

# Circuit Reliability Review Morongo Reservation

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 <a href="sce.com">sce.com</a>>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.

#### Reliability by SCE District (No Exclusions)

		20	12			20:	13			20:	14			20:	15		2016				
	District	SAIDI	District	SAIFI																	
District Name	SAIDI	RANKING	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		
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	_	
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		
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		
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		

<sup>\*&</sup>quot;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.

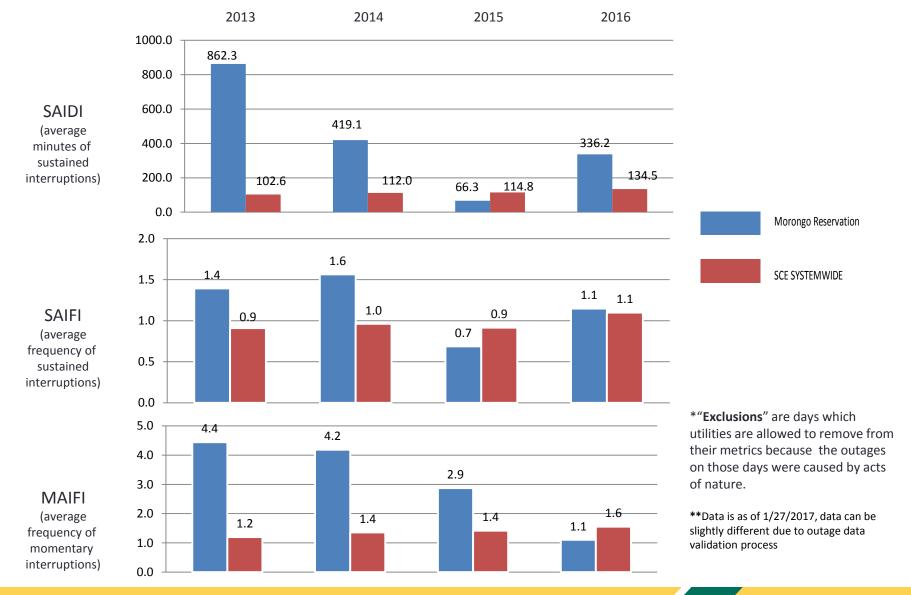
<sup>\*\*</sup>In the columns showing "Rank," lower numbers indicate poorer performance.

# Overview of Morongo Reservation There are 8 circuits that serve Morongo Reservation

Circuit Type	Sum of Customers	Circuit Type	Sum of Customers	Circuit Type	Sum of Customers	Circuit Type	Sum of Customers
DYSART(12KV)	77						
FINGAL(12KV)	808						
POPPET FLATS(12KV)	664						
PURCHASE(12KV)	225						
SADDLEBACK(33KV)	9						
STORES(12KV)	519						
STUBBY(33KV)	6						
TOWNHALL(33KV)	8						

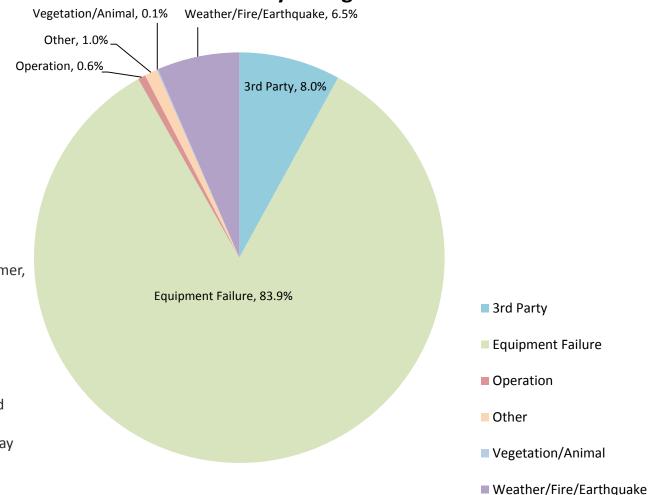
**Grand Total** 2,316

#### Reliability History of Circuits Serving Morongo Reservation (No Exclusions)



# Causes of Repair Outages in Morongo Reservation 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

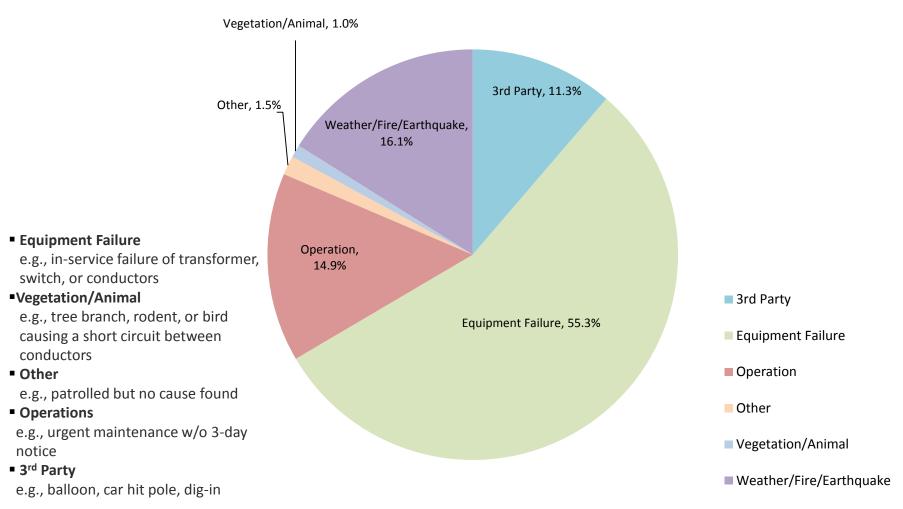
■ 3<sup>rd</sup> Party

e.g., balloon, car hit pole, dig-in

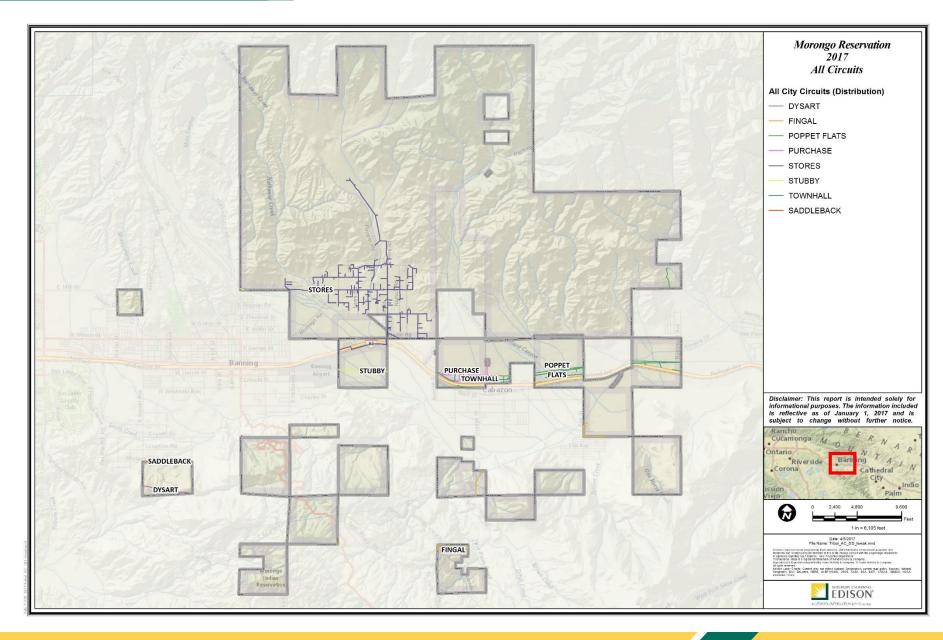
**SAIDI** = the cumulative amount of time the average customer is interrupted by "sustained" outages each year.

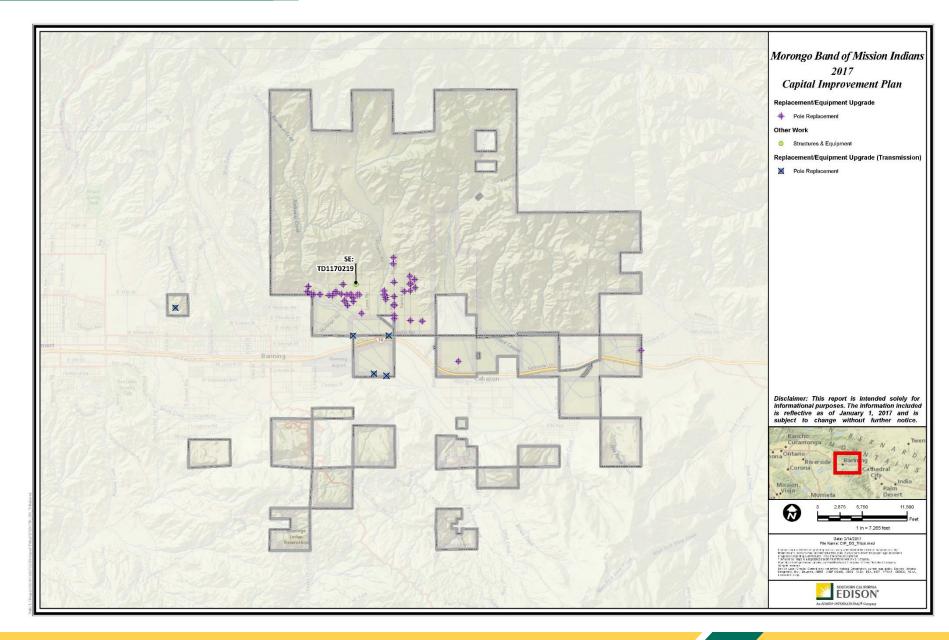
# Causes of Repair Outages in Morongo Reservation Circuits 2016 YTD

**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 Morongo Reservation** 

**Updated through Year-End 2016** 

#### **Average Reliability of 8 Circuits Serving Morongo Reservation**

		2013			2014			2015		1st	Qtr 20	16	2nd Qtr 2016			3rd Qtr 2016			4th	Qtr 20	16	2016		
	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIF
Morongo Reservation	862.3	1.4	4.4	419.1	1.6	4.2	66.3	0.7	2.9	168.4	0.4	0.1	8.7	0.1	1.0	3.7	0.2	0.0	155.6	0.4	0.0	336.2	1.1	1.1
3rd Party	0%	0%	0%	6%	19%	0%	2%	1%	3%	13%	10%	0%	57%	78%	0%	0%	0%	0%	0%	0%	0%	8%	11%	0%
Equipment Failure	10%	13%	1%	4%	7%	0%	37%	30%	0%	87%	89%	66%	35%	8%	0%	33%	3%	0%	85%	54%	0%	84%	55%	5%
Operation	1%	2%	0%	0%	2%	0%	58%	67%	0%	0%	0%	0%	0%	0%	0%	53%	95%	0%	0%	0%	0%	1%	15%	0%
Other	27%	59%	75%	7%	7%	92%	4%	2%	85%	0%	1%	34%	4%	4%	0%	14%	1%	60%	1%	2%	100%	1%	1%	6%
Vegetation/Animal	1%	2%	21%	0%	0%	0%	0%	0%	12%	0%	0%	0%	4%	11%	100%	0%	0%	40%	0%	0%	0%	0%	1%	89%
Weather/Fire/Earthquake	62%	23%	3%	82%	65%	8%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	14%	44%	0%	6%	16%	0%
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 Morongo Reservation**

	2	2013		2	2014		2	015		1st Q	tr 2016	5	2nd (	Qtr 2016	5	3rd	Qtr 201	6	4th (	<mark>(tr 20</mark> 1	16		2016	
	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI N	//AIFI	SAIDI	SAIFI I	MAIFI	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI
DYSART(12KV) - Customers: 77	2021.4	4.0	1.0	178.2	1.7	4.9	208.5	1.0	2.0	1502.1	2.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	1502.1	2.0	2.0
3rd Party	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Equipment Failure	81%	51%	100%	2%	1%	0%	100%	100%	0%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%	0%
Operation	0%	0%	0%	4%	41%	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%	41%	0%	0%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	50%
Vegetation/Animal	11%	25%	0%	0%	0%	0%	0%	0%	50%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	50%
Weather/Fire/Earthquake	8%	25%	0%	95%	58%	59%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
FINGAL(12KV) - Customers: 808	1871.2	1.7	3.8	660.4	1.3	5.1	103.3	0.5	2.2	28.4	0.2	0.1	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	28.5	0.2	1.1
3rd Party	0%	0%	0%	0%	0%	0%	3%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Equipment Failure	0%	0%	0%	4%	4%	0%	0%	0%	0%	100%	100%	0%	0%	0%	0%	0%	0%	0%	100%	100%	0%	100%	100%	0%
Operation	1%	3%	0%	0%	0%	0%	97%	97%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Other	26%	78%	73%	11%	19%	100%	0%	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%
Vegetation/Animal	0%	0%	26%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	95%
Weather/Fire/Earthquake	73%	18%	1%	85%	76%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
POPPET FLATS(12KV) - Customers: 664	416.2	2.1	5.9	284.1	2.2	4.3	66.1	1.6	3.0	86.3	0.2	0.0	11.0	0.0	1.0	9.4	0.6	0.0	0.5	0.0	0.0	107.2	0.8	1.0
3rd Party	1%	0%	0%	32%	46%	0%	0%	0%	0%	87%	90%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	70%	19%	0%
Equipment Failure	17%	13%	0%	0%	0%	0%	87%	37%	0%	13%	10%	0%	88%	67%	0%	37%	3%	0%	100%	100%	0%	23%	8%	0%
Operation	1%	1%	0%	0%	0%	0%	13%	63%	0%	0%	0%	0%	0%	0%	0%	63%	97%	0%	0%	0%	0%	6%	71%	0%
Other	47%	57%	76%	3%	2%	83%	0%	0%	100%	0%	0%	0%	12%	33%	0%	0%	0%	0%	0%	0%	0%	1%	2%	0%
Vegetation/Animal	0%	0%	17%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Weather/Fire/Earthquake	35%	30%	7%	65%	52%	17%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PURCHASE(12KV) - Customers: 225	12.9	0.2	2.5	76.4	1.1	2.8	0.0	0.0	4.0	0.0	0.0	0.0	3.2	0.1	0.9	0.0	0.0	0.0	0.0	0.0	0.0	3.2	0.1	0.9
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	69%	89%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Operation	31%	11%	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%	67%	0%	0%	100%	0%	0%	75%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Vegetation/Animal	0%	0%	33%	0%	0%	0%	0%	0%	25%	0%	0%	0%	100%	100%	100%	0%	0%	0%	0%	0%	0%	100%	100%	100%
Weather/Fire/Earthquake	0%	0%	0%	100%	100%	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 Morongo Reservation**

	2	2013		2	2014		2	015		1st C	tr 2016	5	2nd	Qtr 201	16	3rd Qtr 2016			4th C	Qtr 201	6		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
SADDLEBACK(33KV) - Customers: 9	1122.3	2.6	0.6	0.0	0.0	0.0	84.0	1.1	1.0	882.8	1.0	0.6	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	882.8	1.0	1.6
3rd Party	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Equipment Failure	100%	100%	100%	0%	0%	0%	100%	100%	0%	100%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%	36%
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%	100%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	64%
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%
STORES(12KV) - Customers: 519	10.8	0.0	5.0	399.0	1.3	3.0	14.6	0.1	3.3	352.2	1.0	0.0	23.2	0.4	1.0	2.8	0.0	0.0	681.8	1.8	0.0	1060.0	3.2	1.0
3rd Party	0%	0%	0%	0%	0%	0%	0%	0%	11%	0%	0%	0%	96%	99%	0%	0%	0%	0%	0%	0%	0%	2%	11%	0%
Equipment Failure	21%	25%	0%	6%	30%	0%	10%	4%	0%	100%	100%	0%	4%	1%	0%	37%	29%	0%	87%	55%	0%	89%	63%	0%
Operation	79%	75%	0%	0%	0%	0%	4%	40%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Other	0%	0%	80%	1%	1%	100%	86%	56%	59%	0%	0%	0%	0%	0%	0%	63%	71%	0%	0%	0%	0%	0%	0%	0%
Vegetation/Animal	0%	0%	20%	0%	0%	0%	0%	0%	30%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Weather/Fire/Earthquake	0%	0%	0%	92%	69%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	13%	45%	0%	8%	25%	0%
STUBBY(33KV) - Customers: 6	0.0	0.0	3.0	143.1	0.6	3.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.7	732.7	0.7	0.0	732.7	0.7	1.7
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	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%	67%	0%	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Vegetation/Animal	0%	0%	33%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	100%
Weather/Fire/Earthquake	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%	0%	100%	100%	0%
TOWNHALL(33KV) - Customers: 8	121.5	1.4	0.8	575.4	4.4	5.4	25.9	1.3	8.4	537.9	2.4	15.8	0.0	0.0	1.0	96.2	0.3	0.8	469.2	2.1	1.5	1103.4	4.8	19.0
3rd Party	0%	0%	0%	0%	0%	0%	39%	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	6%	0%	0%	3%	0%
Equipment Failure	80%	45%	0%	95%	74%	21%	0%	0%	4%	56%	58%	89%	0%	0%	0%	0%	0%	0%	0%	0%	0%	27%	29%	74%
Operation	0%	0%	0%	2%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	69%	50%	0%	0%	0%	0%	6%	3%	0%
Other	20%	55%	100%	3%	23%	74%	61%	70%	73%	44%	42%	11%	0%	0%	100%	31%	50%	100%	99%	94%	100%	66%	66%	26%
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%	5%	0%	0%	22%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%