

Los Alamos County
Department of Public Utilities

Electric Distribution
Reliability

March 19, 2025

Stephen Marez

Deputy Utility Manager
Electric Distribution

Twelve Month History	FEBRUARY 25	
Total # Accounts	9045	
Total # Interruptions	37	
Sum Customer Interruption Durations	4501:28:00	hours:min
# Customers Interrupted	2588	
SAIFI (APPA AVG. = 1.0)	.29	int./cust.
SAIDI (APPA AVG. = 1:00)	00:29:52	hours:min
CAIDI	1.44	hours:min/INT
ASAI	99.9998%	% Available

- SAIFI - System Average Interruption Frequency Index**
 A measure of interruptions per customer (Per Year)

$$\text{SAIFI} = \frac{\text{(Total number of customer interruptions)}}{\text{(Total number of customers served)}}$$

- SAIDI – System Average Interruption Duration Index**
 A measure of outage time per customer if all customers were out at the same time (hours per year)

$$\text{SAIDI} = \frac{\text{(Sum of all customer outage durations)}}{\text{(Total number of customers served)}}$$

- CAIDI – Customer Average Interruption Duration Index**
 A measure of the average outage duration per customer (hours per interruption)

$$\text{CAIDI} = \frac{\text{(Sum of all customer outage durations)}}{\text{(Total number of customer interruptions)}} = \frac{\text{SAIDI}}{\text{SAIFI}}$$

- ASAI – Average System Availability Index**
 A measure of the average service availability (Per unit)

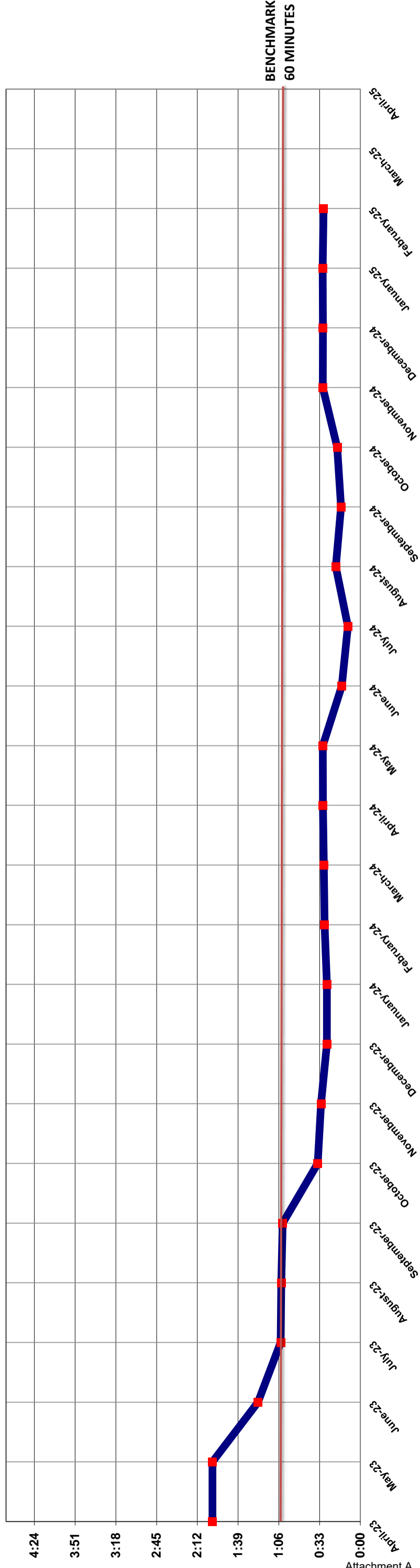
$$\text{ASAI} = \frac{\text{(Service hours available)}}{\text{(Customer demand hours)}} = \frac{8760 - \text{SAIDI}}{8760}$$

Electric Distribution Reliability Study Twelve Month Outage History												Prepared by Stephen Marez Deputy Utility Manager		
Date	Call Rcd.	Circuit	Cause	Start Time	End Time	Duration	Customers Affected (Meters)	Combined Customer Outage Durations	Total Outage H:M:S	Running SAIDI				
3/7/2024	Utilities	14	URD Failure	22:15	0:00	1:45	80	140:00:00	140:00:00	0:00:56				
3/7/2024	Utilities	14	URD Failure	22:15	1:15	3:00	7	21:00:00	161:00:00	0:01:04				
3/7/2024	Utilities	14	URD Failure	23:00	2:00	3:00	9	27:00:00	188:00:00	0:01:15				
3/15/2024	Utilities	13	WEATHER	11:31	12:30	0:59	7	6:53:00	194:53:00	0:01:18				
3/15/2023	Utilities	ELK RIDGE	WEATHER	11:30	12:30	1:00	43	43:00:00	237:53:00	0:01:35				
3/15/2023	Utilities	15	WEATHER	11:00	13:00	2:30	4	10:00:00	247:53:00	0:01:39				
3/15/2023	Utilities	15	WEATHER	11:00	12:00	1:00	24	24:00:00	271:53:00	0:01:48				
4/5/2024	Utilities	WR1	TREE	23:30	6:00	6:30	16	104:00:00	375:53:00	0:02:30				
4/16/2024	Utilities	ELK RIDGE	TREE	2:30	4:30	2:00	4	8:00:00	383:53:00	0:02:33				
4/16/2024	Utilities	16	TREE	5:00	6:30	1:30	5	7:30:00	391:23:00	0:02:36				
5/19/2024	Utilities	16	ANIMAL	10:45	11:25	0:40	10	6:40:00	398:03:00	0:02:38				
5/20/2024	Utilities	16	Unknown	5:00	5:45	0:45	20	15:00:00	413:03:00	0:02:44				
6/5/2024	Utilities	15	URD Failure	14:00	15:00	1:00	10	10:00:00	423:03:00	0:02:48				
7/1/2024	Utilities	13	WEATHER	18:45	19:45	1:00	5	5:00:00	428:03:00	0:02:50				
7/1/2024	Utilities	13	WEATHER	21:30	1:30	4:00	2	8:00:00	436:03:00	0:02:54				
7/1/2024	Utilities	16	Unknown	19:15	21:30	2:15	6	13:30:00	449:33:00	0:02:59				
7/12/2024	Utilities	15	ANIMAL	0:00	1:30	1:30	30	45:00:00	494:33:00	0:03:17				
8/8/2024	Utilities	16	URD Failure	16:30	17:40	1:10	59	68:50:00	563:23:00	0:03:44				
8/9/2024	Utilities	WR2	WEATHER	18:30	20:30	2:00	5	10:00:00	573:23:00	0:03:48				
8/12/2024	Utilities	15	WEATHER	4:00	6:30	2:30	30	75:00:00	648:23:00	0:04:18				
8/20/2024	Utilities	15	URD Failure	16:00	22:00	6:00	8	48:00:00	696:23:00	0:04:37				
8/25/2024	Utilities	13	URD Failure	11:30	15:30	4:00	317	1268:00:00	1964:23:00	0:13:02				
8/25/2024	Utilities	WR2	WEATHER	18:00	21:45	3:45	46	172:30:00	2136:53:00	0:14:11				
10/2/2024	Utilities	14	URD Failure	22:30	23:30	1:00	75	75:00:00	2211:53:00	0:14:40				
10/2/2024	Utilities	14	URD Failure	22:30	5:00	6:30	28	182:00:00	2393:53:00	0:15:53				
10/3/2024	LANL	EA4 LANL	TREE	12:19	13:05	0:46	23	17:38:00	2411:31:00	0:16:00				
10/5/2024	Utilities	13	ANIMAL	11:15	12:15	1:00	29	29:00:00	2440:31:00	0:16:11				
10/13/2024	Utilities	13	Unknown	19:24	20:30	1:06	99	108:54:00	2549:25:00	0:16:55				
10/14/2024	Utilities	16	URD Failure	19:02	20:00	0:58	142	137:16:00	2686:41:00	0:17:49				
10/14/2024	Utilities	16	ANIMAL	2:30	2:49	0:19	45	14:15:00	2700:56:00	0:17:55				
11/4/2024	Utilities	13	TREE	8:02	9:00	0:58	625	604:10:00	3305:06:00	0:21:55				
11/4/2024	Utilities	13	TREE	8:02	9:40	1:38	675	1102:30:00	4407:36:00	0:29:14				
11/7/2024	Utilities	WR2	WEATHER	0:00	4:45	4:45	6	28:30:00	4436:06:00	0:29:26				
11/19/2024	Utilities	13	TREE	8:36	9:10	0:34	43	24:22:00	4460:28:00	0:29:35				
12/18/2024	Utilities	WR1	URD Failure	6:00	6:50	0:50	15	12:30:00	4472:58:00	0:29:40				
1/9/2025	Utilities	ELK RIDGE	Unknown	18:00	19:00	1:00	6	6:00:00	4478:58:00	0:29:43				
1/30/2025	Utilities	15	Unknown	11:30	12:15	0:45	30	22:30:00	4501:28:00	0:29:52				

EACH POINT IS A MONTHLY SAIDI HISTORY
60 MINUTES = LACDPU SAIDI BENCHMARK

SAIDI = STANDARD AVERAGE INTERRUPTION DURATION

SAIDI = $\frac{\text{Sum of all customer outage durations}}{\text{Total number of customers served}}$



SAIDI NOW AT
29 MINUTES