

Annual Electric Reliability Report Calendar Year: 2024

Prepared for:
California Public Utilities Commission
Pursuant to Decision 16-01-008

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EXECUTIVE SUMMARY

The reliability information contained within this document comprises the Southern California Edison (SCE) Annual Electric Reliability Report for calendar year 2024, as required by California Public Utilities Commission (CPUC) Decision 16-01-008.

SCE's 2024 SAIDI and SAIFI reliability performance is higher than the 10-year average, excluding Major Event Days (MEDs). Table 1 summarizes SCE's 2024 performance for unplanned outages, including and excluding MEDs. The table includes the 10-year average performance for unplanned outages, including and excluding MEDs for comparison.

Year	System Indices							
	MED Included				MED Excluded			
	SAIDI	SAIFI	MAIFI	CAIDI	SAIDI	SAIFI	MAIFI	CAIDI
2024	158.30	0.99	1.17	159.96	100.25	0.90	1.12	111.25
10 Year Avg (2015-2024)	149.03	1.04	1.45	143.81	95.62	0.89	1.29	106.90

Table 1: System Indices for 2024 and the 10-year Average (2015-2024)

In 2024, SCE experienced 5 days which resulted in MEDs or a day in which the daily SAIDI exceeded the threshold value (T_{MED}) of 2.07 minutes. Table 2 shows the 5 MEDs, the SAIDI impact, and the identified causes.

Major Event Days for 2024		
Major Event Day	SAIDI	Cause
10/18/2024	4.00	PSPS
11/06/2024	32.37	PSPS
12/09/2024	7.29	PSPS, and De-energized for Public Agency
12/10/2024	9.18	PSPS
12/24/2024	5.21	Lost Source Substation

Table 2: Major Event Days for 2024

SCE continuously seeks opportunities to improve reliability performance, including reducing restoration times by improving processes for operational response, lessening customer impact through real-time outage diagnostics, replacing aging and/or poorly performing infrastructure with new equipment such as covered conductor, and enhancing circuitry via automation and equipment that expedites identification of the faulted location and improves both isolation and restoration.

SCE continues to enhance its approach to improving electric system reliability by expanding its evaluation framework beyond the traditional SAIDI and SAIFI indices and Worst Performing Circuits (WPC) program. In 2025, SCE began evaluating two new customer level reliability indices: customers experiencing multiple interruption (CEMI) and customers experiencing long interruption duration

(CELID). These indices provide a constructive view of reliability impacts at the customer level and serve as a complement to the traditional SAIDI and SAIFI indices. SCE discusses these two indices in more detail in Section 5a.i.

BACKGROUND: Reliability Report History

Decision 16-01-008 became effective January 14, 2016. The purpose of this Decision was to establish policies, procedures, and rules for reliability reporting and mitigation of reliability problems within the service area of the California investor-owned utilities.

The content contained in this report is based on reliability indices and their respective definitions and formulas, as defined in **APPENDIX A: Definitions**. SCE used *IEEE Standard 1366* formulas to calculate reliability indices for SAIDI, SAIFI, MAIFI, and CAIDI.

The Annual Electric Reliability Report contains outage data (planned and unplanned) for distribution customers both including and excluding MEDs. Within this report, SCE explicitly notes whether data (e.g., MEDs) has been excluded.

In 2016, SCE provided planned outage reliability indices for the Annual Reliability Report. 2016 was the first year where the entire year's planned outage information was available. SCE has provided planned outage data up to the calendar year of 2021. For 2022 calendar year reporting, SCE had been unable to provide planned outage data indices due to an ongoing IT system enhancement project and retirement of previous systems that were used for data prior to 2020. In addition, for the 2022 calendar year report, SCE created an interim planned outage indices report that provided conservative estimates for indices for 2020-2022 planned outages. In summary, the annual planned outage indices provided in the 2022 reliability report were as follows:

- 2013-2019: No planned outage indices were included
- 2020-2022: Conservative estimates based on interim reporting were used

The initial system implementation of the IT enhancement project, related to planned outage reporting, was recently completed. For the 2023 calendar year annual report, planned outage indices for 2022-2023 utilize the planned outage indices data from the completed IT enhancement project. The completed project improved how SCE accounts for planned outages. It now employs meter data, enabling a higher degree of accuracy compared to interim or previous reporting methods. In 2024, the algorithm was refined and applied to the planned outage data from 2022 to 2024. The planned outage indices in the 2023 Annual Electric Reliability Report will differ from the 2024 report due to this refinement. In summary, the planned outage indices provided in this 2024 reliability report are as follows:

- 2013-2019: No planned outage indices are included
- 2020-2021: Conservative estimates based on interim reporting were used
- 2022-2024: Planned outage indices use planned outage data from the completed IT enhancement project

SECTION 1: System Indices for the Last 10 Years

SECTION 1a: System Indices

This section contains data for the indices SAIDI, SAIFI, MAIFI, and CAIDI for overall System performance, Distribution performance, and Transmission performance from 2015 to 2024 for unplanned outages. Table 3, Table 4, and Table 5 show the indices for all unplanned outages with MED included and excluded.

Distribution system indices reflect outages that occur on systems operating under 50 kV. Transmission system indices reflect outages that occur on systems operating equal to or greater than 50 kV.

Figure 1, Figure 2, Figure 3, and Figure 4 present separate line graphs of the indices, each with a linear trend line spanning from 2015 to 2024, excluding MEDs.

Year	System Indices							
	MED Included				MED Excluded			
	SAIDI	SAIFI	MAIFI	CAIDI	SAIDI	SAIFI	MAIFI	CAIDI
2015	114.83	0.916	1.417	125.40	100.15	0.859	1.289	116.56
2016	134.48	1.100	1.553	122.26	109.98	0.994	1.403	110.69
2017	139.73	1.192	1.837	117.19	91.72	0.870	1.420	105.40
2018	136.82	0.874	1.434	156.61	71.25	0.716	1.266	99.58
2019	177.97	1.040	1.380	171.17	90.75	0.866	1.228	104.75
2020	201.32	1.057	1.378	190.47	91.40	0.866	1.248	105.51
2021	179.79	1.112	1.569	161.70	103.82	0.960	1.426	108.10
2022	131.13	1.080	1.417	121.45	101.03	0.964	1.232	104.83
2023	115.90	1.036	1.370	111.93	95.86	0.937	1.249	102.31
2024	158.30	0.990	1.166	159.96	100.25	0.901	1.121	111.25

Table 3: System Indices for the Last 10 years for Unplanned Outages

SECTION 1ai: Distribution System Indices

Distribution System Indices								
Year	MED Included				MED Excluded			
	SAIDI	SAIFI	MAIFI	CAIDI	SAIDI	SAIFI	MAIFI	CAIDI
2015	111.87	0.877	1.346	127.54	98.34	0.827	1.236	118.88
2016	129.32	1.049	1.473	123.24	106.29	0.949	1.334	112.03
2017	128.74	0.985	1.564	130.69	89.99	0.843	1.375	106.71
2018	134.87	0.863	1.392	156.34	70.81	0.710	1.232	99.70
2019	170.30	1.006	1.318	169.33	89.33	0.848	1.184	105.37
2020	198.93	1.045	1.315	190.39	89.42	0.854	1.191	104.69
2021	178.01	1.081	1.512	164.72	102.15	0.931	1.377	109.69
2022	129.98	1.054	1.349	123.30	100.29	0.950	1.198	105.53
2023	113.07	1.010	1.290	111.99	94.57	0.912	1.185	103.67
2024	155.09	0.963	1.094	161.07	98.77	0.878	1.050	112.46

Table 4: Distribution System Indices for the Last 10 years for Unplanned Outages

SECTION 1aii: Transmission System Indices

Transmission System Indices								
Year	MED Included				MED Excluded			
	SAIDI	SAIFI	MAIFI	CAIDI	SAIDI	SAIFI	MAIFI	CAIDI
2015	2.96	0.039	0.071	76.68	1.82	0.032	0.053	56.75
2016	5.15	0.051	0.080	101.92	3.68	0.045	0.068	82.39
2017	10.99	0.207	0.273	53.01	1.74	0.027	0.045	64.31
2018	1.95	0.011	0.042	177.73	0.44	0.005	0.034	83.54
2019	7.67	0.034	0.062	225.95	1.43	0.019	0.044	76.39
2020	2.39	0.012	0.063	197.46	1.98	0.012	0.057	163.29
2021	1.78	0.031	0.057	57.19	1.67	0.029	0.049	57.42
2022	1.15	0.025	0.067	45.16	0.74	0.013	0.035	55.29
2023	2.83	0.026	0.080	109.27	1.29	0.025	0.064	52.04
2024	3.21	0.027	0.071	120.04	1.48	0.023	0.070	64.84

Table 5: Transmission System Indices for the Last 10 years for Unplanned Outages

SECTION 1b: Line Graphs of SAIDI, SAIFI, MAIFI, and CAIDI

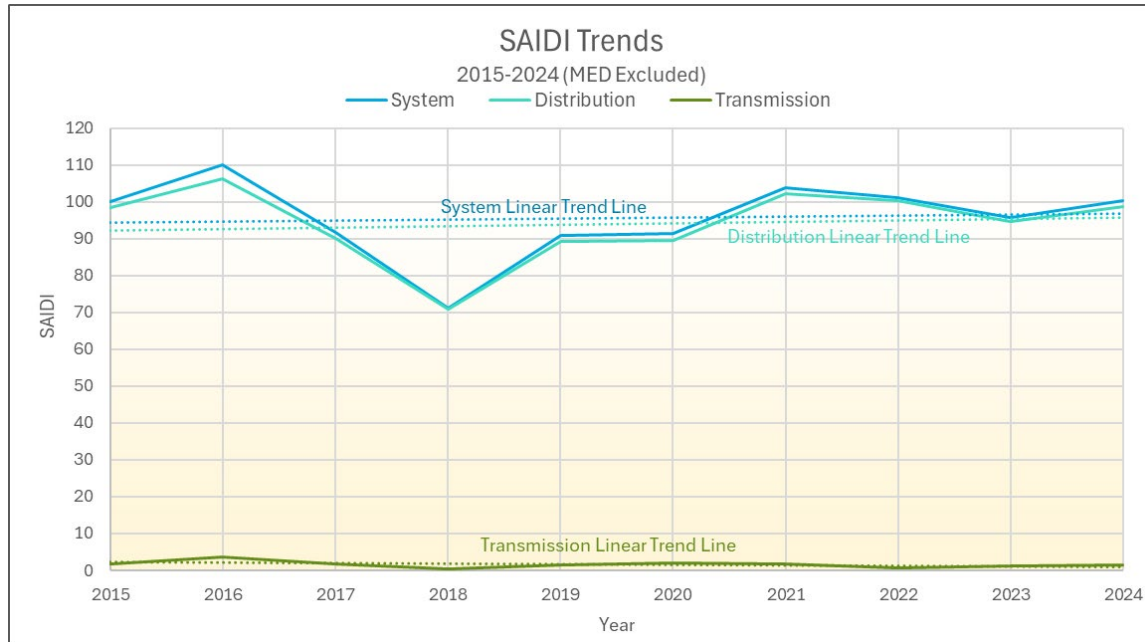


Figure 1: SAIDI Line Graph with Linear Trend Line

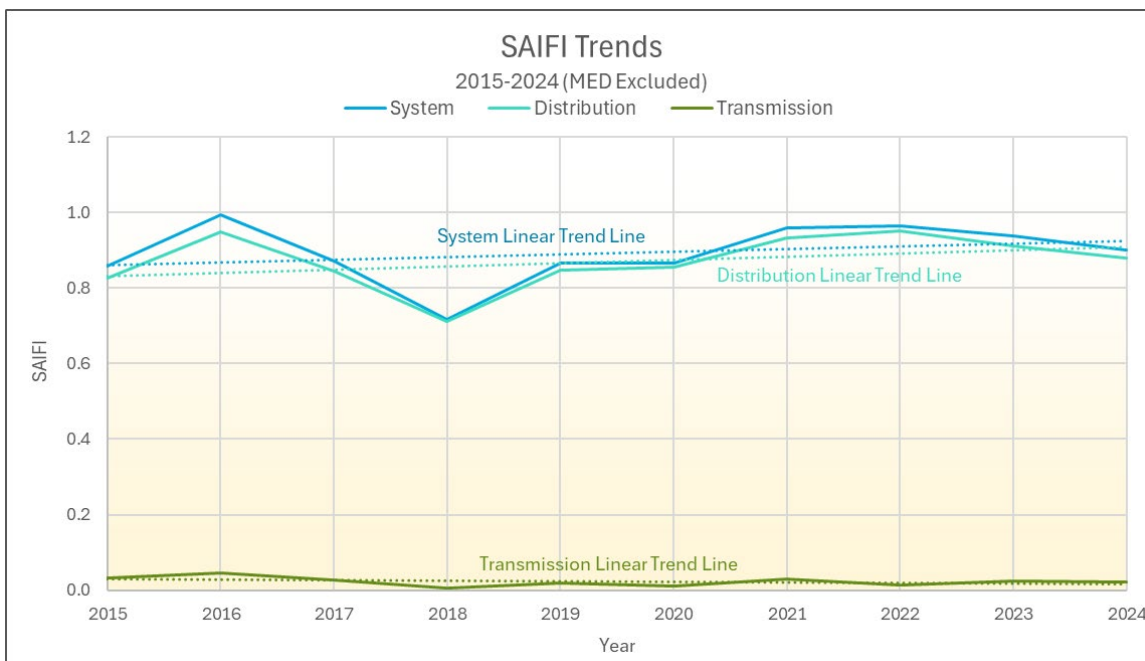


Figure 2: SAIFI Line Graph with Linear Trend Line

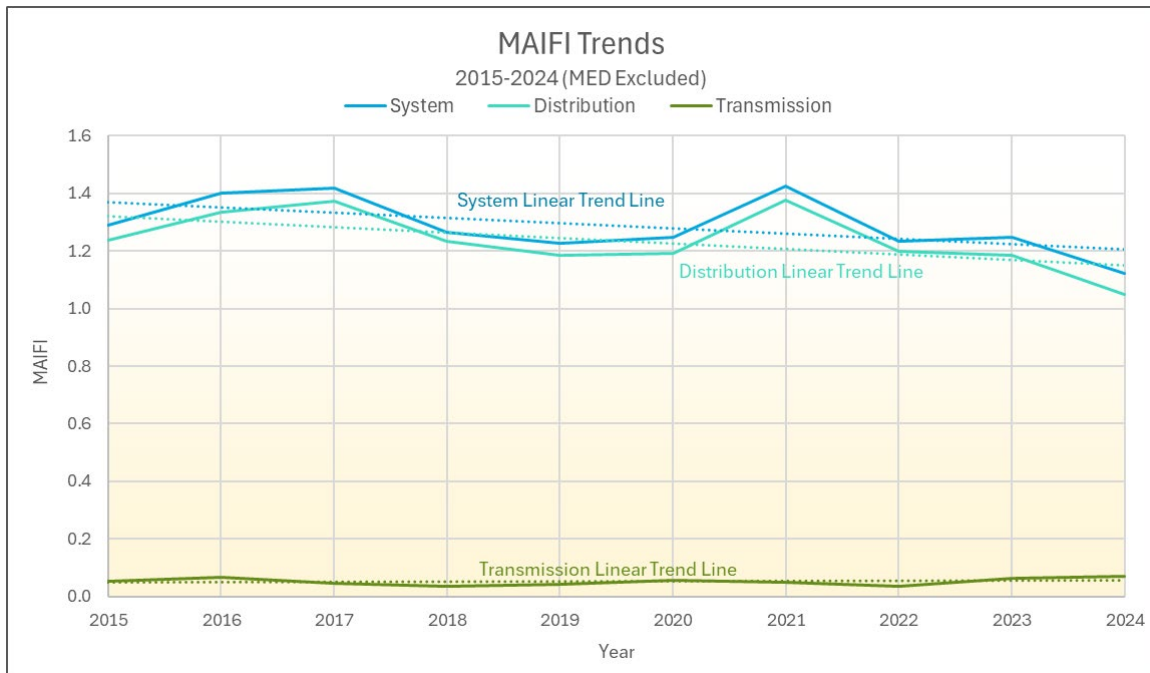


Figure 3: MAIFI Line Graph with Linear Trend Line

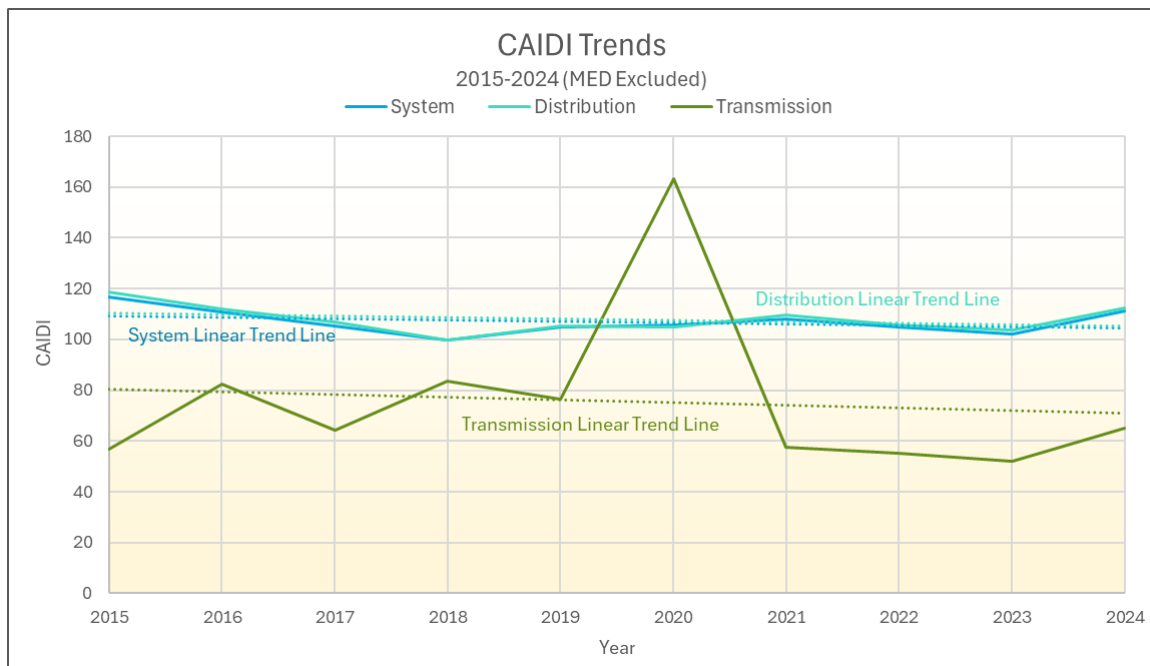


Figure 4: CAIDI Line Graph with Linear Trend Line

SECTION 2: District Reliability Indices for the Last 10 Years

SECTION 2a: District Indices

This section contains district indices for SAIDI, SAIFI, MAIFI, and CAIDI from 2015-2024 for unplanned outages. The district indices are denoted with a lower case “d” to discern between system indices and district indices (e.g., dSAIDI, dSAIFI, dMAIFI, and dCAIDI). District reliability indices are calculated using the local district area as the number of total customers served within the respective district. Table 6 shows the indices for all unplanned outages with MEDs included and excluded.

The following linear charts in Figure 5 show the past 10 years of district indices from 2015-2024 for all 35 districts. The linear charts represent the unplanned outages with MEDs included and excluded. The charts are listed in alphabetical order by district name.

District/Year	MED Included				MED Excluded			
	dSAIDI	dSAIFI	dMAIFI	dCAIDI	dSAIDI	dSAIFI	dMAIFI	dCAIDI
ANTELOPE VALLEY								
2015	104.34	0.680	1.838	153.53	70.21	0.601	1.514	116.78
2016	107.67	0.870	1.523	123.79	101.20	0.814	1.430	124.32
2017	103.19	0.873	1.833	118.15	83.35	0.814	1.704	102.39
2018	55.61	0.608	1.258	91.52	50.42	0.534	1.097	94.50
2019	194.75	0.668	1.347	291.50	76.41	0.569	1.249	134.16
2020	287.78	1.156	2.404	249.03	154.81	0.999	2.329	154.89
2021	162.65	1.305	1.789	124.67	149.37	1.239	1.783	120.55
2022	182.86	0.973	1.418	188.02	106.10	0.719	1.072	147.61
2023	121.28	0.921	1.342	131.75	88.04	0.763	1.208	115.32
2024	201.75	1.154	1.648	174.80	181.05	1.129	1.638	160.43
ARROWHEAD								
2015	362.61	3.973	5.595	91.27	186.74	2.755	2.730	67.79
2016	659.46	2.848	5.951	231.52	200.72	1.883	4.712	106.59
2017	816.52	3.861	7.057	211.50	218.33	3.058	4.093	71.39
2018	68.60	1.527	2.980	44.92	53.42	0.712	2.919	75.07
2019	3630.64	9.592	9.883	378.50	828.27	5.814	6.160	142.45
2020	443.36	2.384	4.264	185.94	204.90	2.061	3.311	99.40
2021	1565.30	2.875	5.966	544.44	492.17	2.057	4.108	239.24
2022	282.96	1.914	3.736	147.82	231.33	1.370	2.245	168.90
2023	555.51	1.745	9.434	318.34	165.92	1.467	6.148	113.11
2024	1378.09	5.154	2.915	267.41	960.96	4.806	2.915	199.95
BARSTOW								
2015	187.11	1.174	2.859	159.42	157.38	0.997	2.131	157.84
2016	134.83	1.350	2.296	99.89	130.08	1.340	2.283	97.11
2017	357.47	2.652	4.195	134.81	356.06	2.639	4.132	134.93
2018	116.70	1.373	2.110	84.99	115.27	1.342	2.077	85.93
2019	114.49	0.833	2.586	137.43	95.23	0.798	2.188	119.30
2020	105.05	1.378	2.647	76.25	100.32	1.367	2.520	73.41
2021	215.92	2.677	4.580	80.65	196.99	2.391	4.383	82.40
2022	587.75	3.080	5.571	190.85	562.81	2.867	4.962	196.31
2023	271.21	1.532	4.857	177.01	167.67	1.086	4.274	154.40
2024	228.48	3.278	5.752	69.70	218.65	2.437	5.752	89.72
BISHOP/MAMMOTH								
2015	298.11	2.218	3.332	134.43	298.11	2.218	3.272	134.43
2016	168.59	1.216	2.820	138.64	168.53	1.216	2.711	138.60
2017	190.51	1.934	3.223	98.49	172.14	1.877	3.077	91.72
2018	139.70	0.539	1.957	258.99	136.47	0.499	1.820	273.59
2019	1445.73	2.915	3.217	496.01	276.15	1.394	2.878	198.13
2020	317.99	1.935	1.637	164.37	317.81	1.933	1.619	164.42
2021	385.95	2.471	4.783	156.18	355.41	2.404	4.630	147.81
2022	236.61	1.962	3.632	120.62	235.04	1.936	3.624	121.43
2023	1237.19	3.216	3.593	384.71	785.39	2.938	3.278	267.31
2024	535.52	1.440	1.753	371.81	534.59	1.435	1.753	372.60

District/Year	MED Included				MED Excluded			
	dSAIDI	dSAIFI	dMAIFI	dCAIDI	dSAIDI	dSAIFI	dMAIFI	dCAIDI
BLYTHE								
2015	427.28	1.516	1.396	281.89	331.81	1.129	1.163	293.93
2016	396.38	2.707	6.343	146.43	302.98	1.917	4.848	158.02
2017	684.48	2.377	3.585	287.95	683.56	2.372	3.493	288.18
2018	278.75	1.573	2.199	177.22	256.63	1.324	2.168	193.89
2019	381.29	1.694	2.769	225.15	361.43	1.630	2.675	221.72
2020	211.99	1.319	1.937	160.72	174.05	1.191	1.788	146.08
2021	197.26	1.181	3.755	166.98	196.21	1.176	3.656	166.81
2022	577.44	2.830	2.625	204.06	571.43	2.808	2.625	203.48
2023	153.94	1.246	3.204	123.57	123.81	1.074	2.746	115.27
2024	209.29	2.015	1.897	103.87	166.96	1.732	1.618	96.40
CATALINA								
2015	42.56	2.252	2.885	18.90	42.56	2.252	2.885	18.90
2016	65.01	3.659	3.168	17.77	65.01	3.659	3.168	17.77
2017	70.67	0.542	2.496	130.36	4.94	0.487	1.324	10.16
2018	141.45	2.440	1.277	57.98	141.45	2.440	1.277	57.98
2019	46.63	1.559	0.428	29.90	45.63	1.555	0.428	29.34
2020	76.34	0.194	0.000	393.06	76.34	0.194	0.000	393.06
2021	62.02	0.471	0.000	131.75	62.02	0.471	0.000	131.75
2022	18.06	0.598	0.357	30.21	18.06	0.598	0.357	30.21
2023	315.66	2.805	0.887	112.52	315.66	2.805	0.887	112.52
2024	164.57	4.058	0.121	40.55	164.57	4.058	0.121	40.55
COVINA								
2015	100.08	0.815	1.164	122.87	99.84	0.813	1.152	122.76
2016	112.13	0.974	1.319	115.18	90.93	0.875	1.145	103.92
2017	117.18	0.933	1.366	125.56	106.09	0.813	1.139	130.52
2018	103.18	0.832	1.455	124.04	73.46	0.700	1.367	104.98
2019	84.30	0.864	0.999	97.60	76.85	0.800	0.923	96.04
2020	138.23	1.397	1.020	98.92	111.54	1.299	0.979	85.85
2021	99.73	1.084	1.377	92.01	91.49	1.029	1.258	88.91
2022	205.22	1.029	1.234	199.41	74.98	0.851	0.960	88.10
2023	95.78	1.206	1.420	79.45	91.26	1.126	1.272	81.06
2024	74.99	0.785	0.876	95.56	63.65	0.745	0.846	85.46
DOMINGUEZ HILLS								
2015	130.63	0.967	2.049	135.10	126.05	0.934	1.958	134.90
2016	146.38	1.107	2.537	132.20	127.15	1.010	2.229	125.94
2017	123.60	0.826	2.162	149.56	86.63	0.720	1.967	120.39
2018	93.37	0.852	2.447	109.54	66.38	0.718	2.266	92.40
2019	98.66	0.874	2.090	112.87	64.55	0.706	1.721	91.40
2020	171.38	1.234	2.918	138.92	124.52	1.083	2.774	114.95
2021	110.27	1.249	2.794	88.30	88.18	1.071	2.609	82.37
2022	95.29	0.837	1.982	113.83	81.39	0.765	1.890	106.42
2023	116.93	1.087	1.853	107.60	103.10	0.983	1.715	104.83
2024	83.56	0.904	1.371	92.44	82.49	0.889	1.355	92.83

District/Year	MED Included				MED Excluded			
	dSAIDI	dSAIFI	dMAIFI	dCAIDI	dSAIDI	dSAIFI	dMAIFI	dCAIDI
FOOTHILL								
2015	109.41	0.946	1.304	115.67	87.57	0.889	1.229	98.55
2016	139.76	1.016	1.499	137.52	135.13	0.997	1.474	135.58
2017	108.79	1.090	1.326	99.78	86.26	0.862	1.152	100.05
2018	116.85	0.975	1.201	119.85	77.94	0.780	0.965	99.89
2019	269.16	1.012	1.054	265.89	66.16	0.770	1.015	85.96
2020	186.54	1.067	1.543	174.85	75.58	0.824	1.389	91.67
2021	284.54	1.372	1.859	207.34	133.58	1.080	1.614	123.69
2022	104.61	1.046	1.444	99.98	86.02	0.989	1.147	87.00
2023	96.62	0.873	1.157	110.62	68.48	0.742	1.071	92.30
2024	178.90	1.073	1.072	166.78	81.96	0.973	1.050	84.22
FULLERTON								
2015	76.59	0.669	1.014	114.47	75.50	0.642	0.995	117.68
2016	92.72	0.760	1.174	122.04	73.77	0.588	0.974	125.37
2017	89.29	0.676	1.211	132.08	74.15	0.584	1.084	127.00
2018	69.45	0.517	1.126	134.28	55.38	0.435	1.041	127.37
2019	82.34	0.776	1.092	106.13	73.01	0.710	1.023	102.84
2020	88.29	0.685	1.175	128.91	50.80	0.507	0.779	100.10
2021	94.85	0.613	1.222	154.79	82.60	0.574	1.097	144.02
2022	92.74	0.735	0.727	126.12	84.17	0.693	0.678	121.44
2023	78.30	0.613	1.085	127.73	70.95	0.553	1.030	128.31
2024	83.10	0.588	0.793	141.32	73.65	0.582	0.720	126.66
HUNTINGTON BEACH								
2015	98.32	0.955	1.217	102.95	94.11	0.929	1.169	101.35
2016	128.02	1.262	1.225	101.42	108.16	1.186	1.163	91.18
2017	99.07	0.976	1.448	101.48	79.71	0.856	1.188	93.14
2018	87.72	0.761	1.377	115.24	73.58	0.678	1.074	108.52
2019	97.70	1.005	1.153	97.19	81.67	0.883	0.979	92.53
2020	90.05	0.864	1.079	104.24	79.08	0.780	1.028	101.38
2021	89.38	0.964	1.444	92.75	79.89	0.877	1.260	91.10
2022	128.62	1.250	1.440	102.86	121.55	1.185	1.389	102.61
2023	89.24	1.002	1.057	89.06	83.65	0.910	0.907	91.88
2024	87.70	0.847	1.267	103.51	87.10	0.841	1.230	103.52
KERNVILLE								
2015	286.38	0.961	1.630	297.92	231.41	0.857	1.293	270.12
2016	2421.32	3.674	2.928	659.03	909.19	2.839	2.832	320.21
2017	305.53	3.286	4.508	92.98	290.60	3.148	4.210	92.31
2018	184.41	1.141	3.104	161.65	152.82	1.009	3.087	151.39
2019	320.17	1.669	3.964	191.87	317.54	1.663	3.961	190.89
2020	318.40	1.873	2.590	170.01	295.34	1.828	2.583	161.54
2021	1830.32	1.885	2.072	970.80	1060.00	1.550	1.365	683.84
2022	507.42	2.579	4.705	196.75	412.72	2.345	2.664	175.97
2023	269.28	1.245	1.902	216.23	198.30	1.144	1.123	173.39
2024	747.21	2.137	3.877	349.62	672.28	2.003	3.877	335.60

District/Year	MED Included				MED Excluded			
	dSAIDI	dSAIFI	dMAIFI	dCAIDI	dSAIDI	dSAIFI	dMAIFI	dCAIDI
LONG BEACH								
2015	164.46	0.894	1.185	183.90	89.16	0.846	1.168	105.38
2016	135.16	0.857	1.308	157.70	96.98	0.695	1.095	139.51
2017	77.17	0.708	1.177	108.97	59.50	0.590	1.017	100.88
2018	51.48	0.445	1.223	115.69	42.30	0.400	1.100	105.88
2019	78.18	0.643	0.965	121.65	60.17	0.572	0.818	105.25
2020	65.35	0.686	1.204	95.25	49.95	0.599	1.111	83.38
2021	76.17	0.810	1.287	94.01	66.13	0.737	1.138	89.77
2022	77.44	0.856	1.092	90.45	66.32	0.775	0.981	85.54
2023	62.93	0.677	0.985	93.01	55.95	0.628	0.914	89.15
2024	47.55	0.501	0.754	94.83	46.60	0.494	0.752	94.32
MENIFEE								
2015	112.82	1.000	1.344	112.80	86.68	0.898	1.109	96.50
2016	158.34	1.332	1.466	118.91	139.93	1.208	1.356	115.84
2017	131.54	0.989	1.311	132.99	73.91	0.789	1.200	93.62
2018	174.60	0.902	1.474	193.54	71.50	0.700	1.308	102.07
2019	100.30	0.865	1.027	116.00	77.68	0.756	0.860	102.78
2020	263.48	1.237	1.173	212.95	85.01	0.902	1.061	94.29
2021	171.97	1.082	0.886	158.94	88.12	0.932	0.783	94.51
2022	131.29	1.079	0.914	121.64	124.16	1.028	0.857	120.81
2023	87.42	0.977	0.727	89.49	79.50	0.923	0.683	86.16
2024	160.11	1.212	0.958	132.16	106.74	1.155	0.957	92.45
MONROVIA								
2015	96.68	0.881	1.618	109.74	95.33	0.863	1.554	110.47
2016	116.57	0.844	1.652	138.06	93.39	0.772	1.523	121.00
2017	105.00	0.982	1.797	106.95	92.00	0.925	1.699	99.41
2018	243.02	1.427	1.614	170.29	102.58	1.030	1.453	99.57
2019	86.10	0.824	1.399	104.51	75.96	0.724	1.239	104.95
2020	149.02	0.896	1.711	166.40	78.13	0.685	1.504	114.03
2021	117.88	1.152	1.397	102.29	107.60	1.110	1.295	96.95
2022	260.95	1.220	1.775	213.82	107.79	0.844	1.442	127.74
2023	91.23	1.042	1.281	87.53	81.15	0.941	1.212	86.27
2024	141.02	1.035	0.965	136.19	98.78	1.004	0.955	98.41
MONTEBELLO								
2015	150.28	1.183	2.213	126.99	145.30	1.131	2.087	128.46
2016	133.52	1.166	2.057	114.55	107.26	1.043	1.882	102.87
2017	123.98	0.989	2.181	125.39	96.85	0.877	1.873	110.47
2018	160.88	1.063	2.269	151.31	98.88	0.782	1.859	126.38
2019	127.52	1.176	1.906	108.43	108.38	1.042	1.789	104.05
2020	165.90	1.107	1.792	149.90	104.33	0.918	1.615	113.61
2021	126.29	1.041	2.051	121.30	119.77	1.013	1.909	118.27
2022	130.04	1.048	1.712	124.10	98.61	0.922	1.575	106.97
2023	111.80	1.114	1.856	100.35	95.58	0.920	1.622	103.90
2024	87.19	0.812	1.686	107.40	86.58	0.809	1.605	107.06

District/Year	MED Included				MED Excluded			
	dSAIDI	dSAIFI	dMAIFI	dCAIDI	dSAIDI	dSAIFI	dMAIFI	dCAIDI
ONTARIO								
2015	94.19	0.745	0.926	126.49	81.75	0.709	0.868	115.23
2016	106.99	0.938	1.288	114.10	88.09	0.810	1.101	108.74
2017	101.53	1.152	1.610	88.13	92.88	1.071	1.461	86.71
2018	80.52	0.724	1.049	111.25	53.92	0.589	0.919	91.47
2019	90.34	0.950	1.242	95.11	77.05	0.871	1.176	88.51
2020	160.99	1.074	1.455	149.93	67.89	0.770	1.071	88.13
2021	106.30	0.995	1.542	106.85	70.57	0.853	1.323	82.69
2022	181.48	1.103	1.814	164.57	78.16	0.861	1.262	90.74
2023	82.33	0.956	1.345	86.12	73.54	0.880	1.286	83.60
2024	80.64	0.732	1.187	110.11	76.13	0.700	1.182	108.71
PALM SPRINGS								
2015	99.54	0.800	1.042	124.38	95.80	0.753	0.949	127.17
2016	107.58	1.066	1.281	100.91	101.36	1.010	1.133	100.35
2017	119.10	1.022	1.220	116.56	116.44	0.998	1.210	116.63
2018	73.95	0.788	1.426	93.79	60.31	0.726	1.208	83.10
2019	133.77	1.233	1.623	108.49	91.61	0.915	1.298	100.09
2020	120.34	0.902	1.218	133.48	94.02	0.783	1.146	120.04
2021	83.62	0.920	1.442	90.93	73.36	0.904	1.424	81.13
2022	84.65	0.827	1.492	102.38	75.96	0.719	1.183	105.70
2023	133.14	0.876	1.546	151.99	69.35	0.696	1.396	99.65
2024	121.98	0.868	0.971	140.46	96.06	0.843	0.944	113.99
REDLANDS								
2015	124.52	1.012	1.467	122.99	102.29	0.935	1.247	109.37
2016	137.11	0.978	1.475	140.16	118.78	0.883	1.336	134.49
2017	142.59	1.009	1.595	141.35	112.45	0.856	1.407	131.32
2018	88.93	0.973	1.367	91.37	71.01	0.833	1.212	85.24
2019	215.23	1.275	1.407	168.81	104.26	0.970	1.243	107.50
2020	572.39	1.746	1.407	327.89	191.34	1.215	1.245	157.44
2021	363.08	2.041	1.855	177.92	213.78	1.705	1.716	125.42
2022	190.04	1.423	1.487	133.53	151.52	1.273	1.309	119.02
2023	186.78	1.577	1.834	118.41	134.45	1.494	1.769	90.01
2024	250.28	1.456	1.443	171.91	181.45	1.352	1.390	134.23
RIDGECREST								
2015	148.90	1.012	2.169	147.14	139.51	0.837	1.514	166.70
2016	254.31	1.048	1.283	242.67	249.21	0.941	1.160	264.84
2017	164.28	1.089	3.519	150.87	153.58	1.066	3.447	144.03
2018	254.59	1.099	1.287	231.59	99.80	0.732	1.278	136.39
2019	299.99	2.092	4.915	143.41	296.46	1.807	4.181	164.03
2020	118.48	1.007	1.671	117.62	112.51	0.865	1.538	129.99
2021	163.29	1.227	3.359	133.12	126.25	0.992	3.128	127.21
2022	265.34	2.232	4.261	118.87	216.68	1.424	2.591	152.16
2023	179.25	1.127	3.160	159.07	126.47	1.032	2.831	122.52
2024	176.07	1.262	4.165	139.54	173.93	1.255	4.113	138.55

District/Year	MED Included				MED Excluded			
	dSAIDI	dSAIFI	dMAIFI	dCAIDI	dSAIDI	dSAIFI	dMAIFI	dCAIDI
SADDLEBACK								
2015	46.03	0.385	0.379	119.54	45.65	0.384	0.379	118.98
2016	65.99	0.646	0.780	102.23	62.47	0.602	0.739	103.70
2017	65.35	0.576	0.695	113.48	48.74	0.482	0.545	101.18
2018	45.80	0.377	0.413	121.55	35.83	0.316	0.364	113.49
2019	134.87	0.669	0.388	201.61	42.99	0.512	0.334	83.92
2020	98.19	0.557	0.238	176.16	60.60	0.446	0.220	136.01
2021	67.18	0.577	0.779	116.36	52.25	0.500	0.779	104.60
2022	57.34	0.588	0.483	97.52	55.89	0.552	0.432	101.32
2023	66.32	0.610	0.353	108.71	63.67	0.577	0.310	110.39
2024	61.53	0.585	0.389	105.10	54.33	0.565	0.389	96.23
SANTA ANA								
2015	67.46	0.706	1.130	95.60	66.45	0.703	1.109	94.56
2016	97.27	0.995	1.184	97.73	88.31	0.938	1.112	94.13
2017	81.90	0.712	1.269	115.09	67.19	0.609	1.118	110.35
2018	122.09	0.819	1.304	149.09	56.91	0.550	1.093	103.42
2019	62.79	0.564	0.864	111.36	58.44	0.509	0.821	114.86
2020	90.91	0.765	1.187	118.79	65.14	0.629	0.908	103.50
2021	95.59	0.761	1.062	125.61	65.02	0.604	0.861	107.66
2022	65.63	0.725	0.864	90.57	57.21	0.681	0.791	84.00
2023	88.26	0.667	1.074	132.34	78.00	0.622	1.027	125.41
2024	73.29	0.515	0.620	142.31	53.95	0.480	0.588	112.38
SANTA BARBARA								
2015	152.37	1.517	1.577	100.42	143.29	1.338	1.459	107.10
2016	156.66	1.411	1.464	111.03	130.01	1.269	1.249	102.44
2017	408.43	9.213	13.591	44.33	152.42	1.619	1.206	94.17
2018	172.90	1.022	1.201	169.20	85.57	0.908	1.000	94.28
2019	201.25	1.502	1.750	134.00	179.19	1.389	1.562	129.02
2020	141.07	1.310	1.153	107.72	118.87	1.104	1.125	107.69
2021	225.17	1.503	0.975	149.80	200.20	1.302	0.796	153.77
2022	141.76	1.362	1.949	104.07	139.57	1.343	1.890	103.94
2023	248.04	2.163	1.836	114.65	229.78	1.959	1.720	117.30
2024	169.37	1.677	1.982	101.00	141.67	1.480	1.357	95.74
SANTA MONICA								
2015	75.41	0.625	1.069	120.68	64.42	0.577	1.065	111.61
2016	91.08	0.948	1.210	96.13	89.11	0.933	1.131	95.49
2017	71.89	0.712	1.168	101.02	66.14	0.678	1.108	97.49
2018	80.24	1.045	1.352	76.79	60.40	0.716	1.320	84.33
2019	104.74	0.896	1.424	116.87	100.35	0.861	1.373	116.49
2020	86.09	1.062	1.241	81.10	76.16	0.978	1.178	77.86
2021	64.09	0.635	1.120	100.94	61.66	0.612	1.039	100.73
2022	152.72	1.768	1.591	86.37	133.08	1.486	1.532	89.57
2023	107.48	0.978	1.150	109.95	74.82	0.807	1.071	92.66
2024	92.65	0.834	0.894	111.13	91.84	0.791	0.891	116.12

District/Year	MED Included				MED Excluded			
	dSAIDI	dSAIFI	dMAIFI	dCAIDI	dSAIDI	dSAIFI	dMAIFI	dCAIDI
SHAVER LAKE								
2015	422.77	3.415	9.298	123.78	422.77	3.415	9.298	123.78
2016	1062.01	4.993	4.157	212.70	774.00	2.795	2.165	276.87
2017	4273.52	7.947	5.220	537.73	676.22	6.039	5.197	111.97
2018	203.43	2.484	6.362	81.89	203.43	2.484	6.362	81.89
2019	1559.97	5.579	7.850	279.61	1504.82	5.206	5.339	289.07
2020	33648.98	6.479	3.743	5193.35	647.38	5.230	3.743	123.79
2021	295.79	2.188	3.008	135.18	288.24	2.170	3.007	132.81
2022	934.39	2.475	1.100	377.55	927.45	2.217	0.849	418.32
2023	423.49	2.259	0.401	187.48	298.08	2.205	0.401	135.17
2024	391.22	3.433	0.158	113.95	391.22	3.433	0.158	113.95
SOUTH BAY								
2015	164.07	1.305	1.660	125.70	160.40	1.272	1.613	126.14
2016	183.90	1.884	2.020	97.60	150.90	1.752	1.818	86.12
2017	99.19	0.931	1.460	106.53	87.35	0.818	1.328	106.76
2018	90.63	1.090	1.771	83.13	82.27	1.007	1.524	81.67
2019	79.31	1.010	1.398	78.54	71.49	0.950	1.313	75.27
2020	109.92	1.016	1.567	108.19	83.82	0.918	1.526	91.27
2021	86.12	0.990	1.832	87.01	78.13	0.919	1.721	85.00
2022	126.49	1.310	1.983	96.55	118.61	1.222	1.864	97.10
2023	108.28	1.240	1.762	87.34	97.86	1.177	1.639	83.15
2024	105.39	0.933	1.511	112.95	104.20	0.927	1.488	112.36
TEHACHAPI								
2015	298.96	1.215	3.960	246.11	236.81	1.037	2.513	228.33
2016	97.29	1.132	2.363	85.98	76.43	1.036	1.940	73.78
2017	86.51	1.048	3.126	82.57	77.93	0.890	2.946	87.57
2018	55.99	0.673	2.276	83.20	54.96	0.655	2.146	83.86
2019	2983.88	4.608	2.171	647.60	467.57	2.716	1.776	172.14
2020	1272.84	2.074	3.098	613.57	201.72	1.098	2.958	183.70
2021	458.53	1.083	0.683	423.51	154.70	0.891	0.649	173.59
2022	261.77	1.876	2.860	139.54	88.52	0.803	1.568	110.29
2023	287.74	2.017	1.775	142.63	255.86	1.977	1.339	129.42
2024	352.02	0.897	5.330	392.62	78.71	0.734	5.286	107.20
THOUSAND OAKS								
2015	106.59	0.919	1.893	115.94	103.69	0.889	1.845	116.64
2016	143.78	1.307	2.585	110.02	128.24	1.227	2.378	104.48
2017	151.74	1.427	3.270	106.30	106.39	1.063	2.903	100.06
2018	1167.54	1.480	1.634	788.97	109.94	0.967	1.354	113.66
2019	517.05	1.723	1.213	300.09	112.98	1.182	1.163	95.56
2020	624.18	1.788	1.047	349.19	139.24	1.154	0.966	120.63
2021	924.23	2.106	1.413	438.86	149.91	1.347	1.286	111.29
2022	151.96	1.446	1.108	105.10	146.00	1.363	1.010	107.15
2023	213.31	1.696	1.193	125.80	167.83	1.396	1.094	120.21
2024	772.21	1.645	1.141	469.48	115.88	1.190	1.138	97.38

District/Year	MED Included				MED Excluded			
	dSAIDI	dSAIFI	dMAIFI	dCAIDI	dSAIDI	dSAIFI	dMAIFI	dCAIDI
TULARE								
2015	127.50	1.052	1.414	121.24	99.83	0.908	1.106	109.94
2016	108.44	1.091	1.105	99.37	101.82	1.040	1.082	97.89
2017	191.66	1.343	1.198	142.71	105.72	1.282	1.188	82.46
2018	56.23	0.685	1.077	82.15	51.29	0.652	1.017	78.64
2019	72.67	0.745	1.075	97.51	69.70	0.716	1.035	97.36
2020	186.91	0.817	0.852	228.79	73.71	0.739	0.832	99.75
2021	105.34	0.841	1.117	125.22	93.71	0.810	1.089	115.64
2022	87.95	0.612	1.109	143.70	77.90	0.571	1.049	136.41
2023	119.03	0.840	1.101	141.76	104.92	0.750	0.989	139.95
2024	84.73	0.842	0.929	100.64	82.14	0.829	0.919	99.10
VALENCIA								
2015	72.27	0.611	0.971	118.22	71.05	0.604	0.845	117.62
2016	105.09	0.968	1.549	108.59	97.40	0.846	1.522	115.19
2017	136.62	1.079	1.549	126.67	81.27	0.702	1.283	115.76
2018	92.41	1.063	1.451	86.97	79.33	0.945	1.391	83.98
2019	457.47	1.224	0.965	373.66	101.43	0.914	0.918	111.00
2020	390.05	1.350	1.131	288.96	95.42	0.985	1.109	96.86
2021	417.07	1.221	1.441	341.64	99.99	0.822	1.397	121.66
2022	106.73	1.209	0.906	88.26	106.01	1.205	0.906	87.96
2023	132.15	1.106	0.730	119.45	120.15	1.028	0.729	116.90
2024	202.56	0.861	1.276	235.36	86.25	0.804	1.270	107.31
VENTURA								
2015	148.85	1.190	1.447	125.11	141.43	1.149	1.375	123.11
2016	150.41	1.236	1.679	121.65	107.14	1.019	1.553	105.11
2017	520.90	3.122	2.293	166.85	114.76	1.240	1.542	92.56
2018	136.04	1.438	1.921	94.61	100.39	1.177	1.676	85.30
2019	334.96	1.647	2.610	203.37	133.54	1.364	2.407	97.92
2020	174.17	0.955	1.188	182.36	69.76	0.762	1.078	91.51
2021	370.43	2.004	2.088	184.85	124.87	1.572	1.683	79.44
2022	114.52	1.560	1.400	73.41	109.05	1.502	1.386	72.62
2023	119.98	1.573	2.089	76.26	111.46	1.465	1.980	76.10
2024	325.75	1.915	1.486	170.06	151.79	1.558	1.219	97.45
VICTORVILLE								
2015	87.03	0.906	1.839	96.06	72.90	0.812	1.551	89.75
2016	79.35	0.917	1.396	86.49	75.94	0.888	1.327	85.55
2017	84.07	0.895	2.353	93.94	73.12	0.808	1.757	90.49
2018	125.92	0.862	1.345	146.01	97.87	0.802	1.270	122.07
2019	82.42	1.102	2.008	74.77	74.68	0.986	1.667	75.77
2020	52.81	0.915	1.609	57.71	48.81	0.865	1.518	56.41
2021	83.75	0.895	2.499	93.53	78.55	0.844	2.452	93.04
2022	112.30	1.126	1.953	99.69	96.49	0.975	1.821	98.92
2023	58.63	0.701	1.699	83.68	53.56	0.655	1.603	81.82
2024	80.92	0.755	1.459	107.12	79.13	0.712	1.428	111.18

District/Year	MED Included				MED Excluded			
	dSAIDI	dSAIFI	dMAIFI	dCAIDI	dSAIDI	dSAIFI	dMAIFI	dCAIDI
WHITTIER								
2015	114.52	0.733	1.084	156.32	104.85	0.704	0.989	148.88
2016	137.34	0.814	1.416	168.76	90.21	0.616	1.290	146.36
2017	148.91	0.896	1.872	166.10	91.91	0.750	1.655	122.50
2018	87.74	0.666	1.413	131.83	73.66	0.575	1.297	128.01
2019	84.86	0.730	1.379	116.21	73.99	0.624	1.160	118.51
2020	113.13	0.839	1.278	134.81	83.14	0.723	1.151	115.01
2021	88.39	0.803	1.578	110.07	73.76	0.712	1.387	103.52
2022	74.50	0.719	1.442	103.62	64.54	0.670	1.286	96.28
2023	80.38	0.767	1.131	104.76	70.38	0.703	0.988	100.16
2024	275.19	1.789	1.249	153.86	80.74	0.867	1.083	93.15
WILDOMAR								
2015	50.98	0.569	1.202	89.59	46.59	0.538	1.001	86.66
2016	82.00	0.840	0.928	97.59	77.99	0.817	0.838	95.46
2017	88.81	0.769	1.015	115.45	55.05	0.550	0.933	100.15
2018	60.09	0.741	0.798	81.12	51.21	0.616	0.711	83.11
2019	93.45	0.761	0.738	122.82	52.15	0.603	0.726	86.53
2020	96.43	0.740	0.894	130.39	55.90	0.641	0.893	87.20
2021	85.05	0.759	0.605	112.11	75.29	0.679	0.527	110.93
2022	84.81	0.835	0.459	101.55	79.36	0.799	0.424	99.27
2023	81.43	0.685	0.371	118.80	74.56	0.652	0.294	114.28
2024	138.34	0.760	0.385	182.08	79.95	0.703	0.385	113.71
YUCCA VALLEY								
2015	388.99	1.804	3.922	215.64	260.08	1.189	2.708	218.70
2016	463.68	3.393	3.874	136.66	440.06	3.257	3.106	135.13
2017	300.33	1.957	1.602	153.47	270.11	1.728	1.509	156.28
2018	353.49	1.936	2.747	182.56	206.24	1.487	1.832	138.68
2019	473.40	2.491	1.956	190.03	415.89	2.154	1.753	193.10
2020	397.56	2.709	2.684	146.74	240.68	2.282	2.623	105.45
2021	480.92	2.496	2.450	192.68	375.44	2.084	2.387	180.17
2022	237.38	2.126	3.810	111.68	214.02	1.907	1.896	112.25
2023	390.09	2.369	4.700	164.66	337.33	2.147	4.441	157.11
2024	773.90	1.804	2.185	428.91	198.52	1.477	2.185	134.37

Table 6: District Indices from 2015-2024 for Unplanned Outages



SECTION 2b: District Line Graphs of SAIDI, SAIFI, MAIFI, and CAIDI















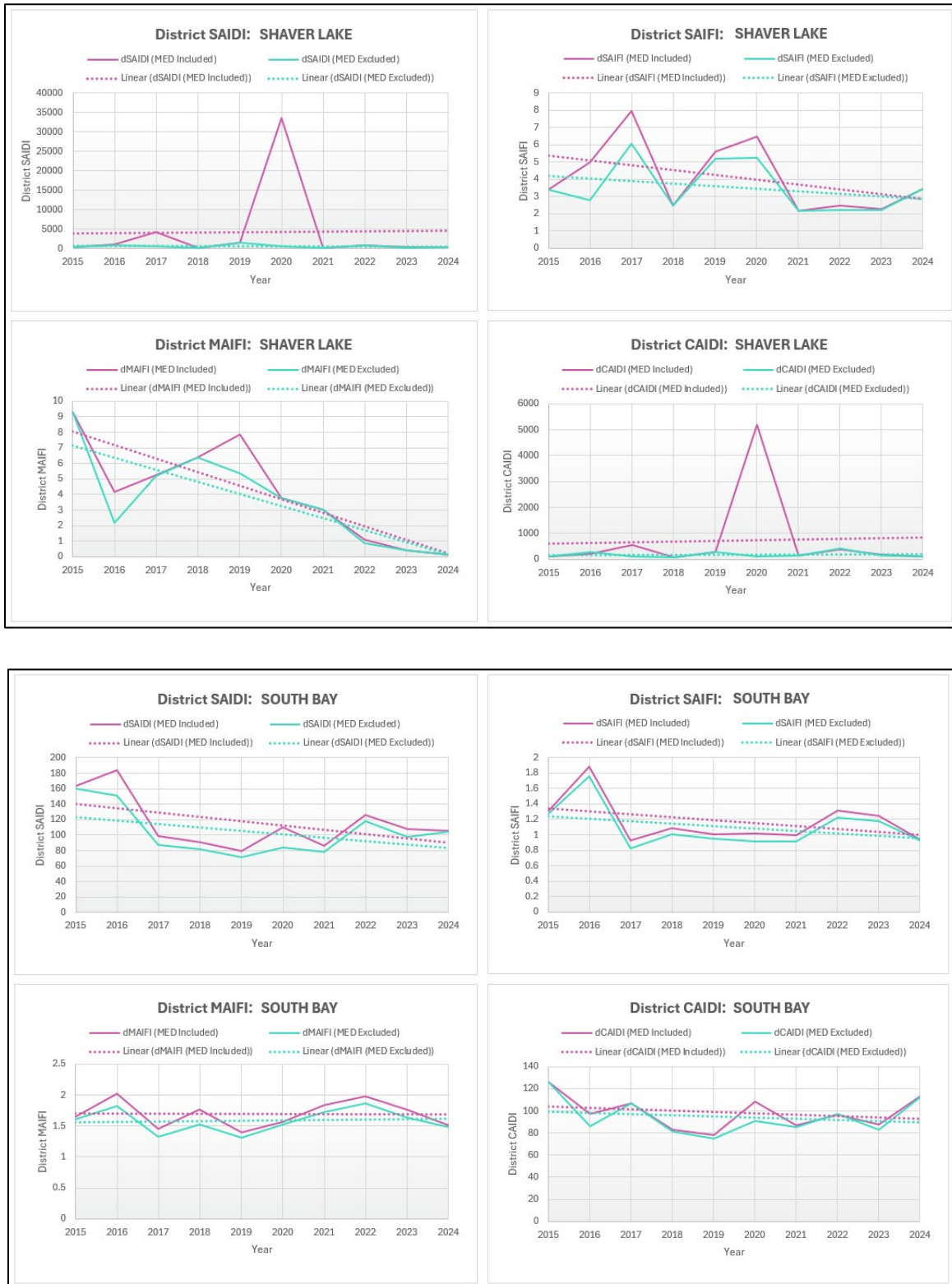




















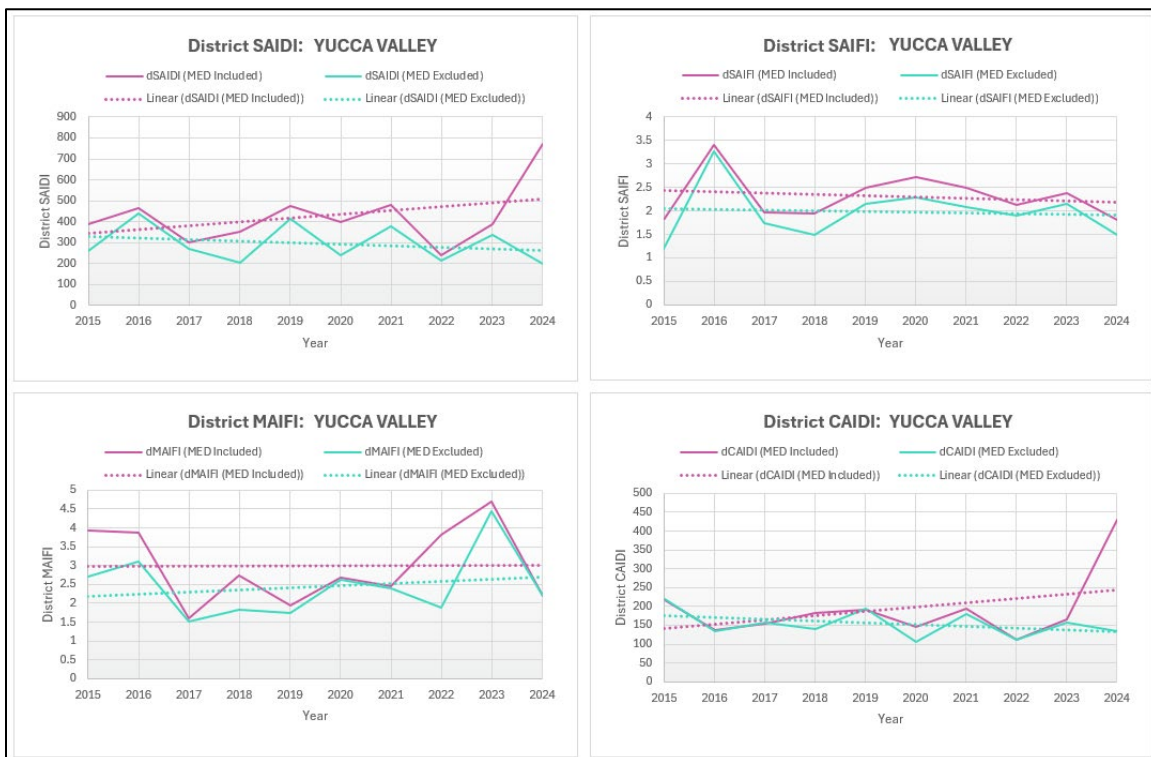


Figure 5: District Indices for Unplanned Outages

SECTION 3: System and District Indices Based on IEEE 1366 for the Last 10 Years for Planned and Unplanned Outages

This section presents the SAIDI, SAIFI, MAIFI, and CAIDI indices for both overall System performance and District performance from 2015 to 2024. These indices incorporate data from both unplanned and planned outages.

No planned outage indices were included from 2015-2019 due to retirement of the previous reporting systems. For 2020-2021, planned outage indices are reflecting a previous interim planned outage report that provided conservative indices estimate. For 2022-2024, planned outage indices are reflecting the indices made available through SCE's completed IT system projects. See the Background: Reliability Report History section for further explanation.

Table 7 shows the System indices for all unplanned and planned outages with both MEDs included and excluded.

Year	System Indices							
	MED Included				MED Excluded			
	SAIDI	SAIFI	MAIFI	CAIDI	SAIDI	SAIFI	MAIFI	CAIDI
2015	114.83	0.92	1.42	125.40	100.15	0.86	1.29	116.56
2016	134.48	1.10	1.55	122.26	109.98	0.99	1.40	110.69
2017	139.73	1.19	1.84	117.19	91.72	0.87	1.42	105.40
2018	136.82	0.87	1.43	156.61	71.25	0.72	1.27	99.58
2019	177.97	1.04	1.38	171.17	90.75	0.87	1.23	104.75
2020*	328.52	1.39	1.38	237.07	218.59	1.19	1.25	182.93
2021*	395.89	1.55	1.58	255.65	319.91	1.40	1.43	228.99
2022**	236.59	1.40	1.47	168.61	205.83	1.28	1.28	160.23
2023**	226.11	1.37	1.42	165.05	205.60	1.27	1.30	161.96
2024**	245.01	1.34	1.23	182.71	186.33	1.25	1.19	149.03

Table 7: System Indices for the Last 10 years for Unplanned and Planned Outages

District indices of dSAIDI, dSAIFI, dMAIFI, and dCAIDI from 2015-2024 for planned and unplanned outages can be found in Table 8 with MEDs included and excluded.

In Section 3a, which follows Table 8, SCE provides linear charts showing the past 10 years of district indices from 2015-2024 for all 35 districts. These are found in Figure 6. The linear charts represent the planned and unplanned outages with MEDs included and excluded. The charts are listed in alphabetical order by district name.

District/Year	MED Included				MED Excluded			
	dSAIDI	dSAIFI	dMAIFI	dCAIDI	dSAIDI	dSAIFI	dMAIFI	dCAIDI
ANTELOPE VALLEY								
2015	104.34	0.680	1.838	153.53	70.21	0.601	1.514	116.78
2016	107.67	0.870	1.523	123.79	101.20	0.814	1.430	124.32
2017	103.19	0.873	1.833	118.15	83.35	0.814	1.704	102.39
2018	55.61	0.608	1.258	91.52	50.42	0.534	1.097	94.50
2019	194.75	0.668	1.347	291.50	76.41	0.569	1.249	134.16
2020	587.77	1.662	2.415	353.56	454.81	1.506	2.340	301.93
2021	374.05	1.850	1.818	202.22	360.77	1.784	1.812	202.21
2022	272.69	1.246	1.442	218.89	195.34	0.992	1.096	196.92
2023	196.70	1.192	1.354	164.99	163.46	1.035	1.220	157.93
2024	262.30	1.459	1.668	179.83	241.54	1.433	1.658	168.56
ARROWHEAD								
2015	362.61	3.973	5.595	91.27	186.74	2.755	2.730	67.79
2016	659.46	2.848	5.951	231.52	200.72	1.883	4.712	106.59
2017	816.52	3.861	7.057	211.50	218.33	3.058	4.093	71.39
2018	68.60	1.527	2.980	44.92	53.42	0.712	2.919	75.07
2019	3630.64	9.592	9.883	378.50	828.27	5.814	6.160	142.45
2020	1363.15	4.173	4.272	326.63	1124.68	3.850	3.320	292.10
2021	4311.84	7.579	6.007	568.91	3238.71	6.761	4.149	479.01
2022	1217.26	4.228	3.888	287.92	1156.73	3.683	2.397	314.06
2023	1350.56	3.233	9.639	417.70	960.97	2.955	6.353	325.18
2024	2162.89	6.954	2.975	311.01	1741.30	6.607	2.975	263.57
BARSTOW								
2015	187.11	1.174	2.859	159.42	157.38	0.997	2.131	157.84
2016	134.83	1.350	2.296	99.89	130.08	1.340	2.283	97.11
2017	357.47	2.652	4.195	134.81	356.06	2.639	4.132	134.93
2018	116.70	1.373	2.110	84.99	115.27	1.342	2.077	85.93
2019	114.49	0.833	2.586	137.43	95.23	0.798	2.188	119.30
2020	194.59	1.556	2.648	125.05	189.86	1.545	2.521	122.89
2021	343.66	2.933	4.586	117.18	324.74	2.646	4.388	122.71
2022	624.68	3.179	5.662	196.50	599.74	2.966	5.052	202.18
2023	351.06	1.743	4.866	201.40	247.53	1.297	4.284	190.86
2024	289.12	3.471	5.769	83.29	279.28	2.630	5.769	106.19
BISHOP/MAMMOTH								
2015	298.11	2.218	3.332	134.43	298.11	2.218	3.272	134.43
2016	168.59	1.216	2.820	138.64	168.53	1.216	2.711	138.60
2017	190.51	1.934	3.223	98.49	172.14	1.877	3.077	91.72
2018	139.70	0.539	1.957	258.99	136.47	0.499	1.820	273.59
2019	1445.73	2.915	3.217	496.01	276.15	1.394	2.878	198.13
2020	540.48	2.442	1.638	221.33	540.30	2.440	1.620	221.41
2021	534.27	2.924	4.784	182.71	503.73	2.857	4.631	176.29
2022	476.35	2.621	3.803	181.71	470.87	2.595	3.794	181.42
2023	1440.87	3.881	3.854	371.26	989.01	3.603	3.538	274.48
2024	707.52	2.056	2.099	344.20	703.38	2.050	2.099	343.11

District/Year	MED Included				MED Excluded			
	dSAIDI	dSAIFI	dMAIFI	dCAIDI	dSAIDI	dSAIFI	dMAIFI	dCAIDI
BLYTHE								
2015	427.28	1.516	1.396	281.89	331.81	1.129	1.163	293.93
2016	396.38	2.707	6.343	146.43	302.98	1.917	4.848	158.02
2017	684.48	2.377	3.585	287.95	683.56	2.372	3.493	288.18
2018	278.75	1.573	2.199	177.22	256.63	1.324	2.168	193.89
2019	381.29	1.694	2.769	225.15	361.43	1.630	2.675	221.72
2020	514.72	2.245	1.937	229.32	476.78	2.117	1.788	225.21
2021	766.31	2.338	3.756	327.70	765.26	2.333	3.656	327.96
2022	753.22	3.758	2.772	200.42	747.21	3.737	2.772	199.96
2023	459.14	2.186	3.348	210.08	400.77	2.014	2.890	199.01
2024	406.59	2.510	1.938	161.96	364.24	2.227	1.659	163.53
CATALINA								
2015	42.56	2.252	2.885	18.90	42.56	2.252	2.885	18.90
2016	65.01	3.659	3.168	17.77	65.01	3.659	3.168	17.77
2017	70.67	0.542	2.496	130.36	4.94	0.487	1.324	10.16
2018	141.45	2.440	1.277	57.98	141.45	2.440	1.277	57.98
2019	46.63	1.559	0.428	29.90	45.63	1.555	0.428	29.34
2020	156.54	0.316	0.003	495.54	156.54	0.316	0.003	495.54
2021	226.32	0.848	0.000	266.86	226.32	0.848	0.000	266.86
2022	18.06	0.598	0.357	30.21	18.06	0.598	0.357	30.21
2023	315.66	2.805	0.887	112.52	315.66	2.805	0.887	112.52
2024	191.38	4.209	0.121	45.46	191.38	4.209	0.121	45.46
COVINA								
2015	100.08	0.815	1.164	122.87	99.84	0.813	1.152	122.76
2016	112.13	0.974	1.319	115.18	90.93	0.875	1.145	103.92
2017	117.18	0.933	1.366	125.56	106.09	0.813	1.139	130.52
2018	103.18	0.832	1.455	124.04	73.46	0.700	1.367	104.98
2019	84.30	0.864	0.999	97.60	76.85	0.800	0.923	96.04
2020	224.24	1.649	1.021	135.97	197.55	1.551	0.980	127.36
2021	259.29	1.457	1.380	177.95	251.05	1.402	1.260	179.03
2022	296.72	1.322	1.245	224.46	165.35	1.144	0.970	144.56
2023	162.03	1.415	1.425	114.48	157.29	1.336	1.276	117.75
2024	135.27	1.151	0.891	117.48	123.61	1.112	0.860	111.20
DOMINGUEZ HILLS								
2015	130.63	0.967	2.049	135.10	126.05	0.934	1.958	134.90
2016	146.38	1.107	2.537	132.20	127.15	1.010	2.229	125.94
2017	123.60	0.826	2.162	149.56	86.63	0.720	1.967	120.39
2018	93.37	0.852	2.447	109.54	66.38	0.718	2.266	92.40
2019	98.66	0.874	2.090	112.87	64.55	0.706	1.721	91.40
2020	274.48	1.466	2.918	187.24	227.62	1.315	2.774	173.03
2021	374.79	1.540	2.795	243.31	352.71	1.362	2.609	258.92
2022	206.19	1.165	2.005	177.06	191.90	1.092	1.912	175.69
2023	245.79	1.444	1.878	170.21	231.79	1.341	1.740	172.87
2024	167.03	1.110	1.380	150.52	165.33	1.094	1.363	151.07

District/Year	MED Included				MED Excluded			
	dSAIDI	dSAIFI	dMAIFI	dCAIDI	dSAIDI	dSAIFI	dMAIFI	dCAIDI
FOOTHILL								
2015	109.41	0.946	1.304	115.67	87.57	0.889	1.229	98.55
2016	139.76	1.016	1.499	137.52	135.13	0.997	1.474	135.58
2017	108.79	1.090	1.326	99.78	86.26	0.862	1.152	100.05
2018	116.85	0.975	1.201	119.85	77.94	0.780	0.965	99.89
2019	269.16	1.012	1.054	265.89	66.16	0.770	1.015	85.96
2020	323.15	1.490	1.544	216.80	212.18	1.248	1.390	170.01
2021	412.83	1.715	1.860	240.70	261.87	1.423	1.615	184.07
2022	186.22	1.322	1.460	140.86	167.44	1.264	1.162	132.42
2023	165.32	1.093	1.174	151.25	136.88	0.961	1.088	142.37
2024	307.29	1.462	1.125	210.18	210.28	1.363	1.103	154.32
FULLERTON								
2015	76.59	0.669	1.014	114.47	75.50	0.642	0.995	117.68
2016	92.72	0.760	1.174	122.04	73.77	0.588	0.974	125.37
2017	89.29	0.676	1.211	132.08	74.15	0.584	1.084	127.00
2018	69.45	0.517	1.126	134.28	55.38	0.435	1.041	127.37
2019	82.34	0.776	1.092	106.13	73.01	0.710	1.023	102.84
2020	137.56	0.841	1.177	163.61	100.06	0.663	0.780	150.85
2021	193.12	0.893	1.232	216.36	180.87	0.853	1.107	211.96
2022	169.82	0.993	0.736	171.03	161.07	0.951	0.687	169.42
2023	159.38	0.903	1.097	176.56	151.79	0.843	1.043	180.14
2024	152.74	0.892	0.810	171.24	142.89	0.885	0.737	161.38
HUNTINGTON BEACH								
2015	98.32	0.955	1.217	102.95	94.11	0.929	1.169	101.35
2016	128.02	1.262	1.225	101.42	108.16	1.186	1.163	91.18
2017	99.07	0.976	1.448	101.48	79.71	0.856	1.188	93.14
2018	87.72	0.761	1.377	115.24	73.58	0.678	1.074	108.52
2019	97.70	1.005	1.153	97.19	81.67	0.883	0.979	92.53
2020	157.57	1.100	1.081	143.21	146.60	1.016	1.030	144.24
2021	155.14	1.173	1.447	132.21	145.66	1.087	1.263	134.04
2022	214.05	1.548	1.470	138.31	206.47	1.482	1.419	139.35
2023	166.23	1.300	1.080	127.82	159.86	1.209	0.930	132.24
2024	148.55	1.133	1.284	131.13	147.49	1.127	1.247	130.88
KERNVILLE								
2015	286.38	0.961	1.630	297.92	231.41	0.857	1.293	270.12
2016	2421.32	3.674	2.928	659.03	909.19	2.839	2.832	320.21
2017	305.53	3.286	4.508	92.98	290.60	3.148	4.210	92.31
2018	184.41	1.141	3.104	161.65	152.82	1.009	3.087	151.39
2019	320.17	1.669	3.964	191.87	317.54	1.663	3.961	190.89
2020	826.57	3.703	2.624	223.24	803.50	3.658	2.617	219.66
2021	2518.56	3.450	2.099	729.93	1748.24	3.115	1.391	561.21
2022	1535.90	4.920	5.666	312.15	1429.44	4.687	3.624	304.99
2023	1033.63	3.207	2.431	322.33	962.59	3.105	1.653	310.01
2024	1335.34	3.810	4.765	350.50	1251.73	3.676	4.765	340.53

District/Year	MED Included				MED Excluded			
	dSAIDI	dSAIFI	dMAIFI	dCAIDI	dSAIDI	dSAIFI	dMAIFI	dCAIDI
LONG BEACH								
2015	164.46	0.894	1.185	183.90	89.16	0.846	1.168	105.38
2016	135.16	0.857	1.308	157.70	96.98	0.695	1.095	139.51
2017	77.17	0.708	1.177	108.97	59.50	0.590	1.017	100.88
2018	51.48	0.445	1.223	115.69	42.30	0.400	1.100	105.88
2019	78.18	0.643	0.965	121.65	60.17	0.572	0.818	105.25
2020	174.27	0.893	1.229	195.14	158.87	0.806	1.136	197.12
2021	197.41	1.080	1.289	182.75	187.37	1.007	1.140	186.14
2022	160.18	1.100	1.103	145.57	148.92	1.019	0.993	146.08
2023	184.54	1.037	1.010	178.01	177.54	0.988	0.939	179.76
2024	99.30	0.668	0.762	148.65	97.68	0.661	0.760	147.87
MENIFEE								
2015	112.82	1.000	1.344	112.80	86.68	0.898	1.109	96.50
2016	158.34	1.332	1.466	118.91	139.93	1.208	1.356	115.84
2017	131.54	0.989	1.311	132.99	73.91	0.789	1.200	93.62
2018	174.60	0.902	1.474	193.54	71.50	0.700	1.308	102.07
2019	100.30	0.865	1.027	116.00	77.68	0.756	0.860	102.78
2020	373.81	1.599	1.177	233.76	195.34	1.263	1.065	154.61
2021	387.36	1.605	0.888	241.29	303.51	1.456	0.785	208.48
2022	233.99	1.394	0.931	167.87	226.76	1.342	0.874	168.94
2023	177.14	1.258	0.735	140.76	169.00	1.204	0.691	140.32
2024	239.04	1.748	0.997	136.73	185.00	1.691	0.996	109.38
MONROVIA								
2015	96.68	0.881	1.618	109.74	95.33	0.863	1.554	110.47
2016	116.57	0.844	1.652	138.06	93.39	0.772	1.523	121.00
2017	105.00	0.982	1.797	106.95	92.00	0.925	1.699	99.41
2018	243.02	1.427	1.614	170.29	102.58	1.030	1.453	99.57
2019	86.10	0.824	1.399	104.51	75.96	0.724	1.239	104.95
2020	353.45	1.388	1.713	254.59	282.55	1.178	1.505	239.87
2021	421.80	1.710	1.402	246.69	411.51	1.667	1.300	246.82
2022	375.75	1.527	1.786	246.01	222.12	1.151	1.453	193.02
2023	226.94	1.427	1.285	159.06	216.53	1.325	1.217	163.41
2024	230.82	1.357	0.976	170.15	186.84	1.325	0.965	141.01
MONTEBELLO								
2015	150.28	1.183	2.213	126.99	145.30	1.131	2.087	128.46
2016	133.52	1.166	2.057	114.55	107.26	1.043	1.882	102.87
2017	123.98	0.989	2.181	125.39	96.85	0.877	1.873	110.47
2018	160.88	1.063	2.269	151.31	98.88	0.782	1.859	126.38
2019	127.52	1.176	1.906	108.43	108.38	1.042	1.789	104.05
2020	296.09	1.437	1.792	206.10	234.52	1.248	1.616	187.88
2021	329.42	1.432	2.057	230.05	322.90	1.403	1.914	230.08
2022	267.80	1.438	1.732	186.23	235.84	1.312	1.594	179.77
2023	357.32	1.708	1.875	209.17	340.66	1.514	1.641	225.00
2024	181.09	1.079	1.696	167.78	180.11	1.076	1.615	167.36

District/Year	MED Included				MED Excluded			
	dSAIDI	dSAIFI	dMAIFI	dCAIDI	dSAIDI	dSAIFI	dMAIFI	dCAIDI
ONTARIO								
2015	94.19	0.745	0.926	126.49	81.75	0.709	0.868	115.23
2016	106.99	0.938	1.288	114.10	88.09	0.810	1.101	108.74
2017	101.53	1.152	1.610	88.13	92.88	1.071	1.461	86.71
2018	80.52	0.724	1.049	111.25	53.92	0.589	0.919	91.47
2019	90.34	0.950	1.242	95.11	77.05	0.871	1.176	88.51
2020	247.50	1.314	1.455	188.32	154.39	1.011	1.071	152.75
2021	193.34	1.206	1.546	160.29	157.61	1.065	1.328	148.02
2022	237.19	1.269	1.819	186.89	132.93	1.028	1.267	129.35
2023	148.16	1.160	1.353	127.69	139.05	1.084	1.294	128.28
2024	144.35	1.041	1.210	138.61	139.28	1.009	1.205	138.01
PALM SPRINGS								
2015	99.54	0.800	1.042	124.38	95.80	0.753	0.949	127.17
2016	107.58	1.066	1.281	100.91	101.36	1.010	1.133	100.35
2017	119.10	1.022	1.220	116.56	116.44	0.998	1.210	116.63
2018	73.95	0.788	1.426	93.79	60.31	0.726	1.208	83.10
2019	133.77	1.233	1.623	108.49	91.61	0.915	1.298	100.09
2020	266.94	1.270	1.219	210.19	240.63	1.152	1.147	208.93
2021	247.59	1.339	1.447	184.96	237.33	1.323	1.430	179.36
2022	172.49	1.138	1.505	151.62	163.34	1.029	1.196	158.66
2023	204.84	1.089	1.556	188.09	139.86	0.909	1.405	153.85
2024	175.85	1.149	0.990	153.11	148.63	1.123	0.963	132.37
REDLANDS								
2015	124.52	1.012	1.467	122.99	102.29	0.935	1.247	109.37
2016	137.11	0.978	1.475	140.16	118.78	0.883	1.336	134.49
2017	142.59	1.009	1.595	141.35	112.45	0.856	1.407	131.32
2018	88.93	0.973	1.367	91.37	71.01	0.833	1.212	85.24
2019	215.23	1.275	1.407	168.81	104.26	0.970	1.243	107.50
2020	744.56	2.203	1.407	337.98	363.51	1.673	1.245	217.34
2021	724.32	2.800	1.864	258.71	575.02	2.464	1.725	233.40
2022	389.40	1.958	1.523	198.86	349.99	1.808	1.345	193.57
2023	456.00	2.300	1.909	198.22	403.36	2.217	1.844	181.95
2024	537.43	2.306	1.497	233.05	467.89	2.202	1.444	212.49
RIDGECREST								
2015	148.90	1.012	2.169	147.14	139.51	0.837	1.514	166.70
2016	254.31	1.048	1.283	242.67	249.21	0.941	1.160	264.84
2017	164.28	1.089	3.519	150.87	153.58	1.066	3.447	144.03
2018	254.59	1.099	1.287	231.59	99.80	0.732	1.278	136.39
2019	299.99	2.092	4.915	143.41	296.46	1.807	4.181	164.03
2020	219.08	1.254	1.683	174.77	213.10	1.112	1.550	191.70
2021	293.09	1.574	3.375	186.16	256.05	1.340	3.143	191.06
2022	398.55	2.560	4.485	155.69	349.82	1.752	2.815	199.70
2023	281.44	1.432	3.354	196.54	227.62	1.337	3.025	170.20
2024	277.70	1.569	4.358	177.00	272.97	1.562	4.307	174.70

District/Year	MED Included				MED Excluded			
	dSAIDI	dSAIFI	dMAIFI	dCAIDI	dSAIDI	dSAIFI	dMAIFI	dCAIDI
SADDLEBACK								
2015	46.03	0.385	0.379	119.54	45.65	0.384	0.379	118.98
2016	65.99	0.646	0.780	102.23	62.47	0.602	0.739	103.70
2017	65.35	0.576	0.695	113.48	48.74	0.482	0.545	101.18
2018	45.80	0.377	0.413	121.55	35.83	0.316	0.364	113.49
2019	134.87	0.669	0.388	201.61	42.99	0.512	0.334	83.92
2020	149.77	0.731	0.241	204.93	112.18	0.619	0.223	181.23
2021	136.89	0.763	0.782	179.38	121.97	0.685	0.782	177.96
2022	74.03	0.649	0.486	113.98	72.56	0.613	0.435	118.33
2023	79.80	0.666	0.358	119.77	77.14	0.633	0.314	121.88
2024	83.74	0.732	0.399	114.38	76.32	0.711	0.399	107.31
SANTA ANA								
2015	67.46	0.706	1.130	95.60	66.45	0.703	1.109	94.56
2016	97.27	0.995	1.184	97.73	88.31	0.938	1.112	94.13
2017	81.90	0.712	1.269	115.09	67.19	0.609	1.118	110.35
2018	122.09	0.819	1.304	149.09	56.91	0.550	1.093	103.42
2019	62.79	0.564	0.864	111.36	58.44	0.509	0.821	114.86
2020	134.33	0.899	1.188	149.38	108.56	0.763	0.909	142.23
2021	203.39	0.990	1.063	205.44	172.82	0.833	0.862	207.48
2022	148.42	0.986	0.871	150.52	139.80	0.942	0.798	148.34
2023	163.13	0.896	1.082	181.96	152.60	0.851	1.035	179.22
2024	137.04	0.751	0.637	182.38	117.15	0.717	0.605	163.49
SANTA BARBARA								
2015	152.37	1.517	1.577	100.42	143.29	1.338	1.459	107.10
2016	156.66	1.411	1.464	111.03	130.01	1.269	1.249	102.44
2017	408.43	9.213	13.591	44.33	152.42	1.619	1.206	94.17
2018	172.90	1.022	1.201	169.20	85.57	0.908	1.000	94.28
2019	201.25	1.502	1.750	134.00	179.19	1.389	1.562	129.02
2020	598.36	2.237	1.162	267.50	576.16	2.031	1.134	283.68
2021	648.72	2.346	0.981	276.52	623.76	2.145	0.802	290.83
2022	430.62	2.166	2.220	198.81	425.04	2.147	2.161	198.01
2023	512.85	2.874	2.092	178.43	490.26	2.670	1.977	183.64
2024	293.99	2.071	2.200	141.93	266.21	1.874	1.574	142.04
SANTA MONICA								
2015	75.41	0.625	1.069	120.68	64.42	0.577	1.065	111.61
2016	91.08	0.948	1.210	96.13	89.11	0.933	1.131	95.49
2017	71.89	0.712	1.168	101.02	66.14	0.678	1.108	97.49
2018	80.24	1.045	1.352	76.79	60.40	0.716	1.320	84.33
2019	104.74	0.896	1.424	116.87	100.35	0.861	1.373	116.49
2020	327.40	1.365	1.258	239.92	317.47	1.281	1.196	247.78
2021	164.29	0.836	1.121	196.61	161.86	0.813	1.039	199.14
2022	239.76	1.981	1.604	121.02	219.10	1.699	1.544	128.99
2023	177.48	1.176	1.165	150.88	144.82	1.006	1.086	143.92
2024	152.86	1.094	0.909	139.73	152.05	1.051	0.905	144.65

District/Year	MED Included				MED Excluded			
	dSAIDI	dSAIFI	dMAIFI	dCAIDI	dSAIDI	dSAIFI	dMAIFI	dCAIDI
SHAVER LAKE								
2015	422.77	3.415	9.298	123.78	422.77	3.415	9.298	123.78
2016	1062.01	4.993	4.157	212.70	774.00	2.795	2.165	276.87
2017	4273.52	7.947	5.220	537.73	676.22	6.039	5.197	111.97
2018	203.43	2.484	6.362	81.89	203.43	2.484	6.362	81.89
2019	1559.97	5.579	7.850	279.61	1504.82	5.206	5.339	289.07
2020	35395.79	10.737	3.836	3296.62	2394.19	9.488	3.836	252.35
2021	1486.73	3.345	3.017	444.46	1479.19	3.327	3.017	444.56
2022	1363.35	3.824	1.467	356.49	1356.40	3.567	1.216	380.31
2023	434.06	2.358	0.452	184.05	308.65	2.305	0.452	133.92
2024	536.38	3.829	0.406	140.09	536.38	3.829	0.406	140.09
SOUTH BAY								
2015	164.07	1.305	1.660	125.70	160.40	1.272	1.613	126.14
2016	183.90	1.884	2.020	97.60	150.90	1.752	1.818	86.12
2017	99.19	0.931	1.460	106.53	87.35	0.818	1.328	106.76
2018	90.63	1.090	1.771	83.13	82.27	1.007	1.524	81.67
2019	79.31	1.010	1.398	78.54	71.49	0.950	1.313	75.27
2020	231.91	1.351	1.570	171.71	205.81	1.253	1.529	164.26
2021	301.53	1.493	1.834	202.02	293.55	1.422	1.722	206.42
2022	229.65	1.651	2.058	139.06	221.41	1.563	1.939	141.66
2023	247.71	1.714	1.800	144.49	236.33	1.652	1.677	143.10
2024	170.08	1.175	1.521	144.71	168.67	1.169	1.498	144.23
TEHACHAPI								
2015	298.96	1.215	3.960	246.11	236.81	1.037	2.513	228.33
2016	97.29	1.132	2.363	85.98	76.43	1.036	1.940	73.78
2017	86.51	1.048	3.126	82.57	77.93	0.890	2.946	87.57
2018	55.99	0.673	2.276	83.20	54.96	0.655	2.146	83.86
2019	2983.88	4.608	2.171	647.60	467.57	2.716	1.776	172.14
2020	1609.64	3.040	3.123	529.54	538.52	2.063	2.983	261.00
2021	996.70	2.173	0.796	458.67	692.86	1.982	0.762	349.66
2022	588.63	2.794	3.048	210.64	408.95	1.721	1.756	237.60
2023	725.97	3.194	2.033	227.31	694.09	3.153	1.597	220.11
2024	471.85	1.300	5.426	362.91	196.85	1.138	5.382	173.02
THOUSAND OAKS								
2015	106.59	0.919	1.893	115.94	103.69	0.889	1.845	116.64
2016	143.78	1.307	2.585	110.02	128.24	1.227	2.378	104.48
2017	151.74	1.427	3.270	106.30	106.39	1.063	2.903	100.06
2018	1167.54	1.480	1.634	788.97	109.94	0.967	1.354	113.66
2019	517.05	1.723	1.213	300.09	112.98	1.182	1.163	95.56
2020	792.51	2.381	1.051	332.82	307.57	1.748	0.971	175.96
2021	1222.62	3.050	1.451	400.92	448.31	2.291	1.324	195.71
2022	237.12	1.793	1.366	132.28	230.52	1.709	1.268	134.86
2023	287.04	2.021	1.480	142.00	241.32	1.722	1.382	140.14
2024	872.93	2.105	1.847	414.77	216.42	1.650	1.845	131.18

District/Year	MED Included				MED Excluded			
	dSAIDI	dSAIFI	dMAIFI	dCAIDI	dSAIDI	dSAIFI	dMAIFI	dCAIDI
TULARE								
2015	127.50	1.052	1.414	121.24	99.83	0.908	1.106	109.94
2016	108.44	1.091	1.105	99.37	101.82	1.040	1.082	97.89
2017	191.66	1.343	1.198	142.71	105.72	1.282	1.188	82.46
2018	56.23	0.685	1.077	82.15	51.29	0.652	1.017	78.64
2019	72.67	0.745	1.075	97.51	69.70	0.716	1.035	97.36
2020	251.79	1.023	0.888	246.22	138.58	0.945	0.868	146.72
2021	745.71	1.115	1.123	668.97	734.08	1.084	1.094	677.29
2022	143.91	0.838	1.270	171.64	133.49	0.797	1.210	167.40
2023	173.03	1.020	1.209	169.57	158.83	0.930	1.097	170.70
2024	142.13	1.059	1.069	134.21	137.77	1.046	1.058	131.71
VALENCIA								
2015	72.27	0.611	0.971	118.22	71.05	0.604	0.845	117.62
2016	105.09	0.968	1.549	108.59	97.40	0.846	1.522	115.19
2017	136.62	1.079	1.549	126.67	81.27	0.702	1.283	115.76
2018	92.41	1.063	1.451	86.97	79.33	0.945	1.391	83.98
2019	457.47	1.224	0.965	373.66	101.43	0.914	0.918	111.00
2020	471.63	1.597	1.131	295.38	177.00	1.232	1.109	143.68
2021	636.69	1.791	1.451	355.49	319.61	1.392	1.406	229.59
2022	180.10	1.439	0.917	125.11	179.36	1.436	0.917	124.94
2023	182.22	1.325	0.771	137.58	169.95	1.246	0.769	136.40
2024	288.33	1.476	1.332	195.37	169.72	1.419	1.326	119.61
VENTURA								
2015	148.85	1.190	1.447	125.11	141.43	1.149	1.375	123.11
2016	150.41	1.236	1.679	121.65	107.14	1.019	1.553	105.11
2017	520.90	3.122	2.293	166.85	114.76	1.240	1.542	92.56
2018	136.04	1.438	1.921	94.61	100.39	1.177	1.676	85.30
2019	334.96	1.647	2.610	203.37	133.54	1.364	2.407	97.92
2020	352.62	1.422	1.198	247.98	248.20	1.229	1.088	201.92
2021	651.23	2.745	2.093	237.21	405.66	2.313	1.688	175.37
2022	233.98	1.938	1.533	120.74	226.48	1.880	1.519	120.50
2023	208.51	1.870	2.247	111.53	199.57	1.761	2.138	113.34
2024	472.65	2.372	1.733	199.28	297.49	2.014	1.467	147.72
VICTORVILLE								
2015	87.03	0.906	1.839	96.06	72.90	0.812	1.551	89.75
2016	79.35	0.917	1.396	86.49	75.94	0.888	1.327	85.55
2017	84.07	0.895	2.353	93.94	73.12	0.808	1.757	90.49
2018	125.92	0.862	1.345	146.01	97.87	0.802	1.270	122.07
2019	82.42	1.102	2.008	74.77	74.68	0.986	1.667	75.77
2020	128.42	1.180	1.611	108.84	124.42	1.130	1.520	110.10
2021	209.84	1.256	2.514	167.06	204.64	1.205	2.467	169.84
2022	212.11	1.480	2.062	143.33	195.18	1.329	1.931	146.88
2023	194.04	1.111	1.755	174.58	188.50	1.065	1.659	176.92
2024	133.48	1.045	1.505	127.75	131.58	1.001	1.474	131.43

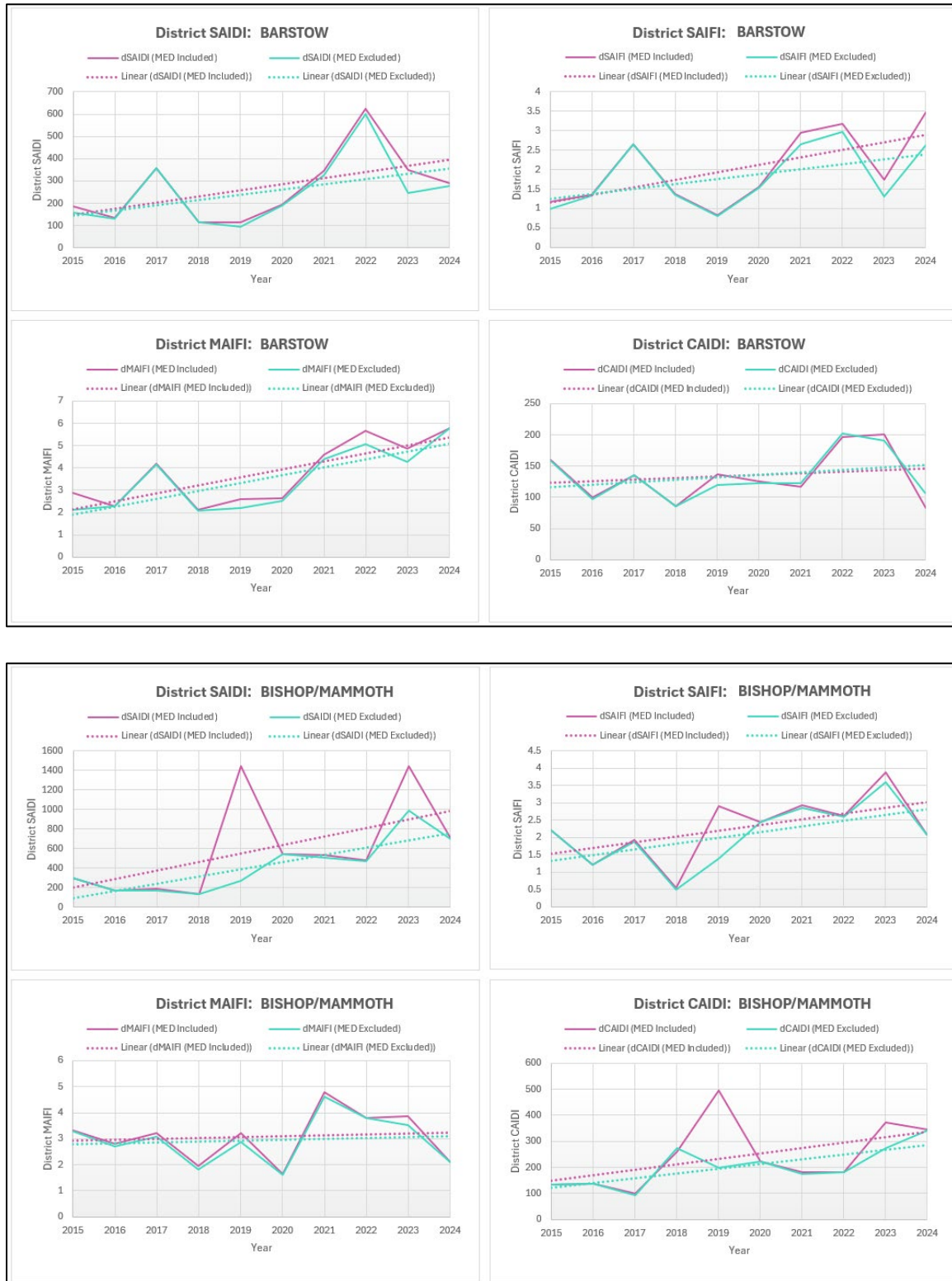
District/Year	MED Included				MED Excluded			
	dSAIDI	dSAIFI	dMAIFI	dCAIDI	dSAIDI	dSAIFI	dMAIFI	dCAIDI
WHITTIER								
2015	114.52	0.733	1.084	156.32	104.85	0.704	0.989	148.88
2016	137.34	0.814	1.416	168.76	90.21	0.616	1.290	146.36
2017	148.91	0.896	1.872	166.10	91.91	0.750	1.655	122.50
2018	87.74	0.666	1.413	131.83	73.66	0.575	1.297	128.01
2019	84.86	0.730	1.379	116.21	73.99	0.624	1.160	118.51
2020	192.66	1.054	1.279	182.74	162.68	0.938	1.151	173.43
2021	316.98	1.302	1.589	243.47	302.35	1.211	1.397	249.58
2022	237.56	1.153	1.471	205.99	227.39	1.105	1.316	205.84
2023	201.38	1.105	1.149	182.18	190.64	1.041	1.006	183.17
2024	328.48	1.964	1.250	167.21	133.79	1.043	1.084	128.32
WILDOMAR								
2015	50.98	0.569	1.202	89.59	46.59	0.538	1.001	86.66
2016	82.00	0.840	0.928	97.59	77.99	0.817	0.838	95.46
2017	88.81	0.769	1.015	115.45	55.05	0.550	0.933	100.15
2018	60.09	0.741	0.798	81.12	51.21	0.616	0.711	83.11
2019	93.45	0.761	0.738	122.82	52.15	0.603	0.726	86.53
2020	187.03	1.057	0.894	176.88	146.50	0.959	0.893	152.78
2021	237.74	1.133	0.619	209.86	227.98	1.053	0.541	216.52
2022	169.20	1.091	0.479	155.12	163.23	1.055	0.445	154.71
2023	162.15	0.961	0.393	168.70	154.75	0.928	0.316	166.73
2024	223.92	1.444	0.411	155.05	165.38	1.388	0.411	119.18
YUCCA VALLEY								
2015	388.99	1.804	3.922	215.64	260.08	1.189	2.708	218.70
2016	463.68	3.393	3.874	136.66	440.06	3.257	3.106	135.13
2017	300.33	1.957	1.602	153.47	270.11	1.728	1.509	156.28
2018	353.49	1.936	2.747	182.56	206.24	1.487	1.832	138.68
2019	473.40	2.491	1.956	190.03	415.89	2.154	1.753	193.10
2020	645.38	3.292	2.688	196.07	488.50	2.865	2.627	170.52
2021	968.80	3.469	2.473	279.24	863.32	3.057	2.410	282.39
2022	581.12	3.029	3.842	191.84	557.38	2.810	1.928	198.33
2023	679.64	3.162	4.873	214.95	626.82	2.940	4.614	213.21
2024	866.71	2.390	2.222	362.61	291.03	2.063	2.222	141.05

Table 8: District Indices from 2015-2024 for Planned and Unplanned Outages



SECTION 3a: District Line Graphs for Planned and Unplanned Outages

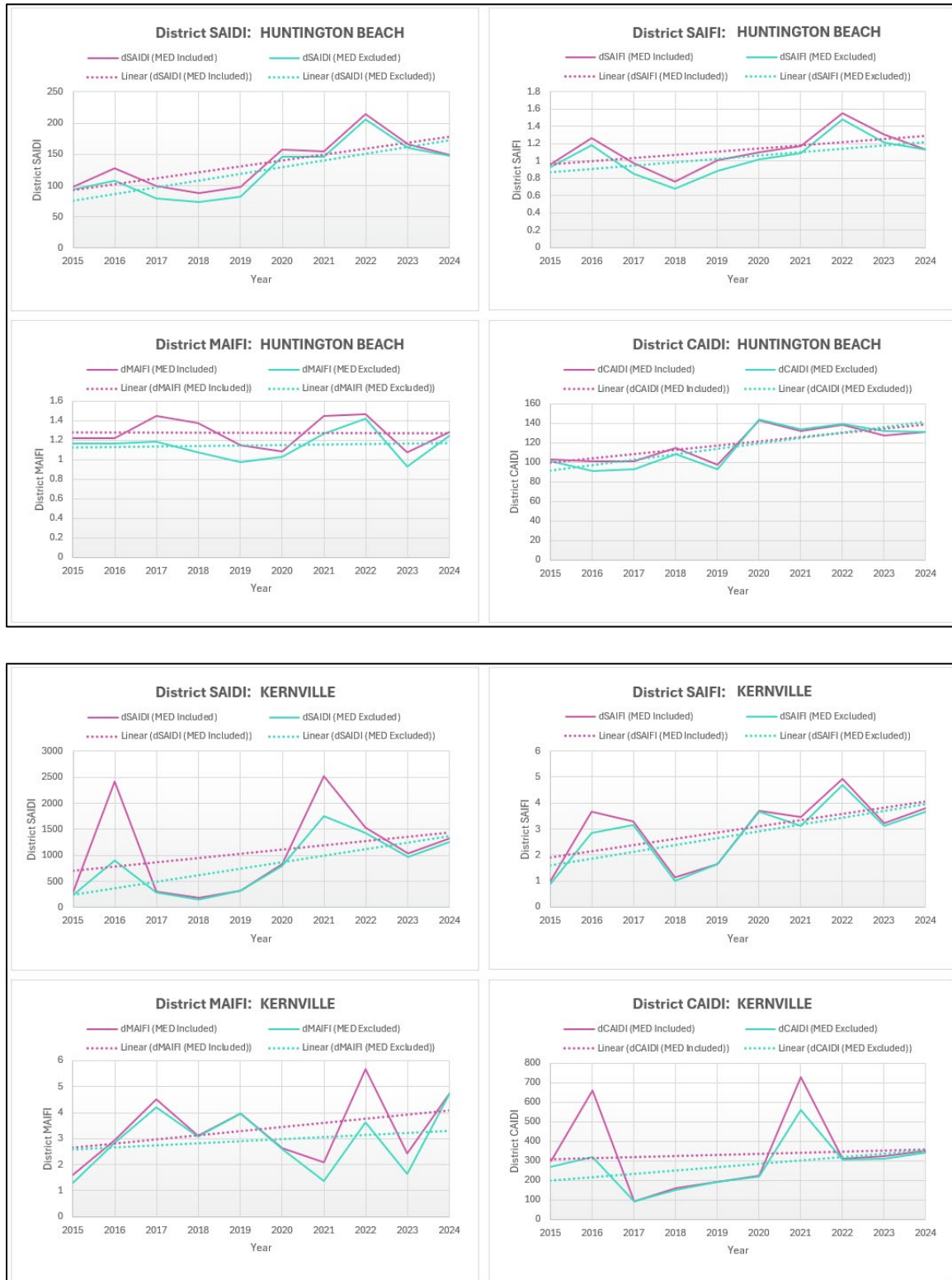


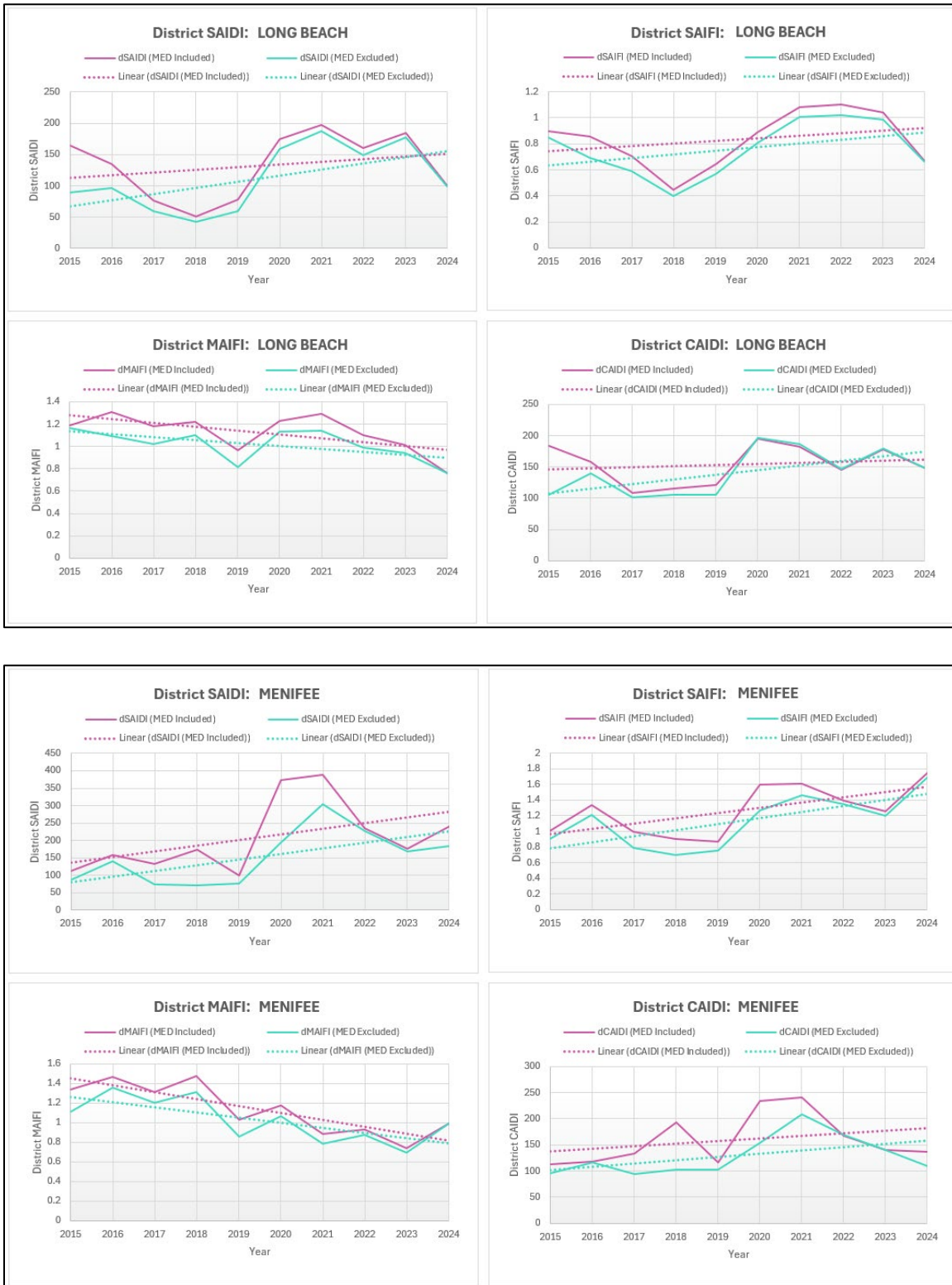










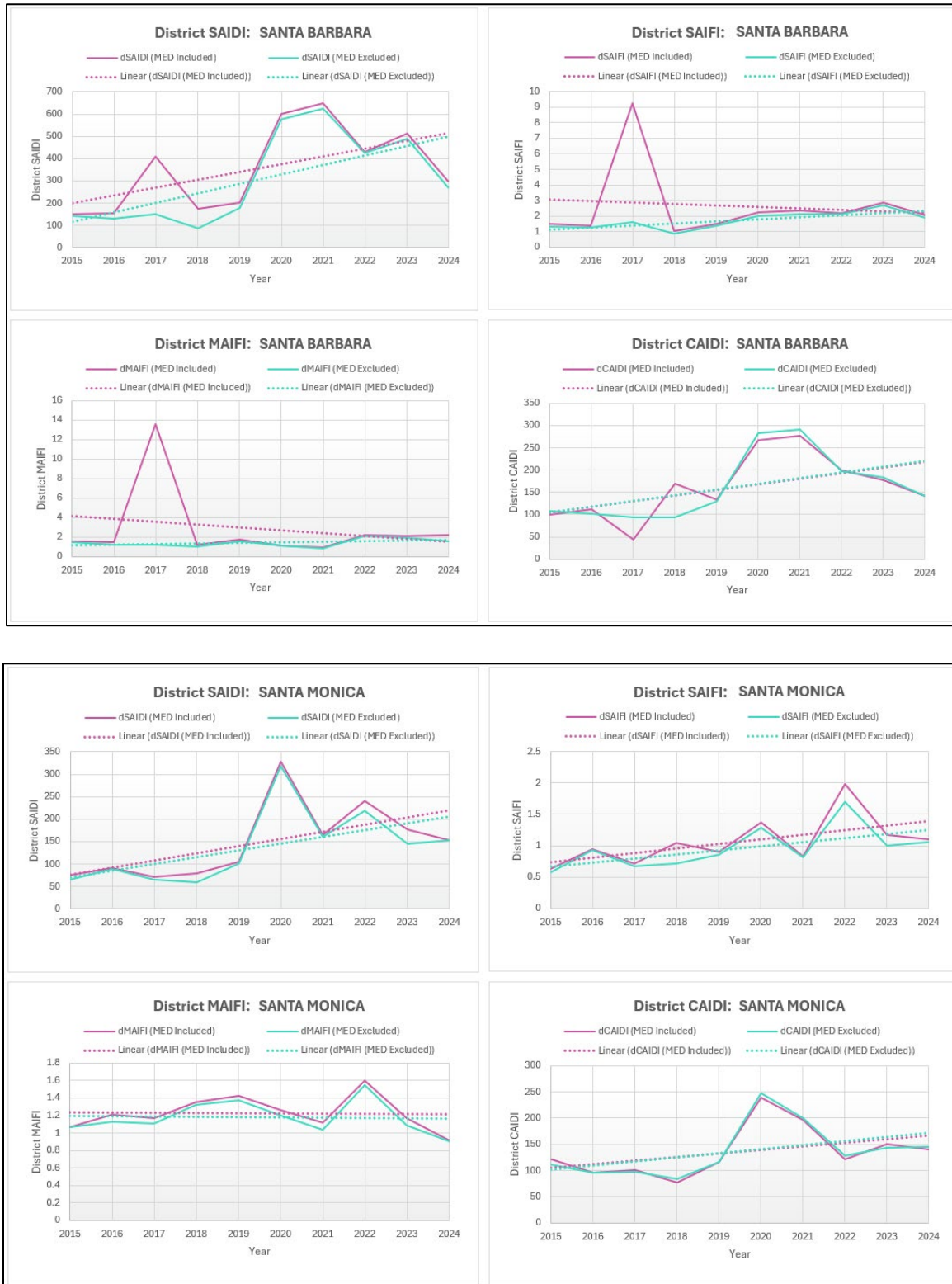






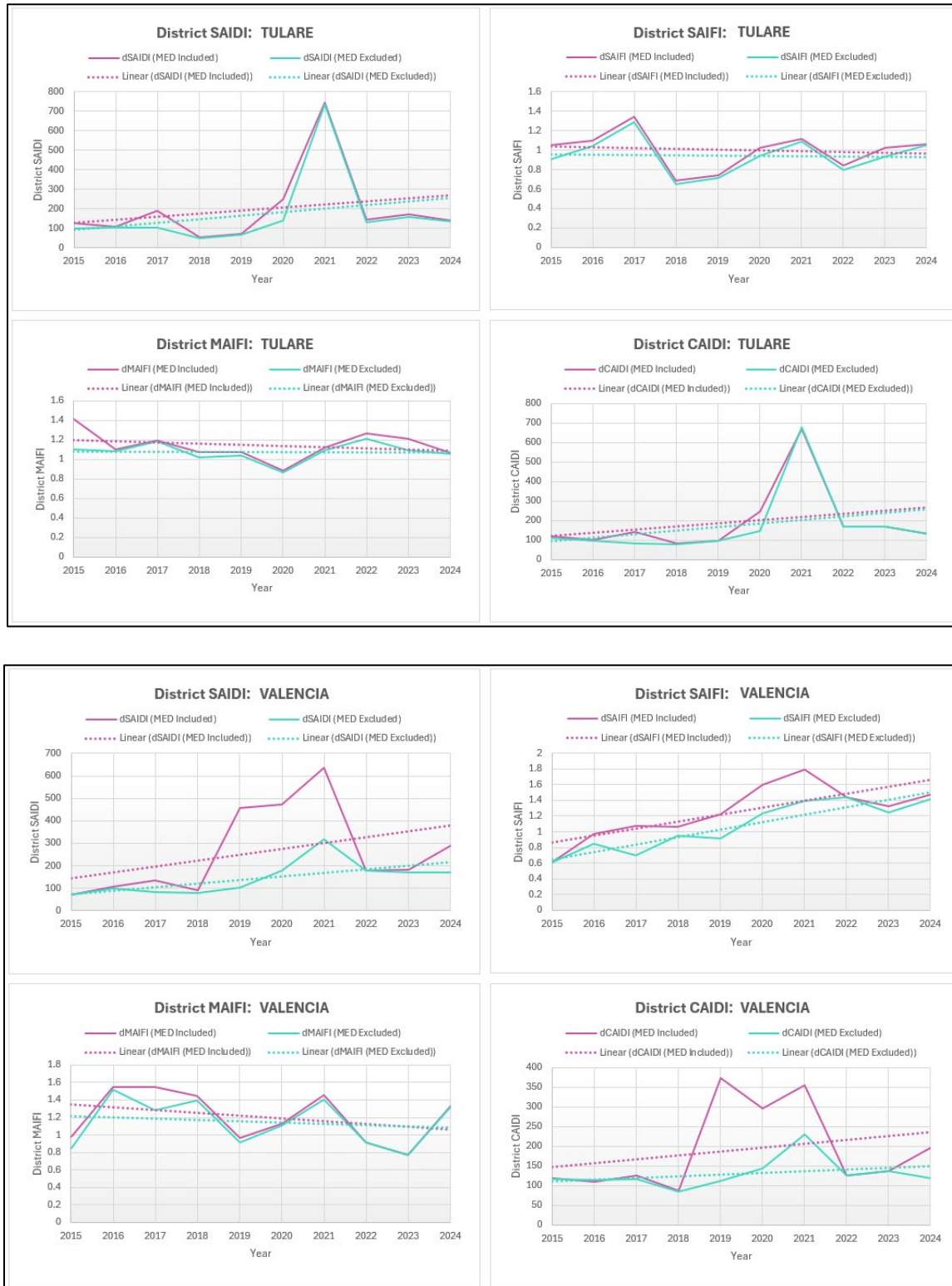
















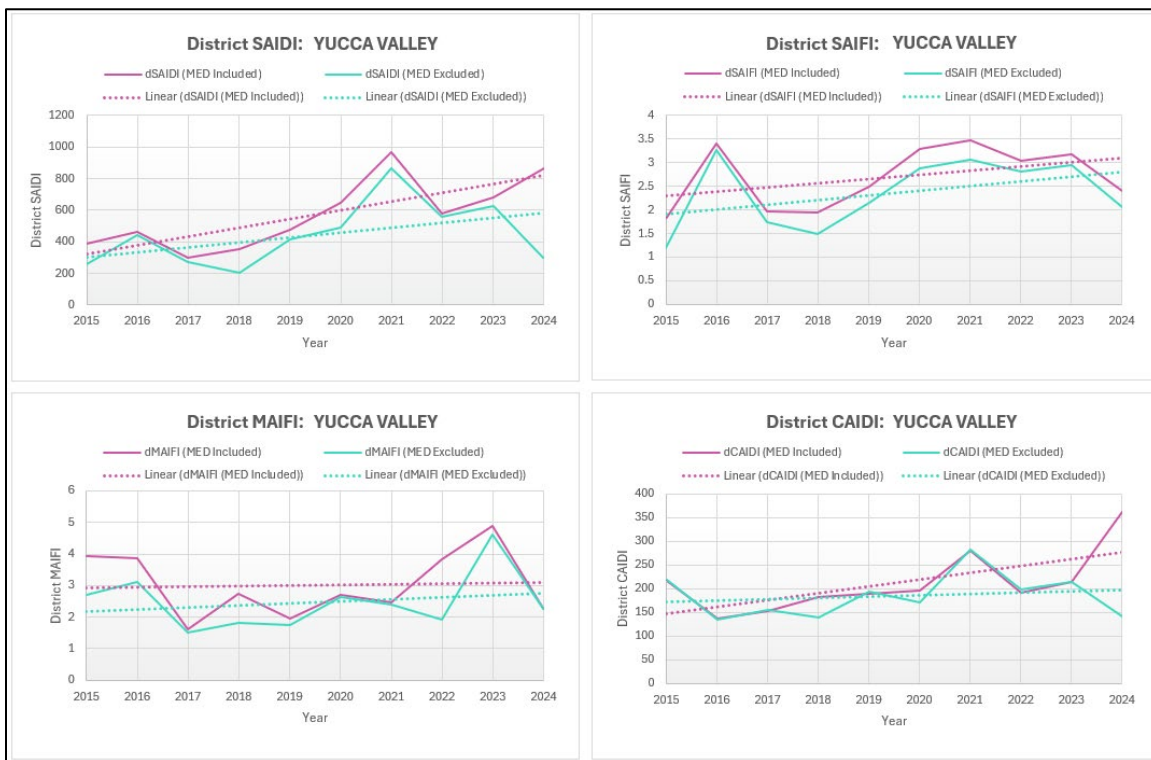


Figure 6: District Indices for Planned and Unplanned Outages

SECTION 3b: District Planned Outages Details

Table 9 summarizes the number of planned outages for each district per month for 2024. Planned outages on the same day and circuit may potentially be condensed into one outage event due to the underlying methodology used to link outages using meter data. Pursuant to D. 16-01-008 (page 2 of Appendix B), SCE is providing the information on the number, date, and location of planned outages for 2024 under seal in a separate report to the Directors of Energy Division and the Safety Enforcement Division on the same day of submission of this report.

Number of Planned Outages in Each District (2024)													
District	January	February	March	April	May	June	July	August	September	October	November	December	Total
ANTELOPE VALLEY	30	27	43	48	67	63	36	67	51	44	36	25	537
ARROWHEAD	21	21	49	80	86	76	51	32	24	50	42	29	561
BARSTOW	14	19	8	7	9	9	9	4	4	5	9	9	106
BISHOP/MAMMOTH	6	1	4	14	29	0	0	36	39	57	21	21	228
BLYTHE	11	3	9	6	11	5	4	7	11	7	12	14	100
CATALINA	0	1	1	1	0	0	0	1	1	1	0	0	6
COVINA	85	68	94	111	91	82	84	61	42	72	45	48	883
DOMINGUEZ HILLS	83	52	44	53	70	60	32	38	34	40	41	31	577
FOOTHILL	82	53	53	61	64	72	54	53	31	53	51	40	667
FULLERTON	55	38	56	71	50	69	62	70	47	88	96	69	771
HUNTINGTON BEACH	82	66	49	78	59	62	54	36	30	62	59	45	682
KERNVILLE	9	12	22	42	60	18	29	31	28	44	70	50	415
LONG BEACH	78	54	70	86	68	38	53	46	38	45	40	54	670
MENIFEE	67	65	61	67	95	80	79	77	85	105	76	43	900
MONROVIA	72	36	66	90	76	74	78	60	51	57	44	41	745
MONTEBELLO	80	63	55	74	41	46	42	43	29	48	22	30	573
ONTARIO	34	46	47	89	95	99	73	73	65	102	65	52	840
PALM SPRINGS	44	50	46	51	60	41	31	32	32	58	41	43	529
REDLANDS	228	203	193	160	134	101	110	112	100	62	91	93	1586
RIDGECREST	15	10	13	14	14	17	5	5	8	15	11	12	139
SADDLEBACK	19	26	19	19	24	29	23	24	17	18	15	21	254
SANTA ANA	76	47	50	70	53	65	61	63	32	42	65	53	677
SANTA BARBARA	54	52	62	45	50	63	65	59	46	48	48	45	636
SANTA MONICA	34	32	21	22	22	26	10	14	19	10	19	13	242
SHAVER LAKE	3	1	0	1	0	5	2	3	2	2	3	2	24
SOUTH BAY	77	38	48	87	85	84	73	77	43	67	58	49	786
TEHACHAPI	19	14	9	18	15	11	19	9	15	42	36	66	273
THOUSAND OAKS	92	86	70	89	116	90	96	80	66	75	104	79	1043
TULARE	132	110	128	113	115	147	149	156	144	174	96	159	1623
VALENCIA	43	49	41	30	48	62	52	64	50	74	81	51	645
VENTURA	86	100	85	113	117	128	110	116	87	101	72	86	1201
VICTORVILLE	80	59	41	70	60	45	60	23	20	38	40	69	605
WHITTIER	28	31	37	38	31	33	29	23	20	32	42	18	362
WILDOMAR	43	57	57	114	108	88	49	71	48	83	51	43	812
YUCCA VALLEY	34	27	30	24	17	22	7	24	10	15	29	19	258

Table 9: Number of Planned Outage for Each District (2024)

SECTION 4: Service Area Map

The map below shows SCE's service area with power delivery regions and districts. The map contains both SCE district boundaries and county boundaries. SCE has 10 regions and 35 districts.

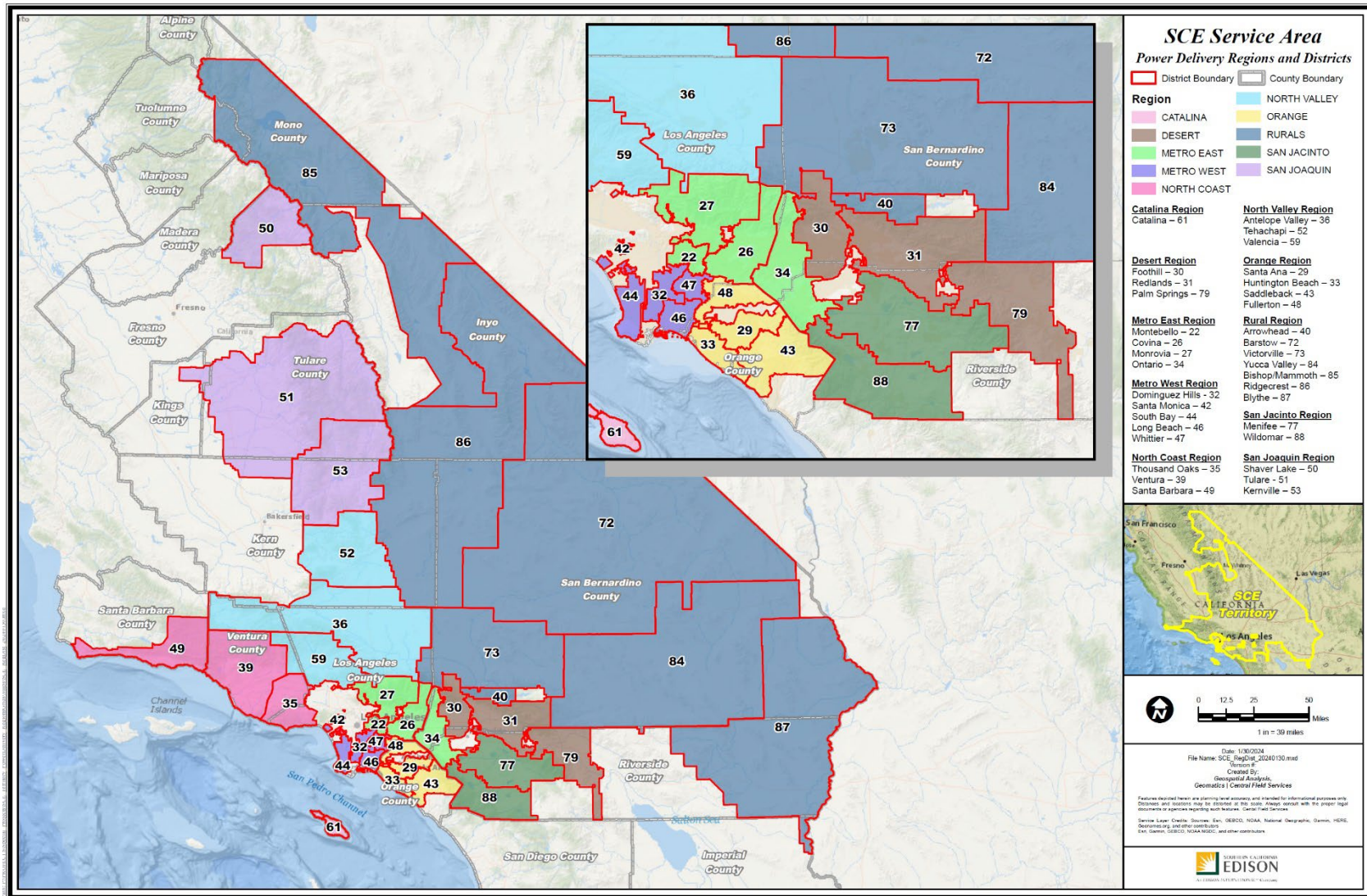


Figure 7: Southern California Edison Service Area Map

SECTION 5: Top 1% of Worst Performing Circuits

SECTION 5a: WPC Details

The Worst Performing Circuits (WPC) activity targets the top 1% worst performing circuits, measured using the *IEEE Standard 1366* indices SAIDI and SAIFI.

WPCs are identified by using three years of system outage history excluding MEDs and planned outages. SCE applies a weighted factor to the SAIDI and SAIFI system indices where the most recent year's performance receives a 61% weight, while the weights for the subsequent previous years are 28% and 11%, respectively. The weighted results are summed per circuit and then ranked from highest to lowest. SCE reports the top 46 WPCs for both SAIDI and SAIFI indices; some circuits overlap between indices. SCE identified 79 unique WPCs. Of the 79 WPCs, 27 circuits are denoted with an asterisk (*) which indicates that the circuit was also on the previous year's WPC list.

Table 10 below presents the Top 1% WPC using the SAIDI index, while Table 11 displays the Top 1% WPC using the SAIFI index. The tables provide (1) circuit name, (2) district, (3) customer count, (4) substation name, (5) circuit miles, (6) percent underground (%UG), (7) percent overhead (%OH), (8) number of main line outages resulting in the operation of a circuit breaker or automatic re-closer, (9) System-Level reliability index, and (10) Circuit-Level reliability index.

In addition to using SAIDI and SAIFI indices, SCE is increasingly assessing customer-level reliability to determine where some of our reliability improvement efforts must be focused. Specifically, SCE is using Customer Experiencing Multiple Interruptions (CEMI) and Customers Experiencing Long Interruption Duration (CELID) to identify locations that targeted remediations can be deployed to improve customer experience. In some instances, circuits or circuit segments with high CEMI or CELID do not overlap with WPC and SCE may need to expend incremental resources to implement reliability improvement projects. An example of such a circuit is the Haskell circuit where customers experienced a significant number of outages over the last five years. SCE is developing tailored solutions including distribution automation to better sectionalize the circuit and reduce the number of customers impacted by outages, and wildfire and vegetation cover retrofitting to protect against fire threats, vegetation contact, and critter contact outages. More details on Haskell circuit can be found in Table 12 below.



Name	District	Substation	2024 Circuit Customers	2024 Circuit Miles (d)	2024 %UG	2024 %OH	2024 CB/AR Operation (a)	Sys-SAIDI (b)	Sys-SAIDI Rank	Ckt SAIDI (c)	Ckt SAIDI Rank
JENKS LAKE 12kV	Redlands	CONVERSE FLATS	150	15.14	1.98%	98.02%	2	0.80	1	28501.05	3
SNOW VALLEY 12kV	Arrowhead	RUNNING SPRINGS	958	23.30	9.95%	90.05%	3	0.53	2	2950.45	22
FLYING D 12kV	Kernville	HAVILAH	382	60.95	6.23%	93.77%	2	0.48	3	6703.51	7
LIMITED 12kV	Wildomar	ELSINORE	2,108	39.48	42.78%	57.22%	4	0.45	4	1137.49	70
FERRARA 12kV	Ontario	PADUA	1,822	42.04	49.42%	50.58%	3	0.44	5	1273.99	62
ROWCO 12kV	Arrowhead	RUNNING SPRINGS	1,270	19.19	14.62%	85.38%	2	0.43	6	1793.66	42
RAMAC 16kV	Ventura	ESTERO	1,277	35.55	24.67%	75.33%	1	0.35	7	1488.03	53
GREEN BEAR 2.4kV	Arrowhead	GREEN BEAR P.T.	676	7.30	0.00%	100.00%	1	0.34	8	2654.74	23
WEESHA 2.4kV	Redlands	WEESHA P.T.	53	4.45	0.00%	100.00%	1	0.33	9	32696.63	2
FANTAIL 16kV	Santa Monica	TAHITI	5,536	12.79	88.07%	11.93%	0	0.29	10	279.74	420
MELODY 25kV*	Yucca Valley	HI DESERT	1,968	320.20	0.09%	99.91%	14	0.28	11	768.32	108
AUTUMN 12kV*	Bishop/Mammoth	SKILAND	2,227	28.51	75.97%	24.03%	3	0.27	12	651.90	100
JANUARY 12kV*	Huntington Beach	LAFAYETTE	4,247	20.06	92.94%	7.06%	2	0.26	13	329.81	310
SAGO 16kV	South Bay	TORRANCE	4,654	20.64	23.87%	76.13%	4	0.26	14	296.69	374
MORGANSTEIN 16kV*	Thousand Oaks	MOORPARK	1,774	68.57	67.52%	32.48%	2	0.25	15	677.56	77
SURFSIDE 16kV*	Ventura	CHANNEL ISLANDS	5,730	32.26	61.92%	38.08%	0	0.25	16	234.12	491
CAMP ANGELUS 2.4kV	Redlands	CAMP ANGELUS P.T.	321	4.24	0.00%	100.00%	0	0.25	17	4163.40	13
KNOLLS 12kV	High Desert	RANCHO	2,098	24.97	28.94%	71.06%	0	0.25	18	631.70	133
FELDSPAR 16kV	South Bay	CREST	2,376	47.31	58.73%	41.27%	2	0.25	19	557.80	156
FORCE 12kV	Antelope Valley	SHUTTLE	2,366	17.64	52.32%	47.68%	1	0.25	20	553.68	157
MILO 16kV*	Thousand Oaks	VALDEZ	2,046	18.92	63.43%	36.57%	2	0.24	21	662.14	86
CAMPANULA 25kV*	Yucca Valley	NUGGET	2,087	136.38	7.22%	92.78%	17	0.24	22	613.50	130
NORDIC 12kV*	Bishop/Mammoth	SKILAND	1,378	12.81	99.00%	1.00%	1	0.23	23	903.66	78
DALBA 2.4kV	Arrowhead	DALBA P.T.	594	7.86	1.96%	98.04%	0	0.23	24	2034.95	31
RULER 12kV	Redlands	HIGHLAND	2,162	26.97	99.01%	0.99%	2	0.22	25	549.77	153
CORSICA 16kV*	Ventura	GONZALES	6,763	41.21	65.74%	34.26%	2	0.21	26	166.32	776
KAY 16kV*	Montebello	ALHAMBRA	2,382	15.12	33.62%	66.38%	4	0.21	27	471.36	164
HILTON 16kV	Santa Monica	BEVERLY	968	27.13	86.13%	13.87%	6	0.21	28	1161.17	60
VICASA 16kV	Thousand Oaks	VALDEZ	2,733	58.44	31.00%	69.00%	6	0.21	29	405.33	229
SINALOA 16kV	Thousand Oaks	ROYAL	2,199	28.29	83.59%	16.41%	3	0.21	30	501.95	179
CORSAIR 12kV*	Menifee	STETSON	2,489	114.69	26.95%	73.05%	6	0.21	31	467.19	176
SPINNAKER 16kV	Ventura	CHANNEL ISLANDS	5,057	34.08	28.68%	71.32%	1	0.20	32	206.17	607
ROBINSON CREEK 12kV	Bishop/Mammoth	BRIDGEPORT	233	17.34	6.85%	93.15%	4	0.19	33	4458.55	11
GUNTHER 12kV	Huntington Beach	CROWN	3,092	17.96	78.50%	21.50%	1	0.19	34	333.85	313
SODA SPRINGS 12kV	Tulare	BOXWOOD	1,708	142.77	7.19%	92.81%	4	0.19	35	714.53	101
CRUMP 12kV	Redlands	CRUMP P.T.	476	5.14	11.57%	88.43%	1	0.19	36	2156.97	22
TAGGERT 12kV	Arrowhead	RUNNING SPRINGS	636	10.66	1.71%	98.29%	1	0.19	37	1598.39	46
ERRINGER 16kV	Thousand Oaks	ROYAL	3,197	20.39	39.89%	60.11%	4	0.19	38	312.47	342
BACHELOR 16kV	South Bay	WALTERIA	1,821	19.67	18.49%	81.51%	3	0.19	39	546.67	142
PLACID 12kV	Redlands	TIMOTEO	3,275	47.58	28.25%	71.75%	5	0.19	40	304.67	353
PAWLEY 12kV	Tulare	THREE RIVERS	1,127	63.26	6.03%	93.97%	2	0.18	41	866.52	86
ERSKINE 12kV*	Kernville	ISABELLA	2,626	44.52	2.21%	97.79%	0	0.18	42	341.02	275
BIRCHIM 12kV	Bishop/Mammoth	MT. TOM	572	55.60	6.15%	93.85%	9	0.18	43	1687.18	41
MAHOGANY 12kV	Tulare	TULE (PGAE)	672	36.74	7.01%	92.99%	1	0.18	44	2038.17	26
STANWOOD 16kV*	Santa Barbara	SANTA BARBARA	1,845	41.80	21.28%	78.72%	3	0.18	45	506.18	148
CHICO 16kV	South Bay	ROLLING HILLS	3,013	15.28	57.44%	42.56%	4	0.18	46	308.62	329

Table 10: Top 1% WPC Based on SAIDI (Excluding MEDs)

- (*) Circuits that have appeared in both 2023 and 2024 WPC list per D. 16-01-008
- (a) Includes sustained and momentary outages that affected the circuit breaker (CB) and/or automatic recloser (AR)
- (b) SAIDI is based on a three-year weighted average
- (c) Circuit (Ckt) SAIDI is based on a three-year weighted factor (average customer experience on circuit)
- (d) Starting 2021, Circuit Miles is obtained using geospatial data moving away from legacy software



Name	District	Substation	2024 Circuit Customers	2024 Circuit Miles (d)	2024 %UG	2024 %OH	2024 CB/AR Operation (a)	Sys-SAIFI (b)	Sys-SAIFI Rank	Ckt SAIFI (c)	Ckt SAIFI Rank
SAGO 16kV*	South Bay	TORRANCE	4,654	20.64	23.87%	76.13%	4	0.003	1	3.828	77
SURFSIDE 16kV*	Ventura	CHANNEL ISLANDS	5,730	32.26	61.92%	38.08%	0	0.003	2	2.978	179
MILPAS 16kV*	Santa Barbara	SANTA BARBARA	6,004	25.37	32.27%	67.73%	5	0.003	3	2.626	243
SINALOA 16kV	Thousand Oaks	ROYAL	2,199	28.29	83.59%	16.41%	3	0.003	4	6.657	11
JANUARY 12kV*	Huntington Beach	LAFAYETTE	4,247	20.06	92.94%	7.06%	2	0.003	5	3.477	104
CROSSON 16kV*	Ventura	CAMARILLO	4,494	42.47	48.44%	51.56%	4	0.003	6	3.138	107
CORSICA 16kV*	Ventura	GONZALES	6,763	41.21	65.74%	34.26%	2	0.003	7	2.050	453
CAMPANULA 25kV*	Yucca Valley	NUGGET	2,087	136.38	7.22%	92.78%	17	0.003	8	6.678	10
SALMON 16kV*	South Bay	EL NIDO	4,087	19.74	39.47%	60.53%	0	0.003	9	3.227	108
PIRATE 16kV	Compton	CUDAHY	4,708	21.37	15.28%	84.72%	1	0.002	10	2.724	139
ASTEROID 16kV*	Montebello	ALHAMBRA	4,459	20.23	36.69%	63.31%	6	0.002	11	2.773	196
TURNPIKE 16kV*	Santa Barbara	SANTA BARBARA	4,807	21.46	28.79%	71.21%	2	0.002	12	2.593	235
FLORENCE 16kV	Compton	CUDAHY	4,519	20.57	30.95%	69.05%	0	0.002	13	2.619	167
FANTAIL 16kV*	Santa Monica	TAHITI	5,536	12.79	88.07%	11.93%	0	0.002	14	2.045	484
SAN NICHOLAS 16kV*	Ventura	CASITAS	3,721	26.49	50.74%	49.26%	2	0.002	15	3.040	146
SILVERSIDE 16kV	Compton	CUDAHY	3,455	17.95	13.52%	86.48%	1	0.002	16	3.260	67
SCIURBA 16kV	South Bay	WALTERIA	3,391	27.88	40.30%	59.70%	5	0.002	17	3.251	126
LOCKSLEY 16kV	Monrovia	RAVENDALE	4,364	18.32	38.80%	61.20%	4	0.002	18	2.404	287
AMANDA 16kV	Ventura	GONZALES	2,660	25.85	59.88%	40.12%	6	0.002	19	4.319	49
SNEAD 12kV*	Huntington Beach	LAFAYETTE	3,449	19.16	79.66%	20.34%	3	0.002	20	3.089	143
SCHOONER 16kV	Ventura	CHANNEL ISLANDS	5,644	32.85	90.41%	9.59%	0	0.002	21	1.860	507
WINDJAMMER 16kV*	Ventura	CHANNEL ISLANDS	7,719	45.28	48.16%	51.84%	2	0.002	22	1.298	908
DRISKILL 16kV*	Santa Barbara	SAN MARCOS	4,479	69.03	41.16%	58.84%	0	0.002	23	2.294	263
GIZMO 16kV*	Ventura	CHANNEL ISLANDS	4,335	27.75	87.07%	12.93%	0	0.002	24	2.275	319
SPINNAKER 16kV	Ventura	CHANNEL ISLANDS	5,057	34.08	28.68%	71.32%	1	0.002	25	1.949	526
RAISIN 12kV	Redlands	SIXTEENTH STREET	1,806	15.98	29.91%	70.09%	7	0.002	26	5.064	17
SEXTON 16kV	Ventura	SATICOY	3,448	42.64	31.53%	68.47%	4	0.002	27	2.648	235
DIABLO 16kV	Ventura	SAN MIGUEL	3,496	29.81	63.00%	37.00%	2	0.002	28	2.449	282
HARLEM SPRINGS 12kV	Redlands	CARDIFF	1,910	26.20	46.10%	53.90%	2	0.002	29	4.585	35
BLUEBERRY 12kV	Covina	CITRUS	2,382	12.64	45.78%	54.22%	4	0.002	30	3.717	55
MARSHALL 16kV*	Santa Monica	MARINE	3,168	10.51	37.65%	62.35%	3	0.002	31	1.796	316
CANET 16kV	Ventura	CASITAS	3,950	33.56	32.56%	67.44%	3	0.002	32	2.213	378
ROWCO 12kV	Arrowhead	RUNNING SPRINGS	1,270	19.19	14.62%	85.38%	2	0.002	33	6.809	10
HOT SPRINGS 16kV*	Santa Barbara	SANTA BARBARA	3,766	32.28	54.27%	45.73%	3	0.002	34	2.271	295
KINNELOA 16kV	Monrovia	EATON	2,840	23.48	9.95%	90.05%	3	0.002	35	2.986	178
VICASA 16kV	Thousand Oaks	VALDEZ	2,733	58.44	31.00%	69.00%	6	0.002	36	3.090	165
POTATO 12kV	Redlands	SIXTEENTH STREET	1,943	16.31	7.00%	93.00%	10	0.002	37	4.346	47
CARNEGIE 16kV	Ventura	GONZALES	4,414	49.90	53.92%	46.08%	3	0.002	38	1.900	531
CRONIN 12kV	Huntington Beach	HAMILTON	4,517	32.59	51.40%	48.60%	2	0.002	39	1.850	420
CADWAY 16kV	Ventura	WAKEFIELD	3,797	43.10	19.20%	80.80%	4	0.002	40	2.209	314
KING 16kV	South Bay	VICTORIA	3,931	14.52	43.58%	56.42%	2	0.002	41	2.075	301
KAY 16kV*	Montebello	ALHAMBRA	2,382	15.12	33.62%	66.38%	4	0.002	42	3.446	97
ELDER 12kV	Foothill	RIALTO	1,867	13.12	40.64%	59.36%	4	0.002	43	4.330	35
ERRINGER 16kV	Thousand Oaks	ROYAL	3,197	20.39	39.89%	60.11%	4	0.001	44	2.489	303
PLACID 12kV	Redlands	TIMOTEO	3,275	47.58	28.25%	71.75%	5	0.001	45	2.416	328
PAWNEE 12kV	Menifee	GAVILAN	2,373	90.51	16.30%	83.70%	2	0.001	46	3.333	114

Table 11: Top 1% WPC Based on SAIFI (Excluding MEDs)

- (*) Circuits that have appeared in both 2023 and 2024 WPC list per D. 16-01-008
- (a) Includes sustained and momentary outages that affected the circuit breaker (CB) and/or automatic recloser (AR)
- (b) SAIFI is based on a three-year weighted average
- (c) Circuit (Ckt) SAIFI is based on a three-year weighted factor (average customer experience on circuit)
- (d) Starting 2021, Circuit Miles is obtained using geospatial data moving away from legacy software

Name	District	Substation	2024 Circuit Customers	2024 Circuit Miles (b)	2024 %UG	2024 %OH	2024 CB/AR Operation (a)
HASKELL 16kV	Monrovia	ARROYO	1,574	27.01	43.90%	56.10%	30

Table 12: Circuit Details for CEMI/CELID (Excluding MEDs)

(a) Includes sustained and momentary outages that affected the circuit breaker (CB) and/or automatic recloser (AR)

(b) Starting 2021, Circuit Miles is obtained using geospatial data moving away from legacy software

SECTION 5b: Deficient WPC Circuits

Table 13 and Table 14 identify the circuits that are the top 1% WPC for SAIDI and SAIFI this year (2024) along with the top 1% WPC circuit for SAIDI and SAIFI identified in the previous year (2023). These tables provide information in response to Section 5b of Decision 16-01-008.

Circuit	2024 Sys-SAIDI Rank	2024 Sys-SAIFI	2023 Sys-SAIDI Rank	2023 Sys-SAIFI	Explanation of Repeat Deficiency	Submitted	Engineering Scope	Anticipated Completion Year
Melody 25kV*	11	0.28	36	0.19	Customers served by the Melody 25kV circuit experienced three large interruptions in 2024, affecting the majority of customers. Two of these interruptions were due to overhead (OH) equipment failures, while the third was caused by high winds, resulting in a Customer Minutes of Interruption (CMI) exceeding 1 million.	4/30/2019	PIF84629 Proposed to the following: 220 overhead fuses	Postponed due to Wildfire Mitigation Efforts
Autumn 12kV*	12	0.27	2	0.49	The Autumn 12kV experienced two large interruptions in 2024, both caused by weather.	7/8/2024	IWP045802 Proposed to install/replace the following: 2 automated switches	2026
January 12kV*	13	0.26	9	0.27	January 12kV experienced three large underground equipment failures in 2024, impacting multiple customers and leading to reliability deficiencies. Both the January 12kV and Snead 12kV circuits traverse the congested intersections and structures of Newport Beach Balboa Peninsula, necessitating pumping to initiate troubleshooting. All three events exceeds 300,000 CMI.	3/1/2024	IWP045457 / PIF533040 Proposed to install/replace the following: 2 automated devices 8 Eco Pumps Cathodic Protection at 13 locations 6 underground switches	2025
Morganstein 16kV*	15	0.25	1	0.53	The Morganstein 16kV experienced three major interruptions in 2024. Two outages were due to a PSPS and the other was due to a pothead.	4/1/2024	IWP045479 / 535062 Proposed to install/replace the following: 10 sets of fuses 7 automated switches	2025
Surfside 16kV*	16	0.25	5	0.30	Surfside 16kV experienced two large interruptions in 2024, impacting the majority of customers. These interruptions included an overhead equipment failure and a substation equipment failure, which affected circuits fed from the Channel Island substation impacting Gizmo 16kV, Surfside 16 kV, and Windjammer 16kV. In both events, the CMI exceeded 200,000.	3/5/2025	IWP045990 Proposed to install/replace the following: 3 set of fuses 5 overhead switches	2026
Milo 16kV*	21	0.24	3	0.43	Milo 16kV experienced four major interruptions that significantly impacted its performance and affected the majority of customers. These interruptions included two underground equipment failures, a substation component failure, and a Public Safety Power Shutoff (PSPS) event. The PSPS event exceed 3 million CMI which lead to the circuit's circuit's reliability deficiencies.	7/7/2023	PIF635040 Converting the existing primary overhead line to a 3.88-mile underground system.	2026

Circuit	2024 Sys- SAIDI Rank	2024 Sys- SAIDI	2023 Sys- SAIDI Rank	2023 Sys- SAIDI	Explanation of Repeat Deficiency	Submitted	Engineering Scope	Anticipated Completion Year
Campanula 25kV*	22	0.24	37	0.19	Campanula 25kV experienced five large interruptions in 2024 impacting a large portion of the customers fed by this circuit. These interruptions were caused by one vehicle incident, two overhead equipment failures, and two issues originating from the Pinto 33kV circuit. The Pinto 33kV circuit, which supplies power to both Campanula and Landers, had two interruptions that affected both circuits.	Pending	Engineering will continue to monitor and evaluate circuit performance for additional circuit enhancements (i.e. FI's and automation) to minimize CMI and CI.	Pending Review
Nordic 12kV*	23	0.23	33	0.20	The Nordic 12kV experienced one large interruptions in 2024 due to an underground burd.	4/1/2024	PIF#585014 Proposed to install/replace the following: 1.03 miles of underground cable 1 overhead switch 1 underground switch	2025
Corsica 16kV*	26	0.21	34	0.20	The Corsica 16kV experienced two major interruptions in 2024. One of due to Operation and the other was due to underground components.	3/5/2025	IWP045924 Proposed to install/replace the following: 7 remote fault indicators 2 automated devicees 1 underground switch	2026
Kay 16kV*	27	0.21	8	0.29	The Kay 16kV experienced three major interruptions in 2024. All three outages were on the overhead equipment affected by a mylar balloon, conductor, and fuse.	4/24/2024	Grid Mod Proposed to install/replace the following: 2 automated devices 2 fault indicators	2025
Corsair 12kV*	31	0.21	18	0.23	Customers fed by the Corsair 12kV circuit experienced three large interruptions in 2024, leading to reliability deficiencies. These interruptions included two underground equipment failures and a vehicle hitting a pole. The CMI for these events exceeded 100,000, but the vehicle hit pole surpassing 500,000 CMI.	5/3/2024	IWP045672 / 577089 Proposed to install/replace the following: 1 automated device 1 overhead switch 1 fault indicator	2025
Ersine 12kV*	42	0.18	31	0.21	Ersine 12kV was impacted by the Borel fire. Sections of the circuit were subsequently rebuilt, which contributed to the circuit's reliability deficiency in 2024.	3/5/2025	IWP045894 Proposed to install/replace the following: 4 automated devicees 3 remote fault indicators	2026
Stanwood 16kV*	45	0.18	25	0.22	The Stanwood 16kV experienced two major interruptions in 2024. One outage due to utility contact and the other was due to vegetation blown.	6/6/2024	PIF#549050 Proposed to install/replace the following: 3 automated devices 3 remote fault indicators	2025

Table 13: SAIDI Repeat Deficient List

*SCE does not have a quantitative description for its circuit future performance. SCE designs reliability improvements at the circuit level and track reliability performance using system level measures (e.g., SAIDI, SAIFI)

**Completion dates may shift due to the availability of planning and construction resources.

Circuit	2024 Sys- SAIFI Rank	2024 Sys- SAIFI	2023 Sys- SAIFI Rank	2023 Sys- SAIFI	Explanation of Repeat Deficiency	Submitted	Engineering Scope	Anticipated Completion Year
Sago 16kV*	1	0.0034	35	0.0018	Customers served by the Sago 16kV circuit experienced four large overhead equipment failures in 2024, affecting the majority of users. Three of these events resulted in Customer Minutes of Interruption (CMI) exceeding 200,000. The combination of the number of customers impacted and the high CMI contributed to the circuit's reliability deficiencies.	7/8/2024	IWP045800 / 644097 Proposed to install/replace the following: Reconductor .15 miles of overhead bare conductor with covered conductor Install 2 overhead switches Install 14 BLFs	2026
Surfside 16kV*	2	0.0032	1	0.0042	Surfside 16kV experienced two large interruptions in 2024, impacting the majority of customers. These interruptions included an overhead equipment failure and a substation equipment failure, which affected circuits fed from the Channel Island substation impacting Gizmo 16kV, Surside 16 kV, and Windjammer 16kV. In both events, the CMI exceeded 200,000.	3/5/2025	IWP045990 Proposed to install/replace the following: 3 set of fuses 5 overhead switches	2026
Milpas 16kV*	3	0.003	20	0.002	The Milpas 16kV experienced three major interruptions in 2024. One was due to a contractor dig-in, vegetation blown into overhead conductor, and overhead tap.	3/5/2025	IWP045907 Proposed to install/replace the following: 15 sets of fuses 5 remote fault indicators 5 automated devices 1 overhead switch 2 underground fault indicators Reconductor .27 miles of overhead bare conductor with covered conductor	2026
January 12kV*	5	0.0027	5	0.0032	January 12kV experienced three large underground equipment failures in 2024, impacting multiple customers and leading to reliability deficiencies. Both the January 12kV and Snead 12kV circuits traverse the congested intersections and structures of Newport Beach Balboa Peninsula, necessitating pumping to initiate troubleshooting. All three events exceeds 300,000 CMI.	3/1/2024	IWP045457 / PIF533040 Proposed to install/replace the following: 2 automated devices 8 Eco Pumps Cathodic Protection at 13 locations 6 underground switches	2025
Crosson 16kV*	6	0.0027	3	0.0036	The Crosson 16kV experienced three major interruptions in 2024. One of due to fire on the structure. The second was due to underground transformer failure and the last one was no cause was found.	3/5/2025	IWP045989 Proposed to install/replace the following: 3 sets of fuses 2 remote fault indicators 3 automated devices 2 overhead switch 5 underground switches 3 underground remote fault indicators 2 underground fault indicators	2026
Corsica 16kV*	7	0.0026	4	0.0033	The Corsica 16kV experienced two major interruptions in 2024. One of due to Operation and the other was due to underground components.	3/5/2025	IWP045924 Proposed to install/replace the following: 7 remote fault indicators 2 automated devices 1 underground switch	2026
Campanula 25kV*	8	0.0026	7	0.0027	Campanula 25kV experienced five large interruptions in 2024 impacting a large portion of the customers fed by this circuit. These interruptions were caused by one vehicle incident, two overhead equipment failures, and two issues originating from the Pinto 33kV circuit. The Pinto 33kV circuit, which supplies power to both Campanula and Landers, had two interruptions that affected both circuits.	Pending	Engineering will continue to monitor and evaluate circuit performance for additional circuit enhancements (i.e FI's and automation) to minimize CMI and CI.	Pending Review
Salmon 16kV*	9	0.0025	6	0.0028	Customers fed by the Salmon 16kV experienced three large outage events in 2024, affecting the majority of customers. Two of these outages were attributed to overhead equipment failures, while the third was due to issues with underground equipment.	5/24/2024	PIF#644096 Proposed to install/replace the following: 4 fault indicators A fuse set	2026



Circuit	2024 Sys- SAIFI Rank	2024 Sys- SAIFI	2023 Sys- SAIFI Rank	2023 Sys- SAIFI	Explanation of Repeat Deficiency	Submitted	Engineering Scope	Anticipated Completion Year
Asteroid 16kV*	11	0.0023	8	0.0025	The Asteroid 16kV experienced two major interruptions in 2024 that led to its poor performance. These interruptions included one vegetation and no cause was found for the other.	7/31/2018	PIF#22588 Proposed to install/replace the following: Reconductor 5.5 conductor miles of overhead bare conductor	Postponed due to resources
Turnpike 16kV*	12	0.0022	9	0.0025	The Turnpike 16kV experienced two large interruptions in 2024. One outage due to underground cable failure and the other was due to vehicle hit pole.	3/5/2025 4/1/2024	IWP045868 Proposed to install/replace the following: 25 sets of fuses 1 overhead switch 3 remote fault indicators 3 automated switches PIF549043 2 remote fault indicators 1 automated switches	2026 2025
Fantail 16kV*	14	0.0021	22	0.002	Customers fed by Fantail 16kV experienced two large interruptions in 2024 impacting majority of customers. These events included underground equipment failure and a substation flash.	1/8/2024	IWP045512 / 542015 Proposed to install/replace the following: 1 underground automated device 1 fault indicator	2025
San Nicholas 16kV*	15	0.0021	17	0.0021	The San Nicholas 16kV experienced two major interruptions in 2024. One outage due to underground components and the other was due to 3rd party damage.	3/5/2025	IWP045995 Proposed to install/replace the following: 1 automated device 2 sets of fuses 2 remote fault indicators 2 overhead switches	2026
Snead 12kV*	20	0.002	10	0.0024	Snead 12kV experienced two large underground equipment failures in 2024, impacting multiple customers and leading to reliability deficiencies. Both the January 12kV and Snead 12kV circuits traverse the congested intersections and structures of Newport Beach Balboa Peninsula, necessitating pumping to initiate troubleshooting.	Pending	Evaluate for Eco-Pumps, Cathodic Protection, and other circuit enhancements (i.e FI's and automation).	Pending Review
Windjammer 16kV*	22	0.0019	26	0.0019	Customers fed by the Windjammer 16kV experienced two large interruptions. These interruptions included overhead equipment failure and substation equipment failure which impacted circuits fed from the Channel Island substation impacting Gizmo 16kV, Surside 16 kV, and Windjammer 16kV.	3/5/2025	IWP045933 Proposed the following: Install 7 remote fault indicators Install 3 fault indicators	2026
Driskill 16kV*	23	0.0019	2	0.0038	The Driskill 16kV experienced one major interruptions in 2024 which was due to overhead component failure.	3/5/2025	IWP045879 Proposed to install/replace the following: 1 automated device 5 remote fault indicators 1 overhead switch 4 sets of fuse Reconductor 3.7 miles of overhead bare conductor with covered conductor	2026
Gizmo 16kV*	24	0.0019	15	0.0021	Gizmo 16kV experienced three large interruptions in 2024, impacting the majority of customers. These interruptions included two underground equipment failures and a substation equipment failure, which affected circuits fed from the Channel Island substation impacting Gizmo 16kV, Surside 16 kV, and Windjammer 16kV.	3/5/2025	IWP045988 Proposed to install/replace the following: 2 set of fuses 1 automated device 3 overhead switches 2 underground switches 2 remote fault indicators 6 fault indicators Reconductor .16 miles overhead bare conductor with covered conductor	2026

Circuit	2024 Sys- SAIFI Rank	2024 Sys- SAIFI	2023 Sys- SAIFI Rank	2023 Sys- SAIFI	Explanation of Repeat Deficiency	Submitted	Engineering Scope	Anticipated Completion Year
Marshall 16kV*	31	0.0017	12	0.0024	Customers served by the Marshall 16kV experienced a large overhead equipment failure in 2024, affecting the majority of them. Restoration efforts were delayed due to a downed wire.	6/29/2018 4/1/2024	PIF#42461 Proposed to install/replace the following: Reconductor .37 conductor miles of overhead bare conductor 16 sets of fuses PIF#542030 Proposed to install/replace the following: 3 automated device 1 remote fault indicators	Postponed due to resources 2025
Hot Springs 16kV*	34	0.0016	42	0.0017	The Hot Springs 16kV experienced three large interruptions in 2024. Two outages were due to vegetation blown into overhead equipment and the other outage is due to underground transformer failure.	3/5/2025	IWP045906 Proposed to install/replace the following: 8 overhead switches 2 remote fault indicators 2 underground switches 5 sets of fuses 3 underground fault indicators Reconductor .16 miles of overhead bare conductor with covered conductor	2026
Kay 16kV*	42	0.0015	19	0.002	The Kay 16kV experienced three major interruptions in 2024. All three outages were on the overhead equipment affected by a mylar balloon, conductor, and fuse.	4/24/2024	Grid Mod Proposed to install/replace the following: 2 automated devices 2 fault indicators	2025

Table 14: SAIFI Repeat Deficient List

*SCE does not have a quantitative description for its circuit future performance since SCE designs reliability improvements at the circuit level; however for WPC projects at the benefits are calculated at system level rather than at the individual circuit level.

**Completion dates may shift due to the availability of planning and construction resources.

SECTION 5c: WPC Evaluation

WPC projects are initiated using three years of system outage data which are weighted then ranked. The top 1% circuits are assigned to the area Distribution Engineer to evaluate.

The WPC evaluation begins with the review of outages exceeding thresholds of either 100,000 Customer Minutes of Interruption (CMI) or 1,100 Customers Interrupted (CI). These thresholds were used to identify the severity of the outage and target specific areas with reliability concerns. Outage logs and repair orders were used as part of the outage evaluation and provide additional details such as switching procedures and operational obstacles such as access to structures to operate equipment. After the outages had been evaluated, Engineering determines the WPC project scope.

SCE engineers develop circuit specific plans balancing reliability improvements and costs. Adding isolation devices such as branch line fuses (BLFs) help to reduce the number of customers impacted in the event of an outage. Adding fault indicators (FIs) to the circuitry helps speed up locating the fault and thus shortens the outage restoration times. BLFs and FIs are relatively low-cost options. Adding automation devices to detect and isolate faults are effective reliability improvement measures. These solutions incur more costs and take longer to deploy compared to BLFs and FIs, but do not require infrastructure replacement. If the equipment of the circuits is aged or in poor health, engineers develop hardening and infrastructure replacement projects such as overhead conductor or cable replacements.

SECTION 6: Top 10 Major Unplanned Power Outages within 2024

This section contains the top 10 unplanned outages based on SAIDI for 2024. The location, cause, and SAIDI can be found for each outage.

Rank	System Outage ID	Date	Switching Center	Cause Description	SAIDI
1	451668	12/24/2024	LIGHTHIPE	LOST SOURCE SUBSTATION	4.59
2	451004	12/9/2024	VENTURA	DE-ENERGIZE FOR PUB. AGENCY PUB. SAFETY SWITCH/DISCONNECT/AR	1.61
3	449958	11/6/2024	VENTURA	NO CAUSE FOUND UNKNOWN PATROLLED	1.46
4	447558	9/29/2024	VISTA	DE-ENERGIZE FOR PUB. AGENCY PUB. SAFETY SWITCH/DISCONNECT/AR	1.24
5	436870	3/30/2024	VINCENT	LOST SOURCE SUBSTATION	1.16
6	450865	12/9/2024	VENTURA	PUB. SAFETY POWER SHUTDOWN PUB. SAFETY SWITCH/DISCONNECT/AR	1.10
7	449426	11/6/2024	MESA	VEGETATION BLOWN OVERHEAD EQUIPMENT CONDUCTOR/WIRE	1.10
8	449174	11/6/2024	VISTA	PUB. SAFETY POWER SHUTDOWN PUB. SAFETY SWITCH/DISCONNECT/AR	1.10
9	449259	11/6/2024	VENTURA	PUB. SAFETY POWER SHUTDOWN PUB. SAFETY SWITCH/DISCONNECT/AR	1.04
10	449443	11/6/2024	VINCENT	VEGETATION BLOWN OVERHEAD EQUIPMENT CONDUCTOR/WIRE	1.03

Table 15: Top 10 Unplanned Outage for 2024 (SAIDI)

SECTION 7: Summary List of Major Event Days

This section contains all the MEDs for 2024 along with the number of customers without service for specific intervals, the cause, and location.

Cause	PSPS	PSPS	PSPS, and De-energized for Public Agency	PSPS	Lost Source Substation
Region Location	North Coast, Rural, and Desert	North Coast	North Coast	North Coast and Rural	Metro West
Outage Date	10/18/2024	11/06/2024	12/09/2024	12/10/2024	12/24/2024
Outage Duration	Number of Customers Impacted for Each Duration Period				
0 to 1 hour	57,525	108,877	17,881	70,767	132,647
1 to 5 hours	17,677	56,032	2,007	6,454	49,337
5 to 10 hours	1,854	8,150	121	3,246	12,982
10 to 15 hours	2,797	2,312	48	53	18,775
15 to 20 hours	1,374	3,818	547	5,210	71
20 to 24 hours	4,973	5,692	2,554	9,191	338
1 to 2 days	4,126	61,876	15,054	16,673	194
2 to 3 days	0	7,361	78	30	0
3 to 4 days	0	133	71	0	0
4 to 5 days	0	135	0	42	0
5 to 6 days	0	84	26	0	0
6 to 7 days	0	72	0	4	0
>= 7 days	0	115	0	4	0
Total	90,326	254,657	38,387	111,674	214,344

Table 16: Summary List of MED for 2024

SECTION 8: Historical 10 Largest Unplanned Outage Events in the Last 10 Years

This section contains the 10 largest unplanned outage events based on SAIDI for each year from 2015-2024.

Rank	Cause Description	System Outage ID	Date	SAIDI	Switching Center
2024					
1	LOST SOURCE SUBSTATION	451668	12/24/2024	4.59	LIGHTHIPE
2	DE-ENERGIZE FOR PUB. AGENCY PUB. SAFETY SWITCH/DISCONNECT/AR	451004	12/9/2024	1.61	VENTURA
3	NO CAUSE FOUND UNKNOWN PATROLLED	449958	11/6/2024	1.46	VENTURA
4	DE-ENERGIZE FOR PUB. AGENCY PUB. SAFETY SWITCH/DISCONNECT/AR	447558	9/29/2024	1.24	VISTA
5	LOST SOURCE SUBSTATION	436870	3/30/2024	1.16	VINCENT
6	PUB. SAFETY POWER SHUTDOWN PUB. SAFETY SWITCH/DISCONNECT/AR	450865	12/9/2024	1.10	VENTURA
7	VEGETATION BLOWN OVERHEAD EQUIPMENT CONDUCTOR/WIRE	449426	11/6/2024	1.10	MESA
8	PUB. SAFETY POWER SHUTDOWN PUB. SAFETY SWITCH/DISCONNECT/AR	449174	11/6/2024	1.10	VISTA
9	PUB. SAFETY POWER SHUTDOWN PUB. SAFETY SWITCH/DISCONNECT/AR	449259	11/6/2024	1.04	VENTURA
10	VEGETATION BLOWN OVERHEAD EQUIPMENT CONDUCTOR/WIRE	449443	11/6/2024	1.03	VINCENT
2023					
1	OTHER-SEE NOTES STRUCTURE POLE	415936	2/28/2023	1.41	LUGO
2	TOPPLED/BROKEN STRUCTURE POLE	431080	8/20/2023	1.32	VISTA
3	FOREIGN MATERIAL SUBSTATION EQUIPMENT BUS/CONDUCTOR	412386	1/23/2023	1.10	ORANGE COUNTY
4	UNKNOWN OVERHEAD EQUIPMENT CONDUCTOR/WIRE	426494	8/20/2023	1.03	DEVERS
5	TOPPLED/BROKEN STRUCTURE POLE	418022	3/10/2023	0.54	RECTOR
6	TOPPLED/BROKEN STRUCTURE POLE	419067	4/3/2023	0.52	LUGO
7	OPEN FOR REPAIRS STANDARD OPERATION OPERATOR/CREW	423826	7/16/2023	0.49	VISTA
8	VEGETATION BLOWN OVERHEAD EQUIPMENT CONDUCTOR/WIRE	415938	2/28/2023	0.48	VISTA
9	NO CAUSE FOUND UNKNOWN PATROLLED	418396	2/27/2023	0.47	LUGO
10	PUB. SAFETY POWER SHUTDOWN PUB. SAFETY SWITCH/DISCONNECT/AR	430913	12/9/2023	0.47	VENTURA
2022					
1	UNKNOWN OVERHEAD EQUIPMENT SPLICE/CONNECTOR/TAP	392533	1/22/2022	1.03	MIRA LOMA
2	DE-ENERGIZE FOR PUB. AGENCY PUB. SAFETY SWITCH/DISCONNECT/AR	405076	8/15/2022	0.95	RECTOR
3	VEGETATION BLOWN OVERHEAD EQUIPMENT CONDUCTOR/WIRE	391947	1/21/2022	0.81	MESA
4	OPEN FOR REPAIRS STANDARD OPERATION OPERATOR/CREW	400741	6/16/2022	0.72	LUGO
5	LIGHTNING OVERHEAD EQUIPMENT FUSE/BLF/CUTOUT	400713	6/22/2022	0.63	VINCENT
6	OTHER-SEE NOTES SUBSTATION EQUIPMENT CIRCUIT BREAKER	403187	7/19/2022	0.58	EL NIDO
7	VEGETATION BLOWN OVERHEAD EQUIPMENT CONDUCTOR/WIRE	392509	1/21/2022	0.56	MIRA LOMA
8	OTHER-SEE NOTES STRUCTURE POLE	403999	8/8/2022	0.56	ELDORADO
9	WIND OVERHEAD EQUIPMENT CONDUCTOR/WIRE	392236	1/21/2022	0.55	MIRA LOMA
10	WIND OVERHEAD EQUIPMENT CONDUCTOR/WIRE	392495	1/21/2022	0.55	MIRA LOMA
2021					
1	DE-ENERGIZE FOR PUB. AGENCY PUB. SAFETY SWITCH/DISCONNECT/AR	383108	8/20/2021	1.80	RECTOR
2	PUB. SAFETY POWER SHUTDOWN PUB. SAFETY SWITCH/DISCONNECT/AR	388053	11/24/2021	1.46	VENTURA
3	UNKNOWN OVERHEAD EQUIPMENT CONDUCTOR/WIRE	390687	12/29/2021	1.45	VISTA
4	UNKNOWN SUBSTATION EQUIPMENT BUS/CONDUCTOR	382392	8/9/2021	1.26	ORANGE COUNTY
5	VEGETATION BLOWN OVERHEAD EQUIPMENT CONDUCTOR/WIRE	390712	12/29/2021	1.26	VISTA
6	VEGETATION BLOWN SUBSTATION EQUIPMENT DISCONNECT	369669	1/19/2021	1.16	VINCENT
7	PUB. SAFETY POWER SHUTDOWN PUB. SAFETY SWITCH/DISCONNECT/AR	369889	1/19/2021	1.09	VENTURA
8	NO CAUSE FOUND UNKNOWN PATROLLED	369414	1/19/2021	1.09	VINCENT
9	PUB. SAFETY POWER SHUTDOWN PUB. SAFETY SWITCH/DISCONNECT/AR	369394	1/19/2021	1.06	VENTURA
10	PUB. SAFETY POWER SHUTDOWN PUB. SAFETY SWITCH/DISCONNECT/AR	388252	11/25/2021	1.02	VISTA

Rank	Cause Description	System Outage ID	Date	SAIDI	Switching Center
2020					
1	DE-ENERGIZE FOR PUB. AGENCY PUB. SAFETY SWITCH/DISCONNECT/AR	368680	9/5/2020	16.14	RECTOR
2	FIRE OVERHEAD EQUIPMENT CONDUCTOR/WIRE	366672	9/9/2020	3.30	VISTA
3	FIRE OVERHEAD EQUIPMENT CONDUCTOR/WIRE	368697	9/13/2020	1.91	RECTOR
4	PUB. SAFETY POWER SHUTDOWN PUB. SAFETY SWITCH/DISCONNECT/AR	367130	12/7/2020	1.88	VALLEY
5	PUB. SAFETY POWER SHUTDOWN PUB. SAFETY SWITCH/DISCONNECT/AR	366833	12/7/2020	1.80	VINCENT
6	FIRE STRUCTURE POLE	366519	9/5/2020	1.65	RECTOR
7	DE-ENERGIZE FOR PUB. AGENCY PUB. SAFETY SWITCH/DISCONNECT/AR	362801	9/14/2020	1.48	RECTOR
8	DE-ENERGIZE FOR PUB. AGENCY PUB. SAFETY SWITCH/DISCONNECT/AR	364540	9/10/2020	1.31	VISTA
9	REMEDIAL ACTION SCHEME STANDARD OPERATION OPERATOR/CREW	367731	12/13/2020	1.30	MIRA LOMA
10	PUB. SAFETY POWER SHUTDOWN PUB. SAFETY SWITCH/DISCONNECT/AR	366862	12/7/2020	1.27	VINCENT
2019					
1	LOST SOURCE SUBSTATION	336358	8/2/2019	4.62	ORANGE COUNTY
2	LOST SOURCE SUBSTATION	338863	9/16/2019	2.29	CONTROL
3	WIND OVERHEAD EQUIPMENT CONDUCTOR/WIRE	344450	12/26/2019	2.20	VISTA
4	NO CAUSE FOUND UNKNOWN PATROLLED	342810	11/28/2019	1.64	VISTA
5	UNKNOWN TRANSMISSION EQUIPMENT CONDUCTOR	339320	10/5/2019	1.61	CONTROL
6	PUB. SAFETY POWER SHUTDOWN PUB. SAFETY SWITCH/DISCONNECT/AR	340707	10/30/2019	1.42	VISTA
7	LOST SOURCE SUBSTATION	344416	12/26/2019	1.29	VISTA
8	PUB. SAFETY POWER SHUTDOWN PUB. SAFETY SWITCH/DISCONNECT/AR	340669	10/30/2019	1.20	VINCENT
9	PUB. SAFETY POWER SHUTDOWN PUB. SAFETY SWITCH/DISCONNECT/AR	340627	10/30/2019	1.10	VINCENT
10	PUB. SAFETY POWER SHUTDOWN PUB. SAFETY SWITCH/DISCONNECT/AR	340690	10/30/2019	1.05	VISTA
2018					
1	LOST SOURCE SUBSTATION	320389	11/13/2018	7.58	VENTURA
2	FIRE STRUCTURE POLE	320287	11/12/2018	4.16	VENTURA
3	PUBLIC AGENCY DENIED ACCESS POLE	320225	11/9/2018	3.70	VENTURA
4	LOST SOURCE SUBSTATION	320091	11/11/2018	2.74	VENTURA
5	LOST SOURCE SUBSTATION	320324	11/15/2018	2.46	VENTURA
6	PUBLIC AGENCY DENIED ACCESS POLE	320390	11/9/2018	2.42	VENTURA
7	OPEN FOR REPAIRS STANDARD OPERATION OPERATOR/CREW	313579	7/25/2018	2.20	VALLEY
8	LOST SOURCE SUBSTATION	319319	11/9/2018	2.06	VENTURA
9	LOST SOURCE DISTRIBUTION LINE	318316	10/15/2018	1.31	VALLEY
10	LOST SOURCE SUBSTATION	319972	11/9/2018	0.93	VENTURA
2017					
1	LOST SOURCE SUBSTATION	303349	12/4/2017	5.00	VENTURA
2	FIRE OVERHEAD EQUIPMENT CONDUCTOR/WIRE	298030	8/29/2017	3.02	RECTOR
3	FIRE STRUCTURE POLE	303217	12/4/2017	2.26	VENTURA
4	TOPPLED/BROKEN STRUCTURE POLE	286230	1/22/2017	2.05	RECTOR
5	FIRE STRUCTURE POLE	303315	12/5/2017	1.85	VENTURA
6	FIRE TRANSMISSION EQUIPMENT CONDUCTOR	303350	12/4/2017	1.45	VENTURA
7	LOST SOURCE SUBSTATION	301515	12/7/2017	0.92	VALLEY
8	FIRE TRANSMISSION EQUIPMENT CONDUCTOR	302696	12/10/2017	0.90	VENTURA
9	BALLOON OVERHEAD EQUIPMENT POTHEAD	290334	4/30/2017	0.74	VISTA
10	LOST SOURCE SUBSTATION	302693	12/4/2017	0.62	VENTURA

Rank	Cause Description	System Outage ID	Date	SAIDI	Switching Center
2016					
1	OPEN FOR REPAIRS STANDARD OPERATION OPERATOR/CREW	272685	4/29/2016	1.51	VALLEY
2	OPEN FOR REPAIRS STANDARD OPERATION OPERATOR/CREW	278786	8/19/2016	1.30	RECTOR
3	FIRE STRUCTURE POLE	276042	6/23/2016	1.17	RECTOR
4	VEGETATION BLOWN OVERHEAD EQUIPMENT CONDUCTOR/WIRE	267639	1/7/2016	0.98	VISTA
5	OVERLOAD/FATIGUE OVERHEAD EQUIPMENT CONDUCTOR/WIRE	275066	6/20/2016	0.93	LIGHTHIPE
6	FIRE OVERHEAD EQUIPMENT CONDUCTOR/WIRE	276005	6/23/2016	0.88	RECTOR
7	FIRE OVERHEAD EQUIPMENT CONDUCTOR/WIRE	276561	6/23/2016	0.84	RECTOR
8	FIRE OVERHEAD EQUIPMENT CONDUCTOR/WIRE	275884	6/23/2016	0.83	RECTOR
9	SUBSTATION MAINTENANCE ERROR DURING ROUTINE WORK	280501	10/11/2016	0.69	EL NIDO
10	BALLOON OVERHEAD EQUIPMENT CONDUCTOR/WIRE	269108	2/15/2016	0.64	EL NIDO
2015					
1	OPEN FOR REPAIRS STANDARD OPERATION OPERATOR/CREW	257095	7/15/2015	2.32	LIGHTHIPE
2	OPEN FOR REPAIRS STANDARD OPERATION OPERATOR/CREW	257307	7/15/2015	0.78	LIGHTHIPE
3	UNKNOWN OVERHEAD EQUIPMENT CONDUCTOR/WIRE	258625	8/13/2015	0.61	DEVERS
4	TOPPLED/BROKEN STRUCTURE POLE	261130	9/9/2015	0.47	MIRA LOMA
5	UNKNOWN UNDERGROUND EQUIPMENT CABLE	257337	7/15/2015	0.45	LIGHTHIPE
6	OTHER-SEE NOTES STRUCTURE POLE	257205	7/19/2015	0.45	VALLEY
7	N/A UNKNOWN NOT PATROLLED	262924	10/15/2015	0.44	VISTA
8	UNKNOWN UNDERGROUND EQUIPMENT CABLE	261743	9/19/2015	0.41	ORANGE COUNTY
9	UNKNOWN SUBSTATION EQUIPMENT CIRCUIT BREAKER	261051	9/15/2015	0.39	LIGHTHIPE
10	LANDSLIDE/MUDSLIDE STRUCTURE POLE	267353	10/18/2015	0.38	ELDORADO

Table 17: Historical Top 10 Outages from 2015 to 2024 (SAIDI)

SECTION 9: Number of Customers Inquires on Reliability Data

In 2024, SCE received a total of 17 customer inquiries relating to circuit outage history or reliability data. SCE responded to 18% of the inquiries within 7 business days, 53% of the inquiries between 8 to 15 business days, and 29% of the inquiries in a time frame greater than 15 business days.

APPENDIX A: Definitions

Outages are defined as an interruption to electric services. The type of outages falls in 4 different categories:

1. Unplanned outages: Unplanned outages are also known as repair outages. These outages occur without warning or notification of interruption of service.
 - a. Sustained Outages: Sustained outage is a subcategory of unplanned outages where the outage duration is greater than 5 minutes.
 - b. Momentary Outages: Momentary outage is a subcategory of unplanned outages where the outage duration is equal to or less than 5 minutes.
2. Planned outages: Planned outages are also known as maintenance outages. Maintenance outages would occur with notifications prior to interruption of service.
3. Public Safety Power Shutoff (PSPS): An operational protocol that is implemented under extreme weather conditions to minimize the threat of wildfires and keep communities safe from potentially dangerous situations. These types of sustained outages are temporary and usually involve situations where high-fire areas are experiencing adverse weather or public safety is at risk.
4. Major Event Day (MED): A day in which the daily system SAIDI exceeds a threshold value of T_{MED} . For purposes of calculating daily system SAIDI, any interruption that spans multiple calendar days is accrued to the day on which the interruption began. Statistically, days having a daily system SAIDI greater than a threshold value are days on which the energy delivery system experienced stresses beyond that normally expected (such as severe weather). Events are excluded based on the "2.5 beta method." Per *IEEE Standard 1366*, days are excluded from a given year's indices if their SAIDI exceeds 2.5 times the standard deviation of the natural logarithm of daily SAIDI over the previous five-year period.
 - a. T_{MED} : The calculated threshold value used to determine a Major Event Day. SCE's T_{MED} value is calculated at the beginning of each year using SCE's daily SAIDI values for the prior 5 years. SCE's T_{MED} value for 2024 was 2.07 minutes.

SAIDI: The System Average Interruption Duration Index is the amount of time on average a customer was without power in a year due to sustained interruptions (measured in minutes per customer).

$$SAIDI = \frac{\text{sum of all sustained customer interruption durations}}{\text{total number of customer served}}$$

SAIFI: The System Average Interruption Frequency Index is the number of times an average customer was without power in a year due to service interruptions lasting more than 5 minutes (measured in interruptions per customer).

$$\text{SAIFI} = \frac{\text{sum of total quantity of sustained customer interruptions}}{\text{total number of customer served}}$$

MAIFI: The Momentary Average Interruption Frequency Index is the number of times an average customer was without power in a year due to service interruptions lasting 5 minutes or less (measured in interruptions per customer). SCE calculates MAIFI at the individual outage event.

$$\text{MAIFI} = \frac{\text{sum of total quantity of momentary customer interruptions}}{\text{total number of customer served}}$$

CAIDI: The average time required to restore service for a sustained outage.

$$\text{CAIDI} = \frac{\text{sum of all sustained customer interruption durations}}{\text{sum of total quantity of sustained customer interruptions}}$$

Circuit SAIFI: The number of times an average customer was without power in a year due to service interruptions lasting more than 5 minutes (measured in interruptions per customer). Circuit reliability indices are calculated using the average number of customers on that circuit as the number of total customers served for that specific circuit.

$$\text{Circuit SAIFI} = \frac{\text{sum of total quantity of sustained customer interruptions}}{\text{average number of customers on a circuit}}$$

Circuit SAIDI: The amount of time on average a customer was without power in a year due to sustained interruptions (measured in minutes per customer). Circuit reliability indices are calculated using the average number of customers on that circuit as the number of total customers served for that specific circuit.

$$\text{Circuit SAIDI} = \frac{\text{sum of all sustained customer interruption durations}}{\text{average number of customers on a circuit}}$$

Circuit MAIFI: The Momentary Average Interruption Frequency Index is the number of times an average customer was without power in a year due to service interruptions lasting 5 minutes or less (measured in interruptions per customer). SCE calculates MAIFI at the individual outage event. Circuit reliability indices are calculated using the average number of customers on that circuit as the number of total customers served for that specific circuit.

$$\text{Circuit MAIFI} = \frac{\text{sum of total quantity of momentary customer interruptions}}{\text{average number of customers on a circuit}}$$

Circuit CAIDI: The average time required to restore service for a sustained outage for that circuit.

$$\text{Circuit CAIDI} = \frac{\text{sum of all sustained customer interruption durations}}{\text{sum of total quantity of sustained customer interruptions}}$$

CEMI (5): The Customers Experiencing Multiple Interruption Index is the ratio of individual customers experiencing 5 or more sustained interruptions to the total number of customers served.

$$\text{CEMI (5)} = \frac{\text{total number of customers that experienced 5 or more sustained interruptions}}{\text{total number of customer served}}$$

CELID (4): The Customers Experiencing Long Interruption Duration Index is the ratio of individual customers experienced a single interruption with a duration longer than or equal to 4 hours to the total number of customers served.

$$\text{CELID (4)} = \frac{\text{total number of customers that experienced 4 or more hours duration}}{\text{total number of customer served}}$$