January 18, 2024

Holly R. Anderson
Clerk of the Commission
112 State Street
Montpelier, VT 05620-2601

Reliability Report for Year 2022

Dear Ms. Anderson,

Based on Public Utility Commission Rule 4.900 regarding Electricity Outage Reporting, Burlington Electric Department (BED) has developed its reliability report for the year 2023. BED experienced 162 outages of zero voltage that exceeded five minutes during year 2023. BED's System Average Interruption Frequency Index (SAIFI) for 2023 was 0.55 interruptions per customer, better than our SAIFI goal of 2.1 interruptions per customer. BED's Customer Average Interruption Duration Index (CAIDI) for 2023 was 0.94 hours per interruption, better than our CAIDI goal of 1.2 hours.

Enclosed please find BED's outage report for year 2023 along with a description of short- and long-term projects that address system reliability.

Please feel free to contact me at 802-865-7442 should you have any further questions.

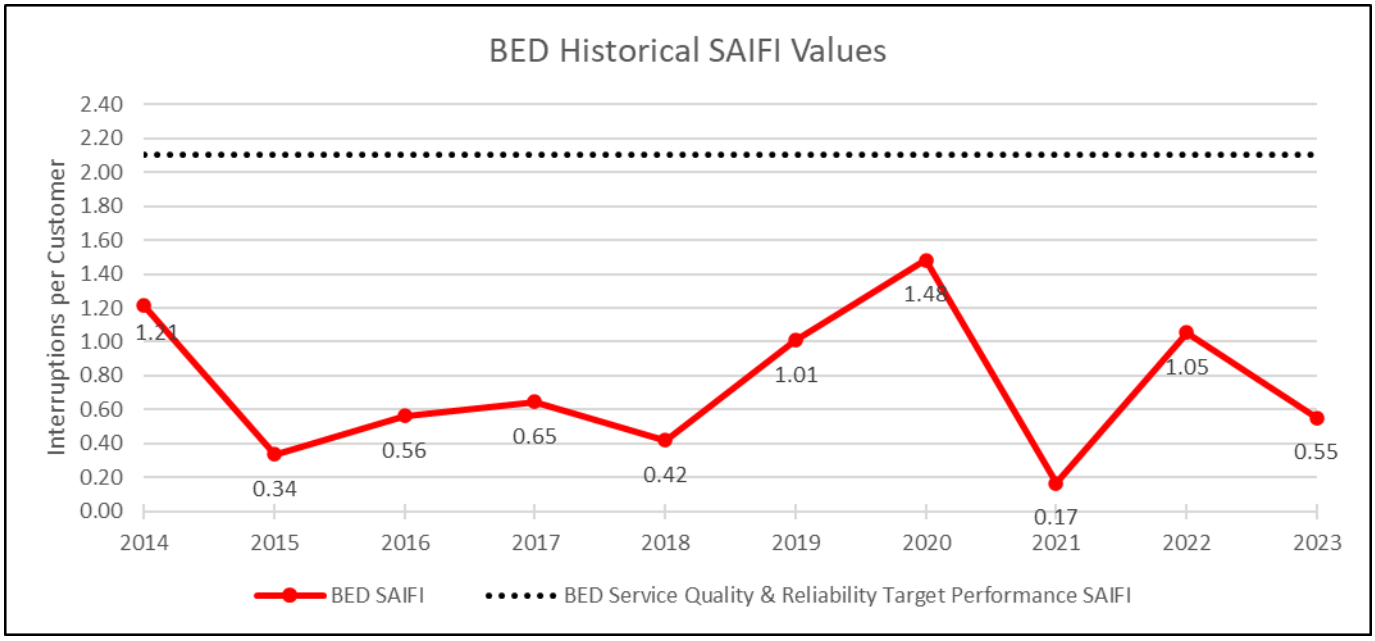
Sincerely,

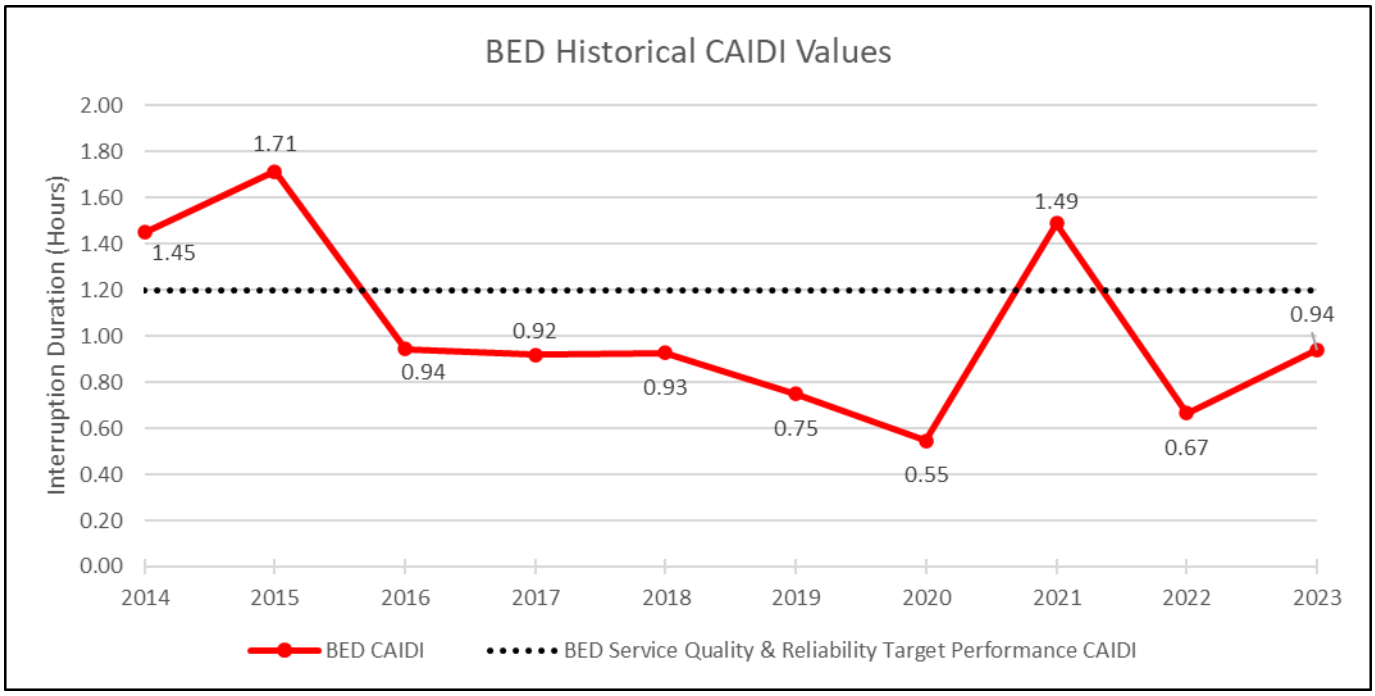
Bradley Williams, PE
Senior Operations Engineer
Burlington Electric Department

cc: Munir Kasti, BED
Paul Nadeau, BED
Enclosure

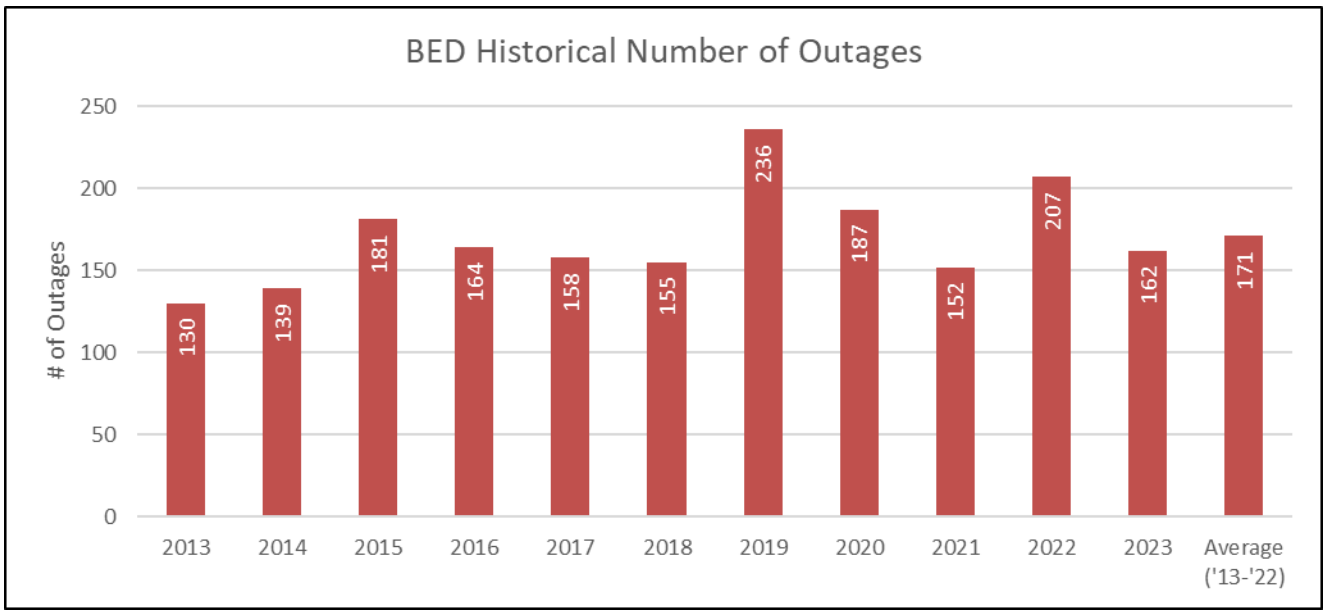
Assessment of BED's Distribution System Reliability

In 2023, BED's System Average Interruption Frequency Index (SAIFI) was 0.55 interruptions per customer and Customer Average Interruption Duration Index (CAIDI) was 0.94 hours per interruption. BED met its SAIFI goal of 2.1 interruptions per customer and its CAIDI goal of 1.2 hours per interruption. The following charts show BED's historical SAIFI and CAIDI indices:



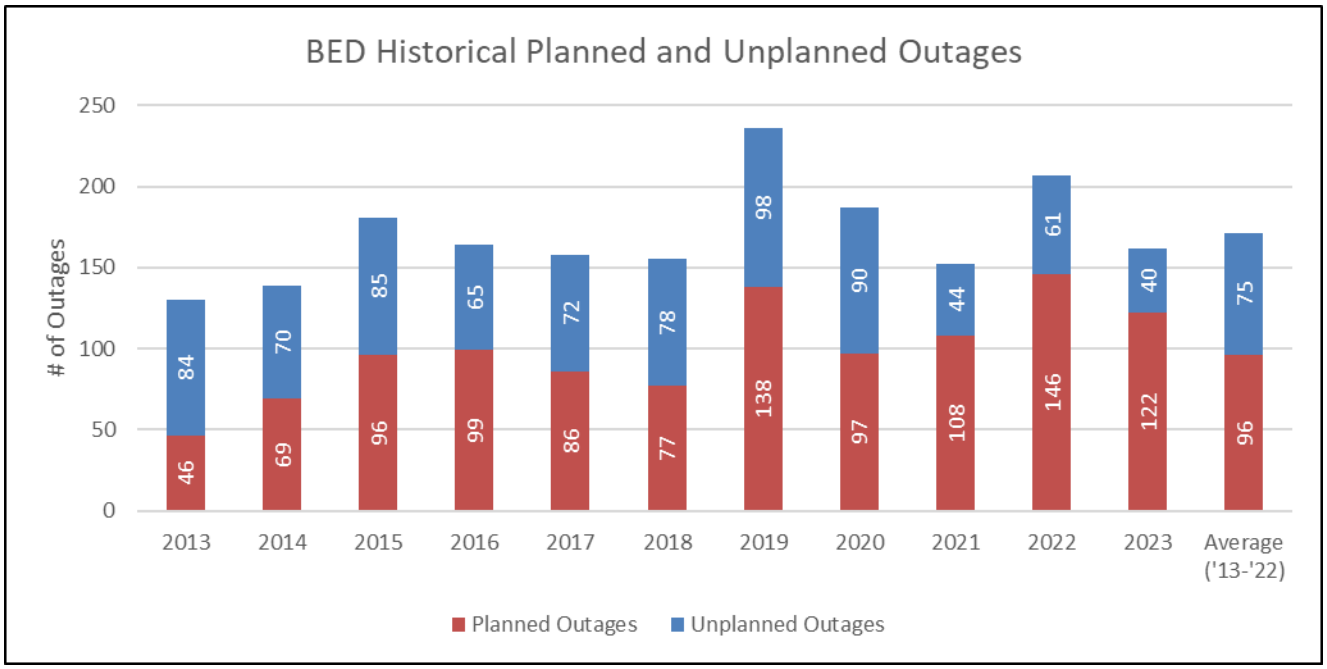


In 2023, BED experienced 162 outages of zero voltage that exceeded five minutes, approximately 21.7% fewer outages than the 207 outages in 2022, and approximately 5.2% fewer outages than the 10-year average from 2013 to 2022 (162 outages vs. 171 outages). The following chart shows the number of outages between 2013 and 2023:

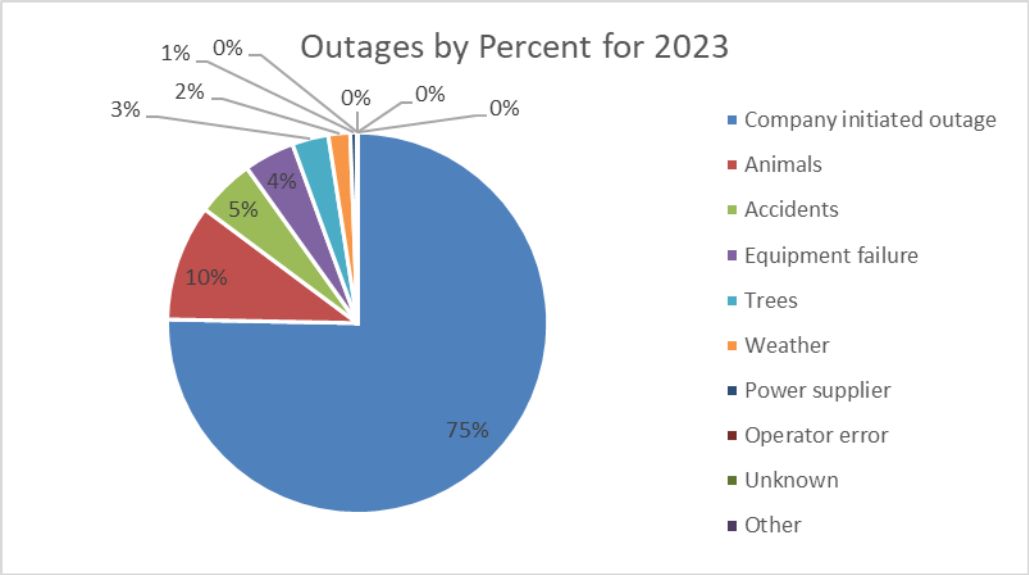


There are two types of outages - planned and unplanned outages. Planned outages are initiated and scheduled in advance for purposes of construction, preventative maintenance, or repair and allow our customers to prepare in advance. Unplanned outages are unexpected and unscheduled events.

In 2023, BED experienced approximately 16% fewer planned outages than in 2022 (122 vs. 146) and 27% more than the 10-year average between 2013 and 2022 (122 vs. 96). In 2023, BED experienced approximately 34% fewer unplanned outages than in 2022 (40 vs. 61) and 46% fewer than the 10-year average between 2013 and 2022 (40 vs. 75). The following chart shows the number of planned and unplanned outages between 2013 and 2023:



Most of the outages on BED's distribution system were company-initiated (122 outages). This is followed by animals (16 outages), accidents (8 outages), equipment failure (7 outages), trees (5 outages), weather (3 outages), and power supplier (1 outage). The following chart depicts each category by the percentage of total outages experienced in 2023.



The following table compares 2023 to 2022 outage data by cause:

Outage Cause:	2023		2022	
	# of Outages	% of Total	# of Outages	% of Total
Trees	5	3%	17	8%
Weather	3	2%	2	1%
Company initiated outage	122	75%	146	71%
Equipment failure	7	4%	20	10%
Operator error	0	0%	3	1%
Accidents	8	5%	7	3%
Animals	16	10%	11	5%
Power supplier	1	1%	0	0%
Non-utility power supplier	0	0%	0	0%
Other	0	0%	0	0%
Unknown	0	0%	1	0%
Totals	162	100%	207	100%

The following table compares BED's 2023 to BED's 10-year average outage data by cause:

Outage Cause:	2023		Average (2013-2022)	
	# of Outages	% of Total	# of Outages	% of Total
Trees	5	3%	9.5	6%
Weather	3	2%	4.3	3%
Company initiated outage	122	75%	96.2	56%
Equipment failure	7	4%	25.7	15%
Operator error	0	0%	1.2	1%
Accidents	8	5%	7.8	5%
Animals	16	10%	21.8	13%
Power supplier	1	1%	1.4	1%
Non-utility power supplier	0	0%	0.0	0%
Other	0	0%	1.0	1%
Unknown	0	0%	2.0	1%
Totals	162	100%	170.9	100%

Planned outages in 2023 were approximately 75% of BED's total outages. Unplanned outages in 2023 accounted for approximately 25% of BED's total outages. Looking at the unplanned outages, BED experienced approximately:

- 71% fewer "tree" outages in 2023 (5) than in 2022 (17) and 47% fewer "tree" outages in 2023 (5) than for the 10-year average (9.5);
- 50% more "weather" outages in 2023 (3) than in 2022 (2) and 30% fewer "weather" outages in 2023 (3) than for the 10-year average (4.3);
- 65% fewer "equipment failure" outages in 2023 (7) than in 2022 (20) and 73% fewer "equipment failure" outages in 2023 (7) than for the 10-year average (25.7);
- 100% fewer "operator error" outages in 2023 (0) than in 2022 (3) and 100% fewer "operator error" outages in 2023 (0) than for the 10-year average (1.2);
- 14% more "accident" outages in 2023 (8) than in 2022 (7) and 3% more "accident" outages in 2023 (8) than for the 10-year average (7.8);
- 45% more "animal" outages in 2023 (16) than in 2022 (11) and 27% fewer "animal" outages in 2023 (16) than for the 10-year average (21.8);
- 100% more "power supplier" outages in 2023 (1) than in 2022 (0) and 29% fewer "power supplier" outages in 2023 (1) than for the 10-year average (1.4);
- The same number of "non-utility power supplier" outages in 2023 (0) and 2022 (0) and the same number of "non-utility power supplier" outages in 2023 (0) and the 10-year average (0);
- The same number of "other" outages in 2023 (0) and 2022 (0) and 100% fewer "other" outages in 2023 (0) than for the 10-year average (1);

In summary, BED met its SAIFI and CAIDI goals for 2023.

Analysis of Worst Performing Circuits

McNeil Line 1 (1L1), McNeil Line 4 (1L4) and Queen City Line 5 (3L5) circuits were identified in 2023 as the three worst performing circuits, experiencing the most unplanned outages. 3L5 experienced more unplanned outages in 2023 than in 2022 while 1L1 and 1L4 experienced less unplanned outages in 2023 than in 2022.

The unplanned outages on 1L1, 1L4, and 3L5 circuits in 2023 are as set forth in the following table:

Circuit	Trees	Weather	Equipment failure	Operator error	Accidents	Animals	Power supplier	Non-utility power supplier	Other	Unknown	Total Unplanned
1L1	4	1	1	-	1	3	-	-	-	-	10
1L4	-	2	3	-	1	3	-	-	-	-	9
3L5	1	-	-	-	3	3	-	-	-	-	7

The unplanned outages on 1L1, 1L4, and 3L5 circuits in 2022 were as set forth in the following table:

Circuit	Trees	Weather	Equipment failure	Operator error	Accidents	Animals	Power supplier	Non-utility power supplier	Other	Unknown	Total Unplanned
1L1	4	1	3	1	3	4	-	-	-	-	16
1L4	3	1	6	2	2	3	-	-	-	-	17
3L5	-	-	2	-	1	-	-	-	-	-	3

Highlights from the worst performing circuit's analysis include:

- BED's 1L1 circuit experienced 10 unplanned outages in 2023 and 16 in 2022. The main contributing factors for the outages on the 1L1 circuit were trees and animals. Tree related outages accounted for 40% of the unplanned outages. Animal related outages accounted for 30% of the unplanned outages.

  The number of outages caused by animal contact continues to decrease every year. The few animal-contact related outages on the 1L1 circuit were all related to overhead transformers. BED continues to install animal guarding on all exposed equipment at the time of installation or when identified in the field to be missing the appropriate guarding through everyday field work and inspections.

- BED's 1L4 circuit experienced 9 unplanned outages in 2023 and 17 in 2022. The main contributing factors for the outages on the 1L4 circuit were animals and equipment failure. Animal related outages accounted for 33% of the unplanned outages. Equipment failure related outages accounted for 33% of the unplanned outages.

  Similar to the 1L1 circuit, the 1L4 animal contact related outages remain at a low level, despite being a leading cause of outages. The few animal-contact related outages on the 1L4 circuit were all related to overhead transformers. BED continues to install animal guarding on all exposed equipment at the time of installation or when identified in the field to be missing the appropriate guarding through everyday field work and inspections.

  The few equipment failure outages experienced were all related to a specific type of secondary wire connection called an Insulink. These devices are no longer used, and a more reliable connector has been selected for standard inventory. Insulinks are replaced in the field at the time of work being completed on a service or when identified to be damaged or loose through everyday field work.

- BED's 3L5 circuit experienced 7 unplanned outages in 2023 and 3 in 2022. The main contributing factors for the outages on the 3L5 circuit were animals and accidents. Animal related outages accounted for 43%

of the unplanned outages. Accident related outages accounted for 43% of the unplanned outages.

Similar to the 1L1 circuit and 1L4 circuit, the 3L5 circuit animal contact related outages remain at a low level, despite being a leading cause of outages. The few animal-contact related outages on the 3L5 circuit were all related to overhead transformers. BED continues to install animal guarding on all exposed equipment at the time of installation or when identified in the field to be missing the appropriate guarding through everyday field work and inspections.

BED's Action Plan

Per BED's Capital Project Plan for FY2024 and FY2025, BED continues to replace aging infrastructure and add remotely operated devices at multiple locations throughout its system. The following are some of BED's projects that address reliability:

- Replace switch 322S/33S/324S at Main Street and University Heights with a new switch by June 2024.
- Replace Switch 305S/325S/326S at the Main Street Reservoir by June 2024.
- Replace Switch 817S/912S/913S at the Main Street Reservoir by June 2024.
- Replace Switch 709S/710S on Battery Street by June 2024.
- Replace section of East Avenue Line 5 (2L5) main circuit cable from University Road to the Main Street Reservoir by June 2024.
- Replace section of East Avenue Line 5 (2L5) main circuit cable from the Main Street Reservoir to UH#248 on Main Street by June 2024.
- Replace section of East Avenue Line 2 (2L2) main circuit cable from Bank Street to Cherry Street by June 2025.
- Replace section of Queen City Line 4 (3L4) main circuit cable from Main Street to College Street by December 2024.
- Replace section of McNeil Line 2 (1L2) main circuit from College Street to Pearl Street by June 2024.
- Replace switch 716S/728S/729S at Lake Street with a new switch by June 2025.
- Replace switch 328S/602S/704S/740S at South Winooski Street with a new switch by June 2025.

Burlington Electric Department - 01/01/2023 to 12/31/2023

Electricity Outage Report -- PUC Rule 4.900

	Name of company	*Burlington Electric Department*	
	Calendar year report covers	*1/1/2023*	*12/31/2023*
	Contact person	*Bradley Williams*	
	Phone number	*802-865-7442*	
	Number of customers	*21,640*	

System average interruption frequency index (SAIFI) =	**0.55**
Customers Out / Customers Served	
Customer average interruption duration index (CAIDI) =	**0.94**
Customer Hours Out / Customers Out	

	Outage cause	Number of Outages	Total customer hours out
1	**Trees**	5	1,514
2	**Weather**	3	1,227
3	**Company initiated outage**	122	2,823
4	**Equipment failure**	7	251
5	**Operator error**	0	0
6	**Accidents**	8	4,603
7	**Animals**	16	850
8	**Power supplier**	1	0
9	**Non-utility power supplier**	0	0
10	**Other**	0	0
11	**Unknown**	0	0
	Total	162	11,268

Note: Per PSB Rule 4.903(B)(3), this report must be accompanied by an overall assessment of system reliability that addresses the areas where most outages occur and the causes underlying most outages. Based on this assessment, the utility should describe, for both the long and the short terms, appropriate and necessary activities, action plans, and implementation schedules for correcting any problems identified in the above assessment.

Burlington Electric Department

Record of Outages -- PUC Rule 4.900

Company	Burlington Electric Department
Calendar year	1/1/2022 - 12/31/2022
Contact person	Bradley Williams
Phone number	802-865-7442
Customers served	21,640

Codes for type of outage:

1 Trees	6 Accidents
2 Weather	7 Animals
3 Company initiated outage	8 Power supplier
4 Equipment failure	9 Non-utility power supplier
5 Operator error	10 Other
	11 Unknown

Examples:

10-Jan	14:10	11-Jan	13:30		3G2	2	50	23.3	1,166.7
10-Jan	12:30	9-Jan	2:00	**bad data**	3G2	2	50		

Outage Start		Outage end		If indicated, Illegal date or time	System (if system outage) Substation ID (if substation outage)	Outage	Customers	Calculated columns	
Day-month	Hour:minute	Day-month	Hour:minute	Please reenter data	Circuit ID (if circuit outage)	Code	Out	Outage Duration	Customer Hours Out
4-Jan-23	8:04	4-Jan-23	9:42		1L4	3	10	1.6	16
4-Jan-23	8:04	4-Jan-23	9:56		1L4	3C	2	1.9	4
5-Jan-23	9:10	5-Jan-23	11:26		3L2	3	51	2.3	116
6-Jan-23	8:03	6-Jan-23	8:45		3L3	3	3	0.7	2
8-Jan-23	16:21	8-Jan-23	16:50		1L4	4	1	0.5	0
8-Jan-23	16:50	8-Jan-23	16:56		1L4	4	1	0.1	0
8-Jan-23	17:01	8-Jan-23	17:22		1L4	4	1	0.4	0
10-Jan-23	9:47	10-Jan-23	10:51		3L2	3	1	1.1	1
11-Jan-23	13:26	11-Jan-23	14:26		3L2	3	1	1.0	1
12-Jan-23	13:28	12-Jan-23	14:11		3L2	3	1	0.7	1
17-Jan-23	12:44	17-Jan-23	13:59		1L1	3	2	1.3	3
18-Jan-23	10:01	18-Jan-23	10:37		1L1	3	1	0.6	1
18-Jan-23	10:01	18-Jan-23	11:31		1L1	3C	1	1.5	2
24-Jan-23	3:30	24-Jan-23	5:59		1L2	3	71	2.5	176
28-Jan-23	17:30	28-Jan-23	17:41		1L4	3	1	0.2	0
28-Jan-23	17:45	28-Jan-23	18:03		1L4	3	1	0.3	0
1-Feb-23	9:25	1-Feb-23	13:39		1L4	6	2	4.2	8
1-Feb-23	9:58	1-Feb-23	13:39		1L4	3	1	3.7	4
3-Feb-23	14:48	3-Feb-23	15:59		2L2	3	36	1.2	43
10-Feb-23	10:14	10-Feb-23	11:29		3L2	3	1	1.3	1
10-Feb-23	13:33	10-Feb-23	14:09		3L2	3	1	0.6	1
10-Feb-23	9:10	10-Feb-23	9:51		3L2	3	4	0.7	3
13-Feb-23	9:28	13-Feb-23	10:48		3L3	3	1	1.3	1
13-Feb-23	12:53	13-Feb-23	14:05		3L3	3	1	1.2	1
13-Feb-23	9:38	13-Feb-23	10:04		3L2	3	3	0.4	1
13-Feb-23	11:19	13-Feb-23	11:53		3L2	3	1	0.6	1
13-Feb-23	10:23	13-Feb-23	11:11		3L2	3	1	0.8	1
13-Feb-23	13:21	13-Feb-23	14:23		3L2	3	1	1.0	1
13-Feb-23	13:50	13-Feb-23	14:23		3L2	3	1	0.6	1
15-Feb-23	9:04	15-Feb-23	11:09		3L2	3	1	2.1	2
15-Feb-23	9:34	15-Feb-23	11:11		3L2	3	1	1.6	2
15-Feb-23	12:28	15-Feb-23	13:34		3L2	3	1	1.1	1
15-Feb-23	12:44	15-Feb-23	13:36		3L2	3	4	0.9	3

				If indicated,	System (if system outage)			Calculated columns	
Outage Start		**Outage end**		Illegal date or time	Substation ID (if substation outage)	Outage	Customers	Outage	Customer
Day-month	Hour:minute	Day-month	Hour:minute	Please reenter data	Circuit ID (if circuit outage)	Code	Out	Duration	Hours Out
2-Mar-23	9:33	2-Mar-23	12:41		1L2	3	1	3.1	3
3-Mar-23	10:58	3-Mar-23	11:31		3L2	3	1	0.6	1
3-Mar-23	13:59	3-Mar-23	14:24		3L2	3	2	0.4	1
8-Mar-23	12:47	8-Mar-23	13:30		3L2	3	1	0.7	1
8-Mar-23	13:37	8-Mar-23	14:29		3L2	3	1	0.9	1
9-Mar-23	9:07	9-Mar-23	10:08		3L2	3	1	1.0	1
9-Mar-23	12:47	9-Mar-23	13:26		3L2	3	3	0.7	2
10-Mar-23	8:30	10-Mar-23	9:55		3L2	3	1	1.4	1
14-Mar-23	14:52	14-Mar-23	15:23		3L3	3	1	0.5	1
22-Mar-23	8:31	22-Mar-23	9:54		1L4	3	4	1.4	6
22-Mar-23	9:56	22-Mar-23	10:19		1L4	3	1	0.4	0
24-Mar-23	8:31	24-Mar-23	10:28		1L4	3	12	2.0	23
27-Mar-23	9:55	27-Mar-23	10:06		1L4	3	1	0.2	0
27-Mar-23	11:32	27-Mar-23	11:49		1L4	3	1	0.3	0
30-Mar-23	8:33	30-Mar-23	8:48		1L4	3	12	0.3	3
30-Mar-23	13:54	30-Mar-23	15:38		1L4	3	39	1.7	68
2-Apr-23	2:03	2-Apr-23	6:40		3L2	3	1	4.6	5
2-Apr-23	2:05	2-Apr-23	7:03		3L2	3	1	5.0	5
3-Apr-23	12:42	3-Apr-23	12:49		1L3	3	1	0.1	0
3-Apr-23	13:47	3-Apr-23	14:04		1L3	3	1	0.3	0
13-Apr-23	21:41	14-Apr-23	0:20		1L2	6	104	2.7	276
21-Apr-23	0:00	21-Apr-23	2:51		1L2	3	81	2.9	231
21-Apr-23	0:00	21-Apr-23	3:15		1L2	3C	2	3.2	6
21-Apr-23	0:00	21-Apr-23	3:38		1L2	3C	22	3.6	80
21-Apr-23	0:00	21-Apr-23	3:43		1L2	3C	108	3.7	401
27-Apr-23	6:52	27-Apr-23	7:54		1L1	1	1,079	1.0	1,115
5-May-23	9:41	5-May-23	11:26		1L4	3	1	1.8	2
8-May-23	8:21	8-May-23	8:58		1L4	3	12	0.6	7
9-May-23	11:01	9-May-23	12:14		2L3	3	2	1.2	2
11-May-23	6:00	11-May-23	6:44		2L2	7	107	0.7	78
11-May-23	12:34	12-May-23	3:07		3L3	3	2	14.6	29
12-May-23	0:01	12-May-23	3:07		3L3	3	1	3.1	3
12-May-23	2:25	12-May-23	2:50		3L3	3	5	0.4	2
13-May-23	5:44	13-May-23	6:32		2L1	3	5	0.8	4
17-May-23	5:21	17-May-23	11:47		2L4	3	2	6.4	13
19-May-23	5:36	19-May-23	6:24		2L3	3	1	0.8	1
22-May-23	10:01	22-May-23	11:06		1L1	3	7	1.1	8
23-May-23	8:15	23-May-23	8:38		1L1	3	18	0.4	7
23-May-23	8:15	23-May-23	9:49		1L1	3C	3	1.6	5
25-May-23	15:42	25-May-23	15:49		1L1	6	1	0.1	0
31-May-23	5:54	31-May-23	6:28		3L3	7	30	0.6	17
1-Jun-23	3:01	1-Jun-23	4:21		1L2	3	212	1.3	283
1-Jun-23	11:26	1-Jun-23	11:57		1L1	3	1	0.5	1
1-Jun-23	20:22	1-Jun-23	20:30		1L1	4	22	0.1	3
2-Jun-23	5:43	2-Jun-23	5:48		3L3	7	564	0.1	47
2-Jun-23	5:43	2-Jun-23	5:50		3L3	7C	443	0.1	52
2-Jun-23	5:43	2-Jun-23	6:05		3L3	7C	597	0.4	219
2-Jun-23	5:43	2-Jun-23	6:17		3L3	7C	368	0.6	209
2-Jun-23	8:14	2-Jun-23	8:46		1L1	3	1	0.5	1
2-Jun-23	10:38	2-Jun-23	11:56		1L1	3	1	1.3	1
2-Jun-23	11:39	2-Jun-23	11:53		1L1	3	1	0.2	0
5-Jun-23	10:40	5-Jun-23	10:48		1L1	3	2	0.1	0
5-Jun-23	12:07	5-Jun-23	12:38		1L1	3	1	0.5	1
5-Jun-23	11:25	5-Jun-23	13:13		2L2	6	6	1.8	11
6-Jun-23	6:08	6-Jun-23	7:16		2L5	7	34	1.1	39
6-Jun-23	8:46	6-Jun-23	10:01		1L1	3	2	1.3	3
12-Jun-23	9:57	12-Jun-23	10:45		1L4	3	4	0.8	3
14-Jun-23	14:49	14-Jun-23	15:32		3L5	7	23	0.7	16
15-Jun-23	10:01	15-Jun-23	10:28		1L3	3	34	0.5	15
21-Jun-23	9:37	21-Jun-23	9:48		1L1	3	1	0.2	0
21-Jun-23	10:05	21-Jun-23	10:53		1L1	3	1	0.8	1
21-Jun-23	13:12	21-Jun-23	13:23		1L1	3	2	0.2	0
21-Jun-23	13:12	21-Jun-23	13:40		1L1	3C	2	0.5	1
27-Jun-23	8:38	27-Jun-23	10:11		3L3	3	9	1.5	14
27-Jun-23	9:11	27-Jun-23	9:38		1L1	3	2	0.4	1
27-Jun-23	12:16	27-Jun-23	13:00		1L1	3	2	0.7	1
28-Jun-23	8:59	28-Jun-23	9:13		1L1	3	6	0.2	1

				If indicated,	System (if system outage)			Calculated columns	
Outage Start		**Outage end**		Illegal date or time	Substation ID (if substation outage)	Outage	Customers	Outage	Customer
Day-month	Hour:minute	Day-month	Hour:minute	Please reenter data	Circuit ID (if circuit outage)	Code	Out	Duration	Hours Out
1-Jul-23	9:06	1-Jul-23	10:20		3L2	7	28	1.2	35
4-Jul-23	21:54	4-Jul-23	22:12		3L5	1	116	0.3	35
6-Jul-23	8:31	6-Jul-23	11:14		3L3	3	9	2.7	24
7-Jul-23	6:35	7-Jul-23	7:20		1L1	7	25	0.8	19
8-Jul-23	6:20	8-Jul-23	7:20		3L5	7	17	1.0	17
13-Jul-23	9:58	13-Jul-23	10:08		3L3	3	2	0.2	0
14-Jul-23	19:44	14-Jul-23	21:22		1L1	2	297	1.6	485
17-Jul-23	13:34	17-Jul-23	14:14		3L2	4	3	0.7	2
21-Jul-23	8:45	21-Jul-23	9:03		3L3	3	5	0.3	1
21-Jul-23	9:02	21-Jul-23	9:18		3L4	3	44	0.3	12
21-Jul-23	17:17	21-Jul-23	20:16		1L4	2	1	3.0	3
21-Jul-23	18:41	21-Jul-23	20:16		1L4	3	4	1.6	6
22-Jul-23	8:03	22-Jul-23	10:02		1L1	7	1	2.0	2
28-Jul-23	17:20	28-Jul-23	18:55		1L4	7	16	1.6	25
2-Aug-23	8:29	2-Aug-23	8:43		3L3	3	9	0.2	2
3-Aug-23	17:25	3-Aug-23	17:31		1L4	2	2,566	0.1	257
3-Aug-23	17:25	3-Aug-23	17:48		1L4	2C	1,232	0.4	472
3-Aug-23	17:25	3-Aug-23	19:56		1L4	2C	4	2.5	10
4-Aug-23	2:01	4-Aug-23	2:15		1L1	1	1,072	0.2	250
4-Aug-23	2:01	4-Aug-23	3:57		1L1	1C	41	1.9	79
9-Aug-23	1:15	9-Aug-23	2:55		1L1	1	1	1.7	2
10-Aug-23	9:03	10-Aug-23	11:04		3L2	3	38	2.0	77
14-Aug-23	7:57	14-Aug-23	8:29		1L4	7	9	0.5	5
28-Aug-23	10:35	28-Aug-23	11:18		3L3	3	1	0.7	1
29-Aug-23	12:44	29-Aug-23	13:20		3L5	3	1	0.6	1
30-Aug-23	8:40	30-Aug-23	11:07		3L5	3	2	0.6	1
1-Sep-23	0:45	1-Sep-23	0:57		3L4	3	44	0.6	1
1-Sep-23	0:45	1-Sep-23	2:19		3L4	3	3	0.6	1
1-Sep-23	2:09	1-Sep-23	2:19		3L4	3	44	0.6	1
3-Sep-23	12:53	3-Sep-23	13:07		1L3	3	2	0.6	1
7-Sep-23	6:06	7-Sep-23	6:12		3L5	3	2	0.6	1
7-Sep-23	15:09	7-Sep-23	20:36		1L1	1	6	5.4	33
9-Sep-23	16:39	9-Sep-23	16:53		AP2	8	1	0.2	0
15-Sep-23	5:26	15-Sep-23	6:08		1L2	3	1	0.6	1
15-Sep-23	11:00	15-Sep-23	11:25		3L5	3	5	0.4	2
18-Sep-23	13:32	18-Sep-23	13:48		1L4	3	1	0.6	1
19-Sep-23	8:15	19-Sep-23	8:23		3L2	3	1	0.6	1
21-Sep-23	11:07	21-Sep-23	11:29		3L5	7	17	0.4	6
21-Sep-23	12:25	21-Sep-23	12:52		3L5	6	1,212	0.5	545
21-Sep-23	12:25	21-Sep-23	13:14		3L5	6C	3	0.8	2
21-Sep-23	12:25	21-Sep-23	14:21		3L5	6C	76	1.9	147
21-Sep-23	12:42	24-Sep-23	12:52		3L5	6	47	72.2	3,392
21-Sep-23	13:00	24-Sep-23	14:21		3L5	6	3	73.4	220
24-Sep-23	10:45	24-Sep-23	11:01		3L5	3	11	0.3	3
28-Sep-23	11:20	28-Sep-23	12:44		3L2	3	2	1.4	3
29-Sep-23	15:23	29-Sep-23	15:46		1L2	3	2	0.4	1
29-Sep-23	15:34	29-Sep-23	15:46		1L2	3	2	0.2	0
29-Sep-23	13:06	29-Sep-23	13:14		3L1	3	2	0.1	0
29-Sep-23	13:06	29-Sep-23	13:17		3L1	3C	1	0.2	0
1-Oct-23	9:01	1-Oct-23	10:21		1L4	7	12	1.3	16
2-Oct-23	9:11	2-Oct-23	9:44		3L2	7	23	0.5	13
10-Oct-23	14:27	10-Oct-23	14:33		3L5	3	16	0.1	2
10-Oct-23	23:23	10-Oct-23	23:51		1L1	3	24	0.5	11
12-Oct-23	8:50	12-Oct-23	8:57		1L1	3	1	0.1	0
14-Oct-23	9:04	14-Oct-23	10:57		1L1	7	14	1.9	26
25-Oct-23	9:00	25-Oct-23	9:49		3L5	3	46	0.8	38
27-Oct-23	11:26	27-Oct-23	13:01		3L2	3	2	1.6	3

				If indicated,	System (if system outage)			Calculated columns	
Outage Start		**Outage end**		Illegal date or time	Substation ID (if substation outage)	Outage	Customers	Outage	Customer
Day-month	Hour:minute	Day-month	Hour:minute	Please reenter data	Circuit ID (if circuit outage)	Code	Out	Duration	Hours Out
5-Nov-23	7:37	5-Nov-23	9:02		2L5	7	7	1.4	10
7-Nov-23	6:12	7-Nov-23	7:36		3L3	3	2	1.4	3
7-Nov-23	9:23	7-Nov-23	9:36		2L5	3	3	0.2	1
12-Nov-23	19:26	12-Nov-23	22:11		2L2	4	11	2.8	30
12-Nov-23	19:26	13-Nov-23	2:51		2L2	4C	11	7.4	82
16-Nov-23	11:01	16-Nov-23	11:47		3L2	3	1	0.8	1
21-Nov-23	19:54	21-Nov-23	20:18		3L5	3	4	0.4	2
22-Nov-23	3:06	22-Nov-23	8:02		3L4	4	27	4.9	133
26-Nov-23	12:24	26-Nov-23	15:44		3L1	3	1	3.3	3
28-Nov-23	4:01	28-Nov-23	7:10		3L4	3	149	3.1	469
28-Nov-23	4:01	28-Nov-23	8:42		3L4	3C	12	4.7	56
28-Nov-23	9:55	28-Nov-23	10:53		3L5	3	1	1.0	1
30-Nov-23	10:29	30-Nov-23	12:37		1L1	3	1	2.1	2
5-Dec-23	8:59	5-Dec-23	9:28		1L4	3	25	0.5	12
5-Dec-23	9:02	5-Dec-23	9:25		1L4	3	73	0.4	28
5-Dec-23	9:02	5-Dec-23	9:28		1L4	3C	56	0.4	24
5-Dec-23	10:01	5-Dec-23	10:41		1L4	3	6	0.7	4
5-Dec-23	10:01	5-Dec-23	11:13		1L4	3C	64	1.2	77
5-Dec-23	10:32	5-Dec-23	12:08		1L2	6	1	1.6	2
7-Dec-23	10:40	7-Dec-23	11:04		1L4	3	1	0.4	0
12-Dec-23	9:09	12-Dec-23	13:17		1L4	3	46	4.1	190
12-Dec-23	9:16	12-Dec-23	13:35		1L4	3	3	4.3	13
14-Dec-23	8:31	14-Dec-23	8:55		1L4	3	6	0.4	2
15-Dec-23	4:02	15-Dec-23	5:38		1L4	3	26	1.6	42
21-Dec-23	9:08	21-Dec-23	10:26		1L2	3	21	1.3	27
22-Dec-23	8:55	22-Dec-23	11:22		2L2	3	14	2.4	34