

**Los Alamos County**  
**Department of Public Utilities**

Electric Distribution  
Reliability

July 17, 2024

Stephen Marez

Deputy Utility Manager - Electric Distribution

Twelve Month History	JUNE 24	
Total # Accounts	9045	
Total # Interruptions	36	
Sum Customer Interruption Durations	2262:36:00	hours:min
# Customers Interrupted	1314	
SAIFI (APPA AVG. = 1.0)	.15	int./cust.
SAIDI (APPA AVG. = 1:00)	00:15	hours:min
CAIDI	1:43	hours:min/INT
ASAI	99.9999%	% 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)

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



**CIRCUIT SAIDI IS CALCULATED ACCORDING TO THE NUMBER OF CUSTOMERS IN EACH CIRCUIT RESPECTIVELY**

<u>Running SAIDI Circuit 13</u>	<u>Running SAIDI Circuit 14</u>	<u>Running SAIDI Circuit 15</u>	<u>Running SAIDI Circuit 16</u>	<u>Running SAIDI Circuit 17</u>	<u>Running SAIDI Circuit 18</u>	<u>Running SAIDI Circuit EA4 &amp; ELK RIDGE</u>	<u>Running SAIDI Circuit WR1</u>	<u>Running SAIDI Circuit WR2</u>	<u>Monthly SAIDI</u>		<u>Monthly Customer Minutes out of service</u>	<u>WEATHER SAIDI</u>
0:01:08				0:06:34						0:00:13	31:26:00	
			0:01:47						JUNE	0:00:09	54:20:00	
0:01:38										0:00:22		
0:05:59										0:00:18		
0:00:26										0:01:06		
		0:06:26								0:00:05		
							0:02:21			0:01:20		
			0:00:23							0:00:25		
0:00:58										0:00:05	606:05:00	
							0:00:48			0:00:11		
				0:25:00						0:00:08		
				0:06:15						0:00:35	197:12:00	
	0:04:31									0:00:09	176:10:00	
				0:01:36					JULY	0:00:16		
0:01:05										0:00:02	176:10:00	
				0:12:03						0:00:12		
							0:03:24			0:00:17	940:16:00	
		0:20:40							AUGUST	0:00:36		
		0:02:53							SEPTEMBER	0:04:17	0:04:17	
						0:07:16			OCTOBER	0:00:36	0:00:36	
0:00:36									DEC	0:00:08	0:00:08	
0:03:29										0:00:07		0:00:07
	0:15:35								FEBRUARY	0:00:38	0:00:45	
	0:02:20									0:00:56		
	0:03:00									0:00:08		
0:00:15										0:00:11		
						0:15:38				0:00:03		
		0:00:19								0:00:17		
		0:00:46								0:00:04		
							0:03:56		MARCH	0:00:10	0:01:48	0:00:33
										0:00:41		
						0:02:55				0:00:03		
			0:00:15						APRIL	0:00:03		0:00:48
			0:00:13							0:00:03		0:00:09
			0:00:29						MAY	0:00:06		0:00:12
		0:00:19							JUNE	0:00:04	0:01:10	
<b>0:15:35</b>	<b>0:25:26</b>	<b>0:31:24</b>	<b>0:03:07</b>	<b>0:51:29</b>	<b>0:00:00</b>	<b>0:22:55</b>	<b>0:10:29</b>	<b>0:00:00</b>	<b>Total</b>	<b>0:15:01</b>		<b>0:01:28</b>
<b>1655</b>	<b>539</b>	<b>1875</b>	<b>1842</b>	<b>209</b>	<b>213</b>	<b>165</b>	<b>1586</b>	<b>961</b>	<b>9045</b>			

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

SAIDI = STANDARD AVERAGE INTERRUPTION DURATION

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

