

# **STATUS REPORTS**

## **ELECTRIC RELIABILITY**

# Los Alamos County Utilities



## Electric Distribution Reliability

September 19, 2018

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**Electric Distribution Reliability Study  
Twelve Month Outage History**

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Date	Call Rcd.	Circuit	Cause	Start Time	End Time	Duration	Customers Affected (Meters)	Combined Customer Outage Durations	Total Outage H:M:S	Running SAIDI
9/10/2017	Utilities	16	URD Failure	17:00	18:50	1:50	40	73:20:00	73:20:00	0:00:29
9/19/2017	Utilities	14	URD Failure	2:45	3:35	0:50	18	15:00:00	86:20:00	0:00:35
9/19/2017	Utilities	14	URD Failure	7:45	9:00	1:15	80	100:00:00	188:20:00	0:01:15
9/19/2017	Utilities	14	URD Failure	7:45	14:15	6:30	45	292:30:00	480:50:00	0:03:11
10/5/2017	Utilities	15	Tree	16:00	16:15	0:15	10	2:30:00	483:20:00	0:03:12
10/27/2017	Utilities	18	Planned	8:30	9:30	1:00	1	1:00:00	484:20:00	0:03:13
11/24/2017	Dispatch	TC2	Supply line Failure	2:54	6:03	3:09	264	7131:36:00	7615:56:00	0:50:31
11/24/2017	Dispatch	TC1	System Failure	3:53	5:59	2:06	4069	8644:54:00	16160:50:00	1:47:12
11/30/2017	Utilities	WR1	Planned	19:00	23:00	4:00	1	4:00:00	16164:50:00	1:47:14
11/30/2017	Utilities	WR1	Planned	19:00	0:30	5:30	5	27:30:00	16192:20:00	1:47:25
12/22/2017	Utilities	13	URD Failure	12:30	15:50	3:20	15	50:00:00	16242:20:00	1:47:45
12/27/2017	Utilities	13	URD Failure	18:30	21:07	2:37	1	2:37:00	16244:57:00	1:47:46
1/16/2018	Utilities	18	HUMAN	8:30	8:34	0:04	213	14:12:00	16259:09:00	1:47:51
2/3/2018	Utilities	13	Animal	1:30	2:30	1:00	8	8:00:00	16267:09:00	1:47:54
2/14/2018	Utilities	14	Planned	9:00	10:30	1:30	7	10:30:00	16277:39:00	1:47:59
3/8/2018	Utilities	WR2	Planned	9:30	11:00	1:30	7	10:30:00	16286:09:00	1:48:03
3/9/2018	Utilities	15	Unknown	13:00	14:00	1:00	6	6:00:00	16220:49:00	1:47:36
3/9/2018	Utilities	15	Animal	9:30	10:30	1:00	1	1:00:00	16295:09:00	1:48:06
3/10/2018	Utilities	WR2	Unknown	14:11	15:11	1:00	1	1:00:00	16296:09:00	1:48:06
3/16/2017	Utilities	WR1	Weather	16:30	17:30	1:00	5	5:00:00	16301:09:00	1:48:08
3/18/2017	Utilities	WR1	Weather	14:00	16:00	2:00	1	2:00:00	16303:09:00	1:48:09
3/12/2018	Utilities	13	OH Failure	12:30	15:07	2:37	22	57:34:00	16360:43:00	1:48:32
4/17/2018	Utilities	16	URD Failure	17:00	20:00	3:00	2	6:00:00	16366:43:00	1:48:34
4/26/2018	Utilities	WR1	Planned	9:50	12:20	2:30	7	17:30:00	16384:13:00	1:48:41
5/27/2018	Utilities	16	URD Failure	12:00	13:30	1:30	30	45:00:00	16429:13:00	1:48:59
5/30/2018	Utilities	WR2	Planned	9:05	11:05	2:00	8	16:00:00	16445:13:00	1:49:05
6/3/2018	Utilities	WR2	URD Failure	15:00	16:00	1:00	50	50:00:00	16495:13:00	1:49:25
6/3/2018	Utilities	WR2	URD Failure	15:00	16:45	1:45	27	47:15:00	16542:28:00	1:49:44
6/3/2018	Utilities	WR2	URD Failure	15:00	17:45	2:45	21	57:45:00	16600:13:00	1:50:07
6/12/2018	Utilities	13	URD Failure	20:45	9:30	12:45	15	191:15:00	16791:28:00	1:51:23
6/17/2018	Utilities	16	URD Failure	18:30	20:00	1:30	2	3:00:00	16794:28:00	1:51:24
7/15/2018	Utilities	14	URD Failure	23:30	5:30	6:00	30	180:00:00	16974:28:00	1:52:36
7/20/2018	Utilities	WR2	URD Failure	10:10	11:30	1:20	12	16:00:00	16990:28:00	1:52:42
8/7/2018	Utilities	13	URD Failure	20:00	1:00	5:00	50	250:00:00	17240:28:00	1:54:22
8/19/2018	Utilities	WR2	URD Failure	19:00	23:00	4:00	24	96:00:00	17336:28:00	1:55:00



Twelve Month History	August 2018	
<b>Total # Accounts</b>	<b>9045</b>	
<b>Total # Interruptions</b>	<b>35</b>	
<b>Sum Customer Interruption Durations</b>	<b>17336:28:00</b>	<b>hours:min:sec</b>
<b># Customers Interrupted</b>	<b>7098</b>	
<b>SAIFI( APPA AVG. = 1.0)</b>	<b>.78</b>	<b>int./cust.</b>
<b>SAIDI ( APPA AVG. = 1:00)</b>	<b>1:55</b>	<b>hours:min</b>
<b>CAIDI</b>	<b>2:26</b>	<b>hours:min/INT</b>
<b>ASAI</b>	<b>99.9991%</b>	<b>% available</b>

- 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)

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

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

