



Circuit Reliability Review

La Puente

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://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.

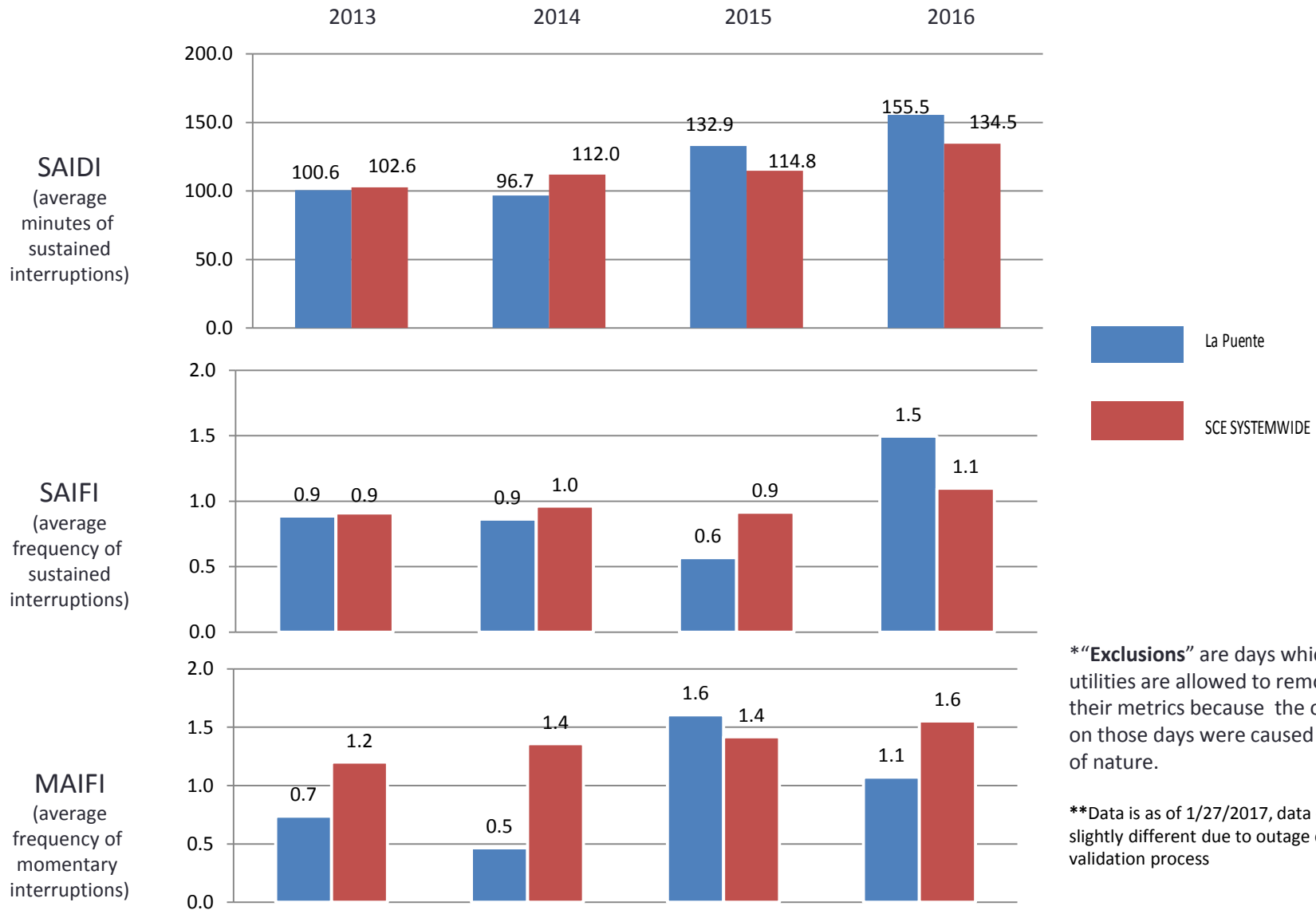
Overview of La Puente

There are 19 circuits that serve La Puente

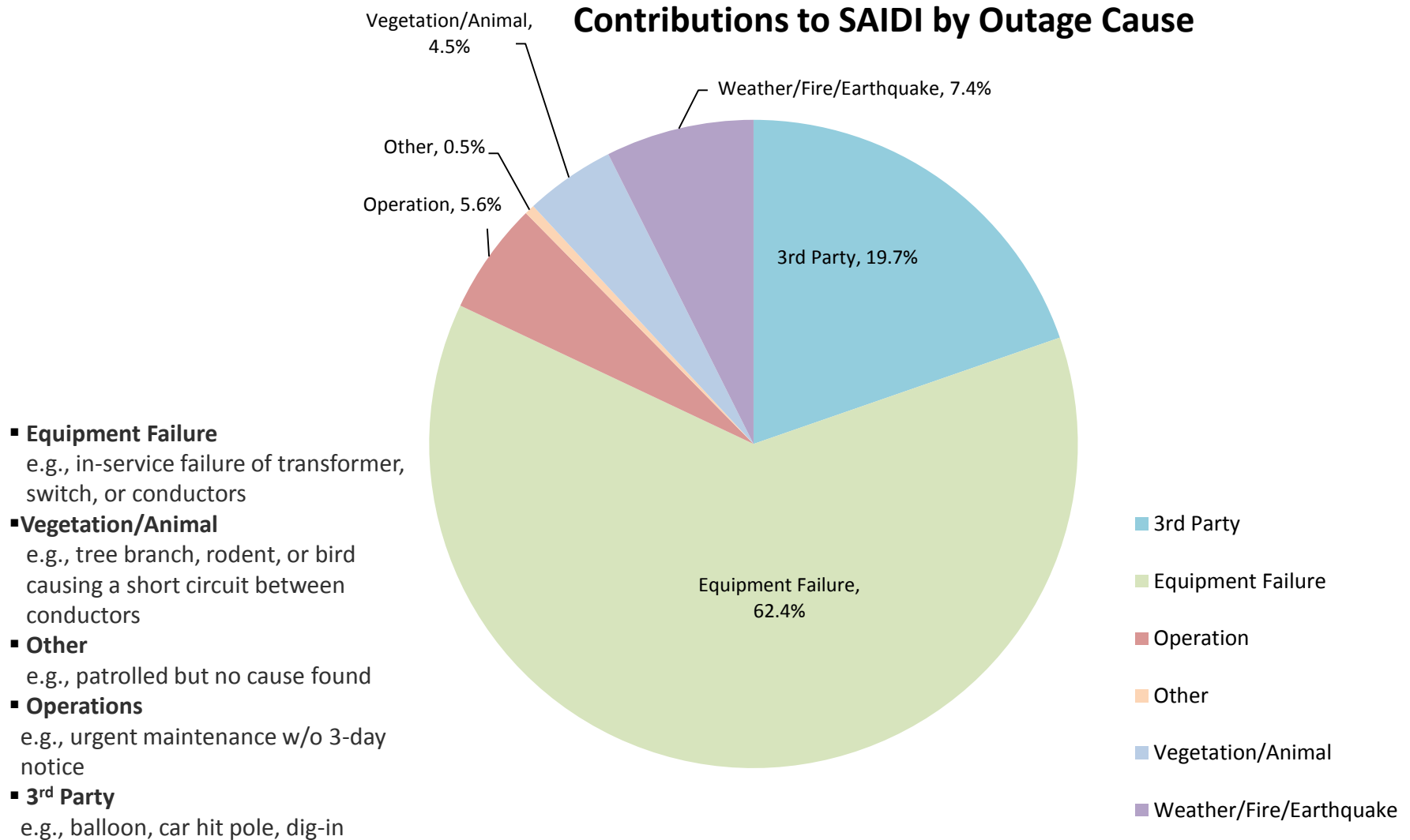
Circuit Type	Sum of Customers	Circuit Type	Sum of Customers	Circuit Type	Sum of Customers	Circuit Type	Sum of Customers
AZORES(12KV)	1,908						
CALYPSO(12KV)	1,626						
CARR(12KV)	1,269						
CORAK(12KV)	969						
DUNKIRK(12KV)	2,145						
FOLGER(12KV)	843						
GEAR(12KV)	1,049						
ISIS(12KV)	763						
LEVEL(12KV)	2,223						
MACHINE(12KV)	636						
PANDORA(12KV)	447						
PETRI(12KV)	2,986						
RIVERGRADE(12KV)	1,353						
SANDY(12KV)	1,473						
STAFFORD(12KV)	1,931						
TORCHLIGHT(12KV)	1,781						
UNRUH(12KV)	2,148						
VALINDA(12KV)	1,887						
WISE(12KV)	1,268						

Grand Total 28,705

Reliability History of Circuits Serving La Puente (No Exclusions)



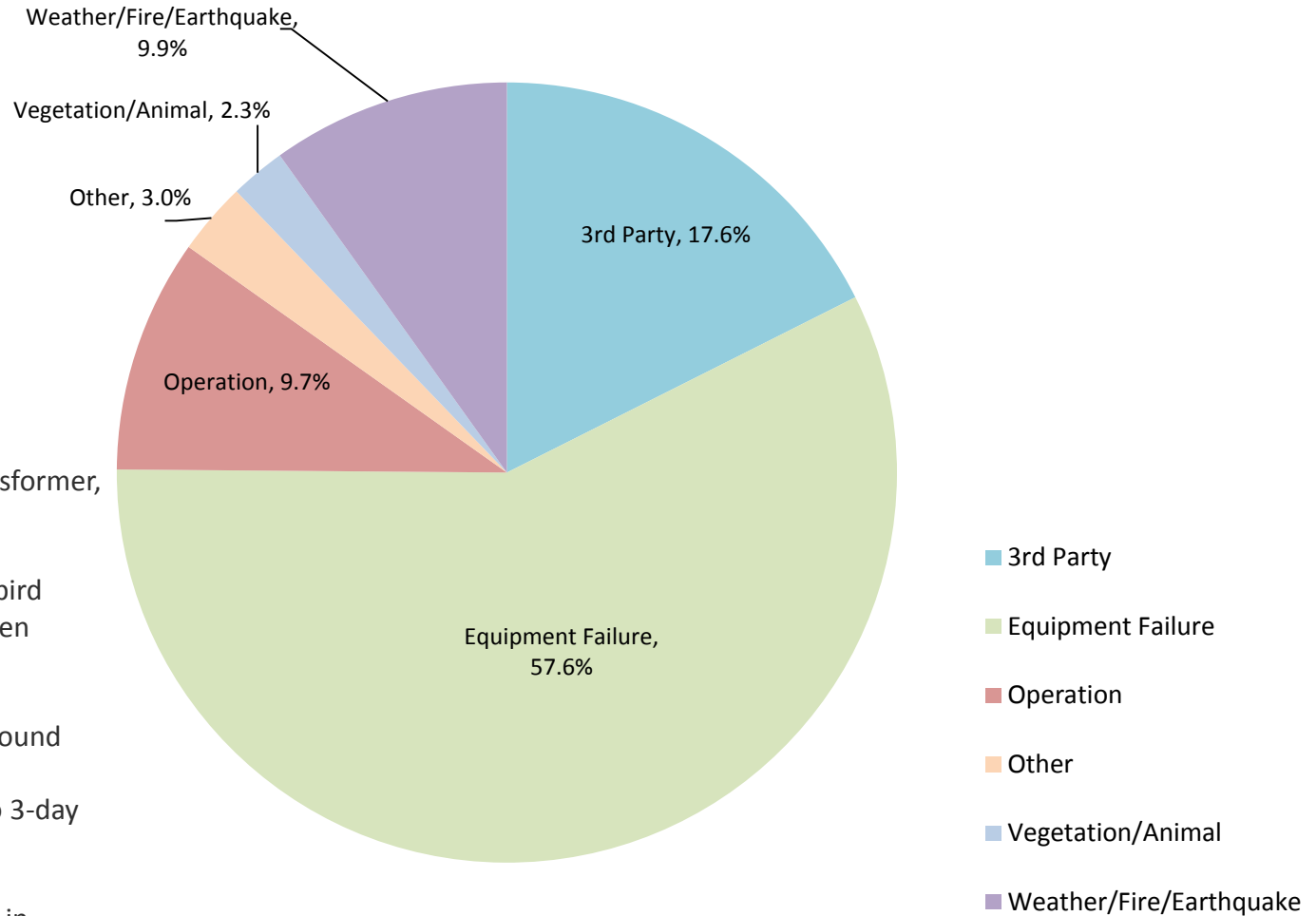
Causes of Repair Outages in La Puente Circuits 2016 YTD



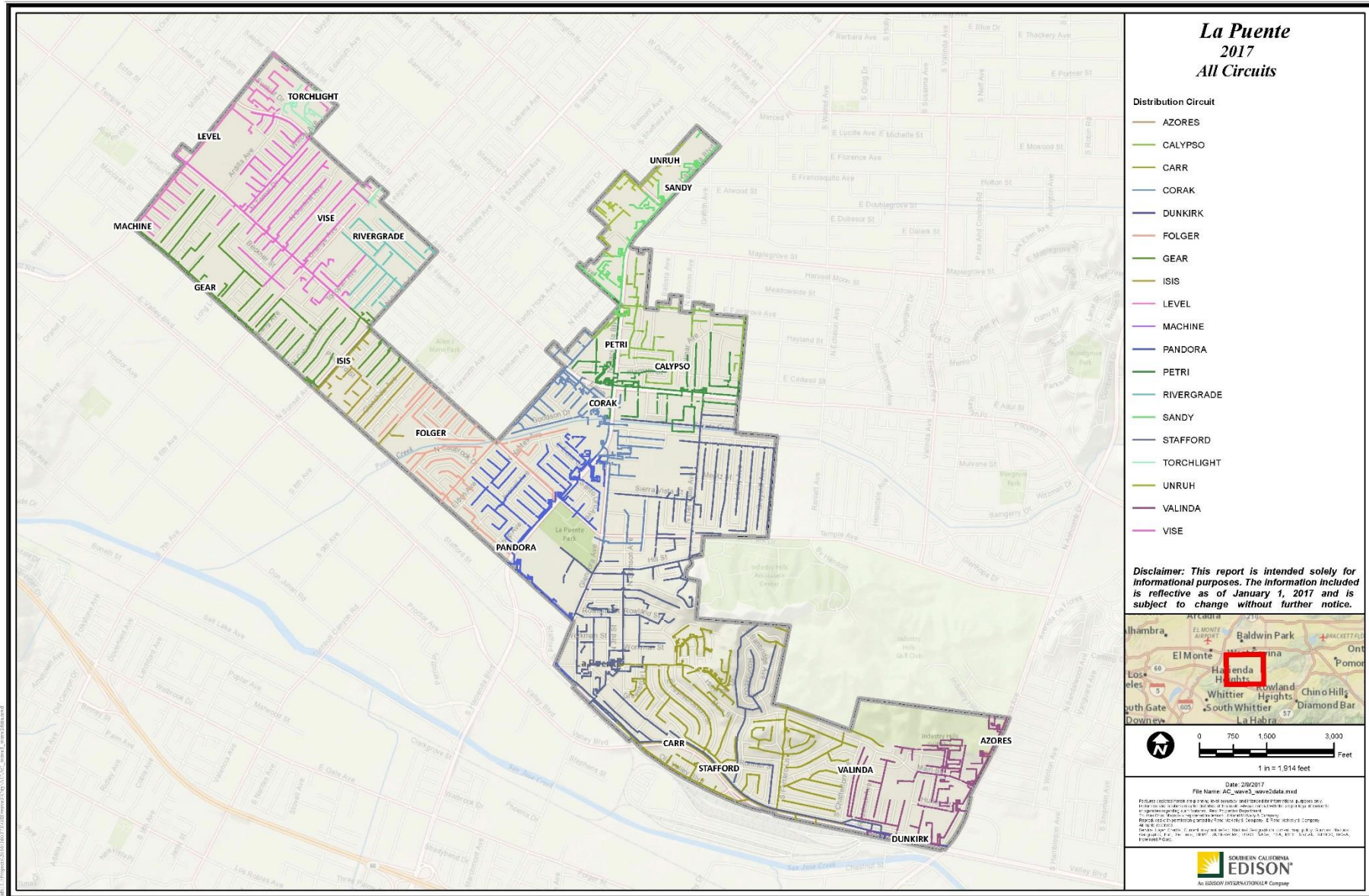
SAIDI = the cumulative amount of time the average customer is interrupted by “sustained” outages each year.

Causes of Repair Outages in La Puente 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 Puente

Updated through Year-End 2016

Average Reliability of 19 Circuits Serving La Puente

	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 Puente	100.6	0.9	0.7	96.7	0.9	0.5	132.9	0.6	1.6	25.8	0.2	0.1	53.2	0.5	0.3	14.8	0.2	0.2	61.8	0.6	0.4	155.5	1.5	1.1
3rd Party	41%	35%	50%	39%	43%	14%	53%	36%	27%	0%	0%	0%	44%	29%	0%	15%	13%	26%	8%	18%	29%	20%	18%	16%
Equipment Failure	35%	28%	15%	27%	16%	28%	17%	27%	24%	80%	92%	0%	35%	37%	41%	58%	52%	74%	79%	62%	38%	62%	58%	40%
Operation	12%	27%	4%	34%	41%	36%	13%	18%	6%	8%	4%	2%	8%	26%	0%	11%	4%	0%	1%	1%	0%	6%	10%	0%
Other	12%	10%	14%	0%	0%	22%	15%	9%	16%	1%	1%	0%	0%	0%	50%	3%	18%	0%	0%	0%	15%	0%	3%	21%
Vegetation/Animal	0%	0%	5%	0%	0%	0%	2%	10%	28%	1%	1%	15%	13%	7%	8%	0%	0%	0%	0%	0%	9%	4%	2%	8%
Weather/Fire/Earthquake	0%	0%	12%	0%	0%	0%	0%	0%	0%	10%	2%	83%	0%	0%	0%	13%	12%	0%	11%	20%	9%	7%	10%	14%
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 Puente

	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
AZORES(12KV) - Customers: 1,908	403.0	3.4	1.0	41.1	1.0	0.0	824.8	2.3	4.9	2.2	0.0	0.0	172.0	2.0	1.0	0.4	0.0	0.0	547.4	2.3	2.5	722.0	4.3	3.5
3rd Party	45%	64%	100%	63%	98%	0%	81%	56%	60%	0%	0%	0%	34%	50%	1%	0%	0%	0%	8%	44%	0%	14%	47%	0%
Equipment Failure	52%	35%	0%	37%	2%	0%	1%	0%	0%	100%	100%	0%	66%	50%	1%	0%	0%	0%	92%	56%	59%	86%	53%	42%
Operation	2%	1%	0%	0%	0%	0%	19%	44%	0%	0%	0%	0%	0%	0%	0%	100%	100%	0%	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	0%	0%	0%	20%	0%	0%	0%	0%	0%	99%	0%	0%	0%	0%	0%	41%	0%	0%	58%
Vegetation/Animal	0%	0%	0%	0%	0%	0%	0%	0%	20%	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%
CALYPSO(12KV) - Customers: 1,626	53.8	0.2	1.0	21.8	0.2	1.9	14.0	0.1	2.0	22.3	0.1	0.0	2.6	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	24.9	0.1	1.0
3rd Party	6%	18%	0%	13%	22%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Equipment Failure	10%	13%	0%	71%	10%	0%	17%	7%	50%	34%	9%	0%	100%	100%	0%	0%	0%	0%	0%	0%	0%	41%	12%	0%
Operation	27%	16%	0%	16%	69%	47%	83%	93%	0%	66%	91%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	59%	88%	0%
Other	57%	52%	0%	0%	0%	53%	0%	0%	50%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	100%
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%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CARR(12KV) - Customers: 1,269	98.4	1.6	2.4	27.3	1.1	1.0	574.3	2.1	1.0	31.3	0.1	0.9	20.3	0.1	0.0	10.0	1.0	0.0	0.0	0.0	0.0	61.7	1.2	0.9
3rd Party	52%	34%	60%	16%	9%	100%	85%	48%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Equipment Failure	24%	62%	40%	21%	1%	0%	5%	48%	0%	0%	0%	0%	27%	5%	0%	0%	0%	0%	0%	0%	0%	9%	0%	0%
Operation	24%	4%	0%	63%	91%	0%	0%	1%	0%	0%	0%	0%	73%	95%	0%	0%	0%	0%	0%	0%	0%	24%	8%	0%
Other	0%	0%	0%	0%	0%	0%	10%	3%	0%	0%	0%	0%	0%	0%	0%	100%	100%	0%	0%	0%	0%	16%	83%	0%
Vegetation/Animal	0%	0%	0%	0%	0%	0%	0%	0%	100%	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%	100%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	51%	8%	100%
CORAK(12KV) - Customers: 969	18.5	1.0	5.0	83.3	1.2	1.9	16.6	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	4.4	0.0	0.0	0.0	0.0	1.0	4.4	0.0	2.0
3rd Party	0%	0%	40%	55%	82%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%	0%	0%	0%	100%	100%	100%	50%
Equipment Failure	0%	0%	0%	16%	2%	50%	89%	62%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operation	100%	100%	20%	29%	15%	50%	11%	38%	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%	100%	0%	0%	0%	0%	0%	0%	0%	0%	50%
Vegetation/Animal	0%	0%	20%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Weather/Fire/Earthquake	0%	0%	20%	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 Puente

	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
DUNKIRK(12KV) - Customers: 2,145	132.1	1.2	1.1	186.0	1.4	0.0	174.4	0.8	1.0	0.3	0.0	0.0	22.5	0.7	1.0	0.1	0.0	0.0	2.1	0.0	1.0	25.1	0.7	2.0
3rd Party	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%	100%	8%	0%	50%
Equipment Failure	14%	17%	0%	7%	2%	0%	100%	96%	0%	0%	0%	0%	0%	0%	100%	100%	100%	0%	0%	0%	0%	0%	50%	
Operation	0%	0%	0%	93%	98%	0%	0%	4%	0%	100%	100%	0%	100%	100%	0%	0%	0%	0%	0%	0%	0%	91%	100%	0%
Other	86%	83%	100%	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%	100%	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%
FOLGER(12KV) - Customers: 843	96.2	1.1	0.0	15.9	1.3	0.0	69.1	0.2	3.0	28.9	0.1	0.0	0.8	0.0	1.1	96.7	1.2	0.0	0.0	0.0	0.0	126.4	1.3	1.1
3rd Party	0%	0%	0%	0%	0%	0%	0%	0%	33%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Equipment Failure	0%	0%	0%	0%	0%	0%	10%	2%	0%	0%	0%	0%	100%	100%	100%	22%	6%	0%	0%	0%	0%	18%	6%	100%
Operation	73%	90%	0%	100%	100%	0%	79%	43%	33%	96%	97%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	22%	4%	0%
Other	27%	10%	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%	11%	55%	33%	4%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%
Weather/Fire/Earthquake	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	78%	94%	0%	0%	0%	0%	60%	90%	0%
GEAR(12KV) - Customers: 1,049	8.3	0.1	0.0	253.6	0.9	0.2	453.0	1.0	0.0	0.0	0.0	0.0	4.5	0.0	0.0	4.7	0.0	0.0	3.2	0.1	0.0	12.5	0.1	0.0
3rd Party	85%	97%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	76%	97%	0%	100%	100%	0%	100%	100%	0%	91%	99%	0%
Equipment Failure	15%	3%	0%	97%	96%	100%	0%	0%	0%	0%	0%	0%	24%	3%	0%	0%	0%	0%	0%	0%	0%	9%	1%	0%
Operation	0%	0%	0%	3%	4%	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%	100%	100%	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%
ISIS(12KV) - Customers: 763	174.8	1.0	2.0	100.8	1.0	0.0	15.3	0.0	1.0	0.0	0.0	0.0	7.0	1.0	1.0	0.0	0.0	0.0	231.5	1.0	3.0	238.5	2.0	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	100%	100%	100%	96%	98%	0%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	97%	67%	97%	50%	50%
Operation	0%	0%	0%	4%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%	1%	0%
Other	0%	0%	0%	0%	0%	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%	0%	0%	0%	0%	0%	0%	100%	100%	100%	0%	0%	0%	0%	0%	33%	3%	49%	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%

Reliability Histories for Individual Circuits Serving La Puente

	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
LEVEL(12KV) - Customers: 2,223	119.2	1.2	1.7	214.3	1.7	1.0	22.3	0.0	0.0	0.0	0.0	0.0	244.5	0.8	0.0	24.6	0.4	0.6	0.0	0.0	0.0	269.1	1.2	0.6
3rd Party	78%	14%	100%	25%	16%	0%	0%	0%	0%	0%	0%	0%	95%	98%	0%	92%	96%	100%	0%	0%	0%	95%	97%	100%
Equipment Failure	1%	1%	0%	1%	0%	100%	49%	46%	0%	0%	0%	0%	5%	2%	0%	0%	0%	0%	0%	0%	0%	4%	1%	0%
Operation	22%	85%	0%	74%	84%	0%	51%	54%	0%	0%	0%	0%	0%	0%	0%	8%	4%	0%	0%	0%	0%	1%	1%	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%
MACHINE(12KV) - Customers: 636	186.4	1.1	0.0	18.5	0.0	0.0	22.9	0.4	1.6	6.2	0.1	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.2	0.1	0.9
3rd Party	0%	0%	0%	35%	53%	0%	70%	98%	38%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Equipment Failure	100%	100%	100%	65%	47%	0%	1%	0%	62%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operation	0%	0%	0%	0%	0%	0%	29%	2%	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%	100%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%	100%
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%
PANDORA(12KV) - Customers: 447	385.1	2.2	1.7	40.7	0.1	1.0	0.0	0.0	0.0	144.2	1.3	0.0	375.2	4.9	1.3	62.5	0.9	0.4	0.0	0.0	0.8	581.9	7.1	2.5
3rd Party	0%	0%	0%	100%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Equipment Failure	100%	100%	41%	0%	0%	0%	0%	0%	0%	100%	100%	0%	100%	100%	100%	99%	97%	100%	0%	0%	0%	100%	100%	67%
Operation	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	3%	0%	0%	0%	0%	0%	0%	0%
Other	0%	0%	59%	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%	100%	0%	0%	33%
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%
PETRI(12KV) - Customers: 2,986	50.0	0.2	0.0	73.3	1.1	0.0	3.8	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	19.8	0.0	0.0	3.1	0.5	0.0	22.9	0.5	0.0
3rd Party	0%	0%	0%	64%	97%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Equipment Failure	3%	1%	0%	29%	2%	0%	0%	0%	50%	0%	0%	0%	0%	0%	0%	100%	100%	100%	100%	100%	0%	100%	100%	100%
Operation	60%	49%	0%	8%	1%	0%	34%	56%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Other	37%	49%	0%	0%	0%	0%	66%	44%	50%	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 Puente

	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
RIVERGRADE(12KV) - Customers: 1,353	259.4	1.0	0.0	0.0	0.0	1.0	24.9	0.1	1.0	0.0	0.0	0.0	151.1	0.1	0.0	0.5	0.0	0.0	0.0	0.0	0.0	151.6	0.2	0.0
3rd Party	99%	99%	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%	51%	23%	100%	0%	0%	0%	7%	5%	0%	0%	0%	0%	0%	0%	0%	7%	5%	0%
Operation	1%	1%	0%	0%	0%	0%	49%	77%	0%	0%	0%	0%	0%	0%	0%	100%	100%	0%	0%	0%	0%	0%	16%	0%
Other	0%	0%	0%	0%	0%	100%	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%	93%	95%	0%	0%	0%	0%	0%	0%	0%	93%	79%	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%
SANDY(12KV) - Customers: 1,473	74.0	0.7	0.4	136.3	0.6	0.0	2.1	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6	0.0	0.0	104.2	1.6	0.4	107.8	1.6	0.4
3rd Party	100%	100%	100%	100%	100%	0%	16%	29%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	37%	37%	100%	35%	37%	100%
Equipment Failure	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operation	0%	0%	0%	0%	0%	0%	84%	71%	0%	0%	0%	0%	0%	0%	0%	100%	100%	0%	0%	0%	0%	3%	1%	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%	63%	63%	0%	61%	62%	0%
STAFFORD(12KV) - Customers: 1,931	9.9	0.0	0.0	50.9	0.1	0.0	129.1	1.1	2.9	131.9	1.1	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	134.3	1.1	0.0
3rd Party	0%	0%	0%	0%	0%	0%	61%	88%	66%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Equipment Failure	83%	58%	0%	51%	36%	0%	28%	5%	0%	92%	93%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	90%	91%	0%
Operation	17%	42%	0%	49%	64%	0%	10%	6%	0%	5%	5%	100%	100%	100%	0%	0%	0%	0%	0%	0%	6%	6%	100%	0%
Other	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	2%	0%
Vegetation/Animal	0%	0%	0%	0%	0%	0%	0%	0%	34%	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%
TORCHLIGHT(12KV) - Customers: 1,781	0.5	0.0	0.0	270.0	1.9	1.4	3.1	0.0	1.0	112.5	2.0	0.0	0.3	0.0	0.0	57.8	1.0	0.0	58.8	1.0	0.6	229.4	4.0	0.6
3rd Party	0%	0%	0%	95%	79%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Equipment Failure	0%	0%	0%	2%	1%	0%	66%	33%	0%	100%	100%	0%	0%	0%	0%	100%	100%	0%	0%	0%	0%	74%	75%	0%
Operation	100%	100%	0%	3%	20%	100%	34%	67%	0%	0%	0%	0%	100%	100%	0%	0%	0%	0%	3%	2%	0%	1%	1%	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%	100%	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%	97%	98%	100%	25%	25%	100%

Reliability Histories for Individual Circuits Serving La Puente

	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
UNRUH(12KV) - Customers: 2,148	19.9	1.0	0.0	6.9	0.0	0.0	88.2	1.1	3.3	47.2	0.0	1.0	16.9	0.1	0.0	18.5	0.1	0.0	59.3	1.5	0.3	141.9	1.7	1.2
3rd Party	0%	0%	0%	0%	0%	0%	5%	3%	31%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Equipment Failure	0%	0%	0%	49%	15%	0%	2%	0%	31%	63%	60%	0%	100%	100%	0%	12%	14%	0%	100%	100%	100%	76%	94%	21%
Operation	93%	99%	0%	51%	85%	0%	39%	18%	31%	0%	0%	0%	0%	0%	0%	88%	86%	0%	0%	0%	0%	12%	5%	0%
Other	0%	0%	0%	0%	0%	0%	23%	13%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Vegetation/Animal	7%	1%	0%	0%	0%	0%	31%	66%	8%	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%	37%	40%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	12%	1%	79%
VALINDA(12KV) - Customers: 1,887	0.0	0.0	0.0	100.6	1.1	0.0	22.3	0.1	1.0	0.0	0.0	0.0	46.3	1.1	0.0	0.0	0.0	0.0	84.1	1.2	0.0	130.4	2.3	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%	100%	100%	0%	100%	100%	0%	0%	0%	0%	37%	8%	0%	0%	0%	0%	91%	98%	0%	72%	54%	0%
Operation	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	63%	92%	0%	0%	0%	0%	9%	2%	0%	28%	46%	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%	100%	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%
WISE(12KV) - Customers: 1,268	59.2	1.0	0.0	7.3	0.1	0.0	22.7	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	23.1	1.0	2.9	1.7	0.0	0.0	24.8	1.0	2.9
3rd Party	95%	99%	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%	51%	14%	0%	93%	98%	100%	0%	0%	0%	0%	0%	0%	100%	100%	100%	100%	100%	0%	100%	100%	100%
Operation	5%	1%	0%	49%	86%	0%	7%	2%	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%