



# Circuit Reliability Review

## **Santa Barbara District 3**

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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 Santa Barbara County – District 3

Goleta

Isla Vista

County of Santa Barbara

# 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
<b>SCE SystemWide</b>	<b>108.13</b>		<b>0.89</b>		<b>102.61</b>		<b>0.91</b>		<b>112.00</b>		<b>0.96</b>		<b>114.83</b>		<b>0.92</b>		<b>134.48</b>		<b>1.10</b>	

\*\*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.

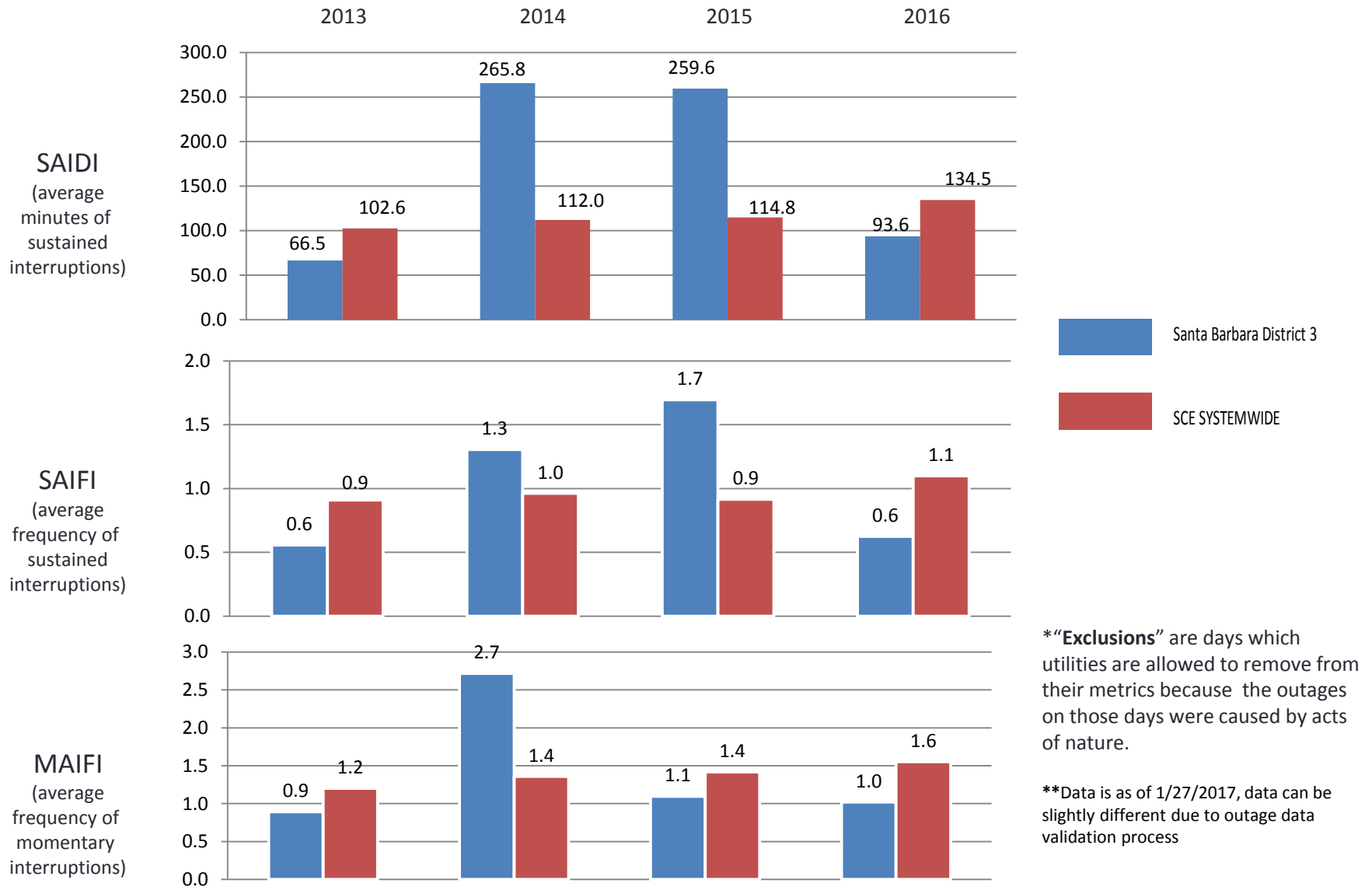
# Overview of Santa Barbara District 3

## There are 11 circuits that serve Santa Barbara District 3

Circuit Type	Sum of Customers	Circuit Type	Sum of Customers	Circuit Type	Sum of Customers	Circuit Type	Sum of Customers
ACE(16KV)	1,340						
BIDDER(16KV)	147						
CACHUMA(16KV)	4,001						
COJO(16KV)	13						
CONCEPCION(16KV)	243						
ENCANTO(16KV)	3,810						
FRATERNITY(16KV)	3,559						
GLADIOLA(16KV)	1,829						
MIST(16KV)	391						
SHOAL(16KV)	1						
TRUMP(16KV)	144						

**Grand Total** 15,478

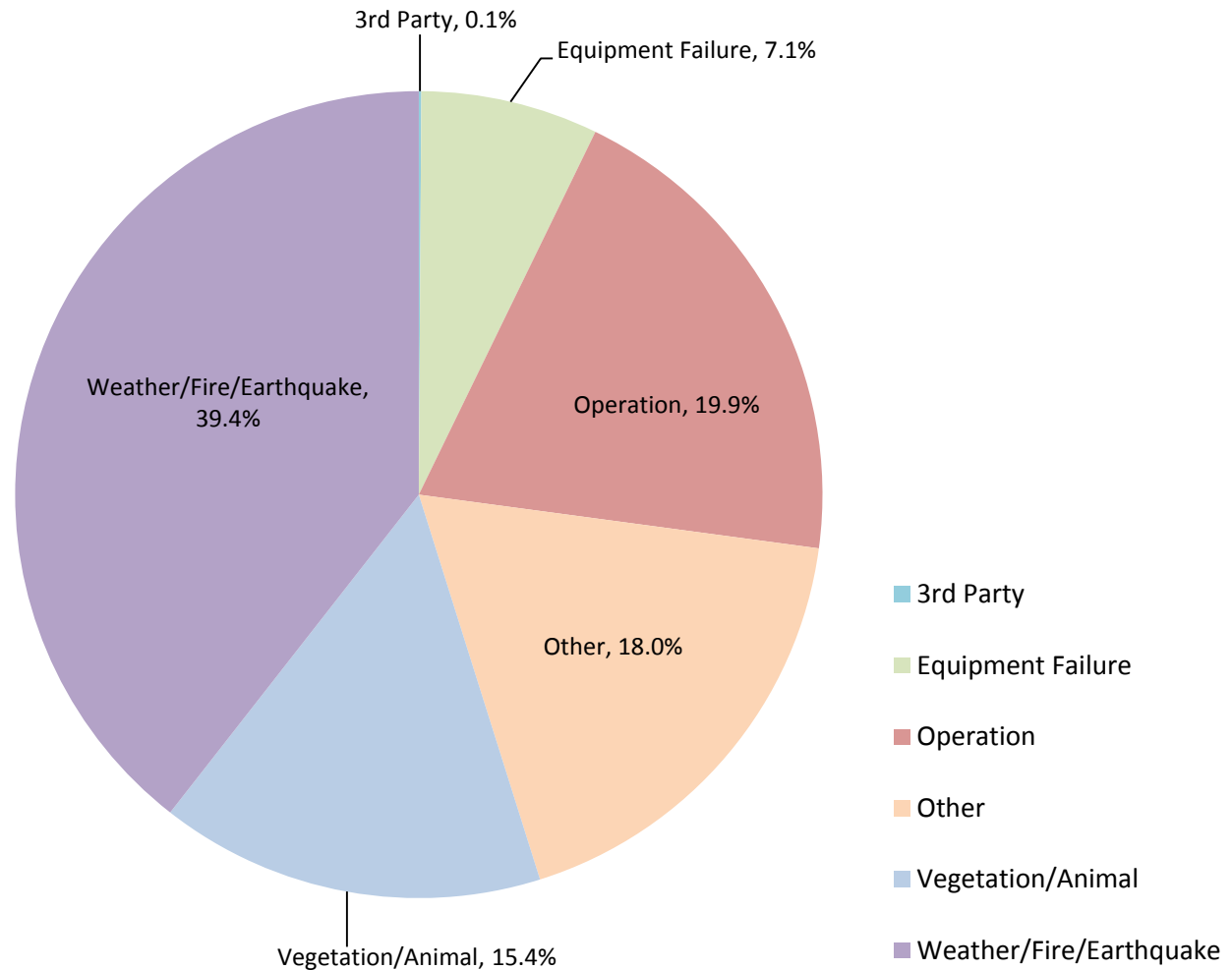
# Reliability History of Circuits Serving Santa Barbara District 3 (No Exclusions)





# Causes of Repair Outages in Santa Barbara District 3 Circuits 2016 YTD

## Contributions to SAIDI by Outage Cause

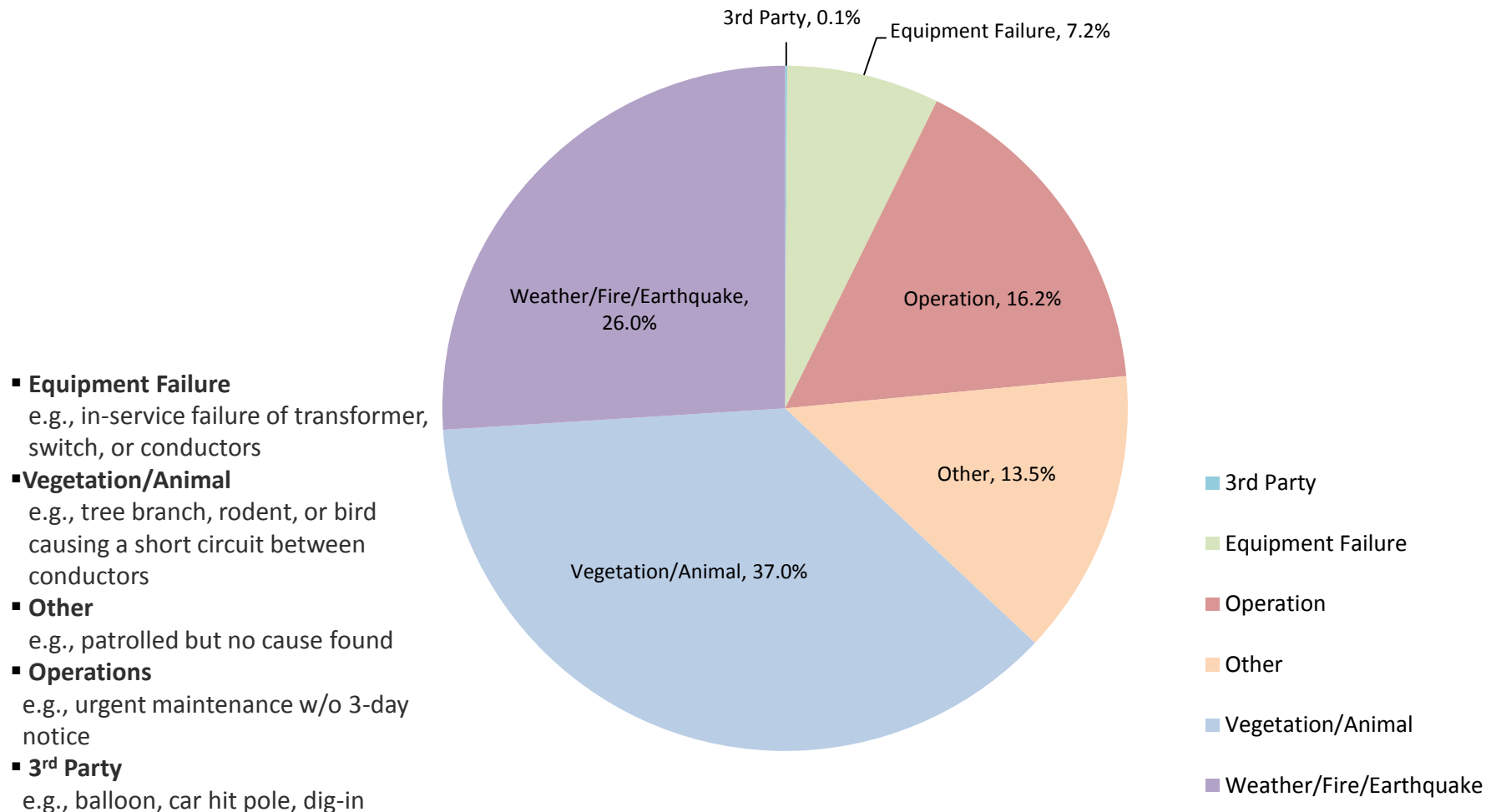


- **Equipment Failure**  
e.g., in-service failure of transformer, switch, or conductors
- **Vegetation/Animal**  
e.g., tree branch, rodent, or bird causing a short circuit between conductors
- **Other**  
e.g., patrolled but no cause found
- **Operations**  
e.g., urgent maintenance w/o 3-day notice
- **3rd Party**  
e.g., balloon, car hit pole, dig-in

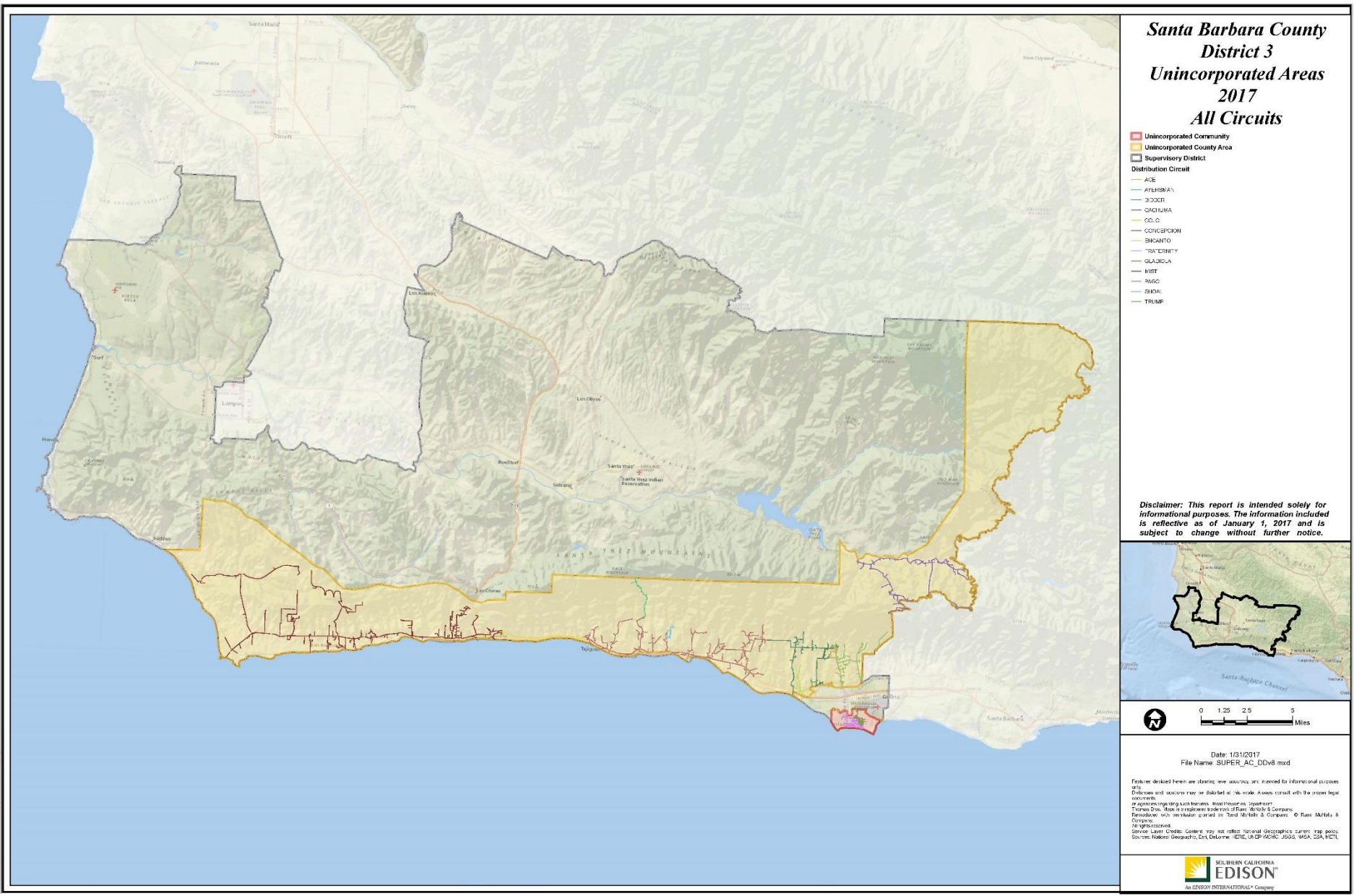
**SAIDI** = the cumulative amount of time the average customer is interrupted by “sustained” outages each year.

# Causes of Repair Outages in Santa Barbara District 3 Circuits 2016 YTD

## Contributions to SAIFI by Outage Cause



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



## Santa Barbara County District 3 Unincorporated Areas 2017 Capital Improvement Plan

Unincorporated Community

Unincorporated County Area

Supervisory District

Replacement/Equipment Upgrade

• Electrical Equipment Replacement

• Pole Replacement

Other Work

• Structures & Equipment

Replacement/Equipment Upgrade (Transmission)

✱ Electrical Equipment Replacement

✱ Pole Replacement

**Disclaimer:** This report is intended solely for informational purposes. The information included is reflective as of January 1, 2017 and is subject to change without further notice.



Date: 2/2/2017  
File Name: SUPER\_CIP\_Santa\_Barbara.mxd

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# Back-up Slides

**Reliability Histories of Circuits Serving Santa Barbara District 3**

**Updated through Year-End 2016**

# Average Reliability of 11 Circuits Serving Santa Barbara District 3

	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
<b>Santa Barbara District 3</b>	<b>66.5</b>	<b>0.6</b>	<b>0.9</b>	<b>265.8</b>	<b>1.3</b>	<b>2.7</b>	<b>259.6</b>	<b>1.7</b>	<b>1.1</b>	<b>36.2</b>	<b>0.4</b>	<b>0.6</b>	<b>31.0</b>	<b>0.2</b>	<b>0.1</b>	<b>15.8</b>	<b>0.1</b>	<b>0.1</b>	<b>10.5</b>	<b>0.0</b>	<b>0.1</b>	<b>93.6</b>	<b>0.6</b>	<b>1.0</b>
3rd Party	0%	0%	0%	0%	0%	8%	19%	43%	0%	0%	0%	0%	0%	0%	0%	1%	1%	0%	0%	0%	0%	0%	0%	0%
Equipment Failure	41%	41%	7%	19%	13%	37%	39%	11%	15%	5%	7%	0%	3%	10%	14%	23%	5%	0%	2%	1%	0%	7%	7%	2%
Operation	28%	25%	0%	18%	10%	0%	21%	26%	4%	1%	1%	0%	35%	44%	1%	1%	2%	0%	67%	81%	72%	20%	16%	10%
Other	5%	3%	53%	47%	50%	52%	0%	0%	22%	11%	2%	89%	33%	45%	85%	5%	3%	0%	15%	9%	21%	18%	14%	72%
Vegetation/Animal	0%	0%	0%	0%	0%	0%	0%	0%	51%	32%	57%	8%	0%	0%	0%	18%	35%	0%	0%	0%	0%	15%	37%	5%
Weather/Fire/Earthquake	25%	31%	40%	16%	26%	3%	21%	20%	8%	50%	33%	2%	28%	1%	0%	52%	55%	100%	15%	9%	7%	39%	26%	12%
<b>SCE Systemwide</b>	<b>102.6</b>	<b>0.9</b>	<b>1.2</b>	<b>112.0</b>	<b>1.0</b>	<b>1.4</b>	<b>114.8</b>	<b>0.9</b>	<b>1.4</b>	<b>40.5</b>	<b>0.3</b>	<b>0.4</b>	<b>34.8</b>	<b>0.3</b>	<b>0.4</b>	<b>29.4</b>	<b>0.2</b>	<b>0.3</b>	<b>29.8</b>	<b>0.3</b>	<b>0.4</b>	<b>134.5</b>	<b>1.1</b>	<b>1.6</b>

## 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

3<sup>rd</sup> 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 Santa Barbara District 3

	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
<b>ACE(16KV) - Customers: 1,340</b>	<b>21.1</b>	<b>0.1</b>	<b>0.0</b>	<b>62.3</b>	<b>1.0</b>	<b>0.0</b>	<b>81.2</b>	<b>0.1</b>	<b>0.5</b>	<b>4.7</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>4.7</b>	<b>0.0</b>	<b>0.0</b>
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	46%	54%	0%	0%	0%	0%	51%	66%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operation	54%	46%	0%	0%	0%	0%	49%	34%	100%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%	0%
Other	0%	0%	0%	100%	100%	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%
<b>BIDDER(16KV) - Customers: 147</b>	<b>54.8</b>	<b>0.1</b>	<b>0.9</b>	<b>103.1</b>	<b>0.6</b>	<b>0.4</b>	<b>566.1</b>	<b>1.9</b>	<b>1.2</b>	<b>148.0</b>	<b>0.3</b>	<b>0.0</b>	<b>51.0</b>	<b>0.2</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>199.0</b>	<b>0.5</b>	<b>0.0</b>
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%	66%	43%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	49%	26%	0%
Operation	0%	0%	0%	0%	0%	0%	1%	1%	0%	0%	0%	0%	12%	18%	0%	0%	0%	0%	0%	0%	0%	3%	7%	0%
Other	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	81%	68%	0%	0%	0%	0%	0%	0%	0%	21%	26%	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	100%	100%	100%	100%	100%	100%	99%	97%	100%	34%	57%	0%	7%	14%	0%	0%	0%	0%	0%	0%	0%	27%	40%	0%
<b>CACHUMA(16KV) - Customers: 4,001</b>	<b>27.2</b>	<b>0.1</b>	<b>0.1</b>	<b>475.3</b>	<b>3.2</b>	<b>5.6</b>	<b>138.1</b>	<b>1.0</b>	<b>0.2</b>	<b>44.7</b>	<b>0.8</b>	<b>1.6</b>	<b>21.7</b>	<b>0.3</b>	<b>0.5</b>	<b>32.5</b>	<b>0.1</b>	<b>0.4</b>	<b>25.7</b>	<b>0.1</b>	<b>0.0</b>	<b>124.6</b>	<b>1.3</b>	<b>2.4</b>
3rd Party	0%	0%	0%	0%	0%	0%	21%	7%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Equipment Failure	56%	56%	0%	2%	2%	0%	12%	3%	0%	0%	0%	0%	11%	7%	0%	0%	0%	0%	3%	2%	0%	3%	1%	0%
Operation	5%	18%	0%	30%	8%	0%	14%	6%	0%	0%	0%	0%	2%	1%	0%	1%	2%	0%	70%	83%	0%	15%	6%	0%
Other	0%	0%	0%	57%	63%	96%	0%	0%	0%	0%	0%	87%	87%	92%	100%	0%	0%	0%	2%	2%	0%	16%	18%	75%
Vegetation/Animal	1%	6%	0%	0%	0%	0%	0%	0%	0%	100%	100%	13%	0%	0%	0%	0%	0%	0%	0%	0%	0%	36%	62%	8%
Weather/Fire/Earthquake	38%	20%	100%	11%	26%	4%	53%	84%	100%	0%	0%	0%	0%	0%	0%	99%	98%	100%	24%	13%	100%	31%	12%	16%
<b>COJO(16KV) - Customers: 13</b>	<b>0.0</b>	<b>0.0</b>	<b>1.0</b>	<b>1245.9</b>	<b>2.0</b>	<b>0.0</b>	<b>16.0</b>	<b>1.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>170.2</b>	<b>1.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>1.0</b>	<b>170.2</b>	<b>1.0</b>	<b>1.0</b>
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%	87%	50%	0%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operation	0%	0%	0%	13%	50%	0%	0%	0%	0%	0%	0%	0%	100%	100%	0%	0%	0%	0%	0%	0%	0%	100%	100%	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%	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%	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 Santa Barbara District 3

	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
<b>CONCEPCION(16KV) - Customers: 243</b>	<b>253.8</b>	<b>0.6</b>	<b>2.4</b>	<b>15.5</b>	<b>0.0</b>	<b>1.0</b>	<b>559.2</b>	<b>1.9</b>	<b>0.5</b>	<b>40.7</b>	<b>0.0</b>	<b>0.0</b>	<b>20.3</b>	<b>0.8</b>	<b>1.3</b>	<b>177.4</b>	<b>0.1</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>1.0</b>	<b>238.4</b>	<b>0.9</b>	<b>2.3</b>
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	46%	15%	41%	21%	14%	0%	89%	97%	98%	100%	100%	0%	93%	98%	100%	100%	100%	0%	0%	0%	0%	99%	99%	55%
Operation	0%	0%	0%	0%	0%	0%	4%	3%	2%	0%	0%	0%	7%	2%	0%	0%	0%	0%	0%	0%	0%	1%	1%	0%
Other	54%	85%	59%	79%	86%	100%	8%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	45%
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%
<b>ENCANTO(16KV) - Customers: 3,810</b>	<b>64.7</b>	<b>0.7</b>	<b>1.3</b>	<b>183.9</b>	<b>0.3</b>	<b>1.7</b>	<b>508.7</b>	<b>2.2</b>	<b>1.6</b>	<b>3.9</b>	<b>0.0</b>	<b>0.0</b>	<b>2.7</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>6.6</b>	<b>0.0</b>	<b>0.0</b>
3rd Party	0%	0%	0%	0%	0%	0%	25%	70%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Equipment Failure	14%	4%	0%	99%	94%	100%	72%	26%	43%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operation	0%	0%	0%	1%	6%	0%	3%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Other	2%	2%	0%	0%	0%	0%	0%	0%	0%	100%	100%	0%	100%	100%	0%	0%	0%	0%	0%	0%	0%	100%	100%	0%
Vegetation/Animal	0%	0%	0%	0%	0%	0%	0%	0%	57%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Weather/Fire/Earthquake	84%	93%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
<b>FRATERNITY(16KV) - Customers: 3,559</b>	<b>115.8</b>	<b>1.4</b>	<b>2.2</b>	<b>127.1</b>	<b>0.8</b>	<b>3.0</b>	<b>222.0</b>	<b>2.7</b>	<b>2.0</b>	<b>17.1</b>	<b>0.1</b>	<b>1.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>3.5</b>	<b>0.0</b>	<b>0.4</b>	<b>20.6</b>	<b>0.1</b>	<b>1.4</b>
3rd Party	0%	0%	0%	0%	0%	33%	21%	38%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Equipment Failure	42%	60%	9%	5%	40%	67%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operation	58%	40%	0%	1%	0%	0%	79%	62%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%	100%	17%	9%	30%
Other	0%	0%	91%	0%	0%	0%	0%	0%	50%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	70%
Vegetation/Animal	0%	0%	0%	0%	0%	0%	0%	0%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Weather/Fire/Earthquake	0%	0%	0%	94%	59%	0%	0%	0%	0%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	83%	91%	0%
<b>GLADIOLA(16KV) - Customers: 1,829</b>	<b>69.6</b>	<b>0.2</b>	<b>0.0</b>	<b>72.0</b>	<b>0.4</b>	<b>1.0</b>	<b>257.4</b>	<b>1.9</b>	<b>1.1</b>	<b>114.0</b>	<b>0.9</b>	<b>0.1</b>	<b>86.7</b>	<b>0.6</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>200.6</b>	<b>1.4</b>	<b>0.1</b>
3rd Party	0%	0%	0%	0%	0%	0%	7%	54%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Equipment Failure	94%	84%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operation	6%	16%	0%	100%	100%	0%	0%	0%	0%	0%	0%	0%	100%	100%	0%	0%	0%	0%	0%	0%	0%	43%	39%	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%	88%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Weather/Fire/Earthquake	0%	0%	0%	0%	0%	0%	93%	46%	12%	100%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	57%	61%	100%



# Reliability Histories for Individual Circuits Serving Santa Barbara District 3

	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
<b>MIST(16KV) - Customers: 391</b>	<b>99.1</b>	<b>0.3</b>	<b>0.0</b>	<b>2151.8</b>	<b>2.4</b>	<b>0.6</b>	<b>165.9</b>	<b>0.3</b>	<b>0.0</b>	<b>145.8</b>	<b>1.1</b>	<b>0.0</b>	<b>567.4</b>	<b>0.5</b>	<b>0.1</b>	<b>178.6</b>	<b>1.2</b>	<b>0.0</b>	<b>125.1</b>	<b>0.4</b>	<b>0.5</b>	<b>1017.0</b>	<b>3.1</b>	<b>0.6</b>
3rd Party	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	2%	0%	0%	0%	0%	0%	1%	0%
Equipment Failure	0%	0%	0%	0%	0%	0%	96%	98%	0%	10%	90%	0%	0%	0%	0%	12%	2%	0%	0%	0%	0%	4%	32%	0%
Operation	61%	39%	0%	1%	20%	0%	0%	0%	0%	1%	0%	0%	3%	35%	100%	0%	2%	0%	53%	73%	0%	9%	15%	10%
Other	34%	55%	0%	98%	78%	100%	0%	0%	0%	89%	9%	0%	33%	47%	0%	20%	8%	0%	47%	27%	100%	40%	17%	90%
Vegetation/Animal	5%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	66%	86%	0%	0%	0%	0%	12%	32%	0%
Weather/Fire/Earthquake	0%	0%	0%	1%	2%	0%	4%	2%	0%	0%	0%	0%	64%	18%	0%	0%	0%	0%	0%	0%	0%	36%	3%	0%
<b>SHOAL(16KV) - Customers: 1</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
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%
<b>TRUMP(16KV) - Customers: 144</b>	<b>52.5</b>	<b>0.2</b>	<b>0.0</b>	<b>102.8</b>	<b>0.4</b>	<b>0.0</b>	<b>97.2</b>	<b>0.2</b>	<b>0.0</b>	<b>35.8</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>42.5</b>	<b>0.1</b>	<b>0.0</b>	<b>1.8</b>	<b>0.0</b>	<b>0.0</b>	<b>80.1</b>	<b>0.2</b>	<b>0.0</b>
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	29%	29%	0%	0%	0%	0%	70%	63%	0%	2%	20%	0%	0%	0%	0%	95%	82%	0%	0%	0%	0%	51%	65%	0%
Operation	7%	23%	0%	0%	0%	0%	30%	38%	0%	0%	0%	0%	0%	0%	0%	5%	18%	0%	100%	100%	0%	5%	17%	0%
Other	64%	48%	0%	50%	60%	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%	50%	40%	0%	0%	0%	0%	98%	80%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	44%	17%	0%