

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

Electric Distribution  
Reliability

August 16, 2023

Stephen Marez

Deputy Utility Manager  
Electric Distribution

Twelve Month History	JULY 2023	
Total # Accounts	9045	
Total # Interruptions	42	
Sum Customer Interruption Durations	9767:31:00	hours:min
# Customers Interrupted	4984	
SAIFI (APPA AVG. = 1.0)	.55	int./cust.
SAIDI (APPA AVG. = 1:00)	1:04	hours:min
CAIDI	1:57	hours:min/INT
ASAI	99.9995%	% 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)

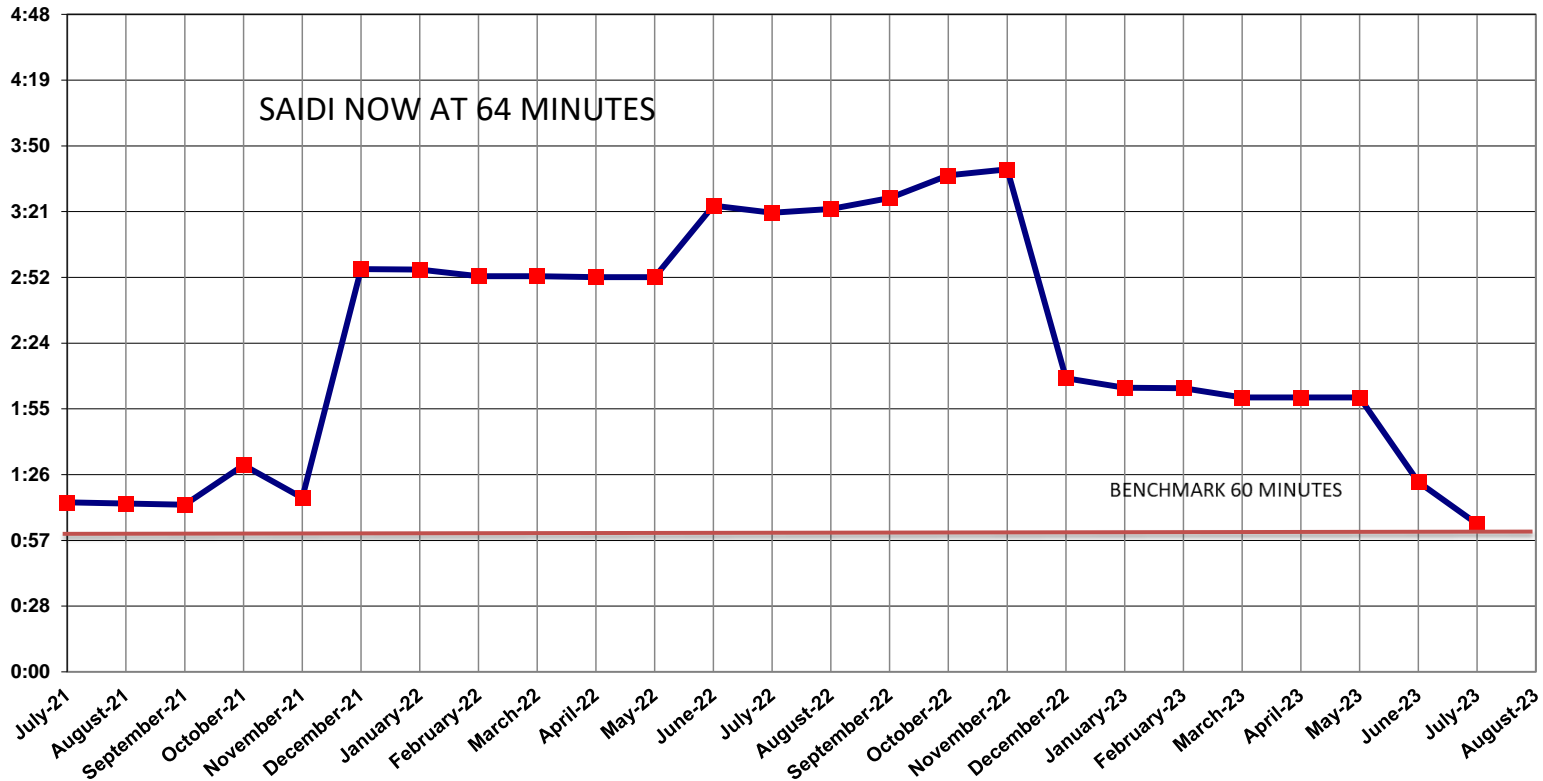
$$\text{ASAI} = \frac{\text{(Service hours available)}}{\text{(Customer demand hours)}} = \frac{8760 - \text{SAIDI}}{8760}$$



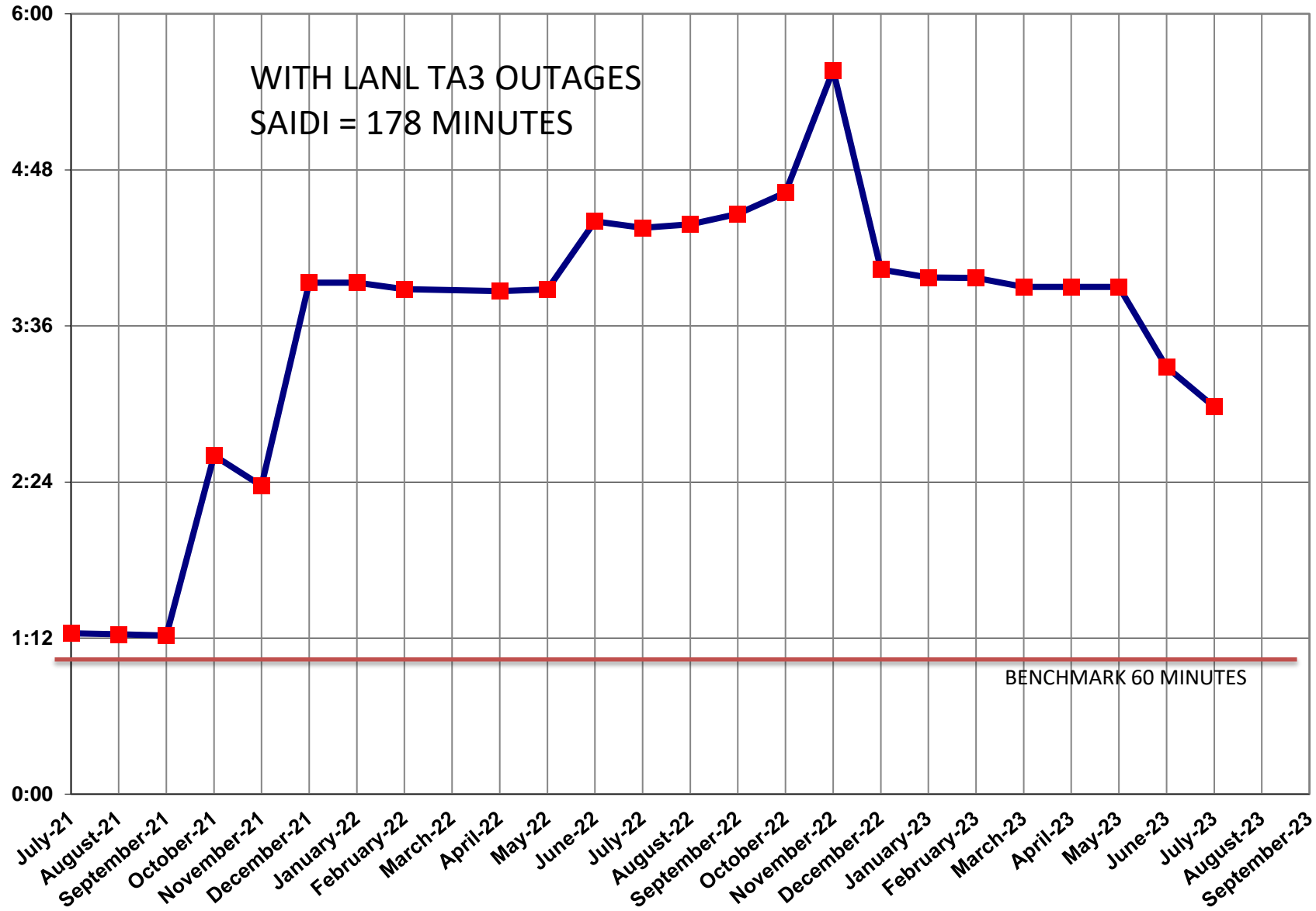
## CIRCUIT SAIDI IS CALCULATED ACCORDING TO THE NUMBER OF CUSTOMERS IN EACH CIRCUIT RESPECTIVELY

<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>
			0:07:55								0:01:37	
		0:00:10							August	0:00:02	248:15:00	
0:05:59										0:01:06		
	0:01:07									0:00:04		
	0:04:27									0:00:16		
	1:06:34								Sept.	0:03:58	21:00:00	
0:18:47										0:03:26		
1:40:27										0:18:23		
0:27:51										0:05:06		
0:07:40										0:01:24		
	0:01:07									0:00:04		
	0:03:20									0:00:12		
							0:00:20		Oct.	0:00:30	4384:30:00	
0:01:24										0:00:15		
0:03:43										0:00:41		
		0:08:37							NOV	0:01:47	371:40:00	
			0:22:57							0:04:40		
						0:07:38			DEC	0:00:08	725:33:00	
	0:00:27								JAN	0:00:02	4:00:00	
		0:00:17								0:00:04		
0:00:22									FEB	0:00:04	19:00:00	
			0:00:10							0:00:02		
			0:00:08						MAY	0:00:02	9:00:00	
0:06:56										0:01:16		
0:05:51										0:01:04		
0:43:32										0:07:58		
0:28:42										0:05:15	2345:10:00	
0:01:08										0:00:13	2185:26:00	
				0:06:34					JUNE	0:00:09	2046:50:00	
			0:01:47							0:00:22		
0:01:38										0:00:18		
0:05:59										0:01:06		
0:00:26										0:00:05		
	0:06:26									0:01:20		
							0:00:00			0:00:25		
			0:00:23							0:00:05	606:05:00	
0:00:58										0:00:11		
							0:00:00			0:00:08		
				0:25:00						0:00:35	197:12:00	
				0:06:15						0:00:09	176:10:00	
	0:04:31									0:00:16		
				0:01:36					JULY	0:00:02	176:10:00	
<b>2:46:12</b>	<b>1:21:32</b>	<b>0:09:04</b>	<b>0:31:02</b>	<b>0:39:26</b>	<b>0:00:00</b>	<b>0:07:38</b>	<b>0:00:20</b>	<b>0:00:00</b>	<u>Total</u>	<b>1:04:48</b>		<b>0:00:00</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 12 MONTH SAIDI HISTORY  
1:00:00 = APPA BENCHMARK SAIDI



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# CONNECTED DISTRIBUTED GENERATION SOLAR - 3843 KW

