



Circuit Reliability Review

Upland

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 Ontario District

Anaheim

Chino

Chino Hills

Corona

Eastvale

El Cerrito

Home Gardens

Mira Loma

Montclair

Norco

Ontario

Pedley

Riverside

San Antonio Heights

Upland

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.

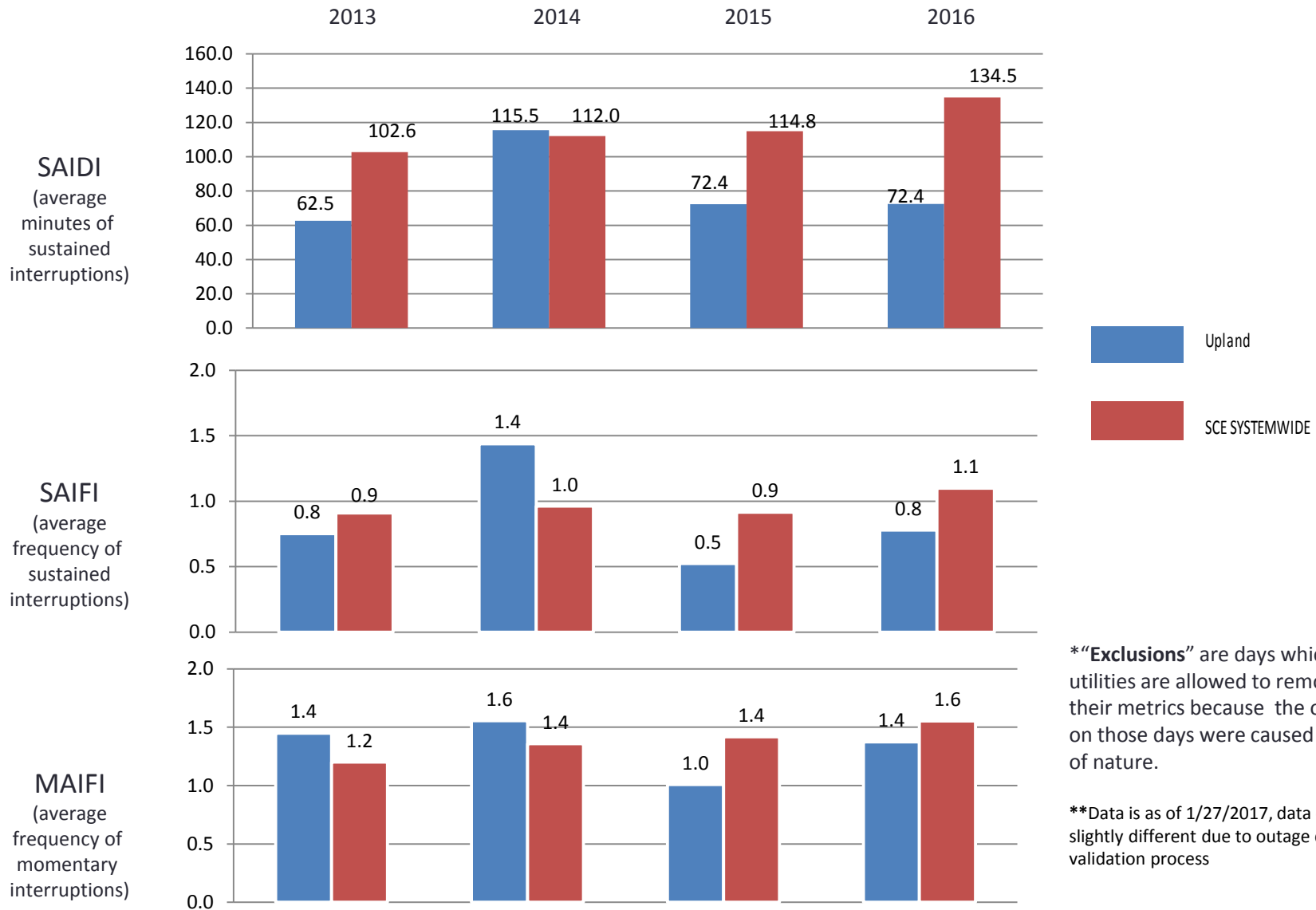
**In the columns showing "Rank," lower numbers indicate poorer performance.

Overview of Upland

There are 37 circuits that serve Upland

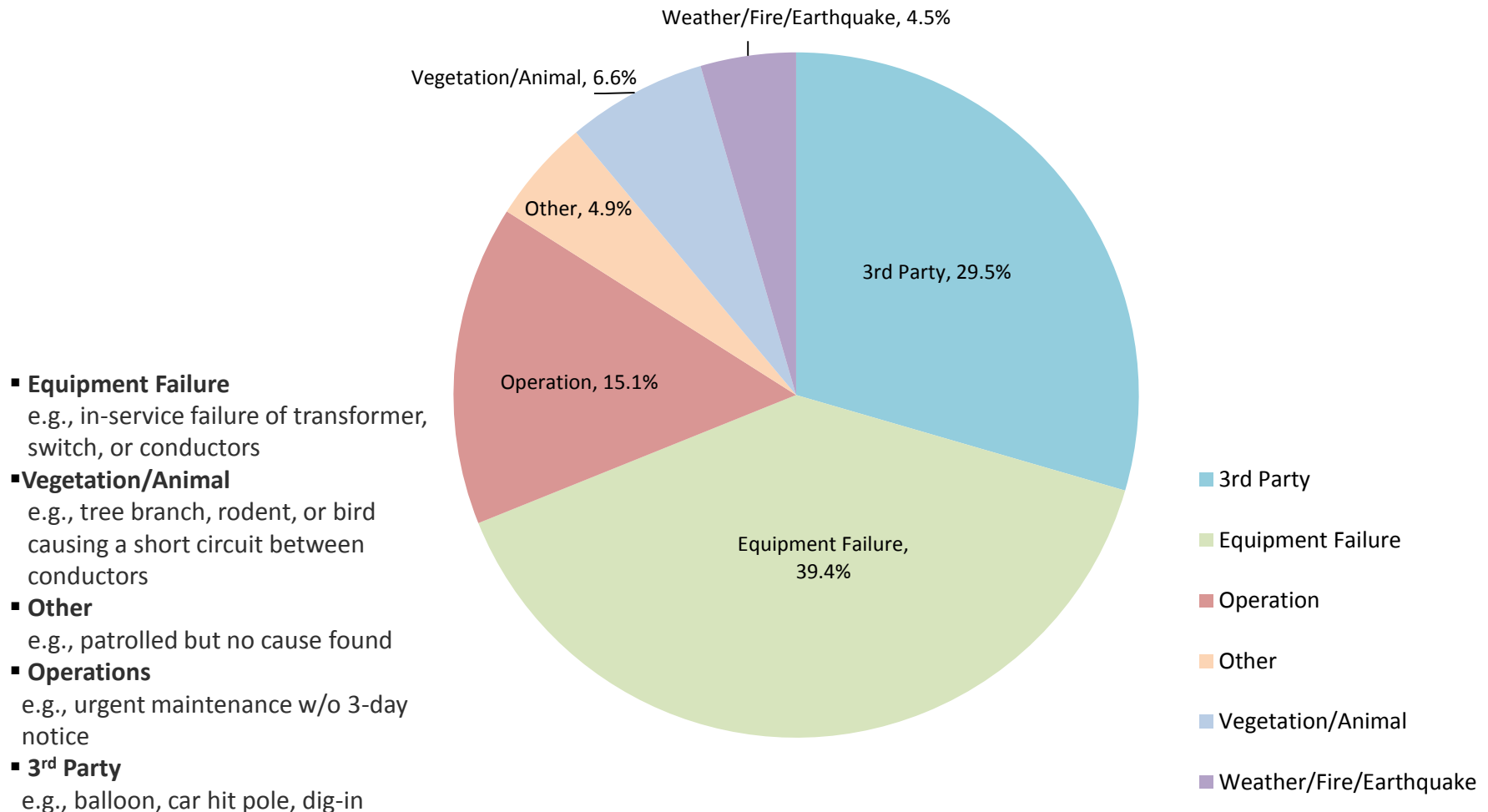
Circuit Type	Sum of Customers	Circuit Type	Sum of Customers	Circuit Type	Sum of Customers	Circuit Type	Sum of Customers
ANDRIA(12KV)	1,750	SANDERS(4.16KV)	559				
BALDY(4.16KV)	713	SANTORINI(12KV)	1,371				
BARILLA(12KV)	1,622	SAPPHIRE(12KV)	1,250				
BASELINE(12KV)	1,621	SUNSWEET(12KV)	2,316				
BIANCO(12KV)	1,639	TULLY(12KV)	1,057				
BIG CONE(12KV)	1,440	VERDI(12KV)	1,666				
BRUNO(12KV)	1,605	WILLIS(12KV)	1,867				
CABLE(12KV)	2,030						
CAGLI(12KV)	1,383						
CALVO(12KV)	1,670						
CAMPUS(12KV)	1,652						
CHAFFEY(12KV)	787						
COLBURN(4.16KV)	561						
COLLEGE PARK(4.16KV)	356						
CUBIC(12KV)	2,028						
FANO(12KV)	1,308						
FERRARA(12KV)	1,787						
GAYLORD(12KV)	2,115						
GUASTI(12KV)	2,471						
HAWKINS(12KV)	1,386						
HOTPOINT(12KV)	137						
KLUSMAN(4.16KV)	770						
MARCONI(12KV)	2,916						
MEAGAN(12KV)	1,886						
METRO(12KV)	2,522						
PARINA(12KV)	1,297						
PEBBLE(12KV)	2,190						
PITZER(12KV)	1,455						
PREGO(12KV)	1,305						
ROSSI(12KV)	1,233						
Grand Total	55,721						

Reliability History of Circuits Serving Upland (No Exclusions)



Causes of Repair Outages in Upland Circuits 2016 YTD

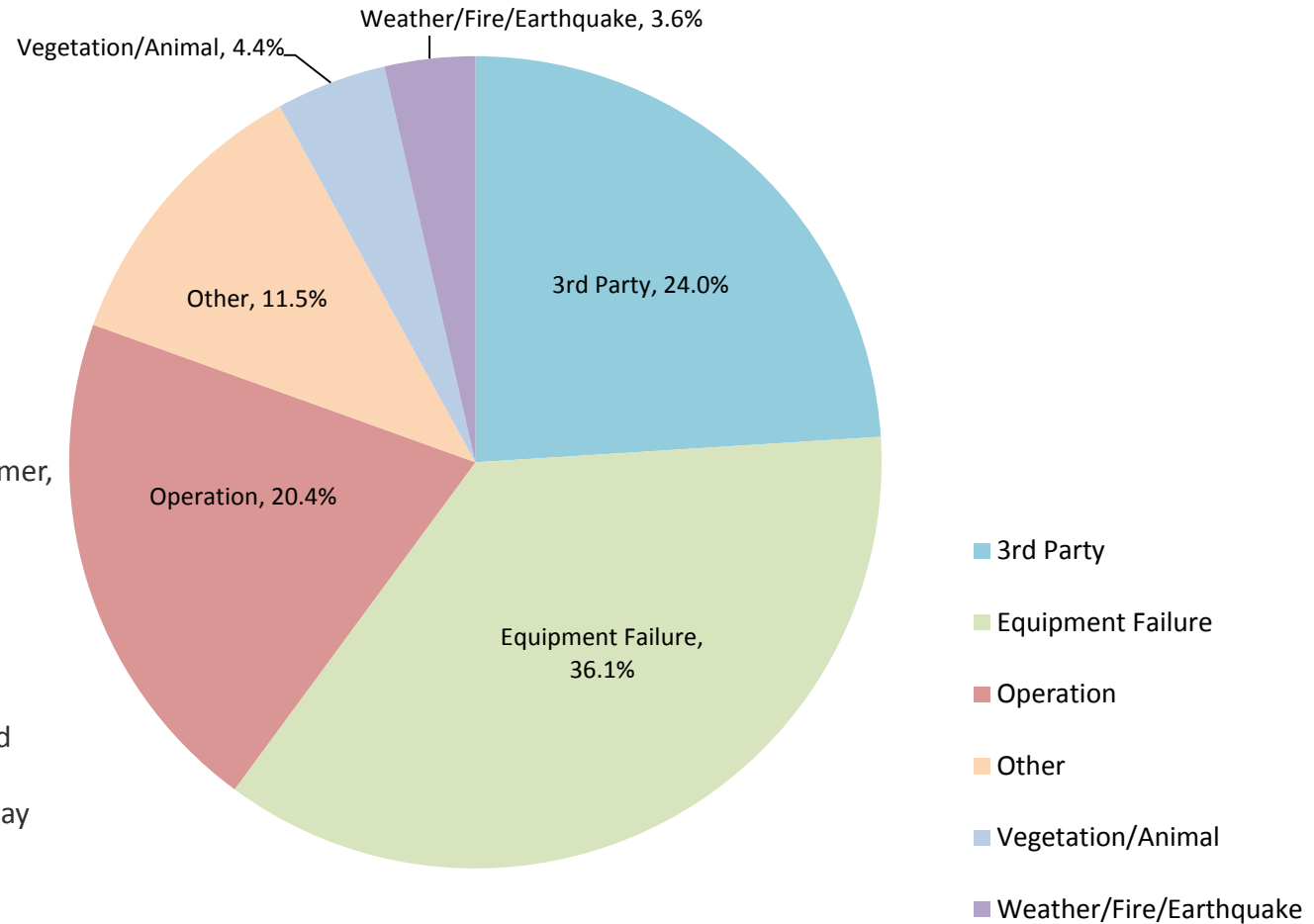
Contributions to SAIDI by Outage Cause



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

Causes of Repair Outages in Upland Circuits 2016 YTD

Contributions to SAIFI 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

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





Back-up Slides

Reliability Histories of Circuits Serving Upland

Updated through Year-End 2016

Average Reliability of 37 Circuits Serving Upland

	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
Upland	62.5	0.8	1.4	115.5	1.4	1.6	72.4	0.5	1.0	15.5	0.2	0.1	11.5	0.2	0.3	26.1	0.2	0.2	19.3	0.3	0.7	72.4	0.8	1.4
3rd Party	26%	14%	19%	32%	12%	11%	6%	5%	24%	71%	66%	58%	0%	0%	11%	33%	20%	33%	9%	14%	11%	29%	24%	17%
Equipment Failure	49%	56%	18%	41%	35%	17%	35%	44%	18%	5%	2%	0%	71%	55%	46%	47%	74%	42%	37%	21%	22%	39%	36%	30%
Operation	10%	6%	14%	6%	12%	24%	24%	19%	3%	22%	32%	0%	12%	23%	8%	11%	3%	0%	17%	23%	11%	15%	20%	8%
Other	3%	2%	15%	4%	23%	20%	6%	7%	32%	0%	0%	0%	4%	7%	12%	2%	1%	10%	14%	30%	27%	5%	12%	19%
Vegetation/Animal	9%	16%	29%	6%	11%	19%	26%	23%	20%	1%	0%	42%	13%	16%	23%	8%	2%	15%	6%	1%	16%	7%	4%	19%
Weather/Fire/Earthquake	3%	6%	6%	10%	7%	8%	2%	2%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	17%	11%	13%	5%	4%	7%
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 Upland

	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
ANDRIA(12KV) - Customers: 1,750	16.6	0.0	1.0	77.3	1.5	1.5	35.0	0.6	2.0	0.0	0.0	0.0	0.0	0.0	0.0	19.6	0.0	0.0	0.0	0.0	0.0	19.6	0.0	0.0
3rd Party	20%	41%	0%	4%	2%	0%	100%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Equipment Failure	0%	0%	0%	85%	67%	34%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%	0%	0%	0%	0%	100%	100%	0%
Operation	80%	59%	0%	6%	28%	66%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	2%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Vegetation/Animal	0%	0%	100%	4%	2%	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%
BALDY(4.16KV) - Customers: 713	10.1	0.1	1.0	42.8	1.0	2.0	0.0	0.0	0.0	138.7	1.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	138.7	1.0	0.8
3rd Party	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%	100%
Equipment Failure	97%	35%	0%	94%	99%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operation	3%	65%	2%	6%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Other	0%	0%	98%	0%	0%	50%	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%
BARILLA(12KV) - Customers: 1,622	43.4	0.5	0.8	85.4	2.2	2.0	22.3	0.1	0.0	50.1	1.1	0.0	11.2	0.0	0.0	16.2	0.0	0.0	0.0	0.0	0.0	77.5	1.1	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	95%	91%	100%	92%	54%	0%	69%	84%	0%	38%	2%	0%	100%	100%	0%	100%	100%	0%	0%	0%	0%	60%	10%	0%
Operation	1%	6%	0%	0%	0%	50%	0%	0%	0%	62%	98%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	40%	90%	0%
Other	0%	0%	0%	8%	46%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Vegetation/Animal	4%	3%	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%	31%	16%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BASLINE(12KV) - Customers: 1,621	149.1	0.8	2.5	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	16.3	0.4	0.0	0.3	0.0	0.0	18.0	0.2	0.7	34.6	0.6	0.7
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%	60%	100%	100%	0%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%	100%	52%	27%	100%
Operation	0%	0%	40%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%	0%	0%	0%	0%	1%	0%	0%
Other	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%	0%	0%	0%	0%	0%	0%	0%	47%	73%	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 Upland

	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
BIANCO(12KV) - Customers: 1,639	130.0	3.2	5.9	25.1	1.0	1.0	54.8	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	1%	0%	17%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Equipment Failure	46%	50%	24%	69%	2%	0%	64%	69%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operation	7%	1%	10%	3%	1%	100%	36%	31%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	28%	98%	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	46%	49%	49%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BIG CONE(12KV) - Customers: 1,440	12.0	0.0	0.0	23.4	0.0	3.0	57.1	1.1	1.0	0.0	0.0	0.0	51.8	1.0	1.0	0.3	0.0	0.0	0.0	0.0	0.0	52.1	1.0	1.0
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	83%	44%	0%	97%	56%	0%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operation	4%	18%	0%	3%	44%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	100%	100%	0%	0%	0%	0%	1%	1%	0%
Other	0%	0%	0%	0%	0%	33%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Vegetation/Animal	13%	39%	0%	0%	0%	66%	0%	0%	0%	0%	0%	0%	100%	100%	100%	0%	0%	0%	0%	0%	0%	99%	99%	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%
BRUNO(12KV) - Customers: 1,605	3.1	0.0	1.0	21.4	1.2	0.8	15.1	0.0	1.0	0.0	0.0	0.0	61.9	0.3	0.0	0.0	0.0	0.0	0.0	0.0	2.0	61.9	0.3	2.0
3rd Party	3%	4%	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%	31%	2%	0%	37%	13%	100%	0%	0%	0%	99%	97%	0%	0%	0%	0%	0%	0%	0%	99%	97%	0%
Operation	4%	2%	0%	36%	14%	100%	1%	13%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Other	20%	15%	100%	32%	84%	0%	9%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	50%	0%	0%	50%	0%
Vegetation/Animal	74%	80%	0%	0%	0%	0%	19%	25%	0%	0%	0%	0%	1%	3%	0%	0%	0%	0%	0%	50%	1%	3%	50%	0%
Weather/Fire/Earthquake	0%	0%	0%	0%	0%	0%	33%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CABLE(12KV) - Customers: 2,030	133.8	1.1	2.0	130.6	1.1	0.0	173.7	2.1	1.0	2.3	0.0	0.0	0.0	0.0	0.0	139.1	1.0	1.6	2.0	0.0	0.0	143.4	1.1	1.6
3rd Party	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Equipment Failure	69%	91%	0%	100%	100%	0%	98%	96%	0%	0%	0%	0%	0%	0%	0%	59%	96%	100%	0%	0%	0%	57%	94%	100%
Operation	31%	9%	50%	0%	0%	0%	1%	2%	0%	100%	100%	0%	0%	0%	0%	41%	4%	0%	0%	0%	0%	41%	5%	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	0%	0%	0%	0%	0%	0%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%	0%	1%	2%	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 Upland

	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
CAGLI(12KV) - Customers: 1,383	5.8	0.1	0.0	43.9	2.0	1.0	11.3	0.1	2.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	127.6	0.3	1.9	129.0	0.3	1.9
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%	81%	51%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%	100%	99%	99%	100%
Operation	0%	0%	0%	3%	0%	100%	35%	21%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Other	100%	100%	0%	16%	49%	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%	65%	79%	100%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	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%
CALVO(12KV) - Customers: 1,670	42.4	1.7	2.9	51.6	1.1	2.0	136.2	1.0	0.0	0.0	0.0	39.6	0.1	0.0	18.6	0.0	0.0	0.0	0.0	0.0	0.0	58.2	0.1	0.0
3rd Party	43%	59%	33%	0%	0%	0%	6%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Equipment Failure	0%	0%	0%	3%	1%	0%	3%	0%	0%	0%	0%	0%	98%	80%	0%	100%	100%	0%	0%	0%	0%	99%	87%	0%
Operation	0%	0%	0%	3%	4%	50%	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%	91%	98%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Vegetation/Animal	57%	41%	67%	3%	0%	50%	0%	0%	0%	0%	0%	0%	2%	20%	0%	0%	0%	0%	0%	0%	0%	1%	13%	0%
Weather/Fire/Earthquake	0%	0%	0%	91%	95%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
CAMPUS(12KV) - Customers: 1,652	17.7	0.1	0.0	440.4	1.0	0.0	4.9	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	8.1	0.1	0.0	3.7	0.0	1.0	11.7	0.1	1.0
3rd Party	0%	0%	0%	98%	96%	100%	100%	100%	0%	0%	0%	0%	0%	0%	0%	99%	97%	0%	0%	0%	0%	68%	89%	0%
Equipment Failure	3%	2%	0%	2%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%	0%	31%	8%	0%
Operation	97%	98%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	3%	0%	0%	0%	0%	1%	3%	0%
Other	0%	0%	0%	0%	0%	0%	0%	0%	50%	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%	50%	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%
CHAFEEY(12KV) - Customers: 787	0.0	0.0	0.0	0.0	0.0	0.0	12.3	0.9	0.0	27.7	0.2	0.8	0.0	0.0	0.8	0.0	0.0	0.0	67.8	1.0	1.0	95.5	1.2	2.6
3rd Party	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	29%	18%	30%
Equipment Failure	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%	100%	71%	82%	39%
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	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	30%
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 Upland

	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
COLBURN(4.16KV) - Customers: 561	201.8	1.4	1.0	25.7	1.0	4.9	19.3	0.1	0.9	27.7	0.1	0.0	2.5	0.2	0.0	107.1	1.6	1.1	0.0	0.0	0.0	137.3	1.9	1.1
3rd Party	0%	0%	0%	0%	0%	0%	60%	28%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Equipment Failure	5%	3%	0%	35%	2%	20%	23%	14%	0%	0%	0%	0%	0%	0%	100%	100%	100%	0%	0%	0%	78%	83%	100%	
Operation	7%	24%	0%	65%	98%	0%	17%	58%	0%	100%	100%	0%	100%	100%	0%	0%	0%	0%	0%	0%	22%	17%	0%	
Other	88%	73%	100%	0%	0%	80%	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%	
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%	
COLLEGE PARK(4.16KV) - Customers: 356	0.0	0.0	2.0	472.1	3.1	2.7	91.9	1.2	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.3	0.0	0.8	
3rd Party	0%	0%	0%	81%	32%	36%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	
Equipment Failure	0%	0%	0%	18%	66%	36%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Operation	0%	0%	51%	0%	1%	27%	100%	100%	100%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%	0%	
Other	0%	0%	49%	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%	
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%	
CUBIC(12KV) - Customers: 2,028	31.7	1.0	2.5	266.7	2.3	0.0	12.2	0.2	2.0	0.0	0.0	0.0	15.6	0.3	1.0	5.6	0.0	0.0	50.4	1.0	2.0	71.5	1.3	3.0
3rd Party	0%	0%	41%	92%	77%	0%	0%	0%	50%	0%	0%	0%	0%	0%	100%	0%	0%	0%	100%	100%	100%	70%	78%	100%
Equipment Failure	99%	100%	59%	1%	0%	0%	89%	98%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Operation	1%	0%	0%	7%	23%	0%	11%	2%	0%	0%	0%	0%	100%	100%	0%	100%	100%	0%	0%	0%	0%	30%	22%	0%
Other	0%	0%	0%	0%	0%	0%	0%	0%	50%	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%	
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%	
FANO(12KV) - Customers: 1,308	93.2	0.2	2.0	465.9	3.7	3.3	527.4	1.4	0.8	90.7	1.0	0.0	0.4	0.0	0.0	17.5	0.1	0.0	10.2	0.0	1.0	118.7	1.2	1.0
3rd Party	0%	0%	0%	17%	17%	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Equipment Failure	18%	17%	50%	5%	1%	0%	0%	0%	0%	3%	3%	0%	100%	100%	0%	0%	0%	0%	41%	16%	0%	6%	3%	0%
Operation	77%	67%	0%	7%	27%	17%	80%	60%	0%	97%	97%	0%	0%	0%	0%	0%	0%	0%	1%	16%	0%	74%	87%	0%
Other	0%	0%	0%	13%	27%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%	0%	57%	68%	100%	20%	9%	100%
Vegetation/Animal	5%	16%	50%	1%	1%	0%	8%	8%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Weather/Fire/Earthquake	0%	0%	0%	57%	27%	53%	12%	32%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	

Reliability Histories for Individual Circuits Serving Upland

	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
FERRARA(12KV) - Customers: 1,787	133.9	0.2	1.0	319.5	2.7	1.9	120.7	0.3	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.1	104.9	0.1	2.0	105.3	0.1	2.2
3rd Party	0%	0%	0%	23%	4%	53%	64%	45%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Equipment Failure	42%	54%	0%	35%	42%	0%	32%	30%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operation	0%	0%	0%	13%	16%	37%	4%	26%	0%	0%	0%	0%	0%	0%	100%	100%	0%	62%	76%	0%	62%	76%	0%	0%
Other	0%	0%	11%	0%	0%	10%	0%	0%	0%	0%	0%	0%	100%	100%	0%	0%	0%	100%	0%	0%	53%	0%	0%	56%
Vegetation/Animal	58%	46%	89%	29%	38%	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%	38%	24%	47%	38%	24%	44%
GAYLORD(12KV) - Customers: 2,115	52.6	1.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.2	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.2	1.4	0.0
3rd Party	0%	0%	80%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Equipment Failure	64%	97%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	93%	73%	0%	0%	0%	0%	0%	0%	0%	93%	73%	0%
Operation	36%	3%	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%	27%	0%	0%	0%	0%	0%	0%	0%	7%	27%	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%
GUASTI(12KV) - Customers: 2,471	1.0	0.0	0.0	5.7	0.0	3.0	1.8	0.0	0.0	167.8	1.0	0.0	3.1	0.0	0.0	0.0	0.0	0.0	28.8	0.6	1.0	199.8	1.6	1.0
3rd Party	0%	0%	0%	0%	0%	67%	96%	97%	0%	98%	96%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	82%	62%	0%
Equipment Failure	0%	0%	0%	42%	11%	0%	4%	3%	0%	2%	4%	0%	100%	100%	0%	0%	0%	0%	85%	97%	100%	15%	37%	100%
Operation	100%	100%	0%	58%	89%	33%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	9%	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%	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%	6%	0%	0%	1%	0%	0%
HAWKINS(12KV) - Customers: 1,386	22.3	1.0	0.0	212.1	3.9	2.0	25.8	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	0.1	0.0	8.0	0.1	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	65%	2%	0%	96%	74%	50%	25%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%	0%	100%	100%	0%
Operation	35%	98%	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%	75%	90%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Vegetation/Animal	0%	0%	0%	4%	26%	50%	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 Upland

	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
HOTPOINT(12KV) - Customers: 137	0.0	0.0	0.0	34.2	0.1	0.9	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%	100%	100%	100%	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%
KLUSMAN(4.16KV) - Customers: 770	6.2	0.2	2.0	461.3	4.1	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0
3rd Party	0%	0%	0%	37%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Equipment Failure	0%	0%	50%	42%	25%	33%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operation	100%	100%	0%	5%	26%	1%	0%	0%	0%	0%	0%	0%	0%	0%	40%	0%	0%	0%	0%	0%	0%	0%	0%	40%
Other	0%	0%	50%	16%	25%	66%	0%	0%	0%	0%	0%	0%	0%	0%	60%	0%	0%	0%	0%	0%	0%	0%	0%	60%
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%
MARCONI(12KV) - Customers: 2,916	299.8	0.9	0.0	76.7	1.1	1.0	14.6	0.0	2.0	0.0	0.0	0.0	26.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	1.0	26.0	0.0	4.0
3rd Party	99%	98%	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%	86%	60%	100%	70%	24%	0%	0%	0%	0%	100%	100%	100%	0%	0%	0%	0%	0%	0%	100%	100%	75%
Operation	1%	2%	0%	7%	9%	0%	30%	76%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	7%	31%	0%	0%	0%	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%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	25%
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%
MEAGAN(12KV) - Customers: 1,886	39.0	1.1	7.0	200.8	4.5	6.1	67.6	1.0	1.3	4.4	0.0	0.9	2.2	0.0	0.0	162.6	1.2	1.1	13.3	1.1	0.5	182.5	2.3	2.5
3rd Party	38%	92%	14%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Equipment Failure	30%	5%	0%	62%	44%	0%	97%	99%	25%	0%	0%	0%	100%	100%	0%	67%	93%	0%	0%	0%	0%	61%	50%	0%
Operation	0%	0%	0%	0%	0%	0%	3%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%	0%	7%	46%	0%
Other	0%	0%	29%	10%	33%	35%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	67%	0%	0%	12%
Vegetation/Animal	32%	2%	57%	27%	22%	65%	0%	0%	75%	100%	100%	100%	0%	0%	0%	33%	7%	100%	0%	0%	33%	32%	4%	88%
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 Upland

	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
METRO(12KV) - Customers: 2,522	0.0	0.0	0.0	0.4	0.0	0.0	47.5	0.3	0.0	1.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.4	0.0	1.0
3rd Party	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	100%
Equipment Failure	0%	0%	0%	0%	0%	0%	56%	14%	0%	100%	100%	0%	74%	17%	0%	0%	0%	0%	0%	0%	0%	92%	50%	0%
Operation	0%	0%	0%	100%	100%	0%	44%	86%	0%	0%	0%	0%	26%	83%	0%	0%	0%	0%	0%	0%	0%	8%	50%	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%
PARINA(12KV) - Customers: 1,297	4.6	0.1	0.0	205.5	1.1	2.9	13.8	0.1	1.0	0.0	0.0	0.0	2.0	0.0	0.0	12.6	0.0	0.0	4.1	0.0	0.0	18.7	0.1	0.0
3rd Party	0%	0%	0%	84%	86%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Equipment Failure	0%	0%	0%	3%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operation	19%	49%	0%	5%	5%	34%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	33%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Vegetation/Animal	81%	51%	0%	9%	6%	33%	100%	100%	0%	0%	0%	0%	100%	100%	0%	100%	100%	0%	100%	100%	0%	100%	100%	0%
Weather/Fire/Earthquake	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PEBBLE(12KV) - Customers: 2,190	0.0	0.0	1.0	51.9	1.7	0.4	19.1	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	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%	33%	3%	0%	75%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operation	0%	0%	0%	53%	38%	100%	25%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	13%	59%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Vegetation/Animal	0%	0%	100%	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%
PITZER(12KV) - Customers: 1,455	34.8	1.1	3.0	109.8	0.4	0.0	26.9	0.3	1.0	59.8	2.1	0.0	1.8	0.0	0.0	0.0	0.0	0.0	45.6	1.0	1.0	107.1	3.1	1.0
3rd Party	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	56%	67%	0%
Equipment Failure	0%	0%	0%	91%	90%	0%	33%	9%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operation	5%	1%	33%	0%	0%	0%	67%	91%	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%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Vegetation/Animal	95%	99%	67%	2%	7%	0%	0%	0%	0%	0%	0%	0%	100%	100%	0%	0%	0%	0%	0%	0%	0%	2%	1%	0%
Weather/Fire/Earthquake	0%	0%	0%	7%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%	100%	43%	32%	100%

Reliability Histories for Individual Circuits Serving Upland

	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
PREGO(12KV) - Customers: 1,305	0.0	0.0	0.0	180.7	2.1	1.1	0.0	0.0	2.0	0.0	0.0	0.0	3.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	3.3	0.0	0.0
3rd Party	0%	0%	0%	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%	90%	48%	1%	0%	0%	0%	0%	0%	0%	100%	100%	0%	0%	0%	0%	0%	0%	0%	91%	83%	0%
Operation	0%	0%	0%	7%	4%	99%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%	0%	0%	0%	0%	9%	17%	0%
Other	0%	0%	0%	4%	47%	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%
ROSSI(12KV) - Customers: 1,233	59.6	1.7	2.8	68.9	3.4	3.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.3	0.0	0.0	3.3	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	72%	40%	29%	4%	0%	0%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%	0%	100%	100%	0%
Operation	3%	1%	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%	36%	10%	30%	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Vegetation/Animal	25%	59%	35%	86%	70%	70%	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%
SANDERS(4.16KV) - Customers: 559	1.2	0.1	1.0	0.0	0.0	1.0	60.4	0.7	0.2	0.0	0.0	1.7	0.0	0.0	0.0	10.5	0.0	0.0	0.0	0.0	0.0	10.5	0.0	1.7
3rd Party	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Equipment Failure	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%	0%	0%	0%	0%	100%	100%	0%
Operation	100%	100%	0%	0%	0%	0%	81%	83%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Other	0%	0%	100%	0%	0%	0%	19%	17%	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%
SANTORINI(12KV) - Customers: 1,371	0.0	0.0	0.0	53.9	1.6	0.5	36.1	0.6	0.0	0.0	0.0	0.0	13.7	0.1	0.0	0.0	0.0	0.0	3.1	0.0	0.0	16.8	0.1	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%	52%	4%	0%	71%	5%	0%	0%	0%	0%	96%	67%	0%	0%	0%	0%	100%	100%	0%	97%	68%	0%
Operation	0%	0%	0%	35%	34%	96%	25%	93%	0%	0%	0%	0%	4%	33%	0%	0%	0%	0%	0%	0%	0%	3%	32%	0%
Other	0%	0%	0%	13%	62%	4%	4%	2%	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%	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 Upland

	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
SAPPHIRE(12KV) - Customers: 1,250	173.0	2.1	0.4	24.6	0.6	1.0	42.8	1.1	2.4	0.0	0.0	0.0	68.2	2.6	0.0	43.9	0.1	0.0	34.6	0.1	1.5	146.8	2.7	1.5
3rd Party	0%	0%	0%	0%	0%	0%	0%	0%	41%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Equipment Failure	100%	100%	100%	0%	0%	0%	43%	5%	0%	0%	0%	0%	62%	78%	0%	89%	90%	0%	88%	88%	100%	76%	78%	100%
Operation	0%	0%	0%	5%	1%	0%	5%	4%	0%	0%	0%	0%	38%	22%	0%	11%	10%	0%	0%	0%	0%	21%	21%	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%	52%	91%	59%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Weather/Fire/Earthquake	0%	0%	0%	95%	99%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	12%	13%	0%	3%	0%	0%
SUNSWEET(12KV) - Customers: 2,316	50.3	2.6	1.0	56.7	1.3	3.0	125.6	1.2	3.9	0.0	0.0	0.0	0.0	0.0	1.0	9.5	0.0	0.0	109.3	2.4	3.1	118.8	2.5	4.1
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%	0%	100%	100%	67%	100%	100%	49%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	3%	0%	0%
Operation	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%	0%	3%	20%	65%	11%	22%	49%
Other	0%	0%	0%	0%	0%	33%	0%	0%	51%	0%	0%	0%	0%	0%	0%	0%	0%	0%	58%	77%	4%	53%	76%	3%
Vegetation/Animal	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	22%	2%	0%	20%	2%	24%
Weather/Fire/Earthquake	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	13%	1%	32%	12%	1%	24%
TULLY(12KV) - Customers: 1,057	321.1	0.9	0.3	61.9	1.7	2.3	57.0	0.7	5.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	2.0	0.0	0.0	3.0
3rd Party	0%	0%	0%	63%	57%	44%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Equipment Failure	98%	94%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operation	1%	5%	0%	33%	41%	13%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Other	0%	0%	0%	0%	0%	44%	0%	0%	95%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	100%
Vegetation/Animal	1%	1%	0%	3%	2%	0%	100%	100%	5%	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%
VERDI(12KV) - Customers: 1,666	12.8	0.0	0.0	232.3	2.1	4.0	608.1	3.5	1.7	0.0	0.0	0.0	0.0	0.0	0.0	20.5	0.0	0.0	0.0	0.0	2.0	20.5	0.0	2.0
3rd Party	0%	0%	0%	0%	0%	0%	0%	0%	59%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Equipment Failure	92%	39%	0%	54%	49%	25%	18%	28%	41%	0%	0%	0%	0%	0%	0%	100%	100%	0%	0%	0%	0%	100%	100%	0%
Operation	1%	31%	0%	0%	0%	25%	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%	50%	0%	0%	50%
Vegetation/Animal	7%	30%	0%	0%	0%	0%	82%	72%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	50%	0%	0%	50%
Weather/Fire/Earthquake	0%	0%	0%	46%	51%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Reliability Histories for Individual Circuits Serving Upland

	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
WILLIS(12KV) - Customers: 1,867	32.1	2.0	2.0	20.1	0.1	0.0	104.9	0.3	0.0	3.5	0.0	0.0	0.0	0.0	0.0	294.8	2.0	2.0	13.1	0.0	0.0	311.4	2.0	2.0
3rd Party	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	84%	50%	51%	0%	0%	0%	79%	49%	51%
Equipment Failure	67%	50%	49%	37%	11%	0%	3%	6%	0%	0%	0%	0%	0%	0%	0%	16%	50%	49%	0%	0%	0%	16%	49%	49%
Operation	5%	0%	0%	63%	89%	0%	83%	75%	0%	100%	100%	0%	0%	0%	0%	0%	0%	0%	100%	100%	0%	5%	2%	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	28%	50%	51%	0%	0%	0%	14%	19%	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%