

STATUS REPORTS

ELECTRIC RELIABILITY

Los Alamos County Utilities



Electric Distribution Reliability

September 21, 2016

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Project Engineer

Twelve Month History	August 2016	
Total # Accounts	9045	
Total # Interruptions	45	
Sum Customer Interruption Durations	3615:20:00	hours:min:sec
# Customers Interrupted	5188	
SAIFI(APPA AVG. = 1.0)	.57	int./cust.
SAIDI (APPA AVG. = 1:00)	:23	hours:min
CAIDI	:41	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)

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

- 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>SAIDI Circuit EA4 & Royal Crest</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>
							0:03:00					
	0:45:00							0:07:57				
0:03:13												
	0:45:37											
								0:47:33	SEPTEMBER	0:04:13	635:24:00	
		0:02:07										
		0:06:56										
		0:12:55							OCTOBER	0:02:40	402:40:00	
0:04:50		0:14:02										
									NOVEMBER	0:00:32	80:00:00	
								2:00:00				
							0:00:55		DECEMBER	0:00:28	69:30:00	
		0:20:41										
							0:01:23		JANUARY	0:01:27	219:30:00	
							0:01:32		FEBRUARY	0:00:02	4:00:00	
						0:04:01						
								3:29:30				
								1:29:56				
			0:02:50						MARCH	0:00:48	119:22:00	
			0:04:36									
0:05:07												
			0:04:42				0:02:57		APRIL	0:00:48	230:44:00	
		0:20:55										
0:06:05								3:20:12	JUNE	0:00:05	11:45:00	
	0:51:39											
								5:10:55				
								1:51:59	JULY	0:00:54	135:00:00	0:00:08
0:15:33			0:17:21									
							0:04:48					
	2:13:39											
	2:15:53											
0:16:05						0:12:19						
	2:32:12											
							0:06:09		AUGUST	0:11:04	1017:54:00	
0:16:40				0:20:00								
							0:06:33					
							0:07:01					
							0:08:31		SEPTEMBER	0:00:59	148:35:00	
Circ 13	Circ 14	Circ 15	Circ 16	Circ 17	Circ 18	Circ EA4	Circ WR1	Circ WR2	Total	SAIDI TOTAL		WEATHER
1655	539	1875	1842	209	213	165	1586	961	9045	0:23:59		0:00:08

EACH POINT IS A 12 MONTH SAIDI HISTORY
1:00:00 = APPA BENCHMARK SAIDI

