) - (KVA-minute impact of major events)}}{\text{System Connected KVA}}$$

$$CAIDI = SAIDI/SAIFI$$

Data used in calculating the indices

Total KVA Interrupted for the Period:	7,289,927 KVA
Total KVA-Minutes Interrupted:	1,361,272,688 KVA-Minutes
System Connected Load as of 12/31/21	7,869,335 KVA

(e)(3) *Rolling 12-month reliability index values (SAIFI, CAIDI, SAIDI, and if available, MAIFI) and other pertinent information such as customers served, number of interruptions, customer minutes interrupted, number of lockouts, and so forth, for the worst performing 5% of the circuits in the system. An explanation of how the electric distribution company defines its worst performing circuits shall be included.*

Circuits are evaluated based on a rolling twelve-month count of lockouts of protective devices (circuit breakers, reclosers, sectionalizers, and line fuses) and on total accumulated KVA-minutes of customer outage time. Circuits that experience multiple lockouts for a device in combination with high total accumulated KVA-minutes of customer outage time in each quarterly rolling twelve-month period are identified and the top 5% are reported as worst-performing circuits.

The list of worst-performing circuits is ranked first by the number of KVA-minutes of outage experienced by customers on these circuits (highest to lowest) and then by device lockouts from highest to lowest. This places a higher priority on circuits with repeat outages affecting

[1] 1 See Docket No. M-2021-3023564, Outage Reports to inform the Commission of utility service outages per 52 PA CODE 67.1

customers (SAIFI) while also focusing on outage duration for customers on these circuits (SAIDI).

While repairs are made as quickly as possible following every customer outage, circuits that appear on the worst performing circuits list are targeted for more extensive remediation based on a detailed review of historical outage records looking at root cause problems, field evaluations, and engineering analysis. Project scopes developed as a result of this analysis are incorporated into the Company's Work Plan for engineering, design, and construction. Since the focus is on reducing future customer outage duration and not just outage frequency, special attention is given to establishing/optimizing sectionalizing switch locations and alternate feeds to problem-prone areas of circuits and, where possible, replacing or eliminating equipment that has historically required lengthy repair times as well as a high failure rates.

At the end of each quarter all previously identified circuits are reviewed to verify that past remediation efforts are working and to look for new reliability issues that may be developing. Serious new reliability problems are addressed immediately without waiting additional periods to collect information. This analysis method provides for timely review of circuit performance by in-house staff and it adapts to the dynamic nature of Duquesne Light’s distribution system.

Special Note: *Because of sophisticated protection and remote automation technologies that the Company uses on its distribution circuits, not all customers on a circuit identified as a worst performing circuit actually experience significant reliability issues. Circuit problems are generally isolated to one load block of a circuit in less than five minutes with downstream customers only experiencing short momentary operations. Customers upstream of a circuit problem may not even experience a momentary outage. Therefore, many customers on a circuit identified as a poor performer do not experience problems with reliability.*

See Attachment A for a list of worst-performing circuits showing feeder device lockouts and reliability index values associated with each circuit.

(e)(4) Specific remedial efforts taken and planned for the worst performing 5% of the circuits as identified in paragraph (3).

Fourth Quarter 2021 Rolling 12 Month Circuit Data

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
1 23610 Findlay Breaker	1 Total Outage(s) Fourth Quarter Outage(s): • No outage(s). Previous Outage(s): • One outage was due to a storm.	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2021 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2026. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q3 2021. Proposed for 2026.
2 23705 North Fuse Link	3 Total Outage(s) Fourth Quarter Outage(s): • One outage was by an unknown cause. Previous Outage(s): • One outage was caused by tree fall-in Outside ROW. • One outage was by an unknown cause.	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2020 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2025. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q4 2021. Proposed for 2025.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
3 23921 Logan's Ferry Recloser	2 Total Outage(s) Fourth Quarter Outage(s): • One outage was caused by high winds. Previous Outage(s): • One outage was caused by tree fall-in Outside ROW.	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2017 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2022. • The Company plans to perform reliability enhancements, such as installing additional overhead protective devices. • Vegetation Management completed Q4 2020. Proposed for 2024.
4 23707 North Breaker	2 Total Outage(s) Fourth Quarter Outage(s): • One outage was caused by equipment failure. Previous Outage(s): • One outage was caused by tree fall-in Outside ROW.	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection was performed in 2017. • Next Overhead Line Inspection planned for 2022. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q3 2017. Proposed for 2022.
5 23743 Oakland Recloser	4 Total Outage(s) Fourth Quarter Outage(s): • One outage was caused by equipment failure. Previous Outage(s): • Two outages were caused by tree fall-in Outside ROW. • One outage was caused by contact with company equipment by vehicle.	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection scheduled for 2021. • Next Overhead Line Inspection planned for 2026. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q3 2020. Proposed for 2024.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
6 23701 North Fuse Link	2 Total Outage(s) Fourth Quarter Outage(s): • No outage(s). Previous Outage(s): • One outage was caused by tree fall-in Outside ROW. • One outage was by an unknown cause.	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection was performed in 2018. • Overhead Line Inspection planned for 2023. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q3 2021. Proposed for 2025.
7 23868 Wildwood Fuse Link	6 Total Outage(s) Fourth Quarter Outage(s): • No outage(s). Previous Outage(s): • Two outages were caused by high winds. • Three outages were by unknown causes. • One outage was due to a storm.	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2020 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2025. • The Company plans to perform reliability enhancements, such as installing new switching devices. • Vegetation Management completed Q3 2020. Proposed for 2025.
8 23614 Findlay Fuse Link	2 Total Outage(s) Fourth Quarter Outage(s): • No outage(s). Previous Outage(s): • One outage was caused by equipment failure. • One outage was caused by animal contact.	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2020 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2025. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q3 2021. Proposed for 2025.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
9 23706 North Fuse Link	4 Total Outage(s) Fourth Quarter Outage(s): • No outage(s). Previous Outage(s): • Three outages were caused by tree fall-in Outside ROW. • One outage was by an unknown cause.	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2018 and all high priority repairs completed. • Overhead Line Inspection planned for 2023. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q4 2018. Proposed for 2022.
10 23700 North Fuse Link	3 Total Outage(s) Fourth Quarter Outage(s): • No outage(s). Previous Outage(s): • One outage was caused by equipment failure. • Two outages were caused by tree fall-in Outside ROW.	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection was performed in 2017. • Overhead Line Inspection planned for 2022. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q4 2017. Proposed for 2022.
11 23816 Bellevue Fuse Link	1 Total Outage(s) Fourth Quarter Outage(s): • One outage was caused by tree fall-in Outside ROW. Previous Outage(s): • No outage(s).	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2017 and all high priority repairs completed. • Overhead Line Inspection planned for 2022. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q3 2017. Proposed for 2023.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
12 23841 Arsenal Fuse Link	2 Total Outage(s) Fourth Quarter Outage(s): • No outage(s). Previous Outage(s): • One outage was due to a storm. • One outage was caused by tree fall-in Outside ROW.	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection will be performed in 2017. • Overhead Line Inspection planned for 2022. • The Company plans to perform reliability enhancements, such as reconfiguring switching devices. • Vegetation Management completed Q4 2018. Proposed for 2022.
13 23869 Wildwood Breaker	4 Total Outage(s) Fourth Quarter Outage(s): • No outage(s). Previous Outage(s): • Three outages were caused by tree fall-in Outside ROW. • One outage was caused by contact with company equipment by vehicle.	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2017 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2022. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q2 2020. Proposed for 2025.
14 23745 Oakland Fuse Link	1 Total Outage(s) Fourth Quarter Outage(s): • One outage was caused by equipment failure. Previous Outage(s): • No outage(s).	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2020 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2025. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q4 2020. Proposed for 2024.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
15 23750 Dravosburg Fuse Link	3 Total Outage(s) Fourth Quarter Outage(s): • No outage(s). Previous Outage(s): • Two outages were by unknown causes. • One outage was caused by high winds.	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection will be performed in 2021 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2026. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q4 2018. Proposed for 2022.
16 23802 Elwyn Breaker	1 Total Outage(s) Fourth Quarter Outage(s): • One outage was by an unknown cause. Previous Outage(s): • No outage(s).	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2017 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2022. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q2 2020. Proposed for 2024.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
17 23709 North Fuse Link	2 Total Outage(s) Fourth Quarter Outage(s): • One outage was caused by tree fall-in Outside ROW. Previous Outage(s): • One outage was caused by tree fall-in Outside ROW.	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2020 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2025. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q3 2017. Proposed for 2022.
18 23860 Wilson Breaker	1 Total Outage(s) Fourth Quarter Outage(s): • No outage(s). Previous Outage(s): • One outage was caused by tree fall-in Inside ROW.	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2017 and all high priority repairs completed. • Overhead Line Inspection planned for 2022. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q3 2017. Proposed for 2022.
19 4107 Wilkinsburg Breaker	3 Total Outage(s) Fourth Quarter Outage(s): • No outage(s). Previous Outage(s): • One outage was caused by tree fall-in Inside ROW. • One outage was due to a storm. • One outage was caused by equipment failure.	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2019 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2024. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q4 2021. Proposed for 2025.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
20 22177 Universal-Wilkinsburg No.4 Breaker	4 Total Outage(s) Fourth Quarter Outage(s): • One outage was caused by tree fall-in Outside ROW. Previous Outage(s): • One outage was caused by a storm. • Two outages were caused by tree fall-in Inside ROW.	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2021 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2026. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q2 2017. Proposed for 2022.
21 23822 Highland Sectionalizer	2 Total Outage(s) Fourth Quarter Outage(s): • One outage was caused by contact with company equipment by vehicle. Previous Outage(s): • One outage was caused by contact with company equipment by vehicle.	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2019 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2024. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q4 2019. Proposed for 2023.
22 23661 Crescent Fuse Link	3 Total Outage(s) Fourth Quarter Outage(s): • No outage(s). Previous Outage(s): • One outage was caused by tree fall-in Outside ROW. • Two outages were by unknown causes.	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2018 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2023. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q4 2020. Proposed for 2025.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
23 22869 Midland-Cooks Ferry Fuse Link	5 Total Outage(s) Fourth Quarter Outage(s): • No outage(s). Previous Outage(s): • Two outages were caused by tree fall-in Outside ROW. • One outage was caused by contact with company equipment by vehicle. • One outage was caused by outside contractor work. • One outage was by an unknown cause.	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2018 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2023. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q2 2018. Proposed for 2022.
24 23821 Highland Fuse Link	1 Total Outage(s) Fourth Quarter Outage(s): • No outage(s). Previous Outage(s): • One outage was caused by equipment failure.	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2017 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2022. • The Company performed reliability enhancements in 2021, specifically configuring switching devices. • Vegetation Management completed Q1 2021. Proposed for 2025.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
25 23690 Brunot Island Breaker	5 Total Outage(s) Fourth Quarter Outage(s): • No outage(s). Previous Outage(s): • Three outages were caused by equipment failure. • Two outages were by unknown causes.	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2017 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2022. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q3 2018. Proposed for 2022.
26 23708 North Recloser	3 Total Outage(s) Fourth Quarter Outage(s): • One outage was caused by tree fall-in Outside ROW. Previous Outage(s): • One outage was caused by tree fall-in Outside ROW. • One outage was caused by equipment failure.	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2020 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2025. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q4 2017. Proposed for 2023.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
27 22358 Carnegie-Calgon Recloser	1 Total Outage(s) Fourth Quarter Outage(s): • No outage(s). Previous Outage(s): • One outage was caused by contact with company equipment by vehicle.	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2020 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2025. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q3 2021. Proposed for 2026.

(e)(5) *A rolling 12-month breakdown and analysis of outage causes during the preceding quarter, including the number and percentage of service outages, the number of customers interrupted, and customer interruption minutes categorized by outage cause such as equipment failure, animal contact, tree related, and so forth. Proposed solutions to identified service problems shall be reported.*

Proposed solutions to identified service problems are listed in Section (e)(4) above.

January 1, 2021 through December 31, 2021
No PUC Major Event Exclusions

CAUSE	NO. OF OUTAGES	OUTAGE PERCENTAGE	KVA TOTAL	KVA PERCENTAGE	KVA-MINUTE TOTAL	KVA-MINUTE PERCENTAGE
Storms	556	17%	1,326,525	18%	347,953,875	26%
Trees (Inside ROW)	205	6%	402,047	6%	106,456,732	8%
Trees (Outside ROW)	1,064	32%	2,229,391	31%	507,309,391	37%
Equipment Failures	674	20%	1,671,589	23%	248,525,102	18%
Overloads	58	1%	34,765	<1%	2,346,153	<1%
Vehicles	180	5%	581,170	8%	73,087,162	5%
Contact/Dig In	36	1%	108,868	1%	7,550,938	1%
Animal Contact	129	4%	183,697	3%	12,947,333	1%
Unknown	334	10%	530,993	7%	33,609,887	2%
Other	121	4%	220,882	3%	21,486,115	2%
TOTALS	3,357	100%	7,289,927	100%	1,361,272,688	100%

(e)(6) *Quarterly and year-to-date information on progress toward meeting transmission and distribution inspection and maintenance goals/ objectives.*

2021 Transmission and Distribution Goals and Objectives							
Program Project	**Unit of Measurement**	**Target for 2021 4Q**	**Actual for 2021 4Q**	**4Q Percent Complete**	**Targets for Year 2021**	**Actual YTD for 2021**	**Year End % Complete**
Communications Goals							
Communication Battery Maintenance	Batteries	27	32	119%	108	108	100%
Overhead Distribution Goals							
Recloser Inspections	Circuits	22	24	109%	121	125	103%
Pole Inspections	Poles	4,418	3688	83%	17,677	17,773	101%
OH Line Inspections	Circuits	22	24	109%	121	125	103%
OH Transformer Inspections	Circuits	22	24	109%	121	125	103%
Padmount & Below Grade Insp	Circuits	0	7	0%	76	80	105%
Overhead Transmission Goals							
Helicopter Inspections	Circuits	0	0	N/A	11	15	136%
Ground Inspections	Structures	20	173	N/A	354	459	130%
Substations Goals							
Circuit Breaker Maintenance	Breakers	65	120	185%	375	370	99%
Station Transformer Maintenance	Transformers	0	0	N/A	44	48	109%
Station Battery Maintenance	Batteries	220	238	108%	880	874	99%
Station Relay Maintenance	Relays	347	844	243%	1,634	1,565	96%
Station Inspections	Sites	465	465	100%	1,860	1,860	100%
Underground Distribution Goals							
Manhole Inspections	Manholes	0	420	0%	700	771	110%
Major Network Insp (Prot Relay)	Ntwk Protectors	0	55	0%	92	103	112%
Minor Network Visual Inspection (Transformer/Protector/Vault)	Ntwk Transformers	0	197	0%	576	623	108%
Underground Transmission Goals							
Pressurization and Cathodic Protection Plant Inspection	Work Orders	90	104	116%	372	389	105%
Vegetation Management Goals							
Overhead Line Clearance	Circuit Overhead Miles	290	377	130%	1,300	1,302	100%

(e)(7) *Quarterly and year-to-date information on budgeted versus actual transmission and distribution operation and maintenance expenditures in total and detailed by the EDC's own functional account code or FERC account code as available.*

Budget Variance Recap – O&M Expenses
For the Three Months Ending December 31, 2021
(In Whole Dollars)
Favorable/(Unfavorable)

	Total Actual	Total Budget	Variance
Customer Service	$19,585,785	$16,994,309	$(2,591,476)
Human Resources	4,729,598	5,626,379	896,781
Operations/Operation Services	932,042	(532,225)	(1,464,267)
Technology	12,080,113	10,751,657	(1,328,456)
General Corporate*	28,226,934	29,304,463	1,077,529
Total	$65,554,472	$62,144,583	$(3,409,889)

*Includes Finance, Office of General Counsel, and Senior Management costs.

Budget Variance Recap – O&M Expenses
Year to Date through December 31, 2021
(In Whole Dollars)
Favorable/(Unfavorable)

	Total Actual	Total Budget	Variance
Customer Service	$61,221,206	$62,305,046	$1,083,840
Human Resources	16,544,803	19,070,371	2,525,568
Operations/Operation Services	53,017,350	52,914,626	(102,724)
Technology	53,173,615	47,218,483	(5,955,132)
General Corporate*	66,440,773	67,836,943	1,396,170
Total	$250,397,747	$249,345,469	$(1,052,278)

*Includes Finance, Office of General Counsel, and Senior Management costs.

(e)(8) *Quarterly and year-to-date information on budgeted versus actual transmission and distribution capital expenditures in total and detailed by the EDC's own functional account code or FERC account code as available.*

Budget Variance Recap -Capital
For the Three Months Ending December 31, 2021
(In Whole Dollars)
Favorable/(Unfavorable)

	Total Actual	Total Budget	Variance
Customer Service	$2,089,136	$2,742,055	$652,919
Human Resources	4,011,419	3,768,343	(243,076)
Operations/Operation Services	61,753,120	58,613,626	(3,139,494)
Technology	8,599,150	10,100,943	1,501,793
General Corporate*	28,696,155	31,063,027	2,366,872
Total	$105,148,980	$106,287,994	$1,139,014

*Includes Finance, Office of General Counsel, and Senior Management costs.

Budget Variance Recap - Capital
Year to Date through December 31, 2021
(In Whole Dollars)
Favorable/(Unfavorable)

	Total Actual	Total Budget	Variance
Customer Service	$8,137,320	$11,034,238	$2,896,918
Human Resources	15,196,205	14,379,031	(817,174)
Operations/Operation Services	252,689,047	301,970,427	49,281,380
Technology	30,083,886	40,096,396	10,012,510
General Corporate*	65,983,296	56,463,159	(9,520,137)
Total	$372,089,754	$423,943,251	$51,853,497

*Includes Finance, Office of General Counsel, and Senior Management costs.

(e)(9) *Dedicated staffing levels for transmission and distribution operation and maintenance at the end of the quarter, in total and by specific category (e.g. linemen, technician, and electrician).*

Job Title	Number of Employees
Telecom Splicer/Trouble Tech	5
Electronic Technician	17
Telecom Technician	2
Total Telecom	**24**
Electrical Equipment Technician	39
Protection & Control Technician	36
Yard Group Leader	3
Rigger	5
Laborer	3
Total Substation	**86**
UG Splicer	35
UG Cable Inspector	11
Cable Tester	1
Network Operator	11
Equipment Material Handler	1
Total Underground	**59**
Apprentice T&D	7
Equipment Attendant	1
Lineworker	140
Service Crew Leader	3
Equipment Material Handler	5
Total Overhead	**156**
Right of Way Agent	4
Surveyor	4
Total Real Estate	**8**
Total Street Light Changer	**5**
Engineering Technician	47
GIS Technician	7
T&D Mobile Worker	6
Test Technician, Mobile	5
Total Engineering	**65**
Senior Operator Apprentice	59
Senior Operator	30
Troubleshooter	17
Total Senior Operator/Troubleshooter	106
Total Switching Dispatcher	11
Total Employees	**520**

(e)(10) *Quarterly and year-to-date information on contractor hours and dollars for transmission and distribution operation and maintenance.*

CONFIDENTIAL INFORMATION

4th Quarter 2021

Contractor Dollars: REDACTED
Contractor Hours: REDACTED

YTD 2021

Contractor Dollars: REDACTED
Contractor Hours: REDACTED

(e)(11) *Monthly call-out acceptance rate for transmission and distribution maintenance workers presented in terms of both the percentage of accepted call-outs and the amount of time it takes the EDC to obtain the necessary personnel. A brief description of the EDC's call-out procedure should be included when appropriate.*

CONFIDENTIAL INFORMATION

Call-Out Acceptance Rate –4th Quarter 2021
REDACTED

Amount of Time it Takes to Obtain the Necessary Personnel – 4th Quarter 2021
REDACTED

(d)(2) *The name, title, telephone number and e-mail address of the persons who have knowledge of the matters, and can respond to inquiries.*

Matthew Thimons – General Manager, Asset Management
(412) 393-8639, mthimons@duqlight.com

Jaime Bachota – Controller, Accounting & Financial Reporting
(412) 393-1122, jbachota@duqlight.com

Jason Keller – Director, Operations Center
(412) 393-2897, jkeller@duqlight.com

ATTACHMENT A

(e)(3) *Rolling 12-month reliability index values (SAIFI, CAIDI, SAIDI, and if available, MAIFI) and other pertinent information such as customers served, number of interruptions, customer minutes interrupted, number of lockouts, and so forth, for the worst performing 5% of the circuits in the system.*

Rank	Circuit No	Circuit Name	Equipment Type	Device	Last Lockout	Ckt KVA	Total KVA Min Interrupted	Total KVA Interrupted	SAIDI	SAIFI	CAIDI
1	23610	Findlay	S.S. BREAKER	BREAKER	2021-08-13	21388	34139407	38480	1596.19	1.80	887.20
2	23705	North	FUSE LINK	Pole # 236801	2021-11-01	37665	33479111	61748	888.87	1.64	542.19
3	23921	Logans Ferry	RECLOSER	ER623	2021-12-11	30891	27724691	84370	897.50	2.73	328.61
4	23707	North	S.S. BREAKER	BREAKER	2021-12-01	24830	23835427	39061	959.94	1.57	610.21
5	23743	Oakland	RECLOSER	ER99	2021-11-03	29193	22259451	121036	762.49	4.15	183.91
6	23701	North	FUSE LINK	Pole # 265954	2021-07-18	20760	21975986	54740	1058.57	2.64	401.46
7	23868	Wildwood	FUSE LINK	Pole # 602115	2021-08-29	33034	20303817	164203	614.63	4.97	123.65
8	23614	Findlay	FUSE LINK	Pole # 341159	2021-09-22	27879	20169087	41282	723.45	1.48	488.57
9	23706	North	FUSE LINK	Pole # 99838	2021-06-14	32220	19382987	76574	601.58	2.38	253.13
10	23700	North	FUSE LINK	Pole # 267585	2021-06-22	20734	18296196	89333	882.42	4.31	204.81
11	23816	Bellevue	FUSE LINK	Pole # 61519	2021-10-21	22512	17803880	32229	790.86	1.43	552.42
12	23841	Arsenal	FUSE LINK	Pole # 167925	2021-06-14	35930	17578138	53307	489.23	1.48	329.75
13	23869	Wildwood	S.S. BREAKER	BREAKER	2021-08-29	24841	16980423	106651	683.56	4.29	159.21
14	23745	Oakland	FUSE LINK	Pole # 354132	2021-11-15	29485	16418101	14726	556.83	0.50	1114.91
15	23750	Dravosburg	FUSE LINK	Pole # 299533	2021-07-08	30215	15997634	83117	529.46	2.75	192.47
16	23802	Elywn	S.S. BREAKER	BREAKER	2021-12-14	24374	15429306	53169	633.02	2.18	290.19
17	23709	North	FUSE LINK	Pole # 292979	2021-10-21	22779	15097134	63136	662.77	2.77	239.12
18	23860	Wilson	S.S. BREAKER	BREAKER	2021-09-22	28684	13309543	46808	464.01	1.63	284.34
19	4107	Wilkinsburg	S.S. BREAKER	BREAKER	2021-07-07	5422	12607830	91251	2325.31	16.83	138.17
20	22177	Universal-Wilkinsburg No.4	S.S. BREAKER	BREAKER	2021-12-25	5787	12145184	123320	2098.70	21.31	98.49
21	23822	Highland	SECTIONALIZER	EA126	2021-10-23	28072	11998730	73935	427.43	2.63	162.29
22	23661	Crescent	FUSE LINK	Pole # 835	2021-06-06	29773	11804152	49071	396.47	1.65	240.55
23	22869	Midland-Cooks Ferry	FUSE LINK	Pole # 326014	2021-09-14	37666	11680101	47282	310.10	1.26	247.03
24	23821	Highland	FUSE LINK	Pole # 101681	2021-09-30	16577	11413025	22081	688.49	1.33	516.87
25	23690	Brunot Is.	S.S. BREAKER	BREAKER	2021-09-14	21330	11338623	64392	531.58	3.02	176.09
26	23708	North	RECLOSER	WR371	2021-10-25	31180	11329563	123160	363.36	3.95	91.99
27	22358	Carnegie-Calgon	RECLOSER	SER312	2021-08-20	11000	10850500	8500	986.41	0.77	1276.53

Duquesne Light Company
Fourth Quarter 2021

Electric Reliability Report

to the

Pennsylvania Public Utility Commission

January 31, 2022

Revised: May 26, 2022

57.195 Reporting Requirements

(e)(1) *A description of each major event that occurred during the preceding quarter, including the time and duration of the event, the number of customers affected, the cause of the event and any modified procedures adopted in order to avoid or minimize the impact of similar events in the future.*

No major events occurred during the fourth quarter of 2021.

(e)(2) *Rolling 12-month reliability index values (SAIFI, CAIDI, SAIDI, and if available, MAIFI) for the electric distribution company's service territory for the preceding quarter. The report shall include the data used in calculating the indices, namely the average number of customers served, the number of sustained customer interruptions, the number of customers affected, and the customer minutes of interruption. If MAIFI values are provided, the report shall also include the number of customer momentary interruptions.*

RELIABILITY BENCHMARKS AND STANDARDS
Duquesne Light Company
System Performance Measures with Major Events Excluded

Entire System				
	SAIDI	**SAIFI**	**CAIDI**	**MAIFI**
Benchmark	126	1.17	108	*
12 Month Standard	182	1.40	130	*
2021 4Q (Rolling 12 mo)	173	0.93	187	*

* Sufficient information to calculate MAIFI is unavailable.

Duquesne Light has been a strong performer in reliability over the past 15 years. The Company's success in this area can be at least partially attributed to the wide deployment of intelligent devices on the system that can quickly isolate a fault to the least number of customers.

Through the fourth quarter of 2021, Duquesne Light's CAIDI is above both the benchmark and the 12-month standard, while SAIFI performance is below both the benchmark and standard and SAIDI is below the standard. The increase in CAIDI is primarily attributable to weather impacts. Over the past decade, fluctuations have been observed in the average, minimum, and maximum temperature; wind speed; total inches of precipitation; and the number of days with precipitation. Notable increases of approximately 20 mph have been observed in both sustained and gust wind as well as amount of and days with precipitation. During the trailing 12 months, Duquesne Light has had multiple reported storms impacting our system. Five of those storms affected over 40,000 customers, with the largest storm having over 51,000 customers impacted

which is just below the threshold for an excludable event (10% of customers or approximately 60,000 customers).[1]

Formulas used in calculating the indices

$$SAIFI = \frac{\text{(Total KVA interrupted) - (KVA impact of major events)}}{\text{System Connected KVA}}$$

$$SAIDI = \frac{\text{(Total KVA-minutes interrupted) - (KVA-minute impact of major events)}}{\text{System Connected KVA}}$$

$$CAIDI = SAIDI/SAIFI$$

Data used in calculating the indices

Total KVA Interrupted for the Period:	7,289,927 KVA
Total KVA-Minutes Interrupted:	1,361,272,688 KVA-Minutes
System Connected Load as of 12/31/21	7,869,335 KVA

(e)(3) *Rolling 12-month reliability index values (SAIFI, CAIDI, SAIDI, and if available, MAIFI) and other pertinent information such as customers served, number of interruptions, customer minutes interrupted, number of lockouts, and so forth, for the worst performing 5% of the circuits in the system. An explanation of how the electric distribution company defines its worst performing circuits shall be included.*

Circuits are evaluated based on a rolling twelve-month count of lockouts of protective devices (circuit breakers, reclosers, sectionalizers, and line fuses) and on total accumulated KVA-minutes of customer outage time. Circuits that experience multiple lockouts for a device in combination with high total accumulated KVA-minutes of customer outage time in each quarterly rolling twelve-month period are identified and the top 5% are reported as worst-performing circuits.

The list of worst-performing circuits is ranked first by the number of KVA-minutes of outage experienced by customers on these circuits (highest to lowest) and then by device lockouts from highest to lowest. This places a higher priority on circuits with repeat outages affecting

[1] 1 See Docket No. M-2021-3023564, Outage Reports to inform the Commission of utility service outages per 52 PA CODE 67.1

customers (SAIFI) while also focusing on outage duration for customers on these circuits (SAIDI).

While repairs are made as quickly as possible following every customer outage, circuits that appear on the worst performing circuits list are targeted for more extensive remediation based on a detailed review of historical outage records looking at root cause problems, field evaluations, and engineering analysis. Project scopes developed as a result of this analysis are incorporated into the Company's Work Plan for engineering, design, and construction. Since the focus is on reducing future customer outage duration and not just outage frequency, special attention is given to establishing/optimizing sectionalizing switch locations and alternate feeds to problem-prone areas of circuits and, where possible, replacing or eliminating equipment that has historically required lengthy repair times as well as a high failure rates.

At the end of each quarter all previously identified circuits are reviewed to verify that past remediation efforts are working and to look for new reliability issues that may be developing. Serious new reliability problems are addressed immediately without waiting additional periods to collect information. This analysis method provides for timely review of circuit performance by in-house staff and it adapts to the dynamic nature of Duquesne Light’s distribution system.

Special Note: *Because of sophisticated protection and remote automation technologies that the Company uses on its distribution circuits, not all customers on a circuit identified as a worst performing circuit actually experience significant reliability issues. Circuit problems are generally isolated to one load block of a circuit in less than five minutes with downstream customers only experiencing short momentary operations. Customers upstream of a circuit problem may not even experience a momentary outage. Therefore, many customers on a circuit identified as a poor performer do not experience problems with reliability.*

See Attachment A for a list of worst-performing circuits showing feeder device lockouts and reliability index values associated with each circuit.

(e)(4) Specific remedial efforts taken and planned for the worst performing 5% of the circuits as identified in paragraph (3).

Fourth Quarter 2021 Rolling 12 Month Circuit Data

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
1 23610 Findlay ~~Fuse Link~~Breaker	1 Total Outage(s) Fourth Quarter Outage(s): • No outage(s). Previous Outage(s): • ~~One outage was due to an unknown cause.~~ • One outage was due to a storm.	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2021 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2026. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q3 2021. Proposed for 2026.
2 23705 North ~~Recloser~~Fuse Link	3 Total Outage(s) Fourth Quarter Outage(s): • One outage was by an unknown cause. • ~~One outage was caused by tree fall-in Outside ROW.~~ Previous Outage(s): • ~~One outage was caused by equipment failure.~~ • One outage was caused by tree fall-in Outside ROW. • One outage was by an unknown cause.	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2020 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2025. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q4 2021. Proposed for 2025.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
3 23921 Logan's Ferry Recloser	~~4~~2 Total Outage(s) Fourth Quarter Outage(s): • One outage was caused by high winds. • ~~One outage was caused by contact with vehicle.~~ Previous Outage(s): • ~~Two outages were~~One outage was caused by tree fall-in Outside ROW.	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2017 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2022. • The Company plans to perform reliability enhancements, such as installing additional overhead protective devices. • Vegetation Management completed Q4 2020. Proposed for 2024.
4 23707 North ~~Recloser~~Breaker	~~1~~2 Total Outage(s) Fourth Quarter Outage(s): • ~~No outage(s).~~ • One outage was caused by equipment failure. Previous Outage(s): • One outage was caused by tree fall-in Outside ROW.	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection was performed in 2017. • Next Overhead Line Inspection planned for 2022. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q3 2017. Proposed for 2022.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
5 23743 Oakland Recloser	~~7~~4 Total Outage(s) Fourth Quarter Outage(s): • One outage was caused by equipment failure. Previous Outage(s): • ~~Three~~ Two outages were caused by tree fall-in Outside ROW. • ~~Two outages were caused by equipment failure.~~ • ~~One outage was caused by fall-in Inside ROW.~~ • One outage was caused by contact with company equipment by vehicle.	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection scheduled for 2021. • Next Overhead Line Inspection planned for 2026. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q3 2020. Proposed for 2024.
6 23701 North ~~Recloser~~Fuse Link	~~3~~2 Total Outage(s) Fourth Quarter Outage(s): • ~~One outage was caused by tree fall-in Outside ROW.~~ • No outage(s). Previous Outage(s): • One outage was caused by tree fall-in Outside ROW. • ~~One outage was caused by high winds.~~ • One outage was by an unknown cause.	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection was performed in 2018. • Overhead Line Inspection planned for 2023. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q3 2021. Proposed for 2025.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
7 23868 Wildwood ~~Sectionalizer~~Fuse Link	6 Total Outage(s) Fourth Quarter Outage(s): ~~• Two outages were caused by contact with vehicle.~~ • No outage(s). Previous Outage(s): ~~• One outage was caused by contact with vehicle.~~ • ~~One outage was~~Two outages were caused by high winds. ~~• One outage was caused by equipment failure.~~ ~~• One outage was caused by tree fall in Outside ROW.~~ • Three outages were by unknown causes. • One outage was due to a storm.	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2020 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2025. • The Company plans to perform reliability enhancements, such as installing new switching devices. • Vegetation Management completed Q3 2020. Proposed for 2025.
8 23614 Findlay ~~Sectionalizer~~Fuse Link	2 Total Outage(s) Fourth Quarter Outage(s): • No outage(s). Previous Outage(s): • ~~Two outages were~~One outage was caused by equipment failure. • One outage was caused by animal contact.	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2020 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2025. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q3 2021. Proposed for 2025.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
9 23706 North ~~Recloser~~Fuse Link	~~3~~4 Total Outage(s) Fourth Quarter Outage(s): • No outage(s). Previous Outage(s): • Three outages were caused by tree fall-in Outside ROW. • One outage was by an unknown cause.	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2018 and all high priority repairs completed. • Overhead Line Inspection planned for 2023. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q4 2018. Proposed for 2022.
10 23700 North ~~Recloser~~Fuse Link	~~4~~3 Total Outage(s) Fourth Quarter Outage(s): • No outage(s). Previous Outage(s): • ~~Three outages were~~One outage was caused by equipment failure. • ~~One outage was~~Two outages were caused by tree fall-in Outside ROW.	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection was performed in 2017. • Overhead Line Inspection planned for 2022. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q4 2017. Proposed for 2022.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
11 23816 Bellevue ~~Recloser~~ Fuse Link	~~4~~1 Total Outage(s) Fourth Quarter Outage(s): • ~~Two outages were~~One outage was caused by tree fall-in Outside ROW. Previous Outage(s): • ~~Two outages were caused by equipment failure.~~ • No outage(s).	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2017 and all high priority repairs completed. • Overhead Line Inspection planned for 2022. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q3 2017. Proposed for 2023.
12 23841 Arsenal ~~Recloser~~ Fuse Link	~~3~~2 Total Outage(s) Fourth Quarter Outage(s): • ~~One outage was due to an unknown cause.~~ • No outage(s). Previous Outage(s): • ~~Two outages were caused by high winds~~ • One outage was due to a storm. • One outage was caused by tree fall-in Outside ROW.	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection will be performed in 2017. • Overhead Line Inspection planned for 2022. • The Company plans to perform reliability enhancements, such as reconfiguring switching devices. • Vegetation Management completed Q4 2018. Proposed for 2022.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
13 23869 Wildwood ~~Recloser~~Breaker	~~5~~4 Total Outage(s) Fourth Quarter Outage(s): • No outage(s). Previous Outage(s): • ~~Five~~Three outages were caused by tree fall-in Outside ROW. • One outage was caused by contact with company equipment by vehicle.	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2017 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2022. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q2 2020. Proposed for 2025.
14 23745 Oakland ~~Recloser~~ Fuse Link	~~2~~1 Total Outage(s) Fourth Quarter Outage(s): • One outage was caused by equipment failure. • ~~No outage(s).~~ Previous Outage(s): • ~~Two outages were caused by tree fall-in Outside ROW.~~ • No outage(s).	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2020 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2025. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q4 2020. Proposed for 2024.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
15 23750 Dravosburg ~~Recloser~~ Fuse Link	~~5~~3 Total Outage(s) Fourth Quarter Outage(s): • ~~Two outages were due to unknown causes.~~ • ~~Two outages were caused by high winds.~~ • No outage(s). Previous Outage(s): • Two outages were by unknown causes. • ~~One outage was caused by tree fall-in Outside ROW.~~ • One outage was caused by high winds.	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection will be performed in 2021 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2026. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q4 2018. Proposed for 2022.
16 23802 Elwyn ~~Recloser~~ Breaker	~~5~~1 Total Outage(s) Fourth Quarter Outage(s): • One outage was by an unknown cause. • ~~No outage(s).~~ Previous Outage(s): • ~~Three outages were caused by storms.~~ • ~~One outage was caused by tree fall-in Outside ROW.~~ • ~~One outage was caused by equipment failure.~~ • No outage(s).	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2017 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2022. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q2 2020. Proposed for 2024.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
17 23709 North ~~Recloser~~Fuse Link	2 Total Outage(s) Fourth Quarter Outage(s): ~~• No outage(s).~~ • One outage was caused by tree fall-in Outside ROW. Previous Outage(s): • One outage was caused by tree fall-in Outside ROW. ~~• One outage was caused by equipment failure.~~	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2020 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2025. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q3 2017. Proposed for 2022.
18 23860 Wilson ~~Sectionalizer~~ Breaker	~~3~~1 Total Outage(s) Fourth Quarter Outage(s): • No outage(s). Previous Outage(s): • ~~Two outages were~~ One outage was caused by tree fall-in Inside ROW. ~~• One outage was caused by equipment failure.~~	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2017 and all high priority repairs completed. • Overhead Line Inspection planned for 2022. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q3 2017. Proposed for 2022.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
19 4107 Wilkinsburg ~~Transformer~~Breaker	~~6~~3 Total Outage(s) Fourth Quarter Outage(s): • No outage(s). Previous Outage(s): • ~~Five outages were caused by an overload due to high current.~~ • ~~One outage was caused by tree fall-in Outside ROW.~~ • One outage was caused by tree fall-in Inside ROW. • One outage was due to a storm. • One outage was caused by equipment failure.	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2019 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2024. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q4 2021. Proposed for 2025.
20 22177 Universal-Wilkinsburg No.4 ~~Recloser~~Breaker	4 Total Outage(s) Fourth Quarter Outage(s): • One outage was caused by tree fall-in Outside ROW. Previous Outage(s): • ~~Two outages were caused by equipment failure.~~ • One outage was caused by a storm~~s~~. • Two outages were caused by tree fall-in Inside ROW.	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2021 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2026. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q2 2017. Proposed for 2022.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
21 23822 Highland Sectionalizer	~~3~~2 Total Outage(s) Fourth Quarter Outage(s): • ~~One outage was caused by high winds.~~ • One outage was caused by contact with company equipment by vehicle. Previous Outage(s): • ~~One outage was caused by storms.~~ • One outage was caused by contact with company equipment by vehicle.	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2019 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2024. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q4 2019. Proposed for 2023.
22 23661 Crescent ~~Recloser~~ Fuse Link	3 Total Outage(s) Fourth Quarter Outage(s): • No outage(s). Previous Outage(s): • ~~Two outages were~~One outage was caused by tree fall-in Outside ROW. • ~~One outage was caused by storms.~~ • Two outages were by unknown causes.	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2018 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2023. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q4 2020. Proposed for 2025.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
23 22869 Midland-Cooks Ferry Fuse Link	~~2~~5 Total Outage(s) Fourth Quarter Outage(s): • No outage(s). Previous Outage(s): • Two outages were caused by tree fall-in Outside ROW. • One outage was caused by contact with company equipment by vehicle. • One outage was caused by outside contractor work. • One outage was by an unknown cause.	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2018 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2023. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q2 2018. Proposed for 2022.
24 23821 Highland ~~Sectionalizer~~ Fuse Link	~~2~~1 Total Outage(s) Fourth Quarter Outage(s): • No outage(s). Previous Outage(s): • ~~Two outages were caused by animal contact.~~ • One outage was caused by equipment failure.	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2017 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2022. • The Company performed reliability enhancements in 2021, specifically configuring switching devices. • Vegetation Management completed Q1 2021. Proposed for 2025.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
25 23690 Brunot Island ~~Recloser~~Breaker	~~35~~ Total Outage(s) Fourth Quarter Outage(s): • ~~Two outages were caused by contact with vehicle.~~ • ~~~~ • No outage(s). Previous Outage(s): • ~~One outage was caused by tree fall-in Outside ROW.~~ • Three outages were caused by equipment failure. • Two outages were by unknown causes.	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2017 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2022. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q3 2018. Proposed for 2022.
26 23708 North ~~Sectionalizer~~ Recloser	3 Total Outage(s) Fourth Quarter Outage(s): • One outage was caused by tree fall-in Outside ROW. Previous Outage(s): • One outage was caused by tree fall-in Outside ROW. • One outage was caused by equipment failure.	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2020 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2025. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q4 2017. Proposed for 2023.

Rank, Circuit Name, Device	Outages	Remedial Actions Planned or Taken
27 22358 Carnegie-Calgon ~~Sectionalizer~~Recloser	1 Total Outage(s) Fourth Quarter Outage(s): • No outage(s). Previous Outage(s): • One outage was caused by contact with company equipment by vehicle.	• Permanent repairs were made following each outage as necessary. • Distribution Overhead Line Inspection performed in 2020 and all high priority repairs completed. • Next Overhead Line Inspection planned for 2025. • The Company is investigating reliability enhancements for this circuit. • Vegetation Management completed Q3 2021. Proposed for 2026.

(e)(5) *A rolling 12-month breakdown and analysis of outage causes during the preceding quarter, including the number and percentage of service outages, the number of customers interrupted, and customer interruption minutes categorized by outage cause such as equipment failure, animal contact, tree related, and so forth. Proposed solutions to identified service problems shall be reported.*

Proposed solutions to identified service problems are listed in Section (e)(4) above.

January 1, 2021 through December 31, 2021
No PUC Major Event Exclusions

CAUSE	NO. OF OUTAGES	OUTAGE PERCENTAGE	KVA TOTAL	KVA PERCENTAGE	KVA-MINUTE TOTAL	KVA-MINUTE PERCENTAGE
Storms	556	17%	1,326,525	18%	347,953,875	26%
Trees (Inside ROW)	205	6%	402,047	6%	106,456,732	8%
Trees (Outside ROW)	1,064	32%	2,229,391	31%	507,309,391	37%
Equipment Failures	674	20%	1,671,589	23%	248,525,102	18%
Overloads	58	1%	34,765	<1%	2,346,153	<1%
Vehicles	180	5%	581,170	8%	73,087,162	5%
Contact/Dig In	36	1%	108,868	1%	7,550,938	1%
Animal Contact	129	4%	183,697	3%	12,947,333	1%
Unknown	334	10%	530,993	7%	33,609,887	2%
Other	121	4%	220,882	3%	21,486,115	2%
TOTALS	3,357	100%	7,289,927	100%	1,361,272,688	100%

(e)(6) *Quarterly and year-to-date information on progress toward meeting transmission and distribution inspection and maintenance goals/ objectives.*

2021 Transmission and Distribution Goals and Objectives							
Program Project	**Unit of Measurement**	**Target for 2021 4Q**	**Actual for 2021 4Q**	**4Q Percent Complete**	**Targets for Year 2021**	**Actual YTD for 2021**	**Year End % Complete**
Communications Goals							
Communication Battery Maintenance	Batteries	27	32	119%	108	108	100%
Overhead Distribution Goals							
Recloser Inspections	Circuits	22	24	109%	121	125	103%
Pole Inspections	Poles	4,418	3688	83%	17,677	17,773	101%
OH Line Inspections	Circuits	22	24	109%	121	125	103%
OH Transformer Inspections	Circuits	22	24	109%	121	125	103%
Padmount & Below Grade Insp	Circuits	0	7	0%	76	80	105%
Overhead Transmission Goals							
Helicopter Inspections	Circuits	0	0	N/A	11	15	136%
Ground Inspections	Structures	20	173	N/A	354	459	130%
Substations Goals							
Circuit Breaker Maintenance	Breakers	65	120	185%	375	370	99%
Station Transformer Maintenance	Transformers	0	0	N/A	44	48	109%
Station Battery Maintenance	Batteries	220	238	108%	880	874	99%
Station Relay Maintenance	Relays	347	844	243%	1,634	1,565	96%
Station Inspections	Sites	465	465	100%	1,860	1,860	100%
Underground Distribution Goals							
Manhole Inspections	Manholes	0	420	0%	700	771	110%
Major Network Insp (Prot Relay)	Ntwk Protectors	0	55	0%	92	103	112%
Minor Network Visual Inspection (Transformer/Protector/Vault)	Ntwk Transformers	0	197	0%	576	623	108%
Underground Transmission Goals							
Pressurization and Cathodic Protection Plant Inspection	Work Orders	90	104	116%	372	389	105%
Vegetation Management Goals							
Overhead Line Clearance	Circuit Overhead Miles	290	377	130%	1,300	1,302	100%

(e)(7) *Quarterly and year-to-date information on budgeted versus actual transmission and distribution operation and maintenance expenditures in total and detailed by the EDC's own functional account code or FERC account code as available.*

Budget Variance Recap – O&M Expenses
For the Three Months Ending December 31, 2021
(In Whole Dollars)
Favorable/(Unfavorable)

	Total Actual	Total Budget	Variance
Customer Service	$19,585,785	$16,994,309	$(2,591,476)
Human Resources	4,729,598	5,626,379	896,781
Operations/Operation Services	932,042	(532,225)	(1,464,267)
Technology	12,080,113	10,751,657	(1,328,456)
General Corporate*	28,226,934	29,304,463	1,077,529
Total	$65,554,472	$62,144,583	$(3,409,889)

*Includes Finance, Office of General Counsel, and Senior Management costs.

Budget Variance Recap – O&M Expenses
Year to Date through December 31, 2021
(In Whole Dollars)
Favorable/(Unfavorable)

	Total Actual	Total Budget	Variance
Customer Service	$61,221,206	$62,305,046	$1,083,840
Human Resources	16,544,803	19,070,371	2,525,568
Operations/Operation Services	53,017,350	52,914,626	(102,724)
Technology	53,173,615	47,218,483	(5,955,132)
General Corporate*	66,440,773	67,836,943	1,396,170
Total	$250,397,747	$249,345,469	$(1,052,278)

*Includes Finance, Office of General Counsel, and Senior Management costs.

(e)(8) *Quarterly and year-to-date information on budgeted versus actual transmission and distribution capital expenditures in total and detailed by the EDC's own functional account code or FERC account code as available.*

Budget Variance Recap -Capital
For the Three Months Ending December 31, 2021
(In Whole Dollars)
Favorable/(Unfavorable)

	Total Actual	Total Budget	Variance
Customer Service	$2,089,136	$2,742,055	$652,919
Human Resources	4,011,419	3,768,343	(243,076)
Operations/Operation Services	61,753,120	58,613,626	(3,139,494)
Technology	8,599,150	10,100,943	1,501,793
General Corporate*	28,696,155	31,063,027	2,366,872
Total	$105,148,980	$106,287,994	$1,139,014

*Includes Finance, Office of General Counsel, and Senior Management costs.

Budget Variance Recap - Capital
Year to Date through December 31, 2021
(In Whole Dollars)
Favorable/(Unfavorable)

	Total Actual	Total Budget	Variance
Customer Service	$8,137,320	$11,034,238	$2,896,918
Human Resources	15,196,205	14,379,031	(817,174)
Operations/Operation Services	252,689,047	301,970,427	49,281,380
Technology	30,083,886	40,096,396	10,012,510
General Corporate*	65,983,296	56,463,159	(9,520,137)
Total	$372,089,754	$423,943,251	$51,853,497

*Includes Finance, Office of General Counsel, and Senior Management costs.

(e)(9) *Dedicated staffing levels for transmission and distribution operation and maintenance at the end of the quarter, in total and by specific category (e.g. linemen, technician, and electrician).*

Job Title	Number of Employees
Telecom Splicer/Trouble Tech	5
Electronic Technician	17
Telecom Technician	2
Total Telecom	**24**
Electrical Equipment Technician	39
Protection & Control Technician	36
Yard Group Leader	3
Rigger	5
Laborer	3
Total Substation	**86**
UG Splicer	35
UG Cable Inspector	11
Cable Tester	1
Network Operator	11
Equipment Material Handler	1
Total Underground	**59**
Apprentice T&D	7
Equipment Attendant	1
Lineworker	140
Service Crew Leader	3
Equipment Material Handler	5
Total Overhead	**156**
Right of Way Agent	4
Surveyor	4
Total Real Estate	**8**
Total Street Light Changer	**5**
Engineering Technician	47
GIS Technician	7
T&D Mobile Worker	6
Test Technician, Mobile	5
Total Engineering	**65**
Senior Operator Apprentice	59
Senior Operator	30
Troubleshooter	17
Total Senior Operator/Troubleshooter	106
Total Switching Dispatcher	11
Total Employees	**520**

(e)(10) *Quarterly and year-to-date information on contractor hours and dollars for transmission and distribution operation and maintenance.*

CONFIDENTIAL INFORMATION

4th Quarter 2021

Contractor Dollars: REDACTED
Contractor Hours: REDACTED

YTD 2021

Contractor Dollars: REDACTED
Contractor Hours: REDACTED

(e)(11) *Monthly call-out acceptance rate for transmission and distribution maintenance workers presented in terms of both the percentage of accepted call-outs and the amount of time it takes the EDC to obtain the necessary personnel. A brief description of the EDC's call-out procedure should be included when appropriate.*

CONFIDENTIAL INFORMATION

Call-Out Acceptance Rate –4th Quarter 2021
REDACTED

Amount of Time it Takes to Obtain the Necessary Personnel – 4th Quarter 2021
REDACTED

(d)(2) *The name, title, telephone number and e-mail address of the persons who have knowledge of the matters, and can respond to inquiries.*

Matthew Thimons – General Manager, Asset Management
(412) 393-8639, mthimons@duqlight.com

Jaime Bachota – Controller, Accounting & Financial Reporting
(412) 393-1122, jbachota@duqlight.com

Jason Keller – Director, Operations Center
(412) 393-2897, jkeller@duqlight.com

ATTACHMENT A

(e)(3) *Rolling 12-month reliability index values (SAIFI, CAIDI, SAIDI, and if available, MAIFI) and other pertinent information such as customers served, number of interruptions, customer minutes interrupted, number of lockouts, and so forth, for the worst performing 5% of the circuits in the system.*

ORIGINAL

Rank	Circuit No	Circuit Name	Equipment Type	Device	Last Lockout	Ckt KVA	Total KVA Min Interrupted	Total KVA Interrupted	SAIDI	SAIFI	CAIDI
1	23610	Findlay	Fuse link	SW5019	2021-08-15	21388	34139407	38480	1596.194454	1.799139	887.198726
2	23705	North	Recloser	WR441	2021-10-22	37665	33479111	61748	888.865286	1.639399	542.189398
3	23921	Logans Ferry	Recloser	ER443	2021-12-11	30891	27724691	84370	897.500598	2.731216	328.608403
4	23707	North	Recloser	WR409	2021-06-14	24830	23835427	39061	959.944703	1.573137	610.210363
5	23743	Oakland	Recloser	ER99	2021-11-03	29193	22259451	121036	762.492755	4.146062	183.907688
6	23701	North	Recloser	WR471	2021-10-21	20760	21975986	54740	1058.573506	2.636801	401.461198
7	23868	Wildwood	Sectionalizer	WA741	2021-12-18	33034	20303817	164203	614.633922	4.970727	123.650706
8	23614	Findlay	Sectionalizer	WA718	2021-07-19	27879	20169087	41282	723.450877	1.480756	488.568552
9	23706	North	Recloser	WR368	2021-07-13	32220	19382987	76574	601.582464	2.376598	253.127523
10	23700	North	Recloser	WR470	2021-08-12	20734	18296196	89333	882.424809	4.308527	204.808928
11	23816	Bellevue	Recloser	WR750	2021-10-13	22512	17803880	32229	790.861762	1.431636	552.418008
12	23841	Arsenal	Recloser	WR1061	2021-11-16	35930	17578138	53307	489.232897	1.483634	329.752902
13	23869	Wildwood	Recloser	WR706	2021-08-30	24841	16980423	106651	683.564389	4.293345	159.21485
14	23745	Oakland	Recloser	R100	2021-07-08	29485	16418101	14726	556.828929	0.49944	1114.905677
15	23750	Dravosburg	Recloser	ER689	2021-12-11	30215	15997634	83117	529.460003	2.750852	192.471263
16	23802	Elywn	Recloser	ER282	2021-08-13	24374	15429306	53169	633.023139	2.181381	290.193646
17	23709	North	Recloser	SWR727	2021-06-14	22779	15097134	63136	662.765441	2.771675	239.12085
18	23860	Wilson	Sectionalizer	EA94	2021-09-22	28684	13309543	46808	464.005822	1.63185	284.343338
19	4107	Wilkinsburg	Transformer	No Device	2021-08-18	5422	12607830	91251	2325.309848	16.829767	138.166485
20	22177	Universal-Wilkinsburg No.4	Recloser	SEN1042	2021-12-25	5787	12145184	123320	2098.701226	21.309832	98.485111
21	23822	Highland	Sectionalizer	EA138	2021-12-11	28072	11998730	73935	427.426973	2.633763	162.287549
22	23661	Crescent	Recloser	WR603	2021-08-29	29773	11804152	49071	396.471702	1.648171	240.552505
23	22869	Midland-Cooks Ferry	Fuse link	65K	2021-03-26	37666	11680101	47282	310.096665	1.255296	247.030603
24	23821	Highland	Sectionalizing switch	2538	2021-09-29	16577	11413025	22081	688.485552	1.332026	516.870839
25	23690	Brunot Is.	Recloser	WR394	2021-10-23	21330	11338623	64392	531.581012	3.018846	176.087448
26	23708	North	Sectionalizer	WA456	2021-10-25	31180	11329563	123160	363.359942	3.949967	91.990605
27	22358	Carnegie-Calgon	Sectionalizing switch	3358	2021-08-22	11000	10850500	8500	986.40909	0.772727	1276.529411

AMENDED

Rank	Circuit No	Circuit Name	Equipment Type	Device	Last Lockout	Ckt KVA	Total KVA Min Interrupted	Total KVA Interrupted	SAIDI	SAIFI	CAIDI
1	23610	Findlay	S.S. BREAKER	BREAKER	2021-08-13	21388	34139407	38480	1596.19	1.80	887.20
2	23705	North	FUSE LINK	Pole # 236801	2021-11-01	37665	33479111	61748	888.87	1.64	542.19
3	23921	Logans Ferry	RECLOSER	ER623	2021-12-11	30891	27724691	84370	897.50	2.73	328.61
4	23707	North	S.S. BREAKER	BREAKER	2021-12-01	24830	23835427	39061	959.94	1.57	610.21
5	23743	Oakland	RECLOSER	ER99	2021-11-03	29193	22259451	121036	762.49	4.15	183.91
6	23701	North	FUSE LINK	Pole # 265954	2021-07-18	20760	21975986	54740	1058.57	2.64	401.46
7	23868	Wildwood	FUSE LINK	Pole # 602115	2021-08-29	33034	20303817	164203	614.63	4.97	123.65
8	23614	Findlay	FUSE LINK	Pole # 341159	2021-09-22	27879	20169087	41282	723.45	1.48	488.57
9	23706	North	FUSE LINK	Pole # 99838	2021-06-14	32220	19382987	76574	601.58	2.38	253.13
10	23700	North	FUSE LINK	Pole # 267585	2021-06-22	20734	18296196	89333	882.42	4.31	204.81
11	23816	Bellevue	FUSE LINK	Pole # 61519	2021-10-21	22512	17803880	32229	790.86	1.43	552.42
12	23841	Arsenal	FUSE LINK	Pole # 167925	2021-06-14	35930	17578138	53307	489.23	1.48	329.75
13	23869	Wildwood	S.S. BREAKER	BREAKER	2021-08-29	24841	16980423	106651	683.56	4.29	159.21
14	23745	Oakland	FUSE LINK	Pole # 354132	2021-11-15	29485	16418101	14726	556.83	0.50	1114.91
15	23750	Dravosburg	FUSE LINK	Pole # 299533	2021-07-08	30215	15997634	83117	529.46	2.75	192.47
16	23802	Elywn	S.S. BREAKER	BREAKER	2021-12-14	24374	15429306	53169	633.02	2.18	290.19
17	23709	North	FUSE LINK	Pole # 292979	2021-10-21	22779	15097134	63136	662.77	2.77	239.12
18	23860	Wilson	S.S. BREAKER	BREAKER	2021-09-22	28684	13309543	46808	464.01	1.63	284.34
19	4107	Wilkinsburg	S.S. BREAKER	BREAKER	2021-07-07	5422	12607830	91251	2325.31	16.83	138.17
20	22177	Universal-Wilkinsburg No.4	S.S. BREAKER	BREAKER	2021-12-25	5787	12145184	123320	2098.70	21.31	98.49
21	23822	Highland	SECTIONALIZER	EA126	2021-10-23	28072	11998730	73935	427.43	2.63	162.29
22	23661	Crescent	FUSE LINK	Pole # 835	2021-06-06	29773	11804152	49071	396.47	1.65	240.55
23	22869	Midland-Cooks Ferry	FUSE LINK	Pole # 326014	2021-09-14	37666	11680101	47282	310.10	1.26	247.03
24	23821	Highland	FUSE LINK	Pole # 101681	2021-09-30	16577	11413025	22081	688.49	1.33	516.87
25	23690	Brunot Is.	S.S. BREAKER	BREAKER	2021-09-14	21330	11338623	64392	531.58	3.02	176.09
26	23708	North	RECLOSER	WR371	2021-10-25	31180	11329563	123160	363.36	3.95	91.99
27	22358	Carnegie-Calgon	RECLOSER	SER312	2021-08-20	11000	10850500	8500	986.41	0.77	1276.53