



Circuit Reliability Review

Orange District 4

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.

Orange County District 4 – Fullerton District

Brea

Buena Park

Fullerton

La Habra

Orange County

Placentia

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.

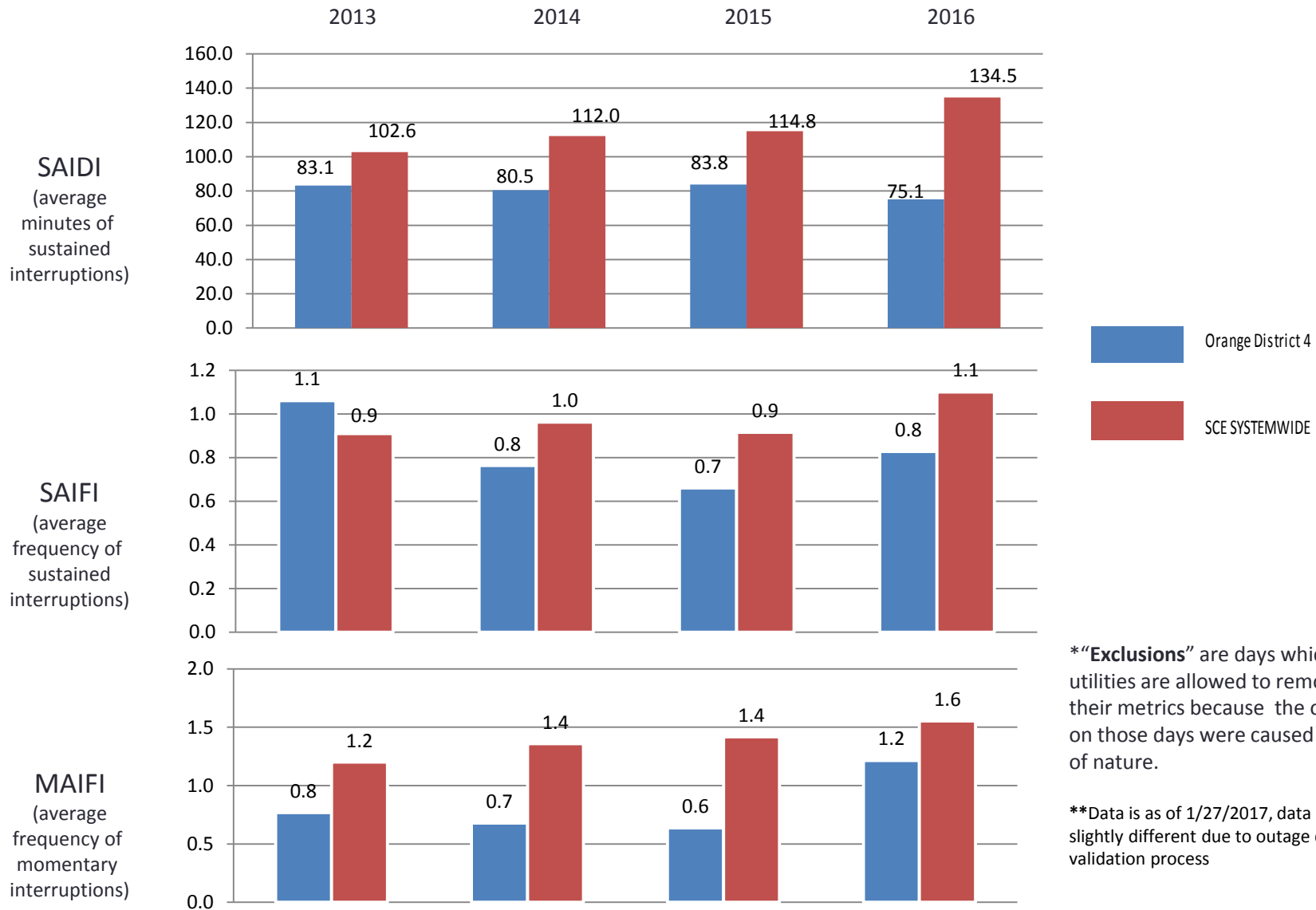
Overview of Orange District 4

There are 21 circuits that serve Orange District 4

Circuit Type	Sum of Customers	Circuit Type	Sum of Customers	Circuit Type	Sum of Customers	Circuit Type	Sum of Customers
ACAPULCO(12KV)	25						
BAJA(12KV)	983						
BRAKEMAN(12KV)	1,704						
CLOVER(12KV)	3,470						
COLFAX(12KV)	2,313						
DRILLER(12KV)	1,714						
GUSHER(12KV)	1,050						
HACKBERRY(12KV)	2,031						
IDAHO(12KV)	2,495						
OMEGA(12KV)	1,743						
PIPELINE(12KV)	1,648						
PLUMOSA(12KV)	2,397						
PRUNE(12KV)	1,948						
SHADOW(12KV)	2,459						
TONNER(12KV)	1,685						
TULIP(12KV)	2,909						
TWISTER(12KV)	1,739						
VAN BUREN(12KV)	1,453						
VERA CRUZ(12KV)	1,363						
WHIPSTOCK(12KV)	908						
YUCATAN(12KV)	938						

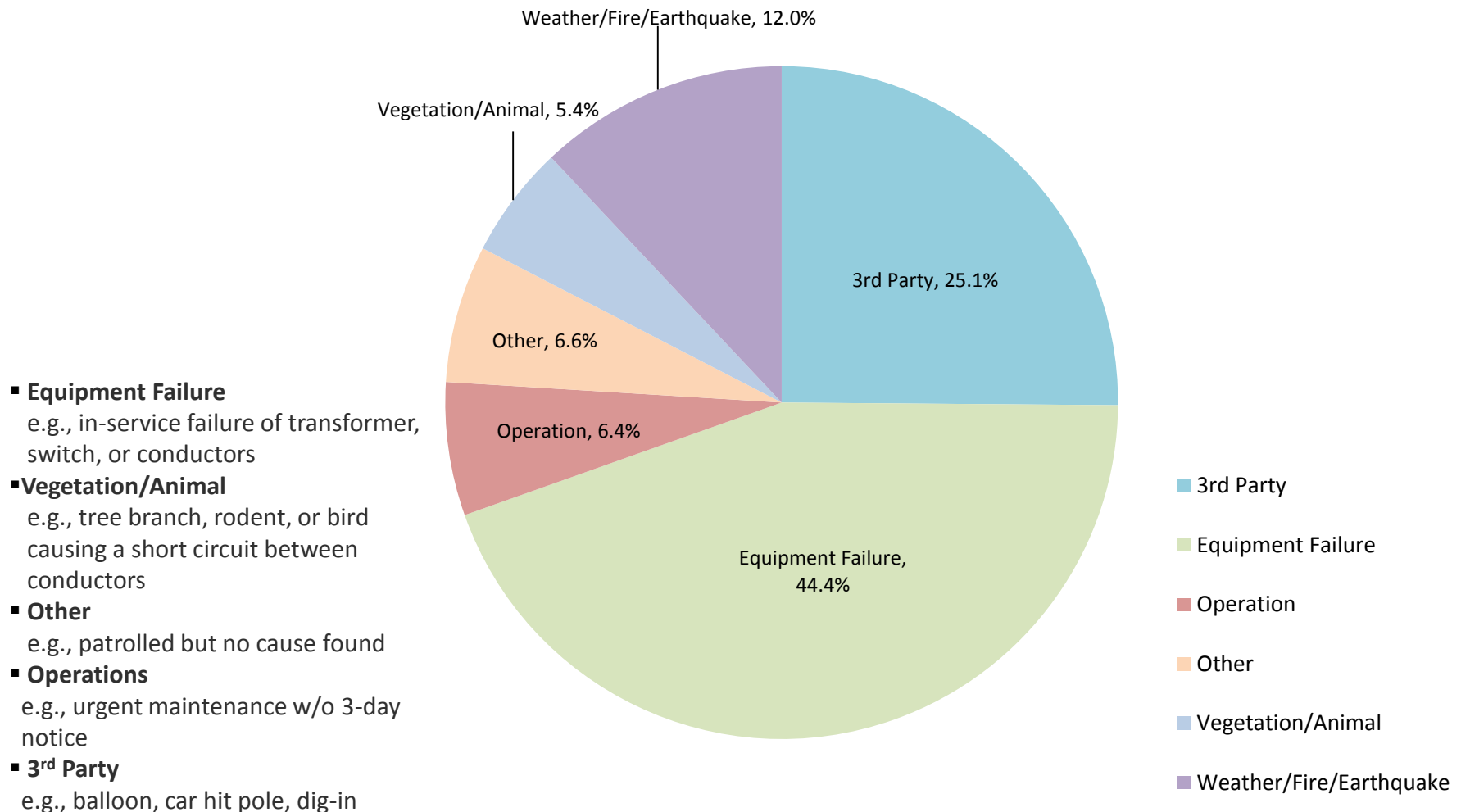
Grand Total 36,975

Reliability History of Circuits Serving Orange District 4 (No Exclusions)



Causes of Repair Outages in Orange District 4 Circuits 2016 YTD

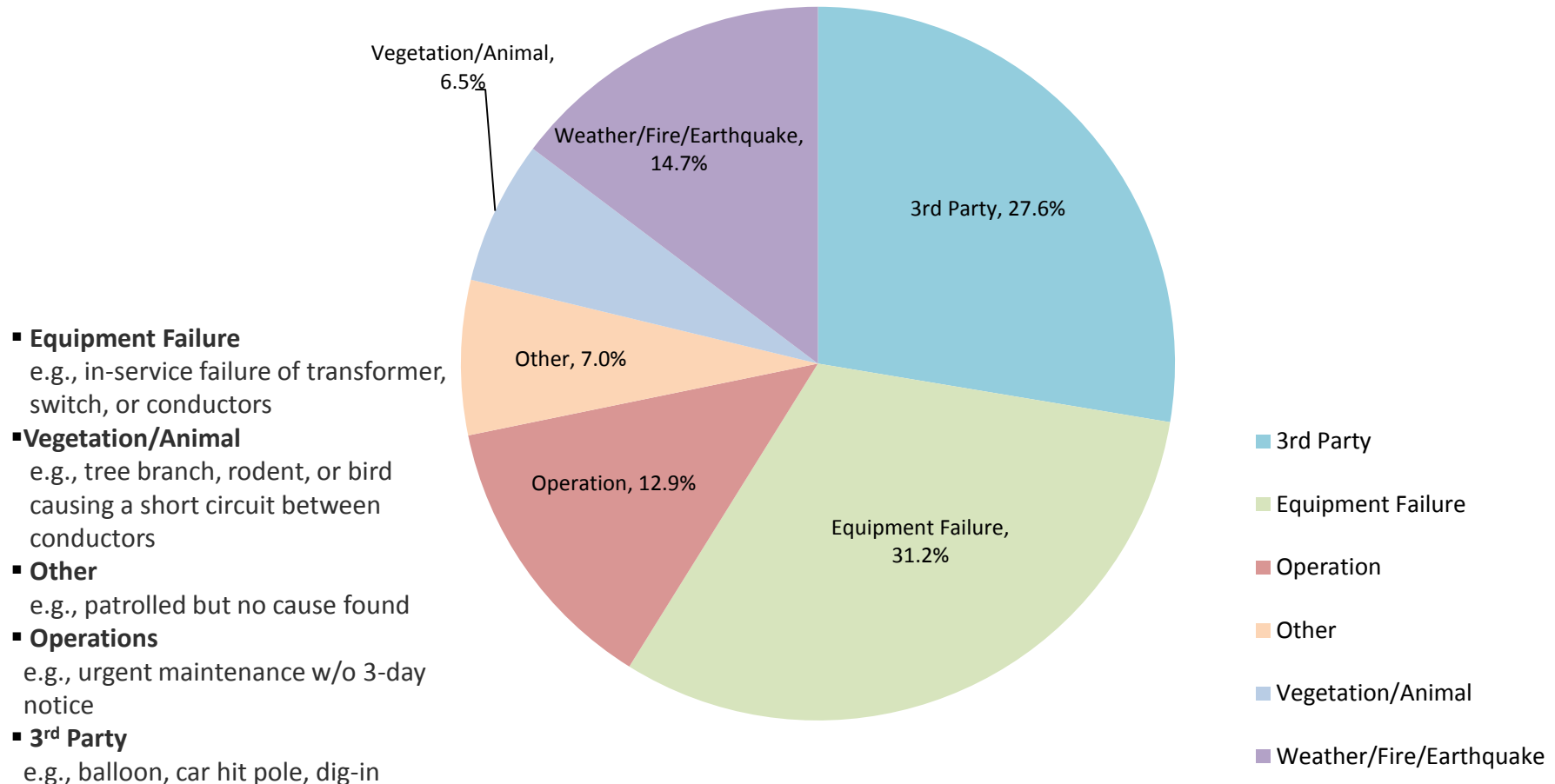
Contributions to SAIDI by Outage Cause



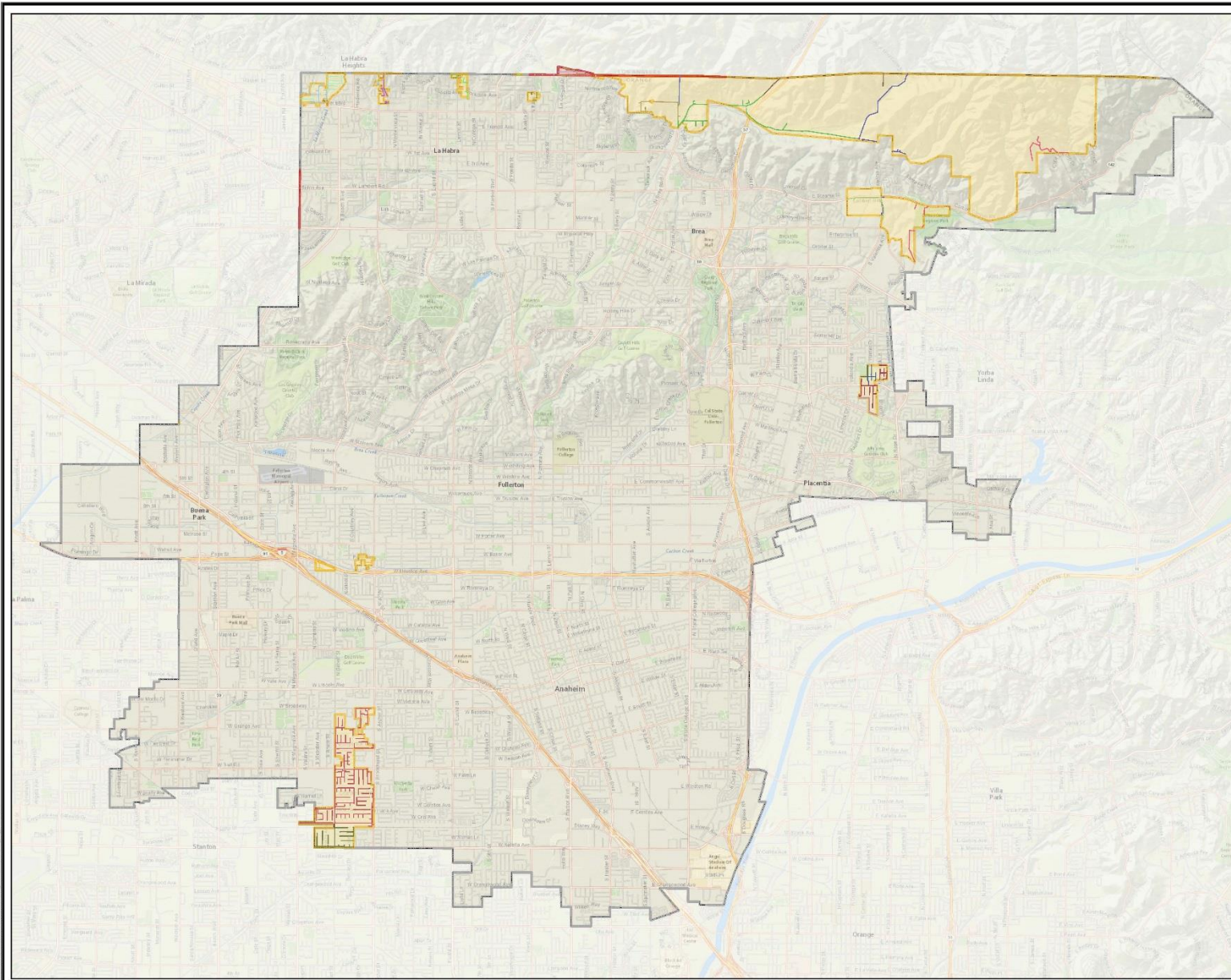
SAIDI = the cumulative amount of time the average customer is interrupted by “sustained” outages each year.

Causes of Repair Outages in Orange District 4 Circuits 2016 YTD

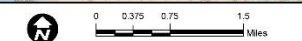
Contributions to SAIFI by Outage Cause



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



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: 1/31/2017
File Name: SUPER_AC_DDv8.mxd

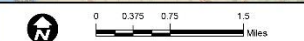
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Orange County District 4 Unincorporated Areas 2017 Capital Improvement Plan

- Unincorporated Community
- Unincorporated County Area
- Supervisory District
- Replacement/Equipment Upgrade
 - Pole Replacement
- Other Work
 - Circuit Reliability Upgrade
- Replacement/Equipment Upgrade (Transmission)
 - Pole Replacement
- Other Work (Transmission)
 - Circuit Reliability Upgrade

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_CLIP_Orange.mxd

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Back-up Slides

Reliability Histories of Circuits Serving Orange District 4

Updated through Year-End 2016

Average Reliability of 21 Circuits Serving Orange District 4

	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
Orange District 4	83.1	1.1	0.8	80.5	0.8	0.7	83.8	0.7	0.6	30.2	0.4	0.3	18.2	0.1	0.1	9.2	0.1	0.3	17.5	0.2	0.5	75.1	0.8	1.2
3rd Party	18%	32%	27%	22%	21%	62%	38%	40%	43%	54%	42%	37%	0%	0%	57%	5%	26%	42%	13%	23%	1%	25%	28%	26%
Equipment Failure	57%	35%	13%	34%	21%	0%	28%	24%	15%	22%	28%	0%	61%	54%	0%	81%	34%	15%	46%	22%	29%	44%	31%	15%
Operation	6%	12%	4%	11%	13%	0%	28%	30%	6%	6%	17%	14%	4%	1%	0%	4%	5%	0%	12%	16%	0%	6%	13%	4%
Other	2%	1%	12%	14%	25%	17%	0%	0%	0%	1%	2%	0%	26%	35%	43%	0%	0%	17%	0%	0%	10%	7%	7%	12%
Vegetation/Animal	10%	11%	31%	10%	6%	16%	6%	5%	36%	2%	2%	28%	9%	10%	0%	10%	35%	24%	5%	1%	14%	5%	7%	19%
Weather/Fire/Earthquake	7%	9%	13%	10%	14%	5%	0%	0%	0%	16%	10%	21%	0%	0%	0%	0%	0%	2%	25%	37%	46%	12%	15%	25%
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 Orange District 4

	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
ACAPULCO(12KV) - Customers: 25	130.17	1.17	-	0.45	0.00	-	15.39	0.03	-	36.46	1.08	-	-	-	-	-	-	-	-	-	-	36.46	1.08	-
3rd Party	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Equipment Failure	84%	98%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Operation	-	-	-	100%	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	100%	100%	-	100%	100%	-	-	-	-	-	-	-	-	-	-	100%	100%	-
Vegetation/Animal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Weather/Fire/Earthquake	16%	2%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BAJA(12KV) - Customers: 983	93.49	1.27	-	170.05	1.36	0.14	11.59	0.03	-	0.16	0.00	1.00	29.05	0.05	1.00	-	-	-	-	-	-	29.21	0.05	2.00
3rd Party	-	-	-	95%	95%	100%	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	50%
Equipment Failure	99%	99%	-	3%	1%	-	76%	47%	-	-	-	-	100%	100%	-	-	-	-	-	-	-	99%	98%	-
Operation	-	-	-	-	-	-	24%	53%	-	100%	100%	-	-	-	-	-	-	-	-	-	-	1%	2%	-
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vegetation/Animal	1%	1%	-	3%	5%	-	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	50%
Weather/Fire/Earthquake	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BRAKEMAN(12KV) - Customers: 1,704	459.47	4.10	1.00	99.98	1.72	0.63	95.13	1.20	1.00	55.92	0.87	-	-	-	-	15.11	0.03	1.02	-	-	-	71.03	0.90	1.02
3rd Party	43%	58%	-	-	-	-	40%	8%	-	56%	68%	-	-	-	-	-	-	-	-	-	-	44%	66%	-
Equipment Failure	44%	35%	-	-	-	-	39%	85%	100%	37%	3%	-	-	-	-	100%	100%	1%	-	-	-	50%	6%	1%
Operation	12%	7%	-	12%	5%	-	21%	7%	-	7%	29%	-	-	-	-	-	-	-	-	-	-	6%	28%	-
Other	-	-	100%	7%	34%	100%	-	-	-	-	-	-	-	-	-	-	-	99%	-	-	-	-	-	99%
Vegetation/Animal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Weather/Fire/Earthquake	-	-	-	81%	61%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CLOVER(12KV) - Customers: 3,470	22.57	1.05	1.00	60.17	0.51	0.81	195.47	1.85	-	5.28	0.01	-	1.43	0.00	-	-	-	1.01	12.36	0.37	-	19.06	0.39	1.01
3rd Party	60%	97%	100%	77%	59%	100%	33%	54%	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	100%
Equipment Failure	14%	1%	-	3%	1%	-	3%	0%	-	-	-	-	100%	100%	-	-	-	-	1%	1%	-	8%	1%	-
Operation	-	-	-	20%	40%	-	62%	45%	-	100%	100%	-	-	-	-	-	-	-	99%	99%	-	92%	99%	-
Other	25%	2%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vegetation/Animal	1%	0%	-	-	-	-	3%	0%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Weather/Fire/Earthquake	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Reliability Histories for Individual Circuits Serving Orange District 4

	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
COLFAX(12KV) - Customers: 2,313	18.97	1.63	0.47	30.13	0.06	-	-	-	-	66.63	0.54	1.46	0.06	0.00	-	8.65	0.02	-	-	-	-	75.34	0.56	1.46
3rd Party	-	-	-	-	-	-	-	-	-	-	-	68%	-	-	-	-	-	-	-	-	-	-	-	68%
Equipment Failure	3%	0%	-	100%	100%	-	-	-	-	-	-	-	-	-	-	100%	100%	-	-	-	-	11%	4%	-
Operation	97%	100%	100%	-	-	-	-	-	-	0%	1%	-	100%	100%	-	-	-	-	-	-	-	0%	1%	-
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vegetation/Animal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Weather/Fire/Earthquake	-	-	-	-	-	-	-	-	-	100%	99%	32%	-	-	-	-	-	-	-	-	-	88%	95%	32%
DRILLER(12KV) - Customers: 1,714	250.29	3.57	1.71	214.83	2.42	0.98	71.88	1.04	-	-	-	0.98	195.02	2.05	-	12.25	0.08	-	-	-	-	207.27	2.13	0.98
3rd Party	-	-	-	-	-	-	79%	96%	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	100%
Equipment Failure	84%	69%	42%	49%	42%	-	11%	1%	-	-	-	-	48%	49%	-	42%	21%	-	-	-	-	48%	48%	-
Operation	0%	3%	-	46%	57%	-	10%	2%	-	-	-	-	-	-	-	6%	21%	-	-	-	-	0%	1%	-
Other	-	-	-	5%	2%	100%	-	-	-	-	-	-	50%	49%	-	-	-	-	-	-	-	47%	47%	-
Vegetation/Animal	-	-	-	-	-	-	-	-	-	-	-	-	2%	2%	-	52%	57%	-	-	-	-	5%	4%	-
Weather/Fire/Earthquake	16%	28%	58%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GUSHER(12KV) - Customers: 1,050	297.73	1.32	-	110.51	1.02	-	207.09	2.00	1.90	1.72	0.01	-	200.79	1.07	-	-	-	-	-	-	-	202.51	1.08	-
3rd Party	-	-	-	-	-	-	25%	50%	53%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Equipment Failure	94%	94%	-	96%	98%	-	75%	50%	47%	-	-	-	100%	100%	-	-	-	-	-	-	-	99%	99%	-
Operation	-	-	-	4%	2%	-	-	-	-	100%	100%	-	-	-	-	-	-	-	-	-	-	1%	1%	-
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vegetation/Animal	6%	6%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Weather/Fire/Earthquake	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HACKBERRY(12KV) - Customers: 2,031	26.14	0.35	0.62	58.63	0.38	1.96	21.84	1.13	-	1.64	0.03	-	10.07	0.02	1.00	-	-	-	40.22	1.00	-	51.92	1.05	1.00
3rd Party	-	-	-	10%	4%	100%	18%	7%	-	-	-	-	-	-	-	-	-	-	100%	100%	-	77%	96%	-
Equipment Failure	-	-	-	0%	1%	-	-	-	-	-	-	-	100%	100%	-	-	-	-	0%	0%	-	20%	2%	-
Operation	45%	25%	-	0%	1%	-	82%	93%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	12%	59%	67%	70%	68%	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	100%
Vegetation/Animal	43%	16%	33%	19%	27%	-	-	-	-	-	-	-	-	-	-	-	-	-	0%	0%	-	0%	0%	-
Weather/Fire/Earthquake	-	-	-	-	-	-	-	-	-	100%	100%	-	-	-	-	-	-	-	-	-	-	3%	3%	-

Reliability Histories for Individual Circuits Serving Orange District 4

	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
IDAHO(12KV) - Customers: 2,495	13.27	0.02	0.99	-	-	-	26.12	0.08	-	0.93	0.01	1.00	-	-	-	-	-	-	26.99	0.26	1.62	27.92	0.27	2.62
3rd Party	-	-	-	-	-	-	-	-	-	81%	93%	-	-	-	-	-	-	-	3%	3%	-	6%	7%	-
Equipment Failure	100%	100%	100%	-	-	-	100%	100%	-	-	-	-	-	-	-	-	-	-	91%	95%	39%	88%	91%	24%
Operation	-	-	-	-	-	-	-	-	-	19%	7%	-	-	-	-	-	-	-	-	-	-	1%	0%	-
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vegetation/Animal	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	6%	2%	61%	6%	2%	76%
Weather/Fire/Earthquake	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OMEGA(12KV) - Customers: 1,743	1.00	0.01	0.17	75.01	0.44	0.06	20.64	0.11	0.06	2.00	0.01	-	-	-	-	4.06	0.02	0.13	16.24	0.13	-	22.30	0.15	0.13
3rd Party	-	-	-	71%	75%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Equipment Failure	45%	16%	-	-	-	-	29%	8%	-	-	-	-	-	-	-	55%	10%	-	-	-	-	10%	1%	-
Operation	23%	74%	-	14%	14%	-	61%	85%	-	100%	100%	-	-	-	-	-	-	-	-	-	-	9%	5%	-
Other	-	-	-	14%	11%	-	4%	2%	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vegetation/Animal	32%	11%	73%	-	-	-	6%	5%	-	-	-	-	-	-	-	45%	90%	-	-	-	-	8%	10%	-
Weather/Fire/Earthquake	-	-	27%	0%	0%	100%	-	-	-	-	-	-	-	-	-	-	-	100%	100%	100%	-	73%	84%	100%
PIPELINE(12KV) - Customers: 1,648	80.53	1.05	-	111.37	1.02	1.00	1.40	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3rd Party	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Equipment Failure	7%	4%	-	100%	100%	-	100%	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Operation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vegetation/Animal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Weather/Fire/Earthquake	93%	96%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PLUMOSA(12KV) - Customers: 2,397	7.88	0.07	4.00	163.26	0.89	2.16	-	-	1.94	57.32	1.02	-	0.99	0.02	-	5.53	0.07	0.99	50.01	1.04	2.85	113.85	2.15	3.84
3rd Party	-	-	50%	12%	35%	32%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Equipment Failure	36%	24%	-	22%	7%	-	-	-	-	98%	98%	-	100%	100%	-	32%	22%	-	1%	0%	33%	52%	49%	24%
Operation	-	-	-	0%	1%	-	-	-	-	-	-	-	-	-	-	4%	21%	-	-	-	-	0%	1%	-
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vegetation/Animal	64%	76%	25%	66%	57%	68%	-	-	100%	2%	2%	-	-	-	-	64%	57%	100%	21%	4%	-	14%	5%	26%
Weather/Fire/Earthquake	-	-	25%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	78%	95%	67%	34%	46%	50%

Reliability Histories for Individual Circuits Serving Orange District 4

	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
PRUNE(12KV) - Customers: 1,948	0.55	0.00	-	6.41	0.02	-	177.99	0.98	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3rd Party	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Equipment Failure	-	-	-	72%	69%	-	13%	7%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Operation	100%	100%	-	28%	31%	-	83%	84%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vegetation/Animal	-	-	-	-	-	-	3%	8%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Weather/Fire/Earthquake	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SHADOW(12KV) - Customers: 2,459	97.50	1.14	-	16.71	0.17	-	5.75	0.03	0.99	133.53	1.65	1.57	17.14	0.15	-	13.20	0.05	-	-	-	-	163.86	1.85	1.57
3rd Party	2%	2%	-	-	-	-	-	-	100%	81%	49%	-	-	-	-	-	-	-	-	-	-	66%	44%	-
Equipment Failure	98%	98%	-	-	-	-	-	-	-	-	-	-	-	-	-	68%	43%	-	-	-	-	5%	1%	-
Operation	-	-	-	3%	3%	-	100%	100%	-	12%	49%	51%	-	-	-	32%	57%	-	-	-	-	12%	45%	51%
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vegetation/Animal	-	-	-	-	-	-	-	-	-	-	-	-	100%	100%	-	-	-	-	-	-	-	10%	8%	-
Weather/Fire/Earthquake	-	-	-	97%	97%	-	-	-	-	7%	2%	49%	-	-	-	-	-	-	-	-	-	6%	2%	49%
TONNER(12KV) - Customers: 1,685	155.97	0.39	0.20	36.88	0.83	1.18	18.63	0.16	-	14.57	0.13	-	9.77	0.09	-	-	-	-	10.09	0.07	-	34.43	0.29	-
3rd Party	-	-	-	98%	99%	100%	22%	40%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Equipment Failure	85%	68%	-	2%	0%	-	-	-	-	-	-	-	-	-	-	-	-	-	100%	100%	-	29%	23%	-
Operation	-	-	-	1%	1%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vegetation/Animal	15%	32%	100%	-	-	-	78%	60%	-	100%	100%	-	100%	100%	-	-	-	-	-	-	-	71%	77%	-
Weather/Fire/Earthquake	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TULIP(12KV) - Customers: 2,909	37.99	0.95	-	11.65	0.01	0.99	174.75	0.53	2.89	105.96	1.00	-	6.49	0.01	-	0.32	0.00	-	3.78	0.04	-	116.55	1.05	-
3rd Party	74%	97%	-	-	-	100%	89%	94%	84%	100%	100%	-	-	-	-	-	-	-	-	-	-	91%	95%	-
Equipment Failure	2%	1%	-	96%	76%	-	8%	2%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Operation	2%	1%	-	4%	24%	-	3%	4%	16%	-	-	-	100%	100%	-	100%	100%	-	100%	100%	-	9%	5%	-
Other	22%	2%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vegetation/Animal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Weather/Fire/Earthquake	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Reliability Histories for Individual Circuits Serving Orange District 4

	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
TWISTER(12KV) - Customers: 1,739	158.77	3.16	1.95	43.69	1.04	-	222.42	2.01	-	-	-	-	3.18	0.03	1.00	15.09	0.10	-	0.50	0.00	1.01	18.77	0.13	2.00
3rd Party	28%	32%	-	-	-	-	70%	50%	-	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	50%
Equipment Failure	1%	0%	-	68%	4%	-	30%	50%	-	-	-	-	-	-	-	100%	100%	-	100%	100%	-	83%	79%	-
Operation	-	-	-	-	-	-	0%	0%	-	-	-	-	100%	100%	-	-	-	-	-	-	-	17%	21%	-
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	50%
Vegetation/Animal	70%	68%	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Weather/Fire/Earthquake	-	-	-	32%	96%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VAN BUREN(12KV) - Customers: 1,453	25.98	0.18	1.00	76.08	0.78	0.46	153.21	0.59	2.68	55.14	0.98	-	-	-	-	0.52	0.01	-	-	-	1.02	55.66	0.99	1.02
3rd Party	-	-	-	50%	69%	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Equipment Failure	-	-	-	4%	4%	-	38%	12%	3%	100%	100%	-	-	-	-	-	-	-	-	-	100%	99%	99%	100%
Operation	-	-	-	-	-	-	13%	8%	-	-	-	-	-	-	-	64%	89%	-	-	-	-	1%	1%	-
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36%	11%	-	-	-	-	0%	0%	-
Vegetation/Animal	100%	100%	100%	46%	27%	-	49%	81%	97%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Weather/Fire/Earthquake	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VERA CRUZ(12KV) - Customers: 1,363	18.22	0.33	-	147.72	2.02	0.98	12.41	0.23	0.11	-	-	0.11	-	-	-	17.51	0.24	0.79	25.65	0.33	2.07	43.16	0.58	2.97
3rd Party	41%	3%	-	1%	0%	1%	72%	49%	100%	-	-	-	-	-	-	-	-	-	-	-	5%	-	-	4%
Equipment Failure	27%	96%	-	40%	2%	-	-	-	-	-	-	-	-	-	-	100%	100%	100%	-	-	-	41%	42%	27%
Operation	-	-	-	0%	1%	-	14%	47%	-	-	-	-	-	-	-	-	-	-	15%	3%	-	9%	2%	-
Other	-	-	-	57%	96%	99%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vegetation/Animal	-	-	-	-	-	-	14%	4%	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	4%
Weather/Fire/Earthquake	32%	1%	-	2%	0%	-	-	-	-	-	-	-	-	-	-	-	-	-	85%	97%	95%	50%	56%	66%
WHIPSTOCK(12KV) - Customers: 908	182.30	1.48	2.00	416.85	2.74	2.33	270.99	1.29	1.29	-	-	1.00	15.99	0.26	-	92.05	2.00	0.88	270.45	1.34	-	378.50	3.60	1.88
3rd Party	4%	18%	-	14%	5%	-	-	-	-	-	-	100%	-	-	-	21%	44%	100%	-	-	-	5%	25%	100%
Equipment Failure	88%	72%	-	24%	37%	-	92%	77%	77%	-	-	-	-	-	-	65%	6%	-	92%	97%	-	82%	39%	-
Operation	9%	10%	-	15%	9%	0%	-	-	-	-	-	-	-	-	-	-	-	-	8%	3%	-	5%	1%	-
Other	-	-	50%	23%	37%	-	-	-	-	-	-	-	100%	100%	-	-	-	-	-	-	-	4%	7%	-
Vegetation/Animal	-	-	50%	-	-	43%	8%	23%	23%	-	-	-	-	-	-	14%	50%	-	-	-	-	3%	28%	-
Weather/Fire/Earthquake	-	-	-	23%	13%	57%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Reliability Histories for Individual Circuits Serving Orange District 4

	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
YUCATAN(12KV) - Customers: 938	-	-	-	144.08	1.13		-	-	-	-	-	-	-	-	-	62.79	0.08		-	-	-	62.79	0.08	-
3rd Party	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Equipment Failure	-	-	-	56%	9%		-	-	-	-	-	-	-	-	-	100%	100%		-	-	-	100%	100%	-
Operation	-	-	-	2%	4%		-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-
Other	-	-	-	42%	87%		-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-
Vegetation/Animal	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-
Weather/Fire/Earthquake	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-