



Circuit Reliability Review

La Verne

January 2017

Providing Safe, Reliable, and Affordable Power

Southern California Edison is modernizing the power grid to meet the changing needs and expectations of our customers and to help California achieve its clean energy goals.

We are investing more than \$12 billion into our power grid between 2015 – 2017 with the goal of increasing power reliability through significant upgrades. These investments include:

- Updating thousands of transmission and distribution poles
- Replacing hundreds of miles of underground cables
- Replacing hundreds of underground structures such as vaults and manholes
- Upgrading critical distribution equipment; capacitor banks, switches, and circuit breakers
- Building new distribution circuits to serve electrical demands in our communities
- Inspecting and replacing overhead conductor and equipment to improve public safety

Our investments in local communities will help ensure that customers receive safe, reliable, and affordable electricity now and in the future.

Understanding Your Reliability Report

As your electric utility, we want you to always have power when you need it. To get there, we constantly track and monitor electric outages across our service territory, and we measure our “system reliability” from this data.

The two metrics we rely on are common in the electric utility industry: the System Average Interruption Duration Index (SAIDI) and the System Average Interruption Frequency Index (SAIFI). Both are described in more detail on the next page.

Replacing and upgrading our infrastructure will help SCE maintain or improve SAIDI and SAIFI measurements.

This report provides historical reliability data for the circuits that serve your jurisdiction and our proposed infrastructure upgrades for the current year.

To view other reliability reports, visit [sce.com>Outage Center>Maintaining Reliable Service](https://www.sce.com/Outage-Center/Maintaining-Reliable-Service)

Reliability Metrics

MOMENTARY OUTAGES:

OUTAGES LASTING 5 MINUTES OR LESS

MAIFI:

- The number of times the average customer is interrupted by Momentary outages each year.

SUSTAINED OUTAGES:

OUTAGES LASTING LONGER THAN 5 MINUTES

SAIFI:

- The number of times the average customer is interrupted by Sustained outages each year.

SAIDI:

- The cumulative amount of time the average customer is interrupted by Sustained outages each year.

Cities in the Covina District

Avocado Heights

Azusa

Charter Oak

Citrus

Claremont

Covina

Diamond Bar

Glendora

Hacienda Heights

Industry

La Puente

La Verne

Pomona

Rowland Heights

San Dimas

South San Jose Hills

Valinda

Vincent

Walnut

West Covina

West Puente Valley

Reliability by SCE District (No Exclusions)

District Name	2012				2013				2014				2015				2016			
	District SAIDI	SAIDI RANKING	District SAIFI	SAIFI Ranking	District SAIDI	SAIDI RANKING	District SAIFI	SAIFI Ranking	District SAIDI	SAIDI RANKING	District SAIFI	SAIFI Ranking	District SAIDI	SAIDI RANKING	District SAIFI	SAIFI Ranking	District SAIDI	SAIDI RANKING	District SAIFI	SAIFI Ranking
ANTELOPE VALLEY	78.60	28	0.56	31	94.42	22	0.62	31	51.05	35	0.59	34	104.34	22	0.68	30	107.67	24	0.87	29
ARROWHEAD	129.58	13	1.31	7	180.59	7	1.39	8	193.25	5	1.59	5	362.61	4	3.97	1	659.46	3	2.85	5
BARSTOW	184.80	7	1.15	12	204.33	6	1.40	7	201.53	4	1.34	10	187.11	8	1.17	12	134.83	18	1.35	9
BIG CREEK	1184.25	1	4.52	1	176.51	8	3.08	1	920.25	1	1.34	11	422.77	2	3.42	2	1062.01	2	4.99	1
BISHOP	463.09	2	1.25	9	104.44	17	0.51	35	118.79	17	0.59	35	298.11	6	2.22	4	168.59	8	1.22	14
BLYTHE	225.88	6	1.53	3	483.13	1	1.38	9	707.54	2	2.42	2	427.00	1	1.52	7	396.38	5	2.71	6
CATALINA	78.46	30	0.72	29	105.94	16	2.97	2	97.02	24	4.17	1	42.56	35	2.25	3	65.01	35	3.66	3
COVINA	108.73	19	0.92	19	100.51	19	0.86	20	91.60	27	0.87	22	100.08	23	0.81	25	112.13	22	0.97	24
DOMINGUEZ HILLS	117.22	18	0.82	24	89.17	26	0.80	21	82.30	29	0.71	28	130.63	15	0.97	17	146.38	12	1.11	17
FOOTHILL	91.69	25	0.90	20	85.80	27	0.79	24	93.35	25	0.93	21	109.64	20	0.95	20	142.81	14	1.03	21
FULLERTON	68.99	33	0.42	35	90.57	25	0.79	22	82.23	30	0.72	27	76.59	29	0.67	31	92.72	30	0.76	34
HUNTINGTON BEACH	95.78	23	0.89	21	66.51	32	0.68	29	79.61	31	0.78	25	98.32	25	0.95	19	128.02	20	1.26	12
KERNVILLE	226.76	5	1.31	6	232.18	4	1.96	3	178.69	8	1.99	3	286.38	7	0.96	18	2421.32	1	3.67	2
LONG BEACH	75.83	31	0.55	33	75.11	30	0.70	28	66.33	34	0.61	32	164.46	9	0.89	23	135.16	17	0.86	31
MENIFEE	99.32	22	0.84	23	107.39	15	1.26	10	156.68	11	1.32	12	111.46	19	0.98	16	156.75	9	1.31	10
MONROVIA	108.11	20	1.13	15	99.12	20	1.02	16	133.32	14	1.16	16	96.68	26	0.88	24	116.57	21	0.84	32
MONTEBELLO	131.06	12	1.13	14	118.08	13	1.17	12	158.34	10	1.16	15	150.28	12	1.18	11	133.52	19	1.17	15
ONTARIO	93.09	24	0.87	22	77.39	29	0.79	23	97.91	23	1.00	19	94.04	27	0.74	27	105.07	27	0.93	27
PALM SPRINGS	175.92	8	1.27	8	112.80	14	0.77	25	107.04	20	0.71	29	99.54	24	0.80	26	107.58	25	1.07	19
REDLANDS	120.13	16	1.11	16	96.48	21	1.04	15	154.25	12	1.04	18	124.52	17	1.01	14	137.11	16	0.98	23
RIDGECREST	229.65	4	1.44	4	161.95	9	1.12	13	176.84	9	1.57	6	148.90	13	1.01	15	254.31	6	1.05	20
SADDLEBACK	83.01	27	0.73	27	70.69	31	0.53	34	99.07	22	0.74	26	46.03	34	0.39	35	65.99	34	0.65	35
SAN JOAQUIN	135.90	10	1.04	18	244.44	2	1.45	6	138.25	13	1.17	14	127.50	16	1.05	13	108.44	23	1.09	18
SANTA ANA	78.60	29	0.55	32	93.35	24	0.74	26	91.68	26	0.84	23	67.46	32	0.71	29	97.27	29	1.00	22
SANTA BARBARA	153.81	9	1.15	13	82.00	28	0.70	27	183.78	7	1.38	9	152.37	11	1.52	6	156.66	10	1.41	8
SANTA MONICA	101.69	21	0.79	25	122.78	12	1.00	17	110.76	19	0.99	20	75.41	30	0.62	32	91.08	31	0.95	26
SOUTH BAY	122.68	15	1.17	10	142.15	10	1.49	5	125.28	16	1.39	8	164.07	10	1.31	8	183.90	7	1.88	7
TEHACHAPI	117.96	17	1.43	5	232.67	3	1.12	14	130.70	15	1.29	13	298.96	5	1.21	9	97.29	28	1.13	16
THOUSAND OAKS	127.73	14	1.05	17	93.86	23	0.91	18	104.37	21	1.10	17	106.59	21	0.92	21	143.78	13	1.31	11
VALENCIA	62.01	35	0.46	34	51.04	34	0.53	33	79.23	32	0.61	33	72.27	31	0.61	33	105.09	26	0.97	25
VENTURA	134.81	11	1.15	11	100.52	18	1.21	11	183.79	6	1.65	4	148.85	14	1.19	10	150.41	11	1.24	13
VICTORVILLE	67.70	34	0.66	30	61.33	33	0.63	30	68.85	33	0.63	31	87.03	28	0.91	22	79.35	33	0.92	28
WHITTIER	72.60	32	0.74	26	135.04	11	0.86	19	87.60	28	0.70	30	114.52	18	0.73	28	137.34	15	0.81	33
WILDOMAR	88.54	26	0.72	28	40.51	35	0.56	32	118.49	18	0.81	24	52.70	33	0.60	34	84.01	32	0.87	30
YUCCA VALLEY	319.82	3	3.41	2	216.97	5	1.50	4	304.25	3	1.49	7	389.08	3	1.80	5	463.68	4	3.39	4
SCE SystemWide	108.13		0.89		102.61		0.91		112.00		0.96		114.83		0.92		134.48		1.10	

Exclusions are days which utilities are allowed to remove from their metrics because the outages on those days were caused by a severe acts of nature.

**In the columns showing "Rank," lower numbers indicate poorer performance.

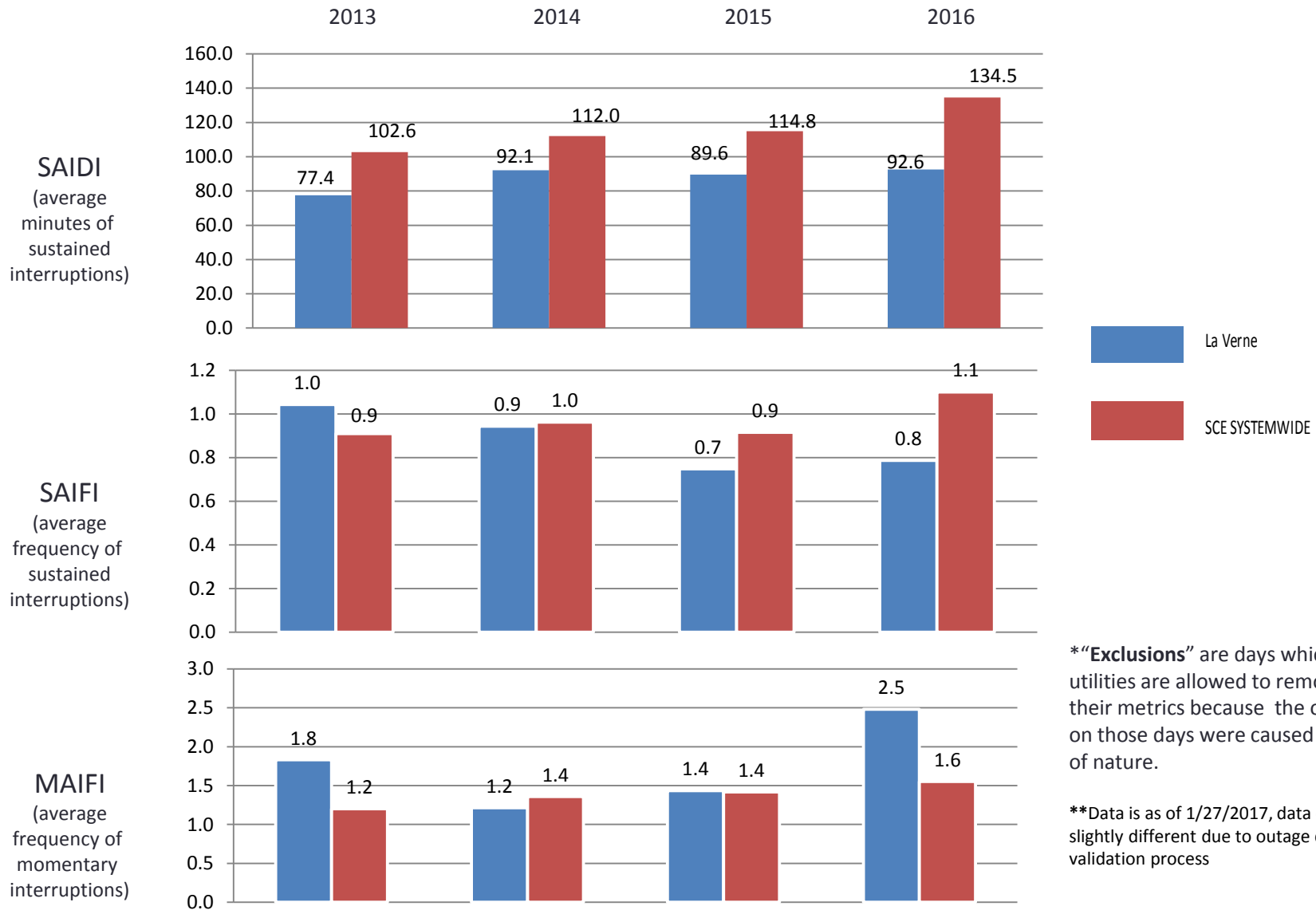
Overview of La Verne

There are 20 circuits that serve La Verne

Circuit Type	Sum of Customers	Circuit Type	Sum of Customers	Circuit Type	Sum of Customers	Circuit Type	Sum of Customers
AVENIDA(12KV)	1,531						
BILL(12KV)	1,003						
BOYALTA(12KV)	1,374						
BRACKETT(12KV)	1,525						
BRYDON(12KV)	1,535						
CAL POLY(12KV)	1,009						
DURWARD(12KV)	1,475						
FAIRPLEX(12KV)	2						
FOOTHILL(12KV)	1,317						
KRANZER(12KV)	1,397						
LIMBER(12KV)	1,146						
LIMING(12KV)	1,370						
MORAN(12KV)	1,340						
NEMAHA(4.16KV)	394						
PALMER(12KV)	1,557						
PUDDINGSTONE(12KV)	885						
QUAKER(4.16KV)	470						
RHOADS(12KV)	1,499						
SAM(12KV)	1,333						
WINTHROP(12KV)	1,842						

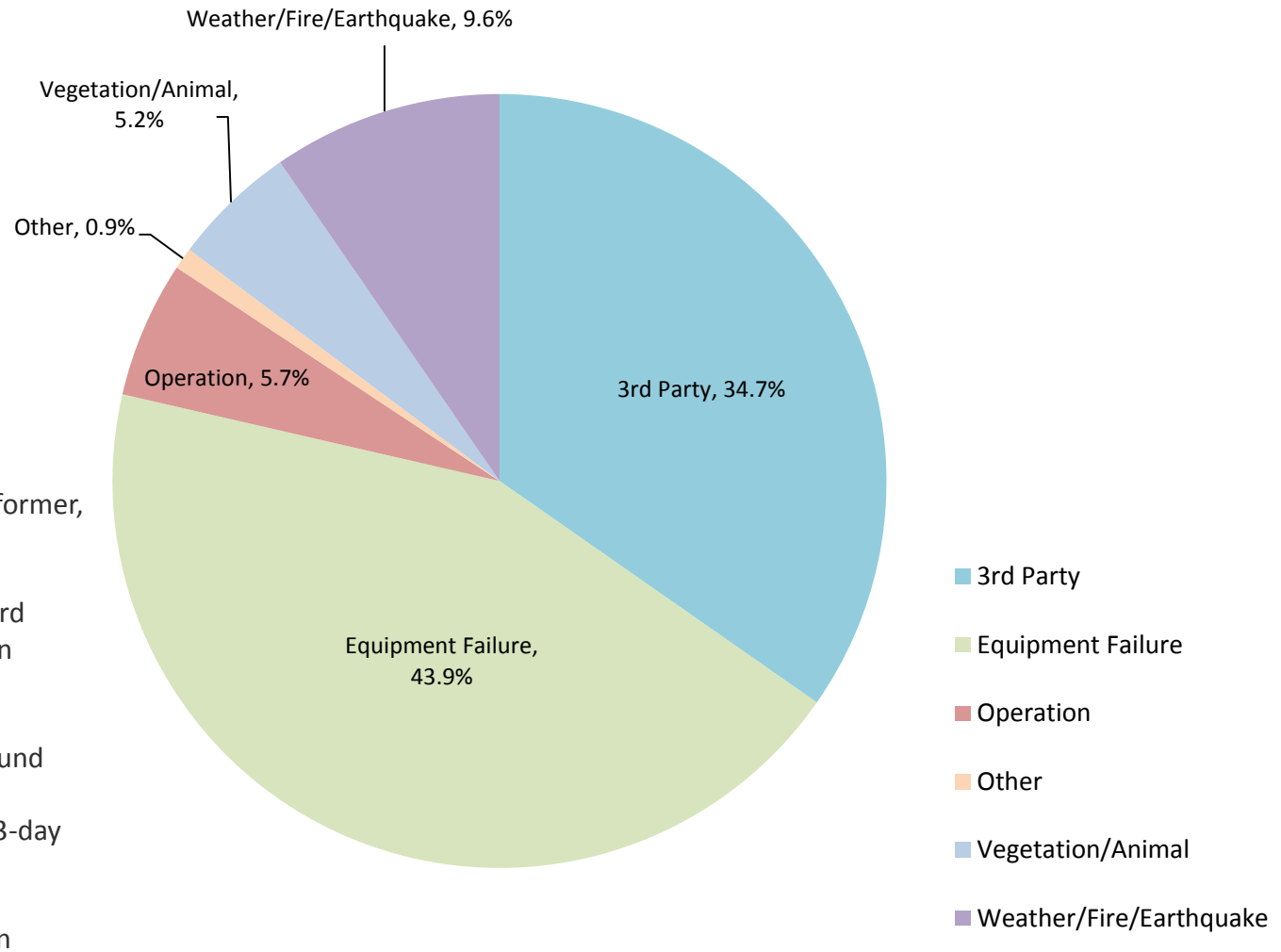
Grand Total 24,004

Reliability History of Circuits Serving La Verne (No Exclusions)



Causes of Repair Outages in La Verne Circuits 2016 YTD

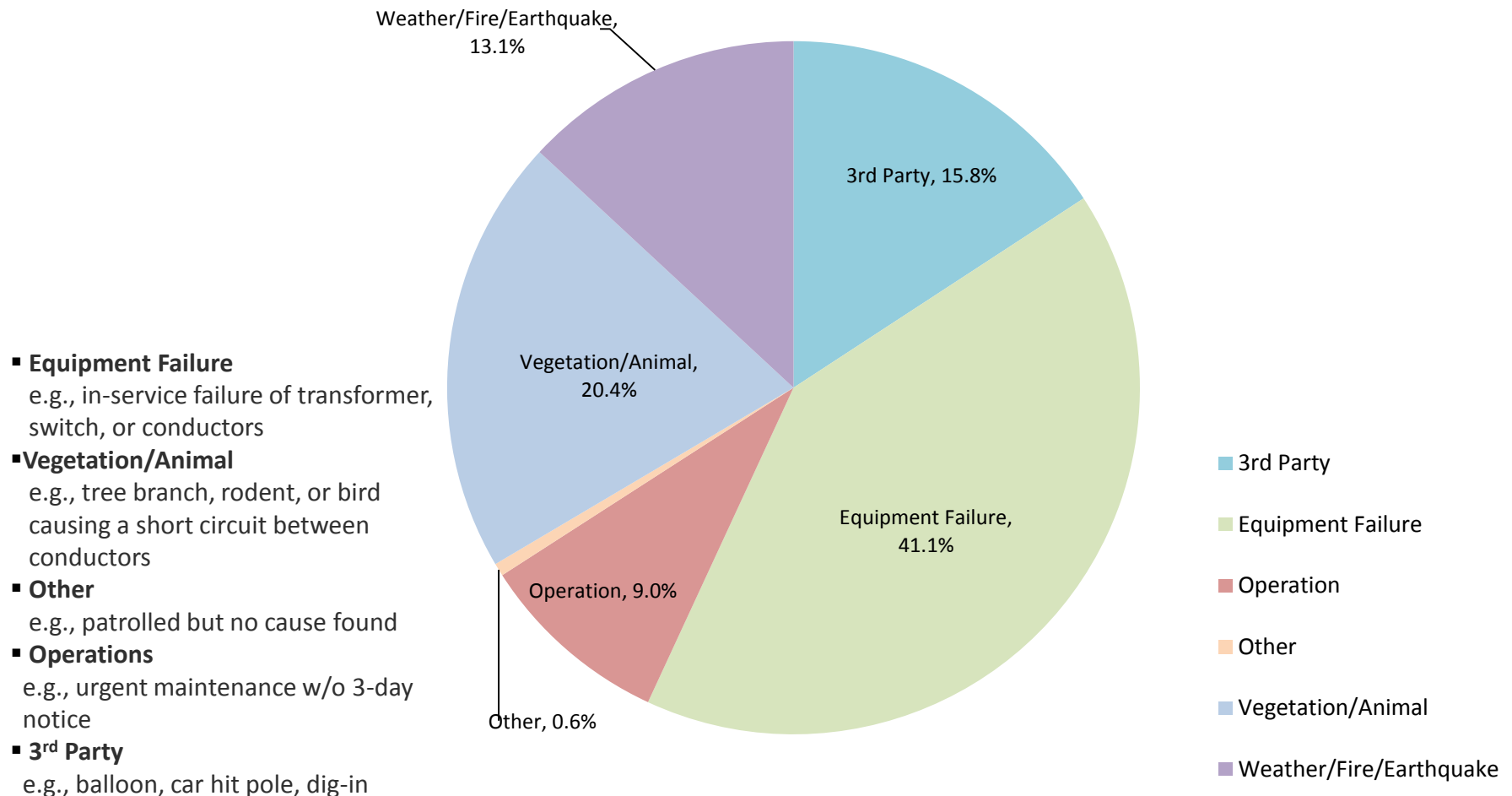
Contributions to SAIDI by Outage Cause



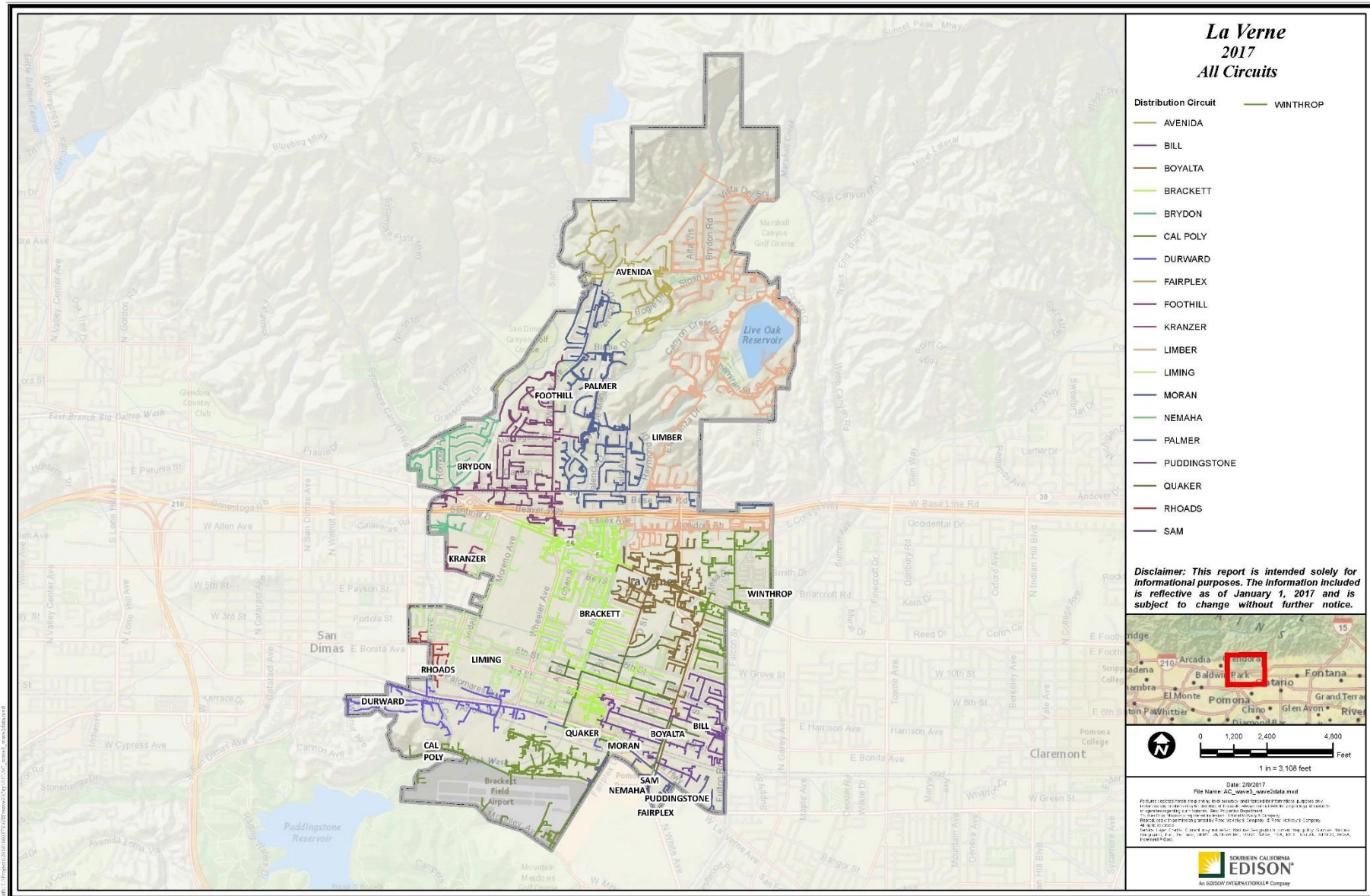
SAIDI = the cumulative amount of time the average customer is interrupted by “sustained” outages each year.

Causes of Repair Outages in La Verne Circuits 2016 YTD

Contributions to SAIFI by Outage Cause



SAIFI = the number of times the average customer is interrupted by “sustained” outages each year.





Back-up Slides

Reliability Histories of Circuits Serving La Verne

Updated through Year-End 2016

Average Reliability of 20 Circuits Serving La Verne

	2013			2014			2015			1st Qtr 2016			2nd Qtr 2016			3rd Qtr 2016			4th Qtr 2016			2016		
	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI
La Verne	77.4	1.0	1.8	92.1	0.9	1.2	89.6	0.7	1.4	18.3	0.3	0.3	20.3	0.1	0.1	16.2	0.2	1.1	37.8	0.2	0.9	92.6	0.8	2.5
3rd Party	15%	17%	20%	17%	1%	9%	8%	2%	14%	12%	14%	0%	0%	1%	0%	0%	0%	23%	79%	53%	7%	35%	16%	13%
Equipment Failure	41%	48%	1%	52%	35%	1%	50%	45%	11%	60%	34%	16%	83%	82%	32%	74%	56%	11%	2%	1%	0%	44%	41%	8%
Operation	8%	8%	10%	9%	24%	15%	11%	14%	0%	14%	17%	0%	13%	12%	0%	1%	2%	0%	0%	0%	0%	6%	9%	0%
Other	0%	0%	36%	3%	5%	25%	10%	18%	52%	3%	1%	0%	0%	0%	54%	0%	0%	35%	1%	1%	51%	1%	1%	37%
Vegetation/Animal	9%	8%	22%	14%	31%	41%	20%	20%	18%	5%	25%	35%	0%	1%	0%	23%	41%	31%	0%	0%	34%	5%	20%	31%
Weather/Fire/Earthquake	28%	19%	11%	4%	3%	9%	0%	2%	5%	7%	9%	49%	3%	4%	14%	2%	1%	0%	18%	45%	8%	10%	13%	10%
SCE Systemwide	102.6	0.9	1.2	112.0	1.0	1.4	114.8	0.9	1.4	40.5	0.3	0.4	34.8	0.3	0.4	29.4	0.2	0.3	29.8	0.3	0.4	134.5	1.1	1.6

Notes:

No outages are excluded from the metrics.

Outage Causes:

Other: e.g., patrolled but no cause could be found

Operations: e.g., urgent maintenance w/o 3-day notice to customers

3rd Party: e.g., balloons, car hit pole, dig-in

Vegetation/Animal: e.g., tree branch, rodent, or bird causing short circuit across conductors

SAIDI (minutes) = the cumulative amount of time the average customer is interrupted by "sustained" (longer than 5 minutes) outages.

SAIFI (interruptions) = the number of times the average customer is interrupted by "sustained" outages.

MAIFI (interruptions) = the number of times the average customer is interrupted by "momentary" (lasting 5 minutes or less) outages.

Reliability Histories for Individual Circuits Serving La Verne

	2013			2014			2015			1st Qtr 2016			2nd Qtr 2016			3rd Qtr 2016			4th Qtr 2016			2016		
	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI
AVENIDA(12KV) - Customers: 1,531	1.8	0.0	0.0	348.4	4.0	3.0	345.9	1.4	0.6	2.5	0.0	0.0	0.0	0.0	0.0	5.2	0.1	3.5	68.7	1.0	2.0	76.4	1.1	5.5
3rd Party	0%	0%	0%	0%	0%	0%	26%	8%	0%	0%	0%	0%	0%	0%	0%	0%	0%	57%	0%	0%	0%	0%	0%	36%
Equipment Failure	23%	29%	0%	41%	25%	0%	70%	86%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operation	77%	71%	0%	1%	1%	33%	3%	5%	0%	100%	100%	0%	0%	0%	0%	15%	57%	0%	0%	0%	0%	4%	7%	0%
Other	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	14%	0%	0%	50%	0%	0%	27%
Vegetation/Animal	0%	0%	0%	58%	75%	67%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	29%	0%	0%	50%	0%	0%	36%
Weather/Fire/Earthquake	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	85%	43%	0%	100%	100%	0%	96%	93%	0%
BILL(12KV) - Customers: 1,003	314.2	3.4	1.0	107.1	2.8	0.4	0.7	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
3rd Party	36%	65%	67%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Equipment Failure	59%	23%	33%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%	0%	0%	0%	0%	0%	0%	0%	100%	100%	0%
Operation	3%	10%	0%	0%	0%	0%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	45%	40%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Vegetation/Animal	3%	2%	0%	55%	60%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Weather/Fire/Earthquake	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BOYALTA(12KV) - Customers: 1,374	116.6	1.7	0.5	15.9	0.1	0.0	49.3	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.8	1.0	0.0	0.0	0.0	0.0	41.8	1.0	0.0
3rd Party	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Equipment Failure	80%	69%	13%	9%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	1%	0%	0%	0%	0%	2%	1%	0%
Operation	0%	0%	0%	0%	0%	0%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Vegetation/Animal	20%	31%	87%	91%	98%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	98%	99%	0%	0%	0%	0%	98%	99%	0%
Weather/Fire/Earthquake	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BRACKETT(12KV) - Customers: 1,525	109.0	2.1	1.0	0.0	0.0	2.0	207.2	2.1	3.8	111.2	1.0	0.8	9.3	0.1	1.0	4.0	0.0	1.0	0.0	0.0	1.0	124.5	1.1	3.8
3rd Party	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Equipment Failure	100%	100%	0%	0%	0%	0%	98%	87%	21%	100%	100%	100%	0%	0%	0%	0%	0%	100%	0%	0%	0%	89%	89%	47%
Operation	0%	0%	0%	0%	0%	0%	2%	9%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	50%	0%	4%	52%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	100%	0%	0%	53%
Vegetation/Animal	0%	0%	0%	0%	0%	50%	0%	0%	26%	0%	0%	0%	0%	0%	0%	100%	100%	0%	0%	0%	0%	3%	4%	0%
Weather/Fire/Earthquake	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%	0%	0%	0%	0%	0%	0%	0%	7%	7%	0%

Reliability Histories for Individual Circuits Serving La Verne

	2013			2014			2015			1st Qtr 2016			2nd Qtr 2016			3rd Qtr 2016			4th Qtr 2016			2016		
	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI
	74.5	1.1	2.0	188.7	2.3	1.1	32.7	0.1	1.0	15.9	0.0	0.0	1.3	0.0	0.0	13.5	0.0	5.3	4.8	0.0	2.1	35.6	0.1	7.4
3rd Party	0%	0%	49%	0%	0%	0%	0%	0%	0%	100%	100%	0%	0%	0%	0%	0%	0%	40%	0%	0%	0%	45%	20%	29%
Equipment Failure	47%	9%	0%	35%	6%	5%	91%	93%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operation	4%	2%	0%	19%	26%	45%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	2%	1%	2%	0%	0%	97%	0%	0%	0%	0%	0%	0%	0%	0%	20%	100%	100%	50%	14%	20%	29%
Vegetation/Animal	0%	0%	2%	10%	44%	3%	8%	6%	3%	0%	0%	0%	100%	100%	0%	100%	100%	40%	0%	0%	50%	42%	59%	43%
Weather/Fire/Earthquake	49%	90%	49%	34%	23%	45%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAL POLY(12KV) - Customers: 1,009	277.1	3.6	2.8	342.8	0.3	1.0	6.8	0.1	2.0	28.3	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	28.3	1.0	0.1
3rd Party	0%	0%	0%	100%	100%	100%	0%	0%	0%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%	0%
Equipment Failure	3%	28%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operation	9%	15%	36%	0%	0%	0%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	100%
Other	0%	0%	0%	0%	0%	0%	0%	0%	48%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Vegetation/Animal	25%	28%	36%	0%	0%	0%	0%	0%	52%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Weather/Fire/Earthquake	64%	28%	28%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
DURWARD(12KV) - Customers: 1,475	15.4	1.0	3.0	140.3	2.0	2.1	38.7	0.2	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0
3rd Party	9%	0%	33%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Equipment Failure	91%	100%	0%	51%	47%	7%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operation	0%	0%	0%	26%	3%	0%	100%	100%	0%	0%	0%	0%	100%	100%	0%	100%	100%	0%	0%	0%	0%	100%	100%	0%
Other	0%	0%	33%	1%	0%	47%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Vegetation/Animal	1%	0%	33%	22%	49%	46%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Weather/Fire/Earthquake	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
FAIRPLEX(12KV) - Customers: 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd Party	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Equipment Failure	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operation	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Vegetation/Animal	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Weather/Fire/Earthquake	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Reliability Histories for Individual Circuits Serving La Verne

	2013			2014			2015			1st Qtr 2016			2nd Qtr 2016			3rd Qtr 2016			4th Qtr 2016			2016		
	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI
FOOTHILL(12KV) - Customers: 1,317	9.0	0.0	2.3	18.5	0.2	2.6	0.2	0.0	2.0	17.5	0.2	0.0	3.5	0.1	0.0	5.9	0.4	1.6	0.3	0.0	2.0	27.2	0.6	3.6
3rd Party	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Equipment Failure	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%	0%	1%	0%	0%
Operation	0%	0%	34%	100%	100%	24%	100%	100%	0%	0%	0%	0%	100%	100%	0%	0%	0%	0%	0%	0%	0%	13%	8%	0%
Other	0%	0%	0%	0%	0%	38%	0%	0%	50%	0%	0%	0%	0%	0%	0%	0%	0%	61%	0%	0%	50%	0%	0%	55%
Vegetation/Animal	100%	100%	66%	0%	0%	38%	0%	0%	50%	0%	0%	0%	0%	0%	0%	100%	100%	39%	0%	0%	50%	22%	61%	45%
Weather/Fire/Earthquake	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	64%	30%	0%
KRANZER(12KV) - Customers: 1,397	89.6	0.2	1.0	0.0	0.0	2.0	84.9	1.1	2.0	12.2	0.1	0.0	259.6	1.4	0.0	0.0	0.0	2.5	0.0	0.0	2.5	271.8	1.4	5.1
3rd Party	72%	70%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Equipment Failure	28%	30%	0%	0%	0%	0%	75%	92%	0%	0%	0%	0%	100%	100%	0%	0%	0%	0%	0%	0%	0%	95%	95%	0%
Operation	0%	0%	100%	0%	0%	50%	25%	8%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	0%	0%	0%	50%	100%	100%	0%	0%	0%	0%	0%	0%	50%	0%	0%	50%	5%	5%	50%
Vegetation/Animal	0%	0%	0%	0%	0%	50%	0%	0%	50%	0%	0%	0%	0%	0%	0%	0%	0%	50%	0%	0%	50%	0%	0%	50%
Weather/Fire/Earthquake	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
LIMBER(12KV) - Customers: 1,146	109.6	1.0	1.0	392.4	3.2	2.0	79.8	1.1	2.6	47.8	1.0	0.0	50.8	0.2	0.0	138.2	1.0	1.0	0.0	0.0	0.0	236.8	2.2	1.0
3rd Party	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Equipment Failure	0%	0%	0%	97%	96%	0%	0%	0%	33%	0%	0%	0%	3%	0%	0%	100%	100%	0%	0%	0%	0%	59%	45%	0%
Operation	0%	0%	0%	3%	4%	0%	0%	0%	0%	100%	100%	0%	97%	100%	0%	0%	0%	0%	0%	0%	0%	41%	55%	0%
Other	1%	0%	95%	0%	0%	0%	95%	97%	33%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	100%
Vegetation/Animal	0%	0%	2%	0%	0%	100%	4%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Weather/Fire/Earthquake	99%	100%	0%	0%	0%	0%	1%	0%	34%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
LIMING(12KV) - Customers: 1,370	11.5	0.1	4.0	25.1	2.0	0.0	3.4	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0
3rd Party	0%	0%	25%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Equipment Failure	0%	0%	0%	4%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	100%
Operation	29%	35%	0%	95%	99%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Other	0%	0%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Vegetation/Animal	71%	65%	50%	1%	0%	0%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Weather/Fire/Earthquake	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Reliability Histories for Individual Circuits Serving La Verne

	2013			2014			2015			1st Qtr 2016			2nd Qtr 2016			3rd Qtr 2016			4th Qtr 2016			2016		
	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI
MORAN(12KV) - Customers: 1,340	72.0	1.5	1.9	4.4	0.0	1.0	68.1	1.0	0.0	3.4	0.0	2.0	2.3	0.0	0.0	2.5	0.0	0.0	0.0	0.0	1.0	8.3	0.0	3.0
3rd Party	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	78%	90%	0%	0%	0%	0%	0%	0%	0%	22%	47%	0%
Equipment Failure	22%	80%	0%	100%	100%	0%	94%	99%	0%	0%	0%	0%	22%	10%	0%	100%	100%	0%	0%	0%	0%	37%	24%	0%
Operation	0%	0%	0%	0%	0%	0%	6%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	34%
Vegetation/Animal	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	41%	29%	66%
Weather/Fire/Earthquake	78%	20%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
NEMAHA(4.16KV) - Customers: 394	161.8	2.0	0.0	0.0	0.0	0.0	150.4	1.4	3.4	11.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	11.0	1.0	2.0
3rd Party	0%	0%	0%	0%	0%	0%	90%	30%	41%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Equipment Failure	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operation	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	0%	0%	0%	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Vegetation/Animal	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Weather/Fire/Earthquake	0%	0%	0%	0%	0%	0%	10%	70%	30%	100%	100%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	100%	100%	100%
PALMER(12KV) - Customers: 1,557	11.6	0.1	2.0	73.6	0.1	1.0	290.1	1.8	1.3	0.0	0.0	0.0	20.4	0.0	0.0	0.0	0.0	0.0	19.3	0.0	0.0	39.7	0.1	0.0
3rd Party	0%	0%	0%	0%	0%	100%	0%	0%	78%	0%	0%	0%	0%	0%	0%	0%	0%	0%	93%	90%	0%	45%	47%	0%
Equipment Failure	0%	0%	0%	100%	99%	0%	56%	44%	22%	0%	0%	0%	94%	55%	0%	0%	0%	0%	7%	10%	0%	51%	31%	0%
Operation	63%	96%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	6%	45%	0%	0%	0%	0%	0%	0%	0%	3%	21%	0%
Other	0%	0%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Vegetation/Animal	37%	4%	50%	0%	1%	0%	44%	56%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Weather/Fire/Earthquake	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PUDDINGSTONE(12KV) - Customers: 885	16.9	0.0	1.0	0.0	0.0	2.0	0.0	0.0	1.0	98.8	1.0	0.0	9.9	1.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	108.6	2.0	2.0
3rd Party	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Equipment Failure	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%	100%	100%	100%	100%	100%	0%	0%	0%	0%	0%	0%	100%	100%	50%
Operation	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Other	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	50%
Vegetation/Animal	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Weather/Fire/Earthquake	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Reliability Histories for Individual Circuits Serving La Verne

	2013			2014			2015			1st Qtr 2016			2nd Qtr 2016			3rd Qtr 2016			4th Qtr 2016			2016		
	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI
QUAKER(4.16KV) - Customers: 470	20.6	0.3	1.0	2.5	0.0	0.0	13.8	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd Party	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Equipment Failure	81%	7%	0%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operation	19%	93%	0%	0%	0%	0%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Vegetation/Animal	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Weather/Fire/Earthquake	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
RHOADS(12KV) - Customers: 1,499	4.3	0.0	2.9	0.0	0.0	2.9	131.2	1.2	5.0	0.0	0.0	0.0	47.1	0.1	0.0	79.2	1.0	2.0	0.0	0.0	2.0	126.3	1.1	4.0
3rd Party	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Equipment Failure	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%	0%	100%	100%	0%	0%	0%	0%	100%	100%	0%
Operation	0%	0%	33%	0%	0%	32%	26%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Other	0%	0%	67%	0%	0%	32%	57%	87%	80%	0%	0%	0%	0%	0%	0%	0%	0%	50%	0%	0%	50%	0%	0%	50%
Vegetation/Animal	100%	100%	0%	0%	0%	35%	16%	9%	20%	0%	0%	0%	0%	0%	0%	0%	0%	50%	0%	0%	50%	0%	0%	50%
Weather/Fire/Earthquake	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
SAM(12KV) - Customers: 1,333	157.5	2.2	1.1	19.8	0.7	0.0	102.8	1.0	1.0	12.8	1.3	2.3	0.0	0.0	0.0	4.3	0.0	0.0	9.8	0.0	0.0	27.0	1.3	2.3
3rd Party	46%	50%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Equipment Failure	54%	50%	0%	41%	4%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	82%	52%	0%	100%	100%	0%	49%	2%	0%
Operation	0%	0%	0%	46%	92%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	18%	48%	0%	0%	0%	0%	3%	1%	0%
Other	0%	0%	0%	13%	5%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Vegetation/Animal	0%	0%	0%	0%	0%	0%	98%	100%	0%	95%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	45%	97%	0%
Weather/Fire/Earthquake	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%	100%
WINTHROP(12KV) - Customers: 1,842	1.7	0.0	2.8	22.5	0.0	0.0	6.6	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	400.8	1.1	1.8	401.3	1.1	2.8
3rd Party	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	92%	95%	46%	92%	94%	30%
Equipment Failure	0%	0%	0%	79%	74%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operation	23%	21%	0%	19%	25%	0%	14%	36%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Other	0%	0%	100%	2%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	35%
Vegetation/Animal	77%	79%	0%	0%	0%	0%	86%	64%	0%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Weather/Fire/Earthquake	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	8%	5%	54%	8%	5%	35%