

Energy Division Central Files Document Coversheet

A. Document Name

Today's Date (Date of Submittal): **7/15/25**

1. Utility Name: **SDG&E**
2. Document Submission Frequency (Annual, Quarterly, Monthly, Weekly, Once, Ad Hoc): **Annual**
3. Report Name: **SDG&E's Electric System Reliability Annual Report for 2024**
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6. Document File Name (format as 1+2 + 3 + 4 + 5): **ED Data Request Response #1 – SDG&E's Electric System Reliability Annual Report 2024**
7. Identify whether this filing is ☒original or ☐revision to a previous filing.

B. Documents Related to a Proceeding

All submittals should reference both a proceeding and a decision, if applicable. If not applicable, leave blank and fill out Section C.

Proceeding Number (starts with R, I, C, A, or P plus 7 numbers):

1. Decision Number (starts with D plus 7 numbers): **D.16-01-008**
2. Ordering Paragraph (OP) Number from the decision: **N/A**

C. Documents Submitted as Requested by Other Requirements

If the document submitted is in compliance with something other than a proceeding, (e.g. Resolution, Ruling, Staff Letter, Public Utilities Code, or sender's own motion), please explain: **This submission is required pursuant to D.16-01-008**

D. Document Summary

SDG&E's Annual Electric System Reliability Report

E. Sender Contact Information

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G. CPUC Routing

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ELECTRIC SYSTEM RELIABILITY ANNUAL REPORT 2024

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

July 15, 2025



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EXECUTIVE SUMMARY

Background:

The Electric System Reliability Annual Report for 2024 has been prepared in response to California Public Utility Commission (CPUC) Decision 16-01-008 (Decision). Effective January 14, 2016, this decision established reliability recording, calculation, and reporting requirements for San Diego Gas & Electric (SDG&E).

The data in this report is primarily presented in tabular and graphical form. All statistics and calculations include unplanned transmission, substation, and distribution outages and exclude planned outages and California Independent System Operator (CAISO) mandated load curtailment outages unless otherwise specified. Unplanned outages are those that are not prearranged. For this report, sustained outages are outages that last more than five minutes, while momentary outages are outages that last five minutes or less.

2024 Reliability Indices

Overview:

SDG&E's 2024 System Average Interruption Duration Index (SAIDI), including Major Event Day (MED), was higher than the average for the past five years, largely due to the Public Safety Power Shutoffs (PSPS) in December of 2024. SDG&E's 2024 System Average Interruption Frequency Index (SAIFI) remained slightly below the five-year average. The 2024 SAIDI, excluding MED, was only slightly higher than the average for the past five years.



Identified Mitigation/Efforts to Improve System Reliability

SDG&E is dedicated to providing strong electric reliability to its customers. To do so, in 2024, SDG&E focused on the following:

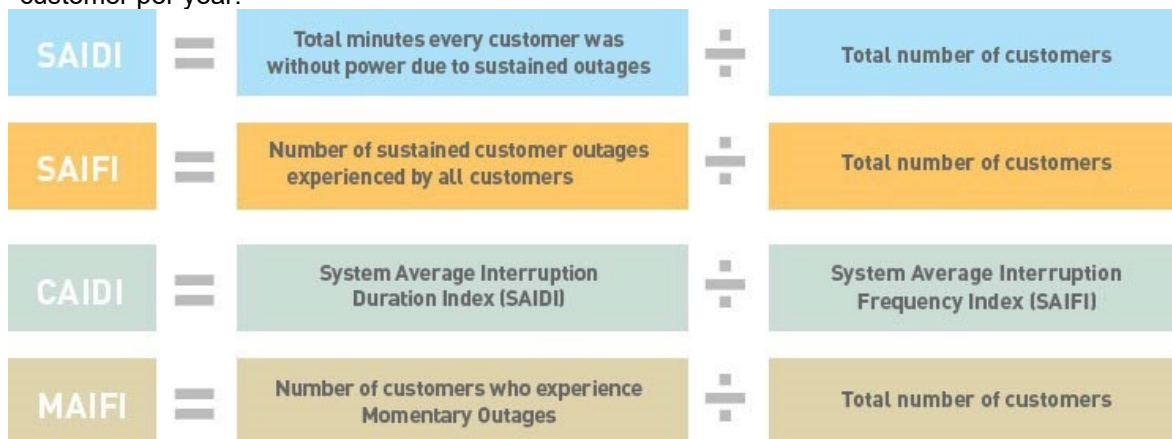
- Continued deployment of a system-wide electric underground connector enhancement program that proactively replaces underground connectors prone to failure and adds sectionalizing capabilities to the electric system, enabling faster customer restoration after an outage.
- Continued adding more system automation, enabling faster outage restoration of customers.
- Reducing the time to restore service to our customers after they experience an outage through:
 - Enhanced use of data analytics to aid in determining when and where to send repair crews.
 - Continued use and analysis of underground de-watering technologies, tools, and processes to improve emergency access to underground facilities and timely response when necessary.
 - Continued development of drone-gathered data to find and fix problems quickly.
 - Deployed Traveling Wave protective relays to aid in identifying the precise location of faults on long transmission lines to reduce the patrol times and expedite service restoration.
- SDG&E has made progress in creating metrics and data analytical models to assist in identifying electric infrastructure that is highly likely to fail. These tools help inform maintenance and replacement strategies. SDG&E will continue to develop data analytics to aid with these processes.
- Continued development and deployment of systems that detect incipient equipment failure on the underground and overhead distribution system to reduce forced customer outages.
- Continued underground cable enhancement program deployment, replacing aging cable prone to failure and/or past its useful life.



How SDG&E Measures Reliability

SDG&E uses four metrics commonly used in the electric utility industry to measure reliability. The reliability indicators that are tracked are as follows:

1. **SAIDI (System Average Interruption Duration Index)** – minutes of sustained outages per customer per year.
2. **SAIFI (System Average Interruption Frequency Index)** – number of sustained outages per customer per year.
3. **CAIDI (Customer Average Interruption Duration Index)** – is the average time required to restore service to a utility customer.
4. **MAIFI (Momentary Average Interruption Frequency Index)** – number of momentary outages per customer per year.



Before 2013, the measurement of each reliability performance indicator excluded CPUC Major Events and events that directly resulted from failures in the CAISO-controlled bulk power market or non-SDG&E-owned transmission and distribution facilities. A CPUC Major Event is defined in CPUC Decision 96-09-045 as an event that meets at least one of the following criteria:

- (a) The event is caused by earthquake, fire, or storms of sufficient intensity to give rise to a state of emergency being declared by the government or
- (b) Any other disaster not in (a) that affects more than 15% of the system facilities or 10% of the utility's customers, whichever is less for each event.

Outages involving restricted access by a governmental agency that precluded or delayed outage restoration times were also considered CPUC Major Events and excluded from reliability results.

Beginning in 2013, the measurement of each reliability performance indicator excludes Major Event Days as defined in The Institute for Electrical and Electronic Engineers (IEEE) Guide for Electric Power



Distribution Reliability Indices, aka IEEE Std 1366, instead of CPUC Major Events. A Major Event Day MED is defined in IEEE Std 1366-2022, Section 2, as a day when the daily system SAIDI exceeds a threshold value. These threshold major event days are referred to as "TMED." Thus, any day the total system SAIDI exceeds TMED, it is excluded from SDG&E's reliability results. The applicable TMED value is calculated yearly using SDG&E's daily SAIDI values for the prior five years. SDG&E experienced three days when the TMED threshold was met for 2024. This report does not calculate other reliability indices using methodologies or formulas precisely as described in the IEEE Std 1366.

To understand this report, the division between distribution equipment and transmission equipment is at the distribution substation power transformer high-side bus disconnect. Transmission equipment is defined as all assets rated 69 kilovolts (kV) and above. The substation power transformer high-side bus disconnect and all equipment on the load-side of the substation power transformer high-side bus disconnect are defined as Distribution equipment.

SECTION 1 - SYSTEM INDICES FOR THE LAST 10 YEARS

SUMMARY OF ELECTRIC SYSTEM RELIABILITY FOR SDG&E'S SERVICE TERRITORY (EXCLUDES PLANNED AND CAISO OUTAGES)

SEPARATE TABLES WITH SAIDI, SAIFI, MAIFI, AND CAIDI.

MAJOR EVENT DAYS (MED) INCLUDED AND EXCLUDED.

Table 1-1: System Indices (MED included and excluded)

San Diego Gas & Electric Company System Reliability Data 2015 - 2024								
MED Included					MED Excluded			
Year	SAIDI	SAIFI	CAIDI	MAIFI	SAIDI	SAIFI	CAIDI	MAIFI
2015	58.11	0.530	109.68	0.347	57.92	0.526	110.09	0.347
2016	86.01	0.677	126.99	0.443	72.75	0.620	117.43	0.386
2017	117.49	0.585	200.87	0.344	64.51	0.512	125.92	0.311
2018	121.02	0.658	183.88	0.319	77.76	0.628	123.84	0.319
2019	122.96	0.639	192.38	0.299	68.64	0.596	115.23	0.299
2020	198.63	0.745	266.52	0.289	68.95	0.627	109.92	0.275
2021	76.93	0.670	114.84	0.421	71.64	0.665	107.66	0.421
2022	70.39	0.591	119.06	0.327	70.39	0.591	119.06	0.327
2023	70.59	0.587	120.18	0.252	70.59	0.587	120.18	0.252
2024	157.23	0.611	257.27	0.287	71.13	0.542	131.26	0.276

Table 1-2: Distribution System Indices (MED included and excluded)

San Diego Gas & Electric Company Distribution System Reliability Data 2015 - 2024									
MED Included						MED Excluded			
Year	SAIDI	SAIFI	CAIDI	MAIFI		SAIDI	SAIFI	CAIDI	MAIFI
2015	57.90	0.525	110.28	0.323		57.71	0.521	110.70	0.323
2016	83.93	0.647	129.67	0.438		70.67	0.590	119.88	0.380
2017	115.62	0.576	200.63	0.337		62.66	0.504	124.38	0.304
2018	120.30	0.652	184.51	0.314		77.05	0.622	123.93	0.314
2019	120.72	0.606	199.29	0.289		67.40	0.563	119.73	0.289
2020	180.52	0.678	266.26	0.276		64.26	0.568	113.11	0.265
2021	75.32	0.654	115.11	0.418		70.03	0.650	107.76	0.418
2022	69.48	0.578	120.22	0.285		69.48	0.578	120.22	0.285
2023	70.01	0.572	122.48	0.252		70.01	0.572	122.48	0.252
2024	156.10	0.609	256.13	0.286		69.99	0.540	129.58	0.275

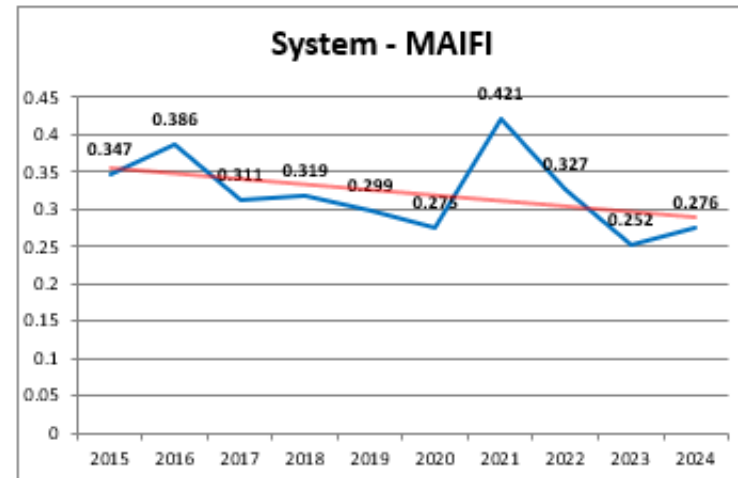
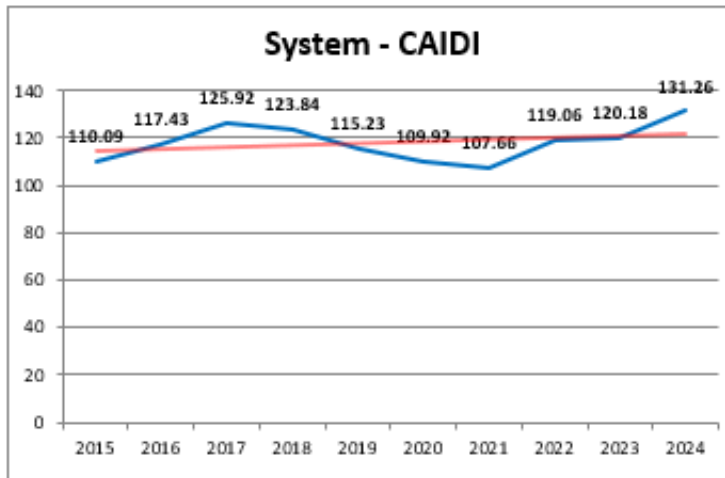
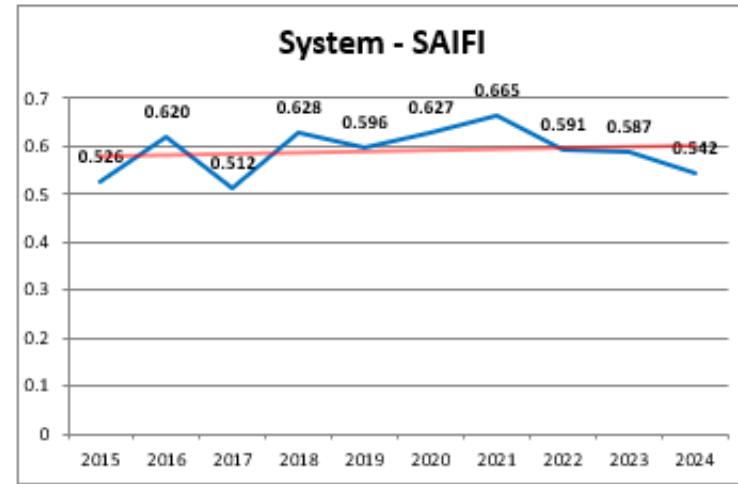
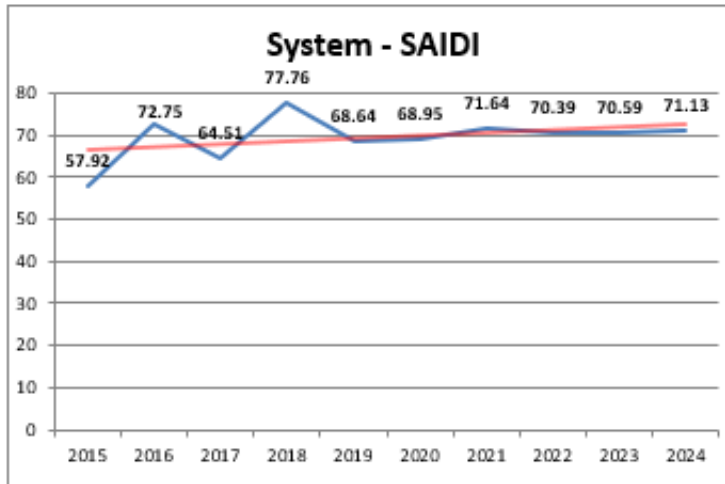
Note: Distribution System Indices include substation distribution.

Table 1-3: Transmission System Indices (MED included and excluded)

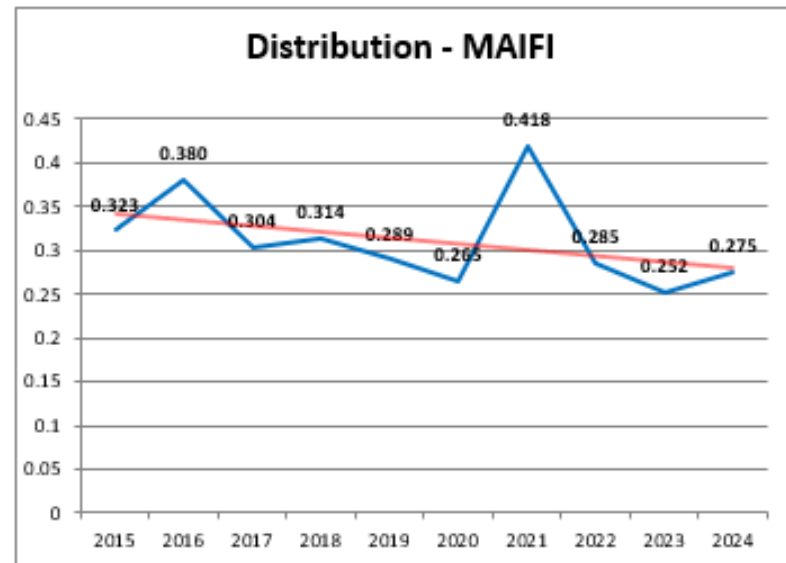
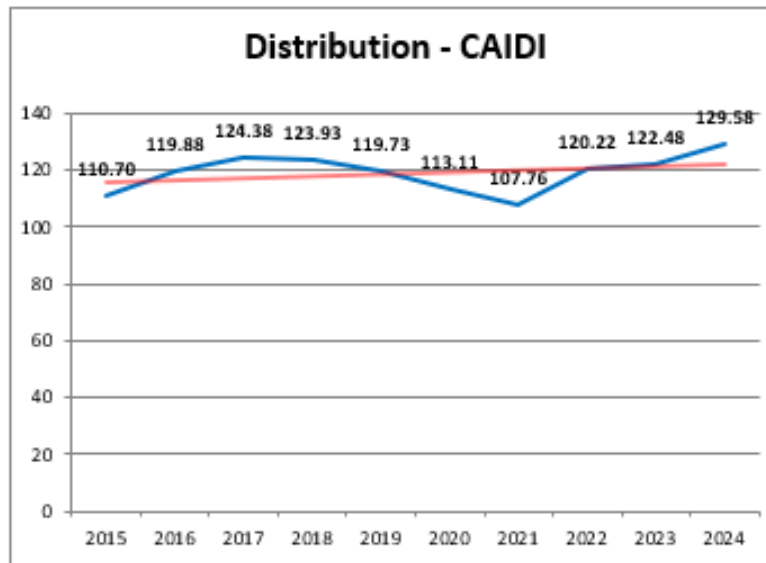
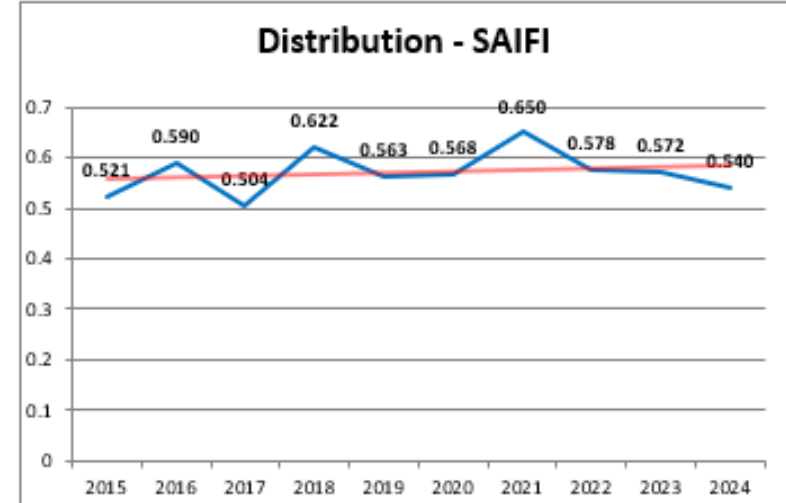
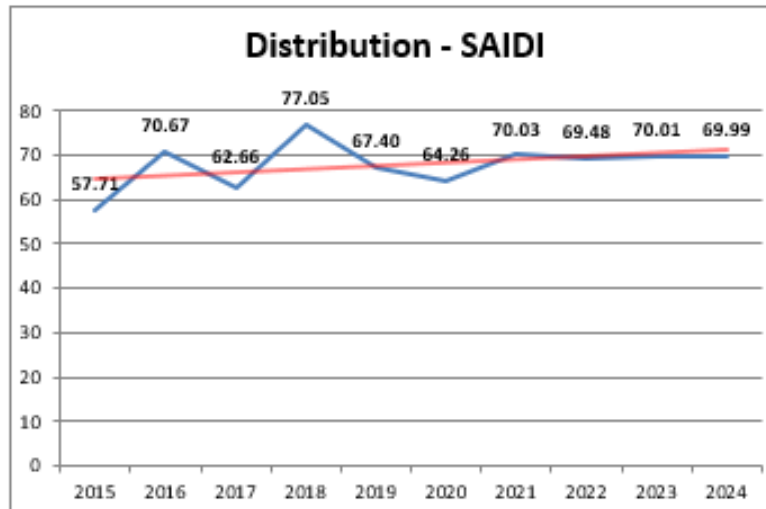
San Diego Gas & Electric Company Transmission System Reliability Data 2015 - 2024								
MED Included					MED Excluded			
Year	SAIDI	SAIFI	CAIDI	MAIFI	SAIDI	SAIFI	CAIDI	MAIFI
2015	0.21	0.005	44.08	0.024	0.21	0.005	44.08	0.024
2016	2.08	0.030	69.15	0.006	2.07	0.030	69.09	0.005
2017	1.87	0.009	217.47	0.007	1.86	0.009	216.07	0.007
2018	0.71	0.006	116.55	0.005	0.71	0.006	115.49	0.005
2019	2.24	0.033	67.01	0.009	1.24	0.033	37.82	0.009
2020	18.11	0.067	269.18	0.013	4.70	0.059	79.32	0.010
2021	1.61	0.016	103.34	0.003	1.61	0.016	103.34	0.003
2022	0.90	0.013	68.36	0.041	0.90	0.013	68.36	0.041
2023	0.58	0.016	36.79	0.000	0.58	0.016	36.79	0.000
2024	1.13	0.002	665.43	0.001	1.13	0.002	665.43	0.001

Note: Transmission System Indices include substation transmission.

System Indices (Excludes Planned, ISO and MED)

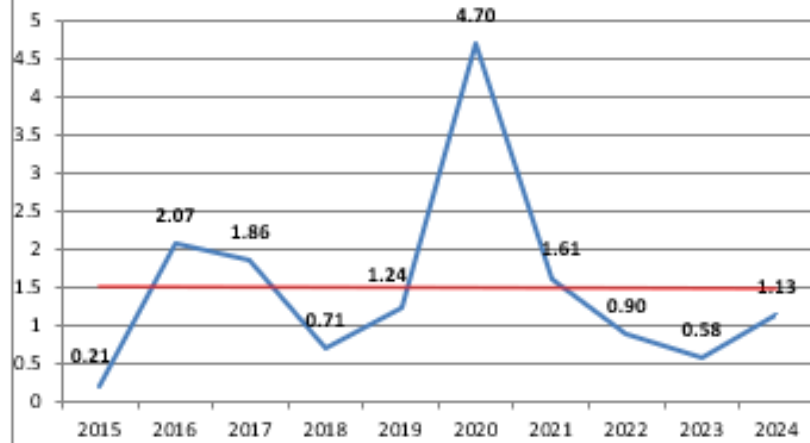


Distribution System Indices (Excludes Planned, ISO and MED)

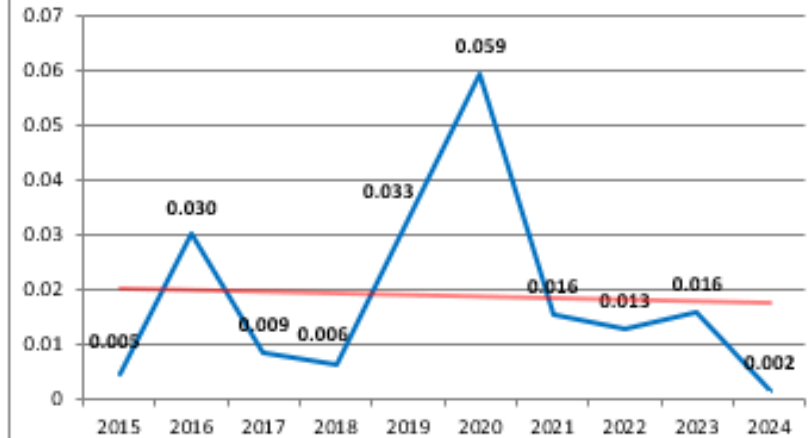


Transmission System Indices (Excludes Planned, ISO and MED)

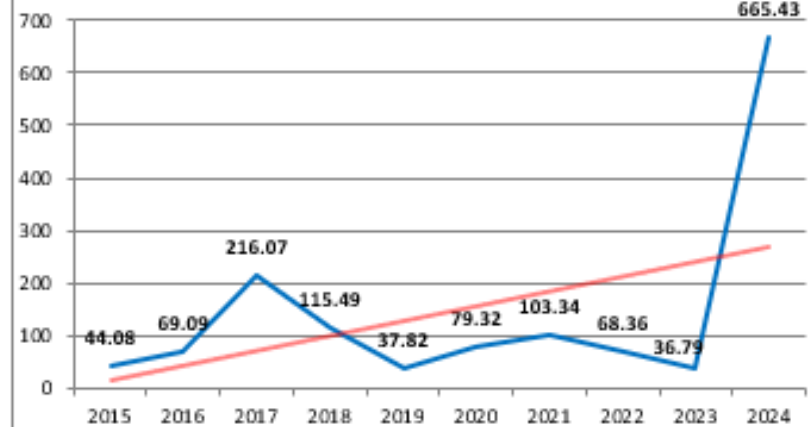
Transmission - SAIDI



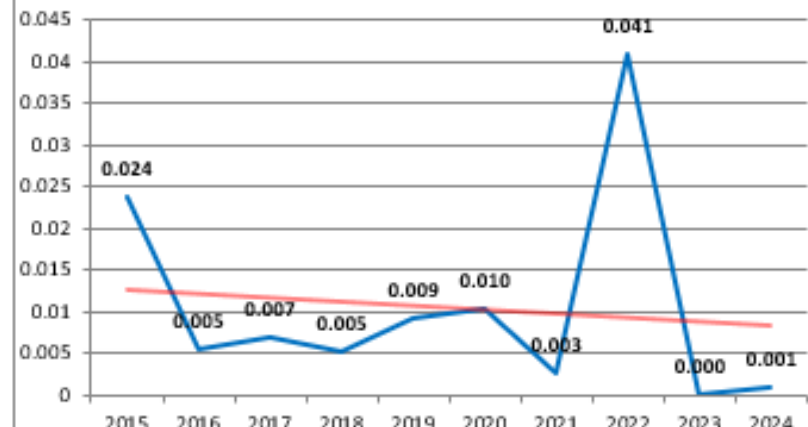
Transmission - SAIFI



Transmission - CAIDI



Transmission - MAIFI



SECTION 2 – DISTRICT RELIABILITY INDICES FOR THE PAST 10 YEARS, INCLUDING AND EXCLUDING MED

A. SUMMARY OF ELECTRIC SYSTEM RELIABILITY FOR EACH OF SDG&E'S SIX DISTRICTS (EXCLUDES PLANNED AND CAISO OUTAGES)

- INDICES REPRESENT THE COMBINED TRANSMISSION, SUBSTATION, AND DISTRIBUTION OUTAGE IMPACTS AT THE DISTRICT LEVEL

Table 2-1: Beach Cities – District Reliability Indices (2015 – 2024)

MED Included					MED Excluded				
Year	SAIDI	SAIFI	CAIDI	MAIFI		SAIDI	SAIFI	CAIDI	MAIFI
2015	62.80	0.514	122.18	0.349		62.76	0.513	122.28	0.349
2016	90.55	0.699	129.48	0.385		77.04	0.651	118.31	0.385
2017	55.66	0.552	100.84	0.372		49.11	0.470	104.52	0.338
2018	74.63	0.634	117.74	0.293		74.17	0.626	118.49	0.293
2019	56.82	0.672	84.54	0.252		55.75	0.650	85.73	0.252
2020	58.61	0.602	97.43	0.300		54.52	0.578	94.36	0.300
2021	55.52	0.502	110.61	0.400		55.52	0.502	110.61	0.400
2022	54.94	0.558	98.46	0.125		54.94	0.558	98.46	0.125
2023	55.72	0.425	131.12	0.168		55.72	0.425	131.12	0.168
2024	57.06	0.424	134.69	0.235		53.99	0.407	132.55	0.223

Table 2-2: Eastern - District Reliability Indices (2015 – 2024)

MED Included					MED Excluded				
Year	SAIDI	SAIFI	CAIDI	MAIFI		SAIDI	SAIFI	CAIDI	MAIFI
2015	50.17	0.461	108.79	0.263		50.17	0.461	108.79	0.263
2016	108.24	0.820	132.06	0.326		84.93	0.705	120.41	0.292
2017	177.22	0.637	278.38	0.358		83.72	0.529	158.23	0.322
2018	203.88	0.688	296.39	0.362		108.94	0.654	166.62	0.362
2019	208.02	0.599	347.49	0.288		64.70	0.513	126.02	0.288
2020	400.19	0.888	450.66	0.364		103.07	0.695	148.40	0.355
2021	113.30	0.645	175.64	0.585		84.69	0.623	135.86	0.585
2022	83.08	0.710	116.94	0.413		83.08	0.710	116.94	0.413
2023	78.23	0.632	123.80	0.390		78.23	0.632	123.80	0.390
2024	229.38	0.659	347.89	0.360		70.71	0.583	121.25	0.358

Table 2-3: Metro - District Reliability Indices (2015 – 2024)

MED Included					MED Excluded				
Year	SAIDI	SAIFI	CAIDI	MAIFI		SAIDI	SAIFI	CAIDI	MAIFI
2015	68.48	0.546	125.41	0.489		68.26	0.538	126.83	0.489
2016	70.79	0.628	112.67	0.615		64.39	0.595	108.26	0.573
2017	96.54	0.524	184.28	0.474		57.48	0.443	129.65	0.414
2018	73.87	0.658	112.29	0.390		71.99	0.645	111.65	0.390
2019	67.08	0.581	115.54	0.308		67.06	0.580	115.53	0.308
2020	64.38	0.600	107.28	0.322		49.66	0.538	92.35	0.303
2021	61.51	0.584	105.38	0.477		61.47	0.583	105.40	0.477
2022	72.77	0.483	150.78	0.579		72.77	0.483	150.78	0.579
2023	68.01	0.548	124.06	0.301		68.01	0.548	124.06	0.301
2024	111.88	0.688	162.62	0.407		87.22	0.597	146.11	0.370

Table 2-4: North Coast - District Reliability Indices (2015 – 2024)

MED Included					MED Excluded				
Year	SAIDI	SAIFI	CAIDI	MAIFI		SAIDI	SAIFI	CAIDI	MAIFI
2015	49.79	0.439	113.49	0.275		49.78	0.438	113.78	0.275
2016	78.82	0.501	157.21	0.558		61.31	0.411	149.09	0.412
2017	79.85	0.524	152.48	0.299		64.43	0.483	133.32	0.299
2018	80.59	0.571	141.25	0.399		61.47	0.540	113.75	0.399
2019	82.50	0.624	132.18	0.305		58.58	0.600	97.64	0.305
2020	110.69	0.551	200.88	0.184		58.58	0.463	126.43	0.183
2021	83.36	0.758	109.96	0.420		83.36	0.758	109.96	0.420
2022	60.78	0.512	118.67	0.329		60.78	0.512	118.67	0.329
2023	68.82	0.593	115.99	0.226		68.82	0.593	115.99	0.226
2024	41.52	0.396	104.83	0.261		40.90	0.379	107.97	0.261

Table 2-5: Northeast - District Reliability Indices (2015 – 2024)

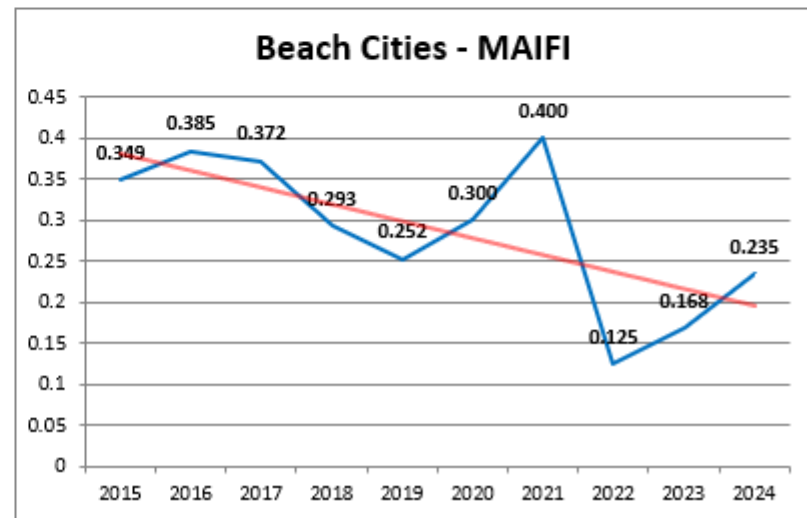
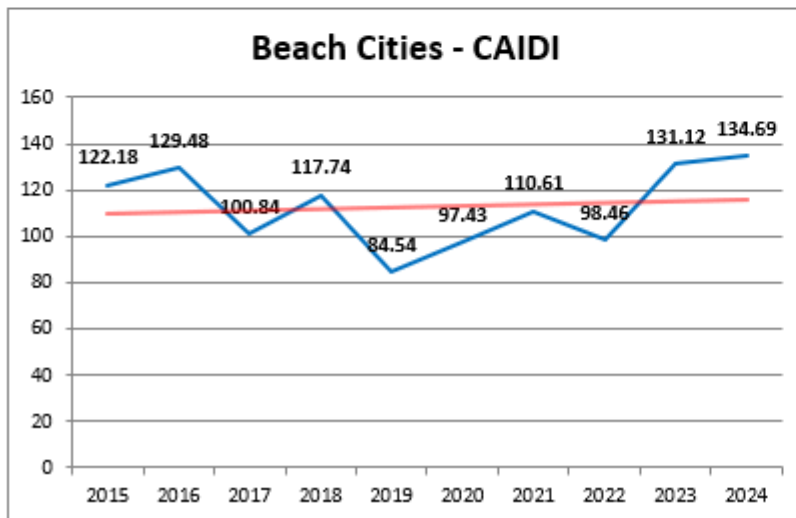
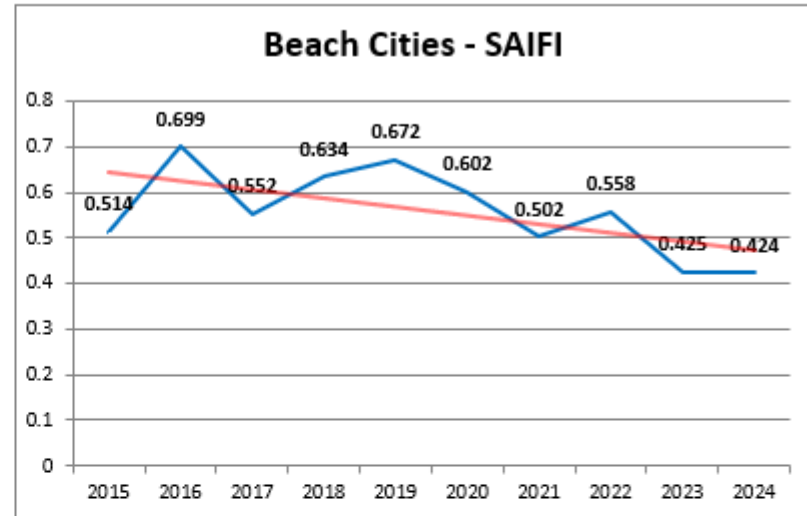
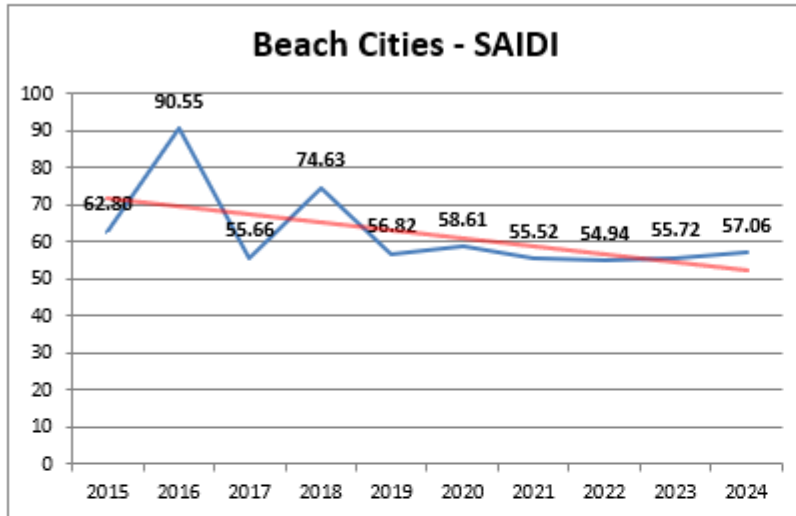
MED Included					MED Excluded				
Year	SAIDI	SAIFI	CAIDI	MAIFI		SAIDI	SAIFI	CAIDI	MAIFI
2015	63.02	0.764	82.49	0.359		62.25	0.755	82.40	0.359
2016	93.94	0.815	115.27	0.323		82.15	0.779	105.39	0.270
2017	234.23	0.739	316.98	0.203		79.82	0.651	122.59	0.182
2018	244.84	0.788	310.65	0.200		90.33	0.694	130.20	0.200
2019	282.64	0.808	349.68	0.301		108.37	0.683	158.71	0.301
2020	539.87	1.166	463.18	0.251		97.92	0.843	116.14	0.218
2021	95.83	0.881	108.71	0.237		89.61	0.875	102.47	0.237
2022	86.56	0.740	116.94	0.267		86.56	0.740	116.94	0.267
2023	83.84	0.741	113.21	0.205		83.84	0.741	113.21	0.205
2024	431.96	0.842	512.75	0.214		84.03	0.660	127.41	0.214

Table 2-6: Orange County - District Reliability Indices (2015 – 2024)

MED Included					MED Excluded				
Year	SAIDI	SAIFI	CAIDI	MAIFI		SAIDI	SAIFI	CAIDI	MAIFI
2015	39.43	0.372	105.95	0.195		39.43	0.372	105.95	0.195
2016	80.99	0.608	133.21	0.277		71.29	0.579	123.13	0.179
2017	54.82	0.567	96.62	0.242		54.46	0.564	96.61	0.210
2018	56.02	0.585	95.80	0.168		56.02	0.585	95.80	0.168
2019	55.38	0.522	106.00	0.368		52.22	0.497	104.98	0.368
2020	64.61	0.807	80.07	0.311		61.92	0.785	78.92	0.289
2021	55.56	0.738	75.33	0.368		55.56	0.738	75.33	0.368
2022	65.82	0.640	102.90	0.050		65.82	0.640	102.90	0.050
2023	76.87	0.686	112.11	0.212		76.87	0.686	112.11	0.212
2024	100.89	0.725	139.26	0.145		100.11	0.718	139.35	0.145

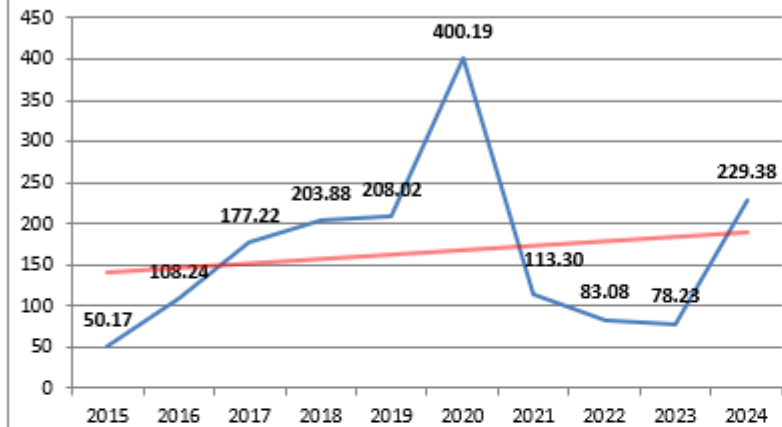
B. CHARTS FOR EACH OF SDG&E'S SIX DISTRICTS WITH LINEAR TREND LINE (EXCLUDES PLANNED AND CAISO OUTAGES; INCLUDES MED)

District Reliability Indices (Excludes Planned and ISO; Includes MED)

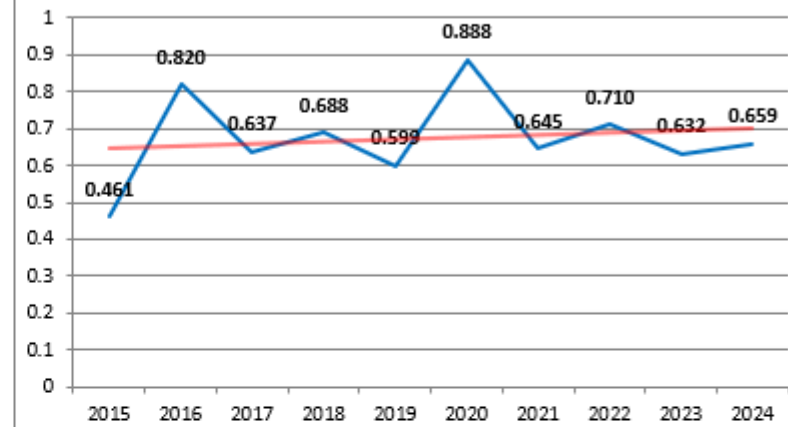


District Reliability Indices (Excludes Planned and ISO; Includes MED)

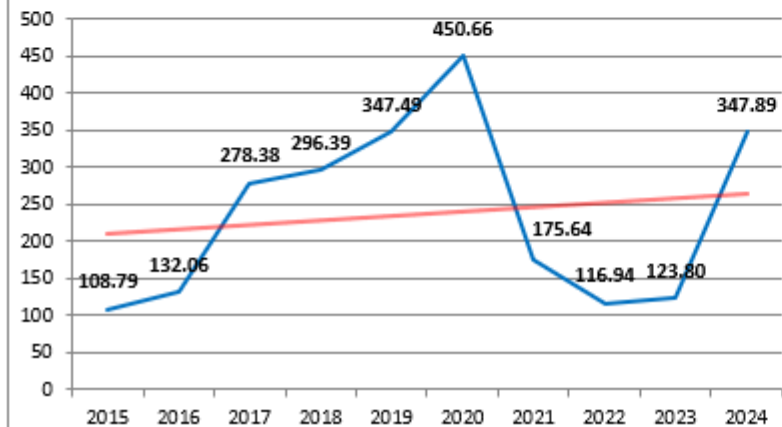
Eastern - SAIDI



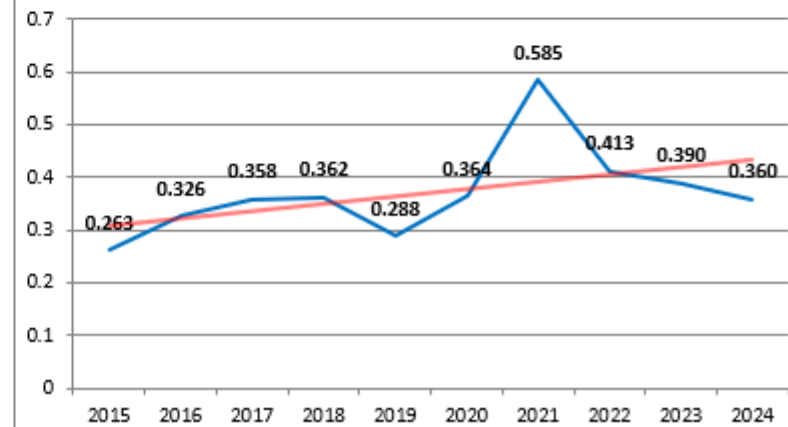
Eastern - SAIFI



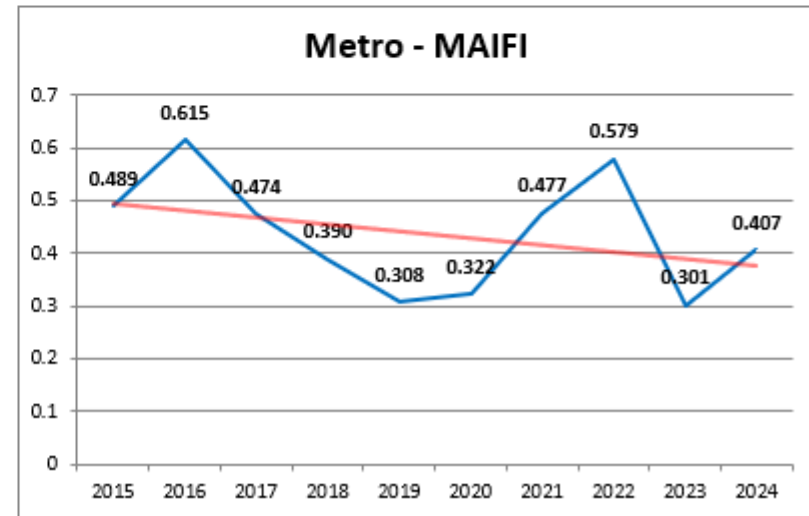
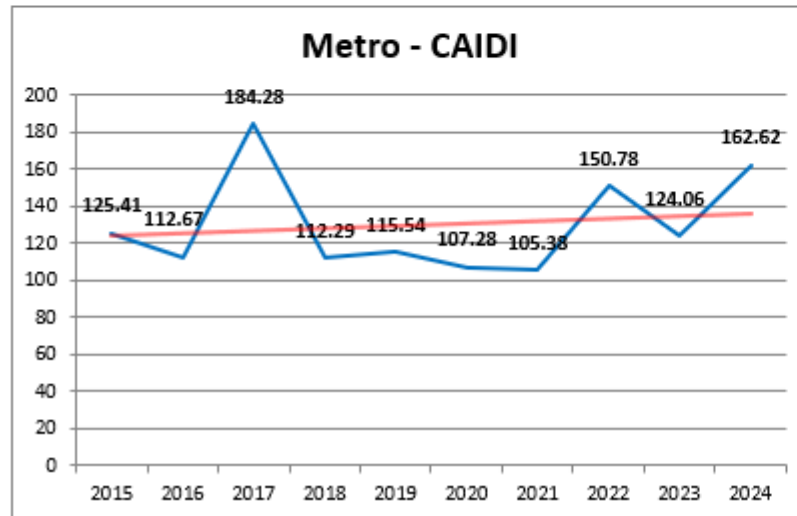
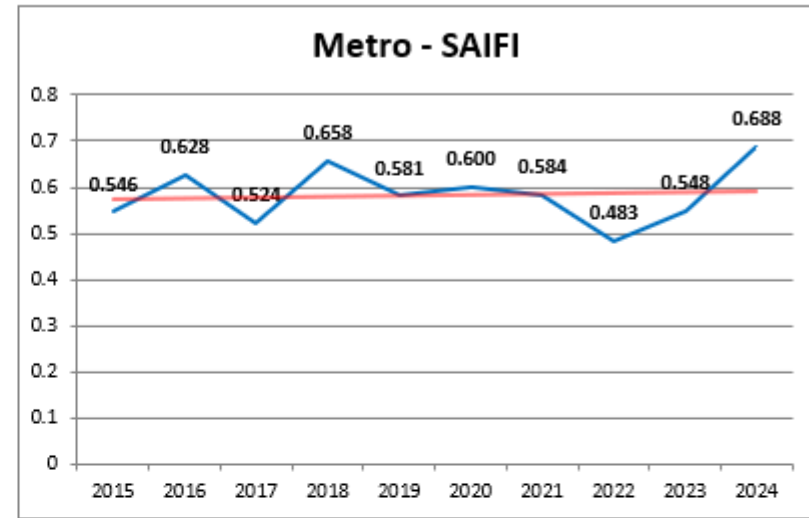
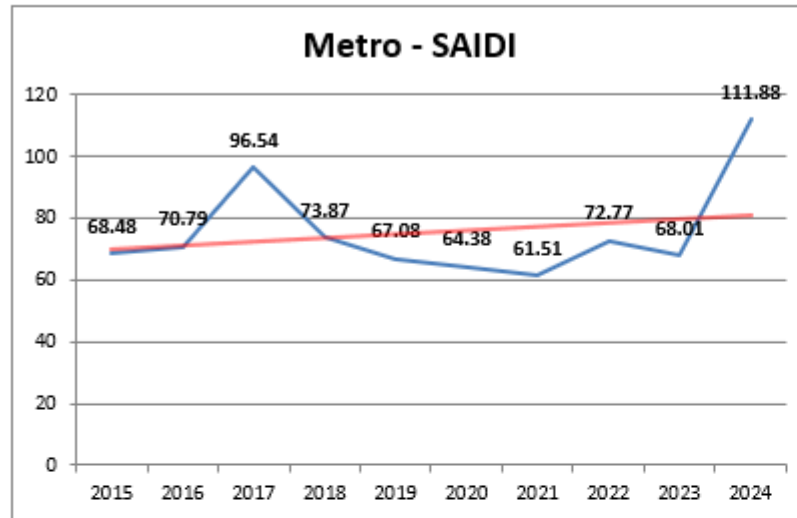
Eastern - CAIDI



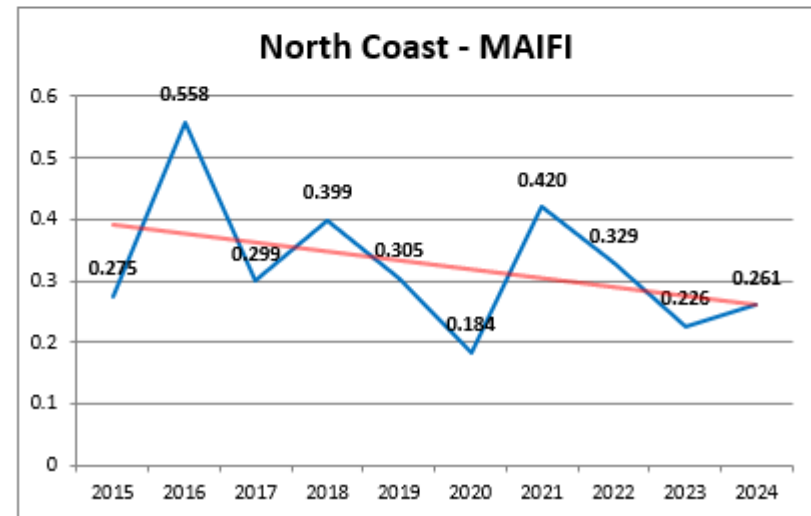
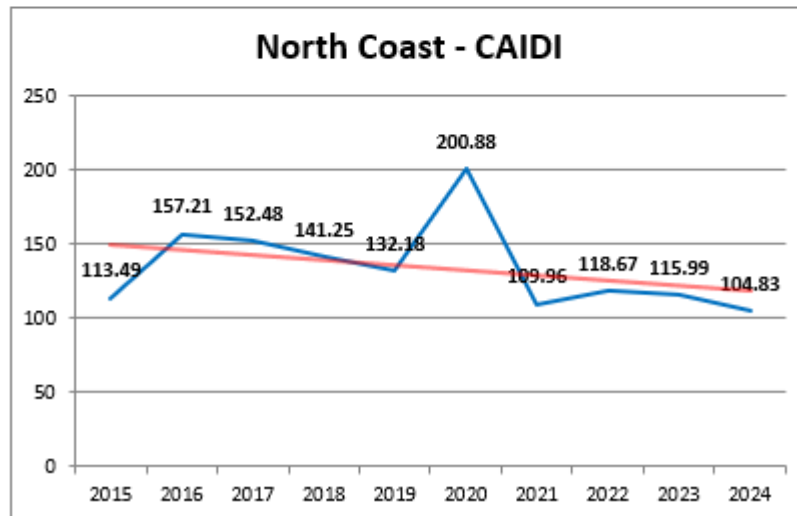
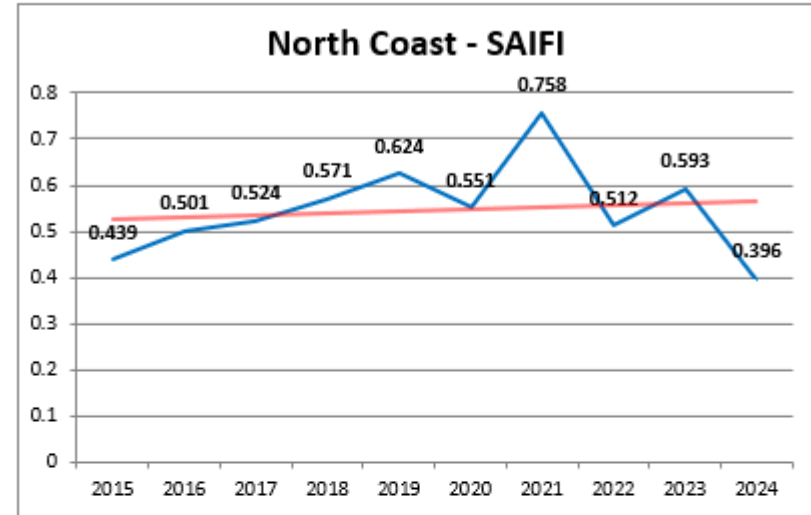
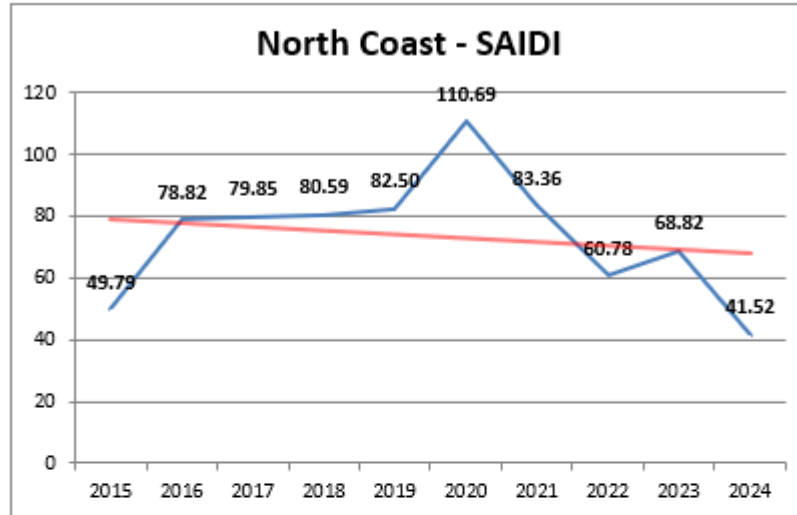
Eastern - MAIFI



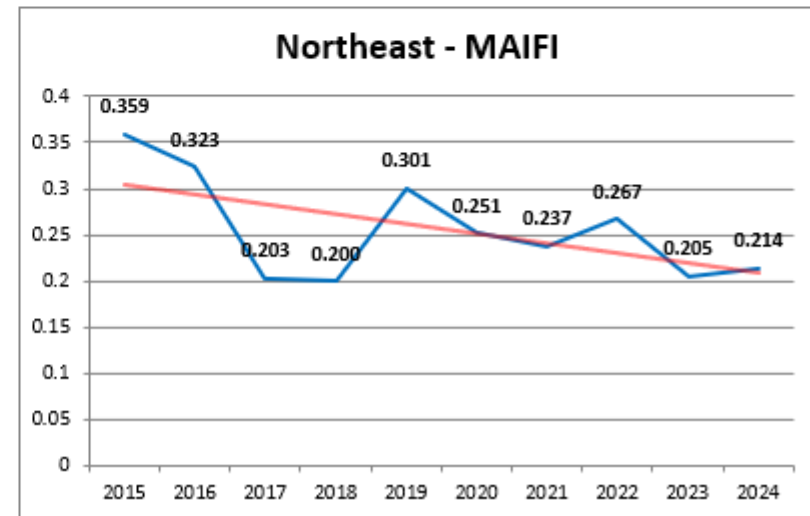
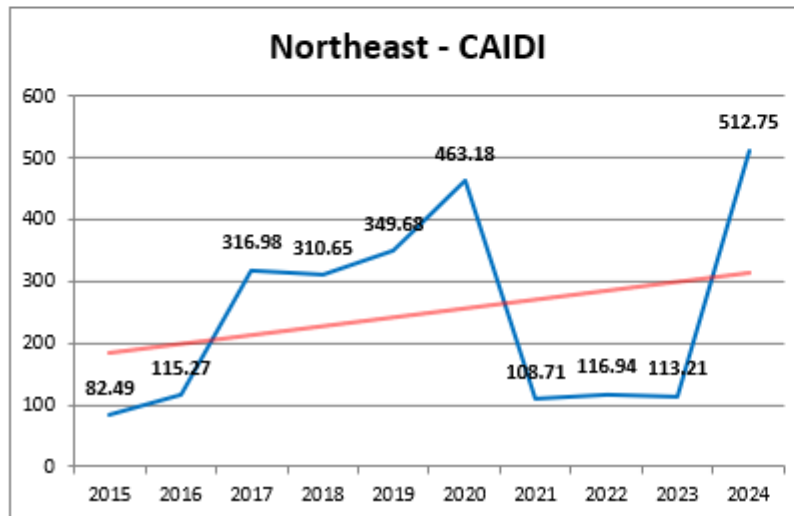
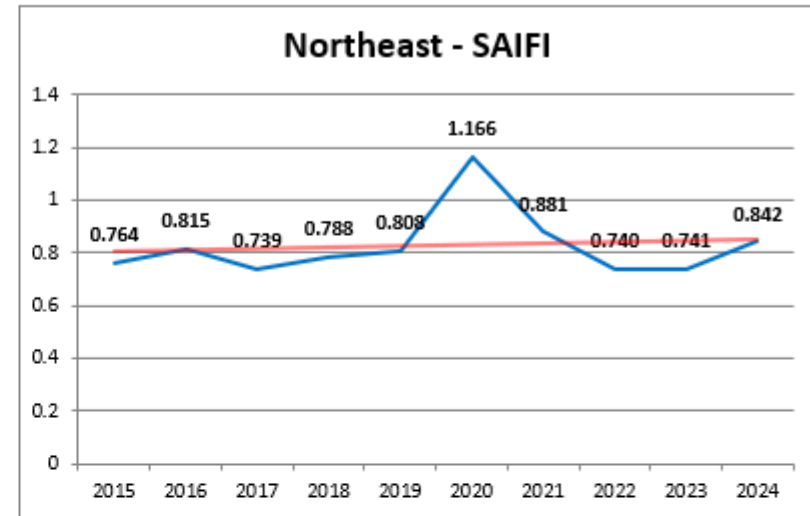
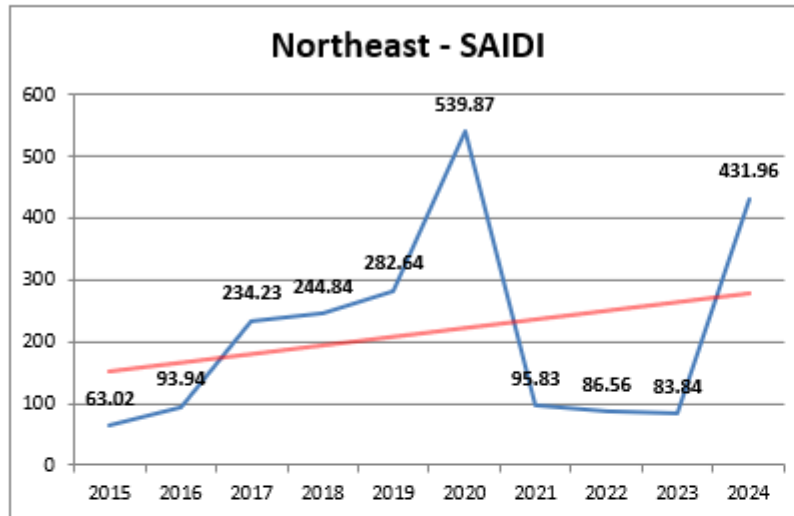
District Reliability Indices (Excludes Planned and ISO; Includes MED)



District Reliability Indices (Excludes Planned and ISO; Includes MED)

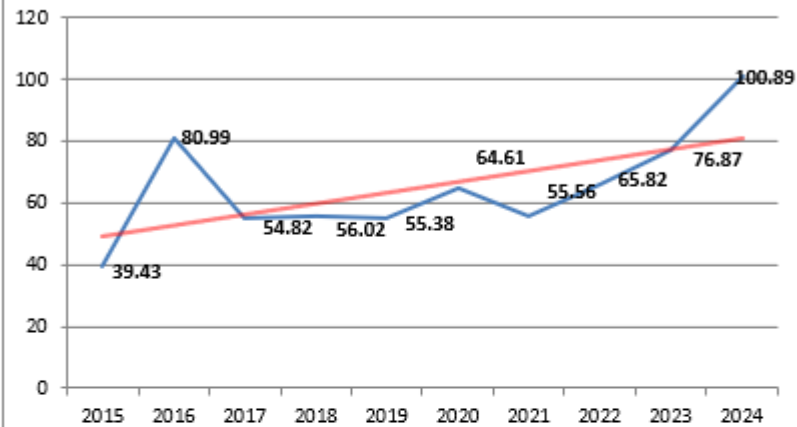


District Reliability Indices (Excludes Planned and ISO; Includes MED)

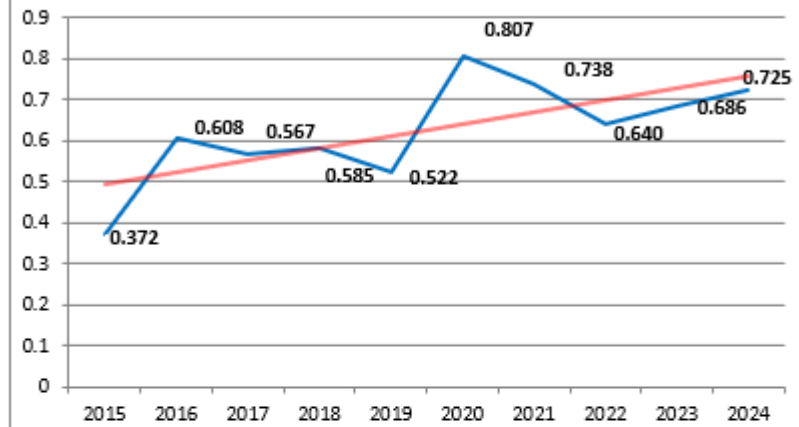


District Reliability Indices (Excludes Planned and ISO; Includes MED)

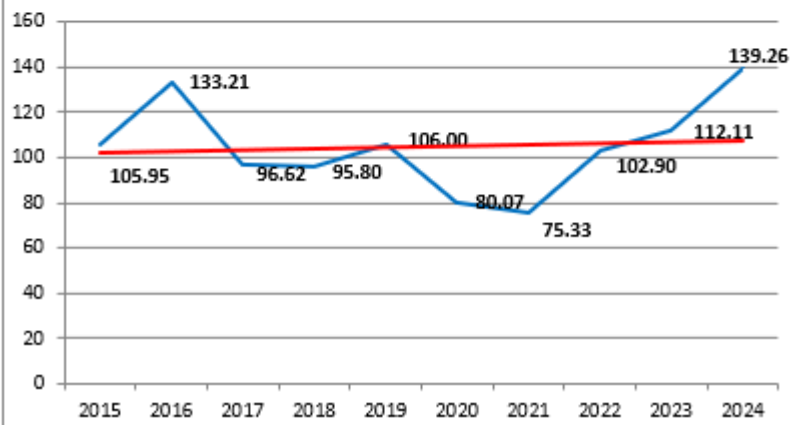
Orange County - SAIDI



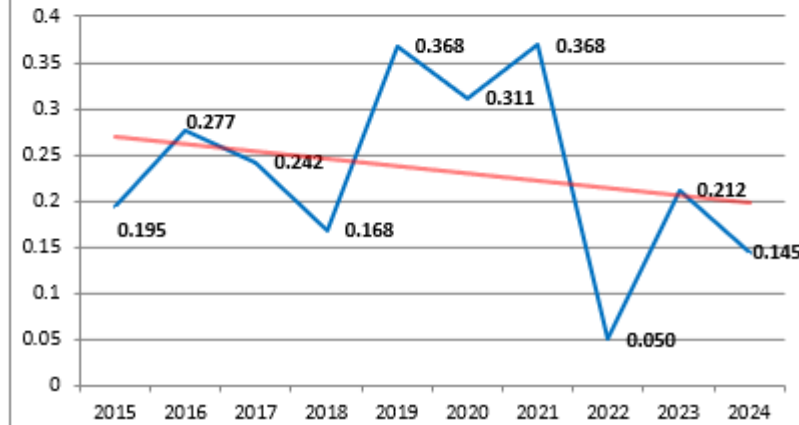
Orange County - SAIFI



Orange County - CAIDI

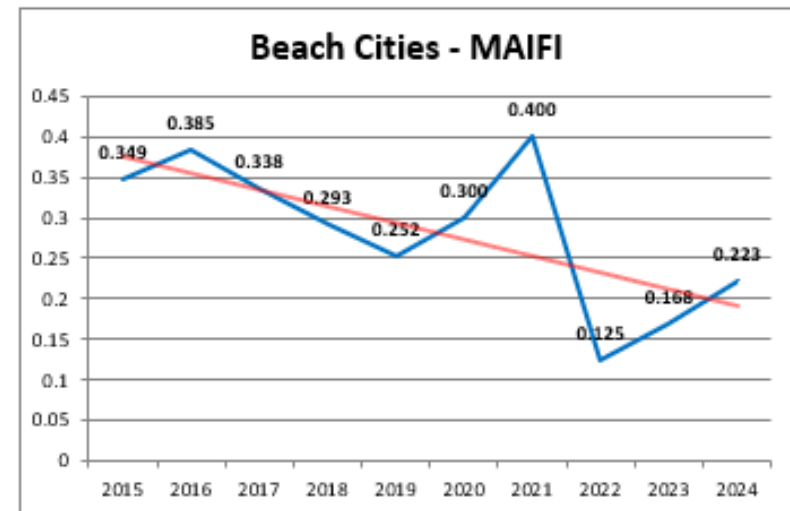
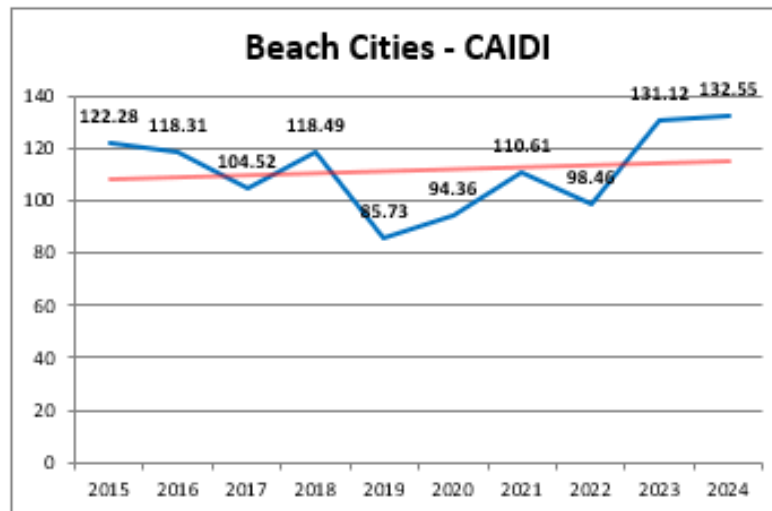
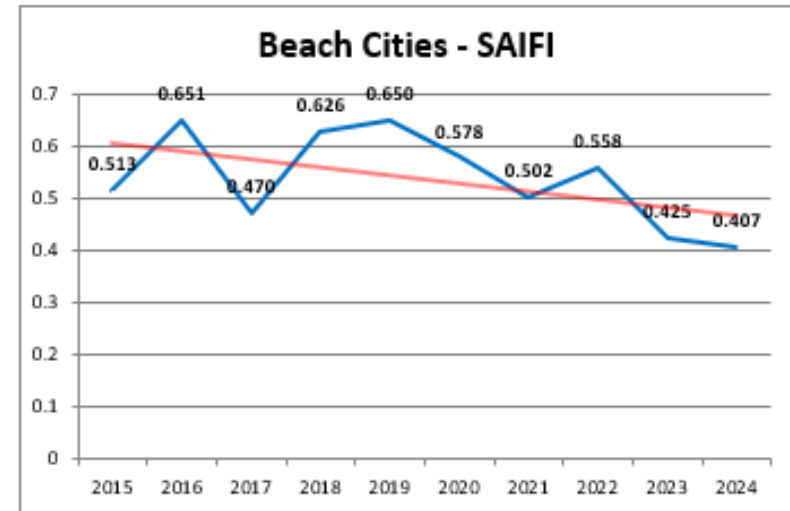
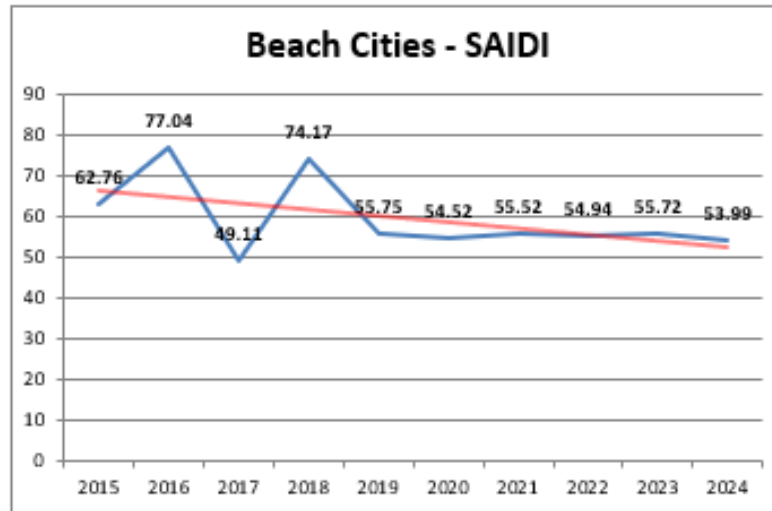


Orange County - MAIFI



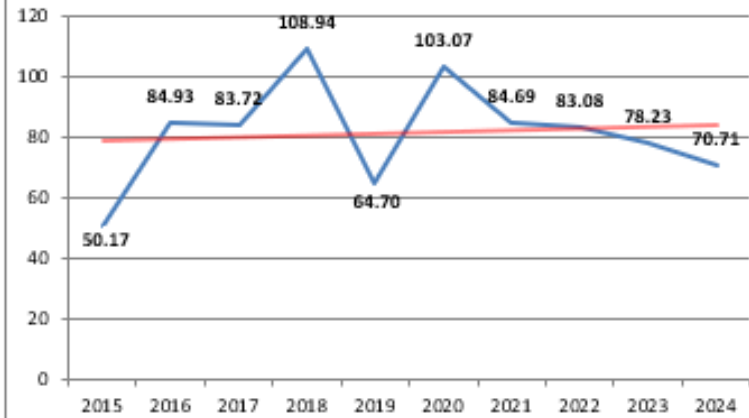
C. CHARTS FOR EACH OF SDG&E'S SIX DISTRICTS WITH LINEAR TREND LINE (EXCLUDES PLANNED, CAISO, AND MED)

District Reliability Indices (Excludes Planned, ISO and MED)

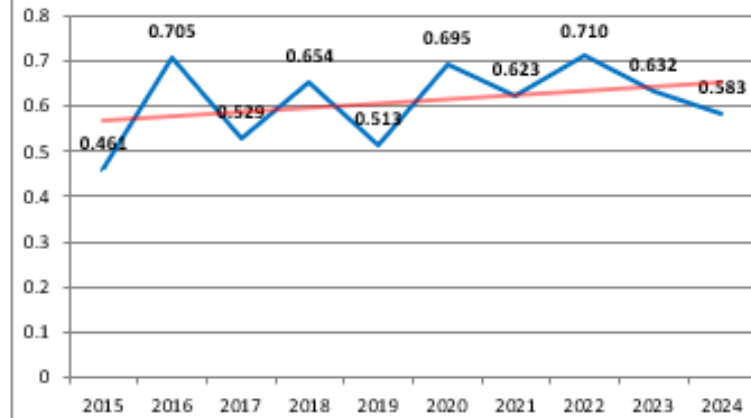


District Reliability Indices (Excludes Planned, ISO and MED)

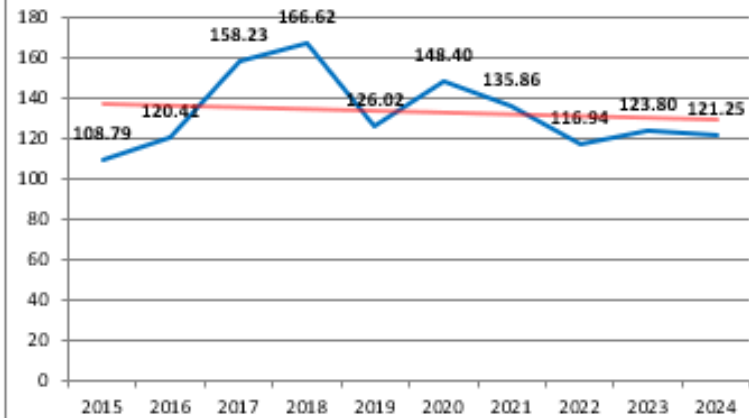
Eastern - SAIDI



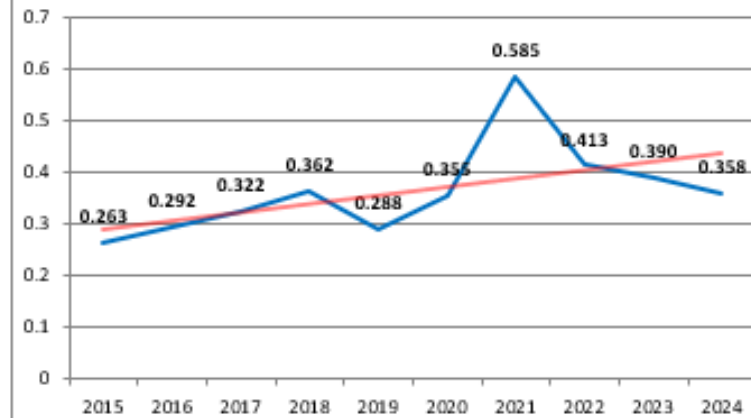
Eastern - SAIFI



Eastern - CAIDI

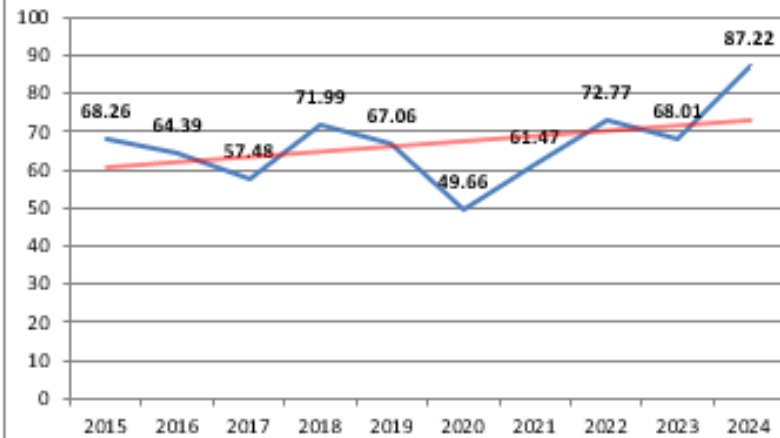


Eastern - MAIFI

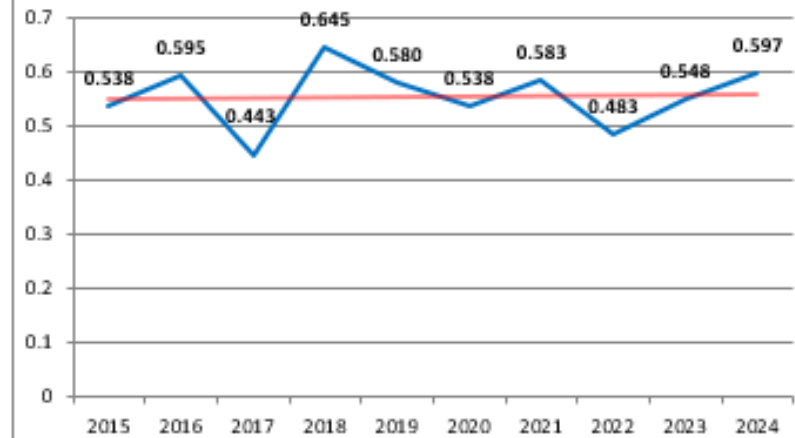


District Reliability Indices (Excludes Planned, ISO and MED)

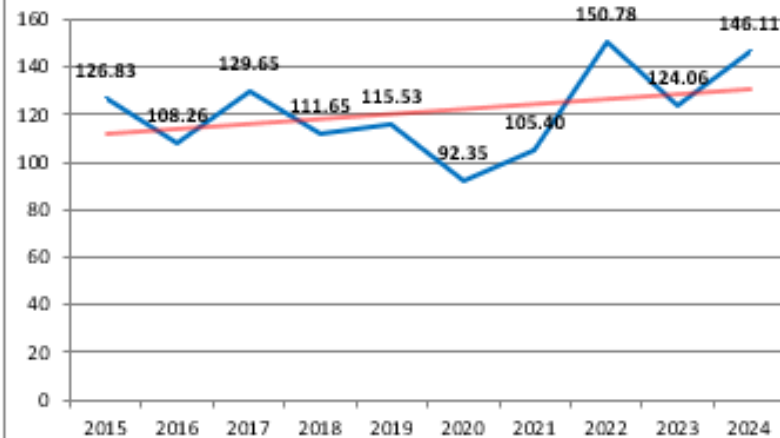
Metro - SAIDI



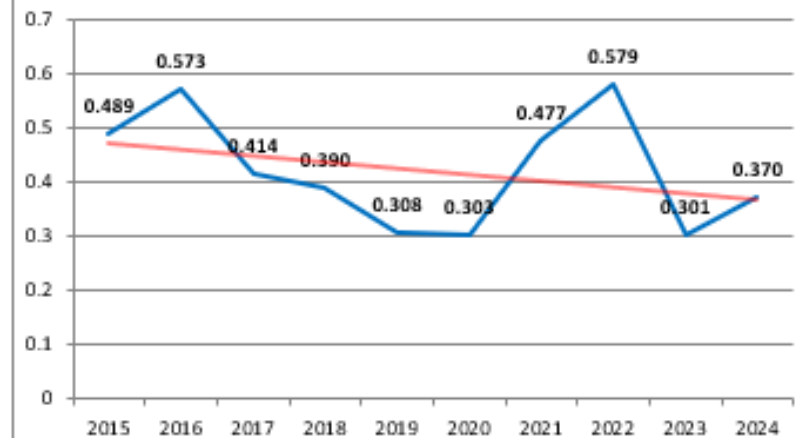
Metro - SAIFI



Metro - CAIDI

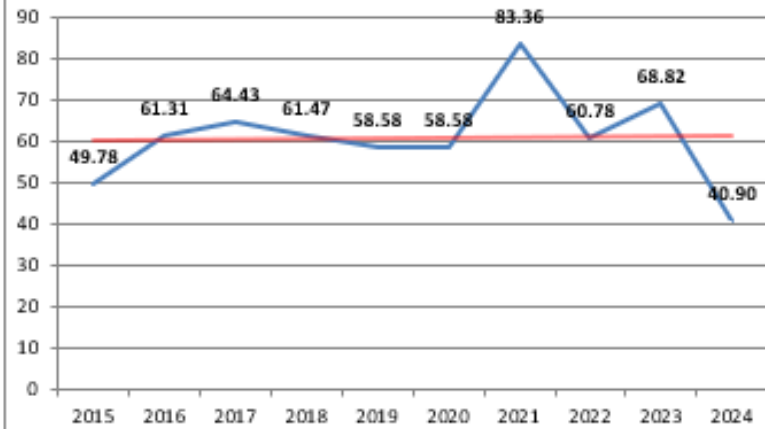


Metro - MAIFI

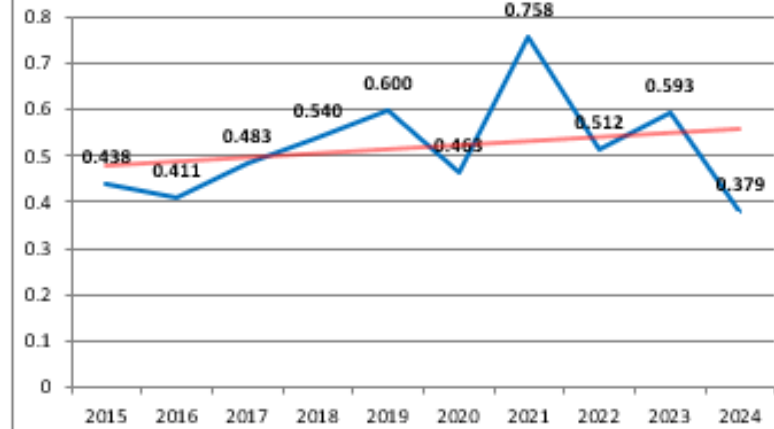


District Reliability Indices (Excludes Planned, ISO and MED)

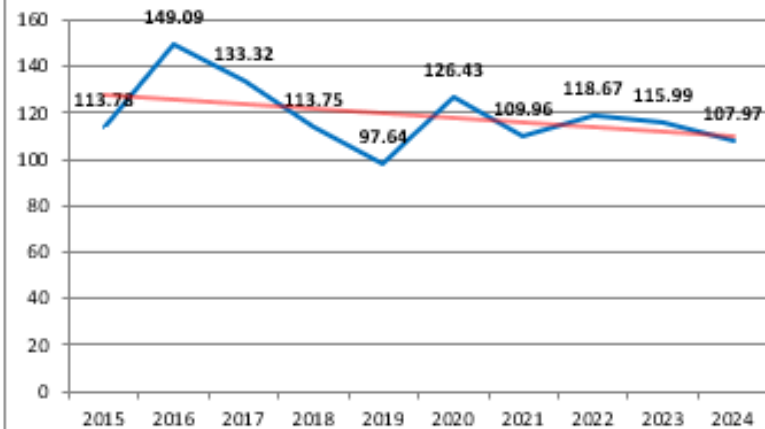
North Coast - SAIDI



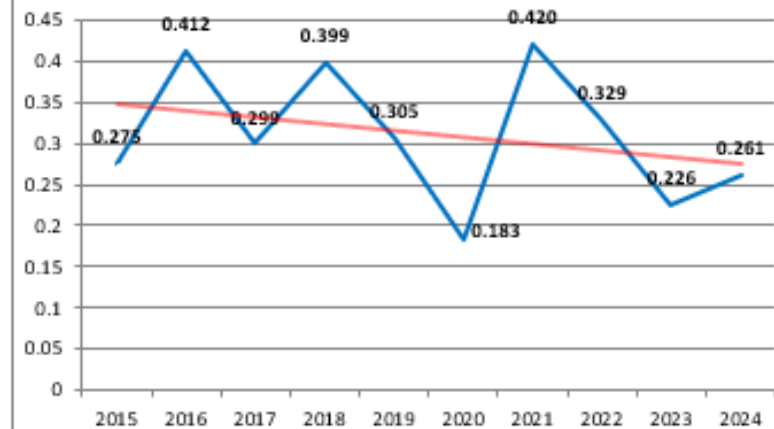
North Coast - SAIFI



North Coast - CAIDI

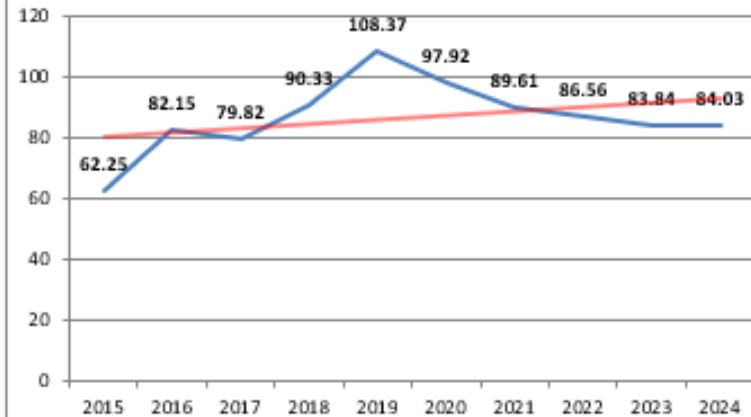


North Coast - MAIFI

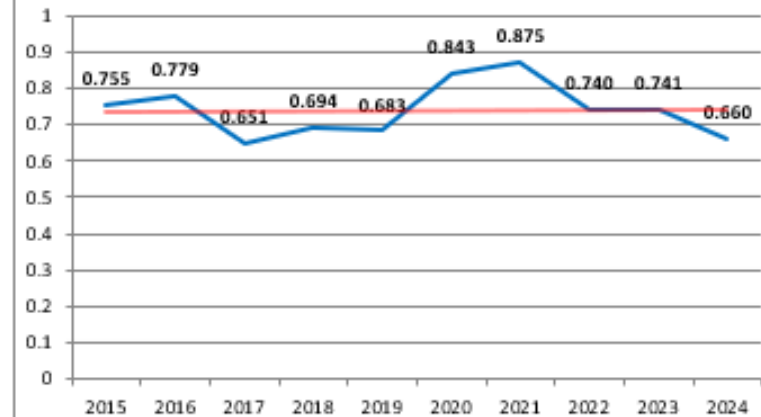


District Reliability Indices (Excludes Planned, ISO and MED)

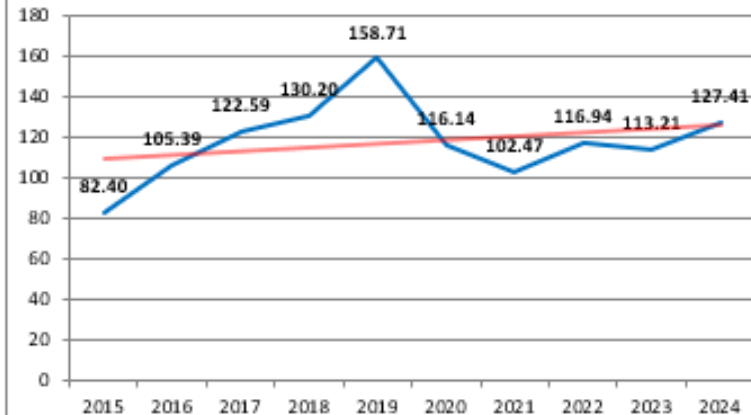
Northeast - SAIDI



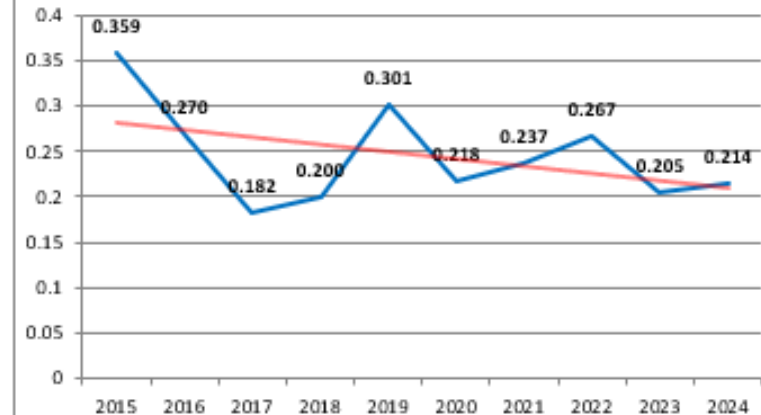
Northeast - SAIFI



Northeast - CAIDI

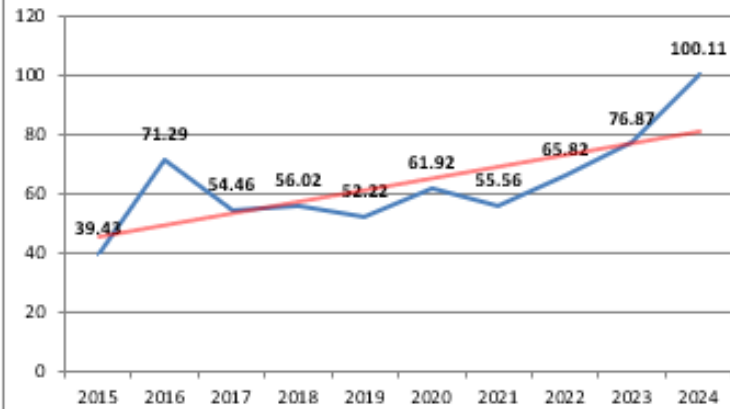


Northeast - MAIFI

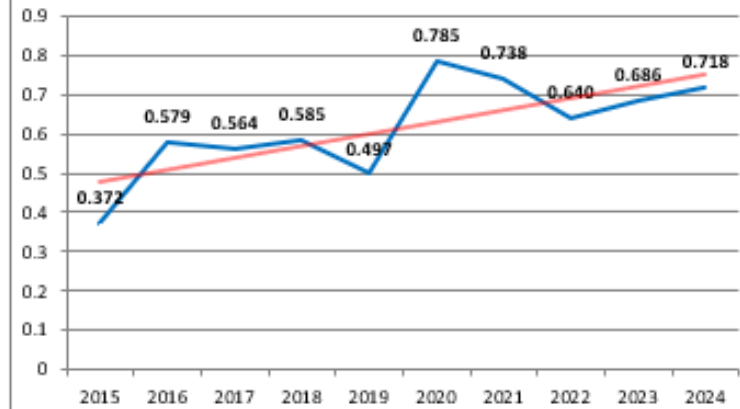


District Reliability Indices (Excludes Planned, ISO and MED)

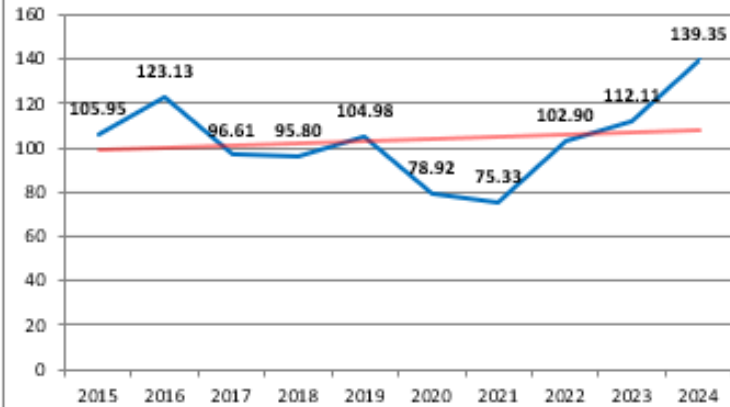
Orange County - SAIDI



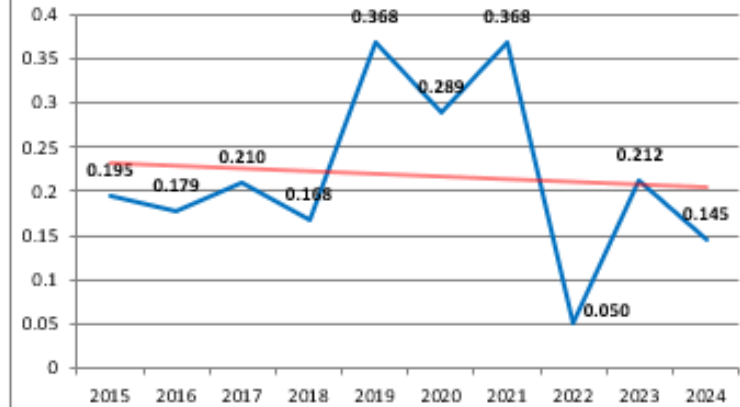
Orange County - SAIFI



Orange County - CAIDI



Orange County - MAIFI



SECTION 3 – SYSTEM AND DISTRICT INDICES BASED ON IEEE 1366 FOR THE PAST TEN YEARS, INCLUDING PLANNED OUTAGES AND INCLUDING AND EXCLUDING MED

THE INDICES BELOW REPRESENT THE COMBINED TRANSMISSION, SUBSTATION, AND DISTRIBUTION OUTAGE IMPACTS AT THE SYSTEM AND DISTRICT LEVELS.

System Indices (2015 – 2024) Planned and Unplanned									
MED Included						MED Excluded			
Year	SAIDI	SAIFI	CAIDI	MAIFI		SAIDI	SAIFI	CAIDI	MAIFI
2015	100.59	0.661	152.16	0.370		100.40	0.657	152.72	0.370
2016	122.06	0.802	152.18	0.467		108.78	0.744	146.21	0.409
2017	164.71	0.744	221.32	0.368		111.57	0.671	166.22	0.335
2018	167.13	0.827	202.15	0.344		123.87	0.796	155.52	0.344
2019	166.42	0.805	206.71	0.343		111.72	0.760	146.99	0.343
2020	244.05	0.917	266.09	0.326		114.19	0.798	143.02	0.312
2021	149.14	0.918	162.39	0.445		143.85	0.914	157.40	0.445
2022	137.61	0.806	170.73	0.339		137.61	0.806	170.73	0.339
2023	132.30	0.789	167.59	0.257		132.30	0.789	167.59	0.257
2024	221.84	0.813	272.77	0.294		135.72	0.744	182.44	0.283

Beach Cities - District Indices (2015 – 2024)									
Planned and Unplanned									
MED Included						MED Excluded			
Year	SAIDI	SAIFI	CAIDI	MAIFI		SAIDI	SAIFI	CAIDI	MAIFI
2015	85.76	0.592	144.92	0.358		85.72	0.591	145.10	0.358
2016	109.46	0.766	142.88	0.401		95.95	0.718	133.61	0.401
2017	100.40	0.694	144.62	0.388		93.85	0.612	153.29	0.354
2018	142.64	0.859	166.05	0.316		142.18	0.851	167.07	0.316
2019	107.19	0.888	120.74	0.299		106.12	0.866	122.57	0.299
2020	96.19	0.779	123.40	0.350		92.10	0.755	121.91	0.350
2021	147.16	0.818	179.99	0.403		147.16	0.818	179.99	0.403
2022	118.82	0.791	150.21	0.153		118.82	0.791	150.21	0.153
2023	134.13	0.673	199.22	0.178		134.13	0.673	199.22	0.178
2024	98.18	0.584	168.26	0.236		95.10	0.567	167.73	0.224

Eastern - District Indices (2015 – 2024)									
Planned and Unplanned									
MED Included						MED Excluded			
Year	SAIDI	SAIFI	CAIDI	MAIFI		SAIDI	SAIFI	CAIDI	MAIFI
2015	82.12	0.555	147.91	0.289		82.12	0.555	147.91	0.289
2016	136.40	0.911	149.69	0.332		113.09	0.796	142.03	0.298
2017	207.65	0.763	272.09	0.386		114.15	0.655	174.23	0.350
2018	241.61	0.830	291.06	0.394		146.67	0.796	184.23	0.394
2019	249.63	0.749	333.28	0.308		106.31	0.663	160.34	0.308
2020	466.29	1.100	423.85	0.459		169.17	0.907	186.49	0.450
2021	181.24	0.874	207.36	0.643		152.63	0.852	179.14	0.643
2022	140.04	0.922	151.89	0.431		140.04	0.922	151.89	0.431
2023	143.60	0.846	169.83	0.395		143.60	0.846	169.83	0.395
2024	283.59	0.836	339.23	0.368		124.87	0.759	164.41	0.367

Metro - District Indices (2015 – 2024)									
Planned and Unplanned									
MED Included						MED Excluded			
Year	SAIDI	SAIFI	CAIDI	MAIFI		SAIDI	SAIFI	CAIDI	MAIFI
2015	141.46	0.721	196.33	0.491		141.24	0.713	198.22	0.491
2016	114.66	0.759	151.04	0.617		108.26	0.726	149.09	0.575
2017	151.01	0.683	221.21	0.478		111.95	0.602	186.07	0.418
2018	104.76	0.777	134.86	0.408		102.88	0.764	134.70	0.408
2019	100.65	0.693	145.28	0.325		100.63	0.692	145.47	0.325
2020	105.64	0.730	144.72	0.325		90.92	0.668	136.11	0.306
2021	119.98	0.761	157.67	0.484		119.94	0.760	157.83	0.484
2022	155.78	0.682	228.42	0.593		155.78	0.682	228.42	0.593
2023	123.63	0.728	169.93	0.306		123.63	0.728	169.93	0.306
2024	186.12	0.922	201.93	0.414		161.46	0.831	194.38	0.378

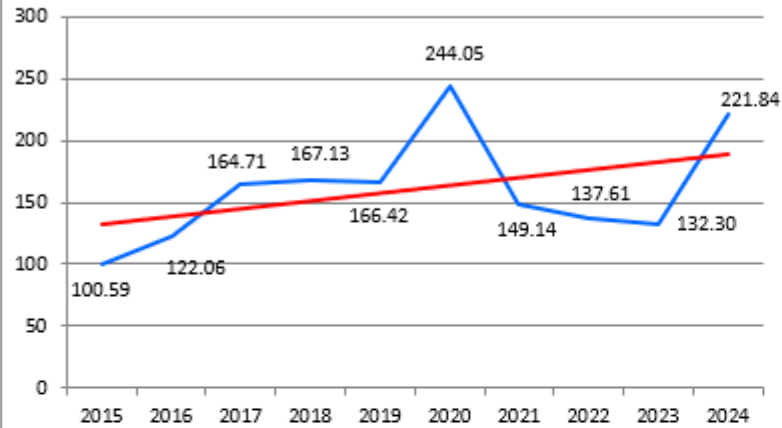
North Coast - District Indices (2015 – 2024)									
Planned and Unplanned									
MED Included						MED Excluded			
Year	SAIDI	SAIFI	CAIDI	MAIFI		SAIDI	SAIFI	CAIDI	MAIFI
2015	87.90	0.580	151.50	0.299		87.89	0.579	151.75	0.299
2016	114.65	0.663	172.82	0.583		97.14	0.573	169.41	0.437
2017	108.76	0.665	163.54	0.329		93.34	0.624	149.58	0.329
2018	118.74	0.713	166.60	0.419		99.62	0.682	146.13	0.419
2019	115.12	0.774	148.71	0.319		91.20	0.750	121.58	0.319
2020	154.26	0.678	227.46	0.200		102.15	0.590	173.09	0.199
2021	162.39	1.014	160.11	0.433		162.39	1.014	160.13	0.433
2022	106.40	0.675	157.63	0.330		106.40	0.675	157.63	0.330
2023	112.09	0.715	156.83	0.226		112.09	0.715	156.83	0.226
2024	84.98	0.524	162.27	0.271		84.36	0.506	166.58	0.271

Northeast - District Indices (2015 – 2024)									
Planned and Unplanned									
MED Included						MED Excluded			
Year	SAIDI	SAIFI	CAIDI	MAIFI		SAIDI	SAIFI	CAIDI	MAIFI
2015	95.03	0.911	104.37	0.431		94.26	0.902	104.56	0.432
2016	154.02	1.010	152.56	0.410		142.23	0.974	146.09	0.357
2017	315.41	0.986	319.80	0.261		161.00	0.898	179.22	0.240
2018	312.53	1.043	299.75	0.234		158.01	0.948	166.60	0.234
2019	344.80	1.051	328.19	0.444		170.54	0.925	184.30	0.444
2020	596.86	1.448	412.18	0.304		154.91	1.125	137.64	0.271
2021	167.36	1.168	143.32	0.303		161.14	1.161	138.76	0.303
2022	167.38	1.000	167.38	0.269		167.38	1.000	167.38	0.269
2023	156.72	0.995	157.53	0.205		156.72	0.995	157.53	0.205
2024	526.07	1.137	462.80	0.226		178.14	0.954	186.77	0.226

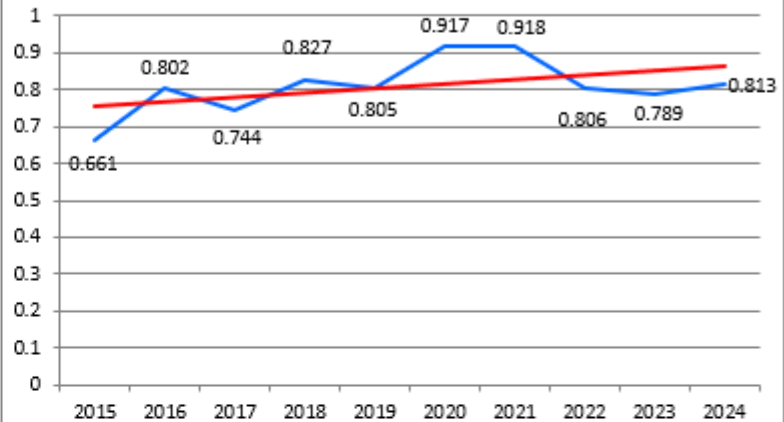
Orange County - District Indices (2015 – 2024)									
Planned and Unplanned									
MED Included						MED Excluded			
Year	SAIDI	SAIFI	CAIDI	MAIFI		SAIDI	SAIFI	CAIDI	MAIFI
2015	80.31	0.505	158.94	0.211		80.31	0.505	158.99	0.212
2016	98.96	0.688	143.86	0.288		89.26	0.659	135.47	0.190
2017	87.10	0.692	125.90	0.260		86.74	0.688	126.00	0.228
2018	89.71	0.716	125.27	0.198		89.70	0.716	125.22	0.198
2019	101.98	0.656	155.49	0.404		98.82	0.630	156.75	0.404
2020	85.25	0.901	94.66	0.329		82.56	0.879	93.96	0.307
2021	122.87	1.002	122.67	0.370		122.87	1.002	122.62	0.370
2022	131.05	0.880	148.92	0.051		131.05	0.880	148.92	0.051
2023	127.17	0.891	142.67	0.216		127.17	0.891	142.67	0.216
2024	197.02	0.957	205.80	0.147		196.24	0.951	206.30	0.147

System Indices - Planned and Unplanned (Excludes ISO; Includes MED)

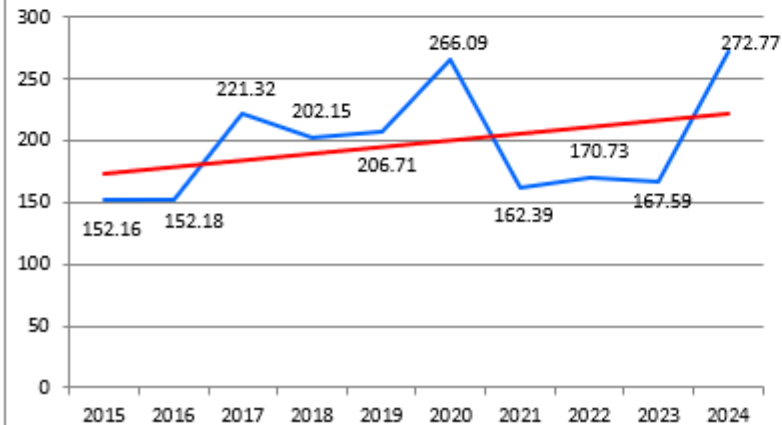
System - SAIDI



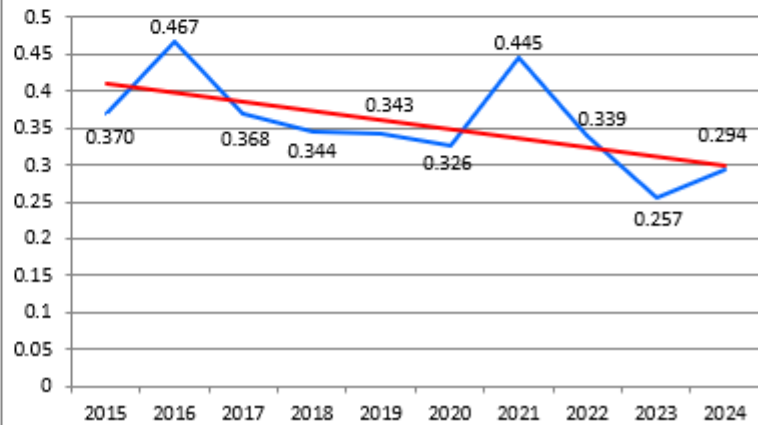
System - SAIFI



System - CAIDI

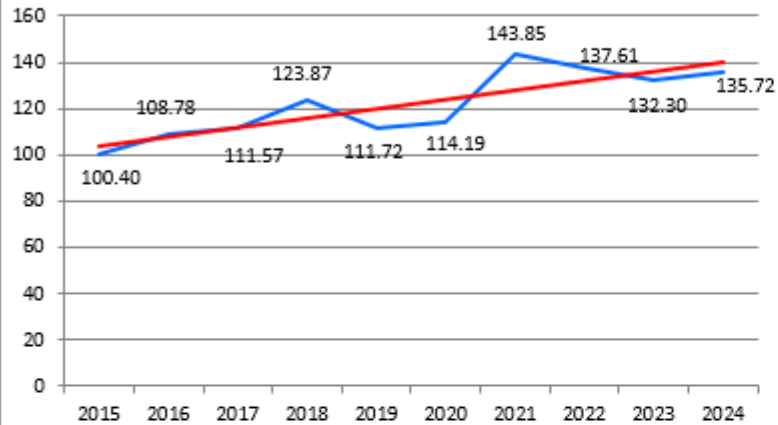


System - MAIFI

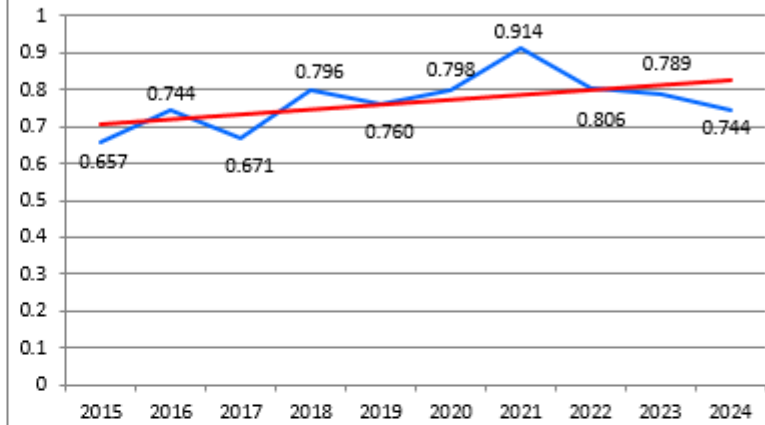


System Indices - Planned and Unplanned (Excludes ISO and MED)

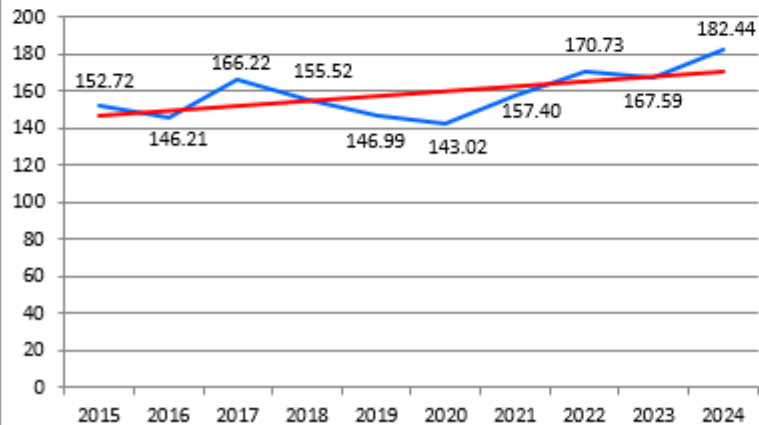
System - SAIDI



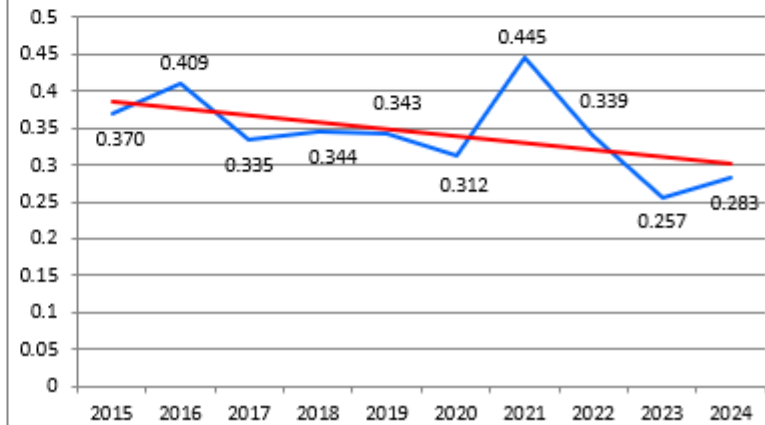
System - SAIFI



System - CAIDI

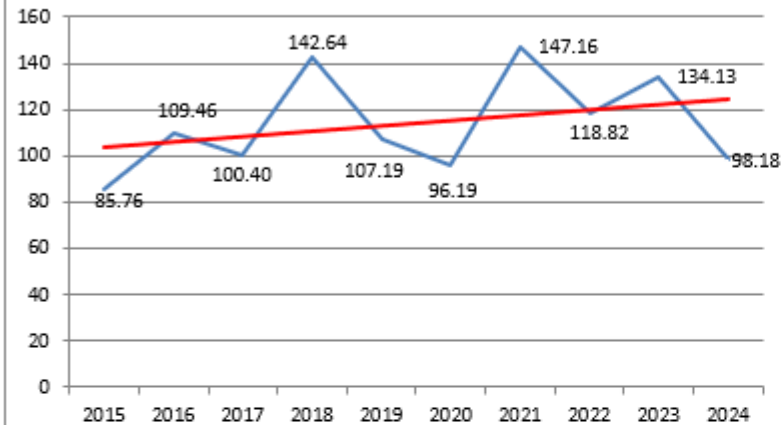


System - MAIFI

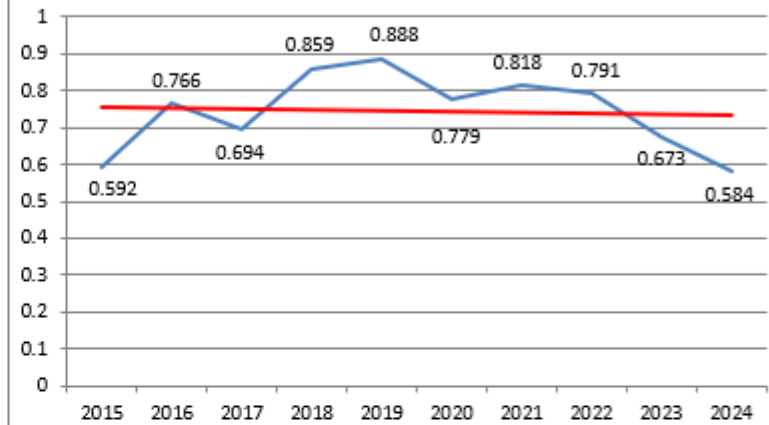


District Indices - Planned and Unplanned (Excludes ISO; Includes MED)

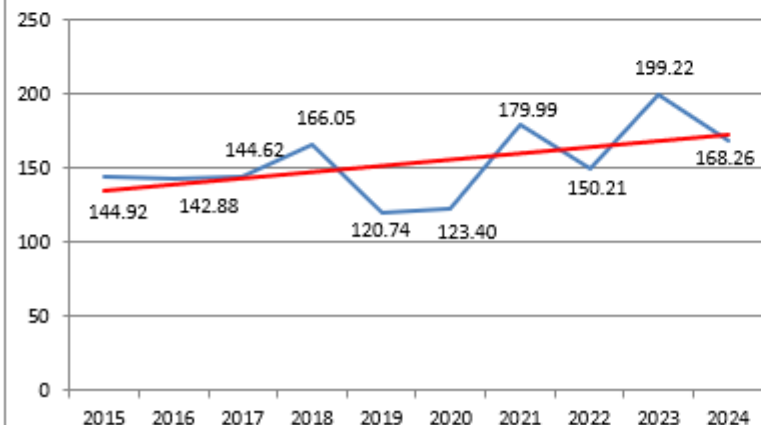
Beach Cities - SAIDI



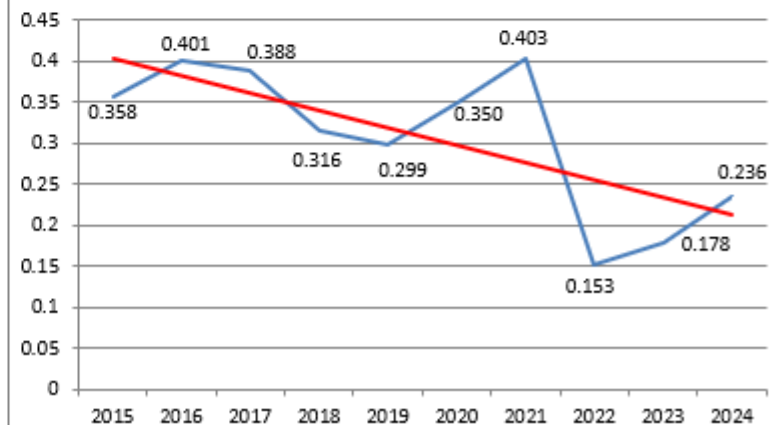
Beach Cities - SAIFI



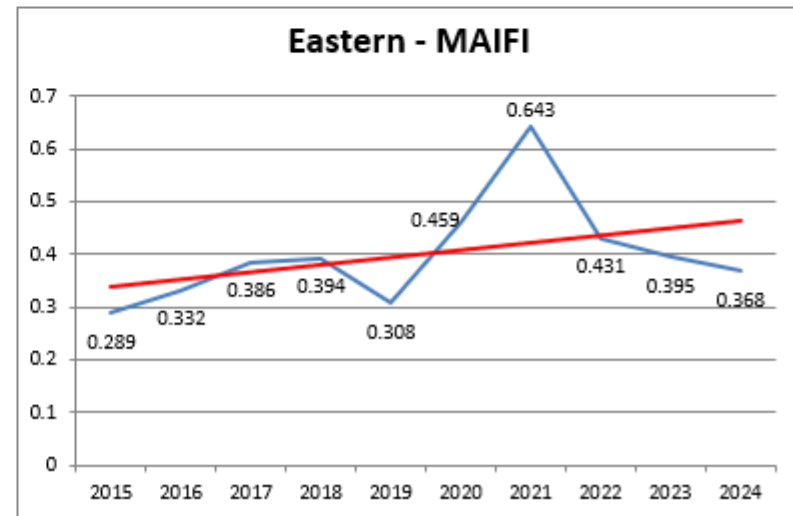
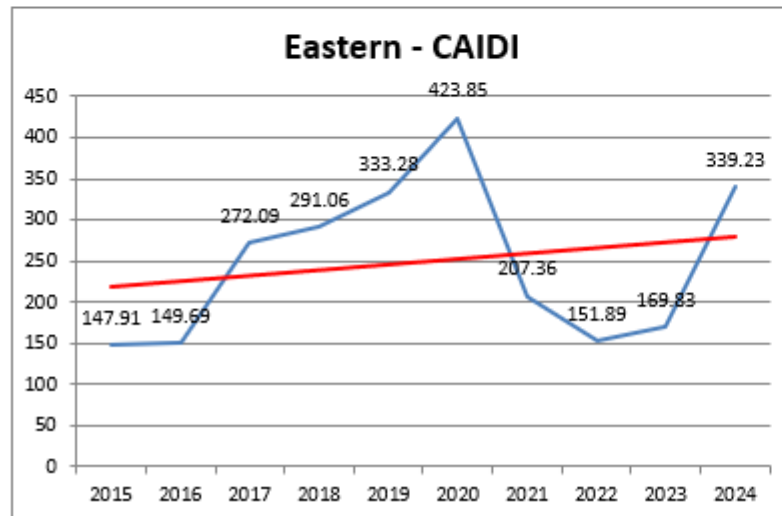
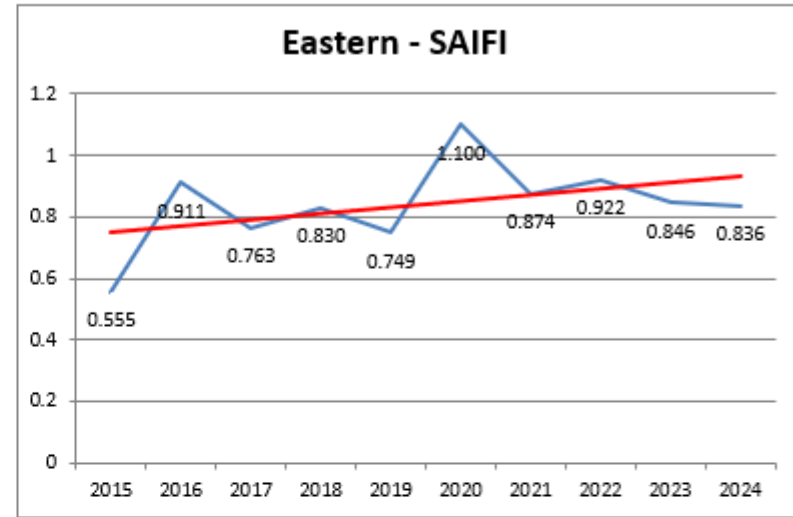
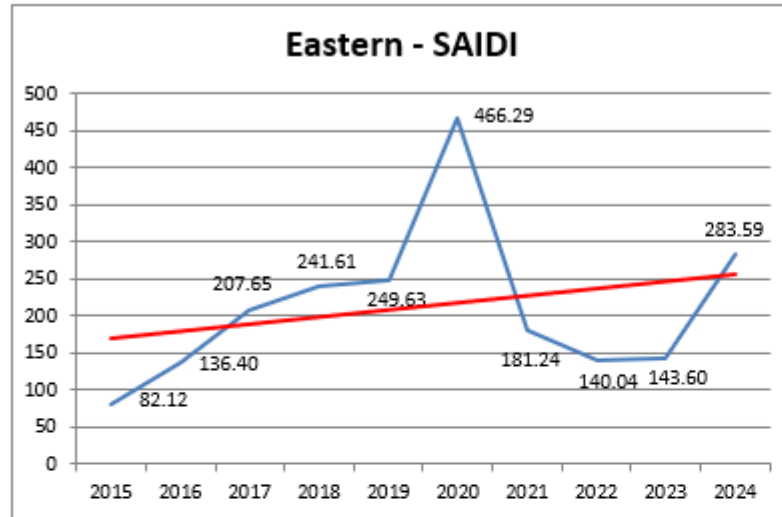
Beach Cities - CAIDI



Beach Cities - MAIFI

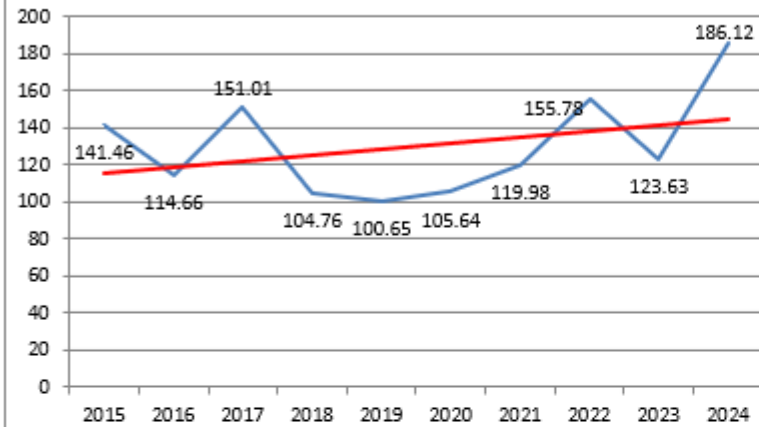


District Indices - Planned and Unplanned (Excludes ISO; Includes MED)

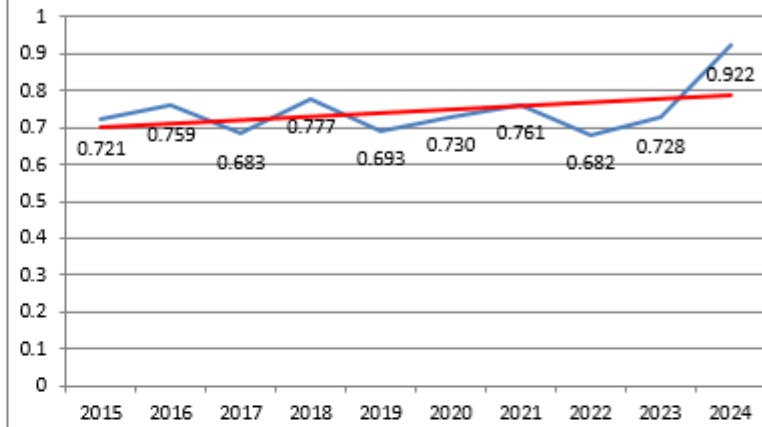


District Indices - Planned and Unplanned (Excludes ISO; Includes MED)

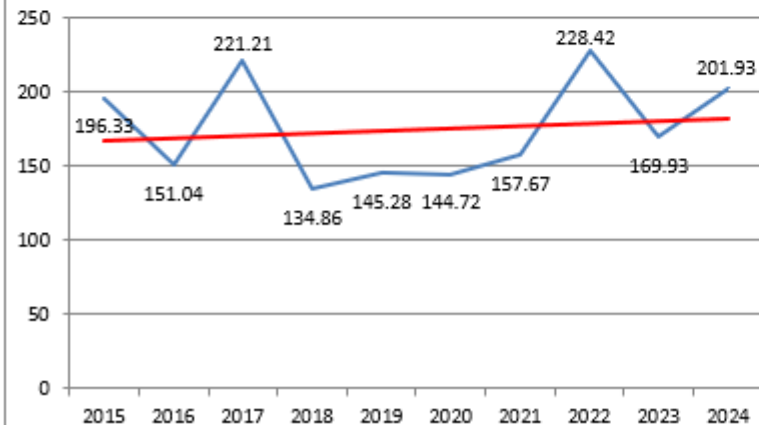
Metro - SAIDI



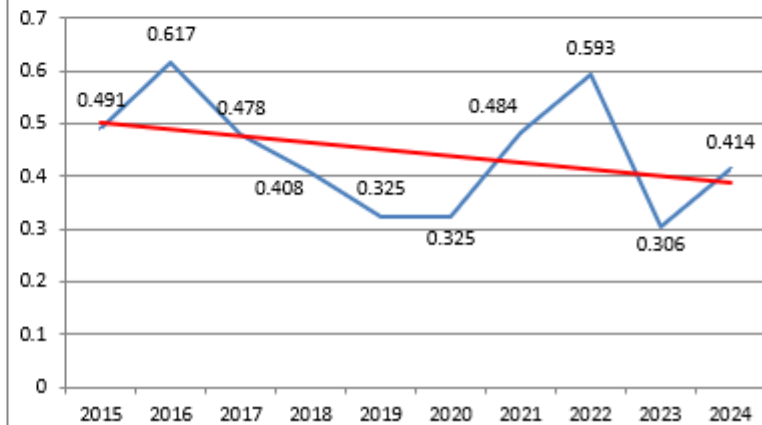
Metro - SAIFI



Metro - CAIDI

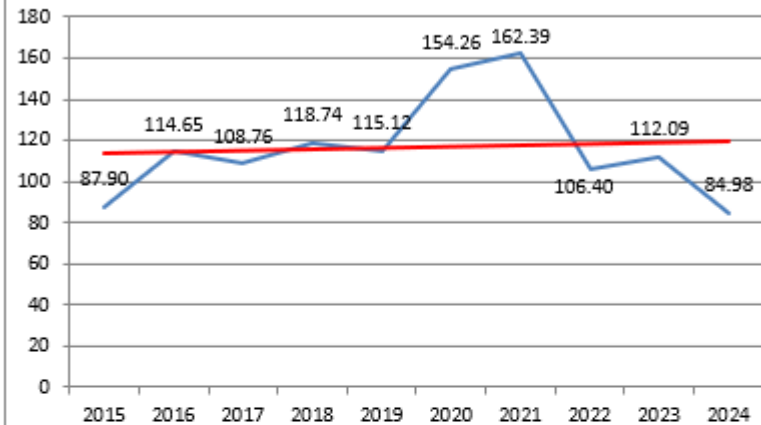


Metro - MAIFI

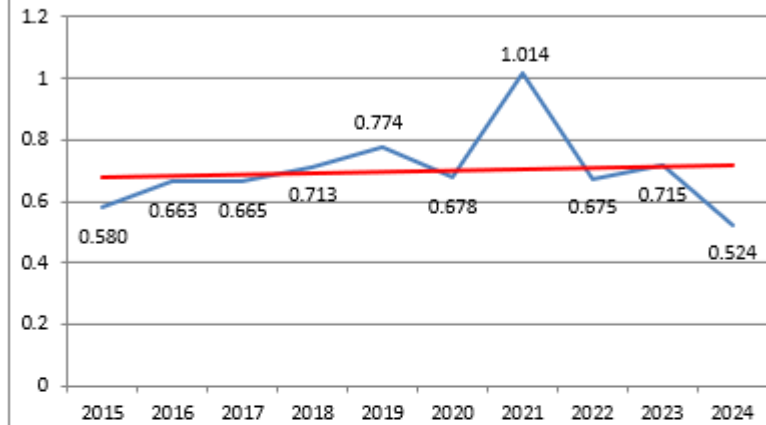


District Indices - Planned and Unplanned (Excludes ISO; Includes MED)

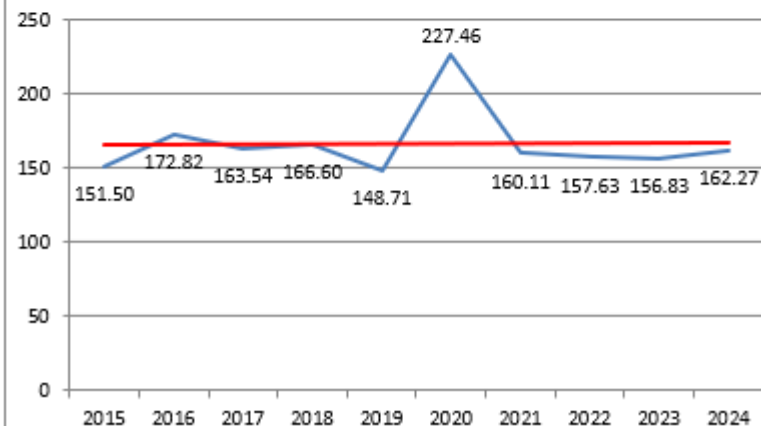
North Coast - SAIDI



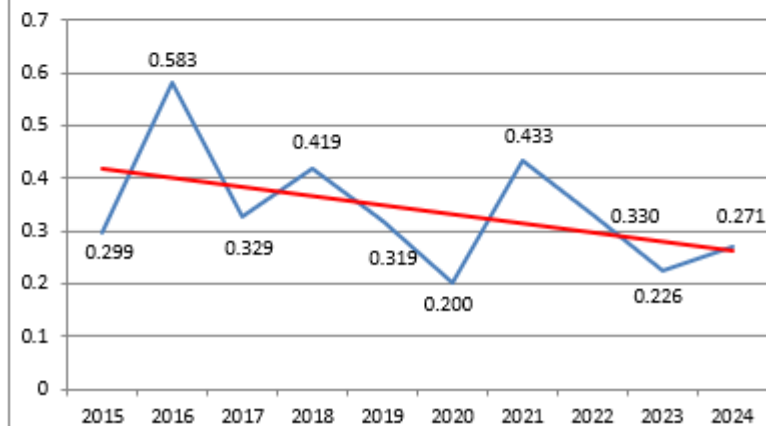
North Coast - SAIFI



North Coast - CAIDI

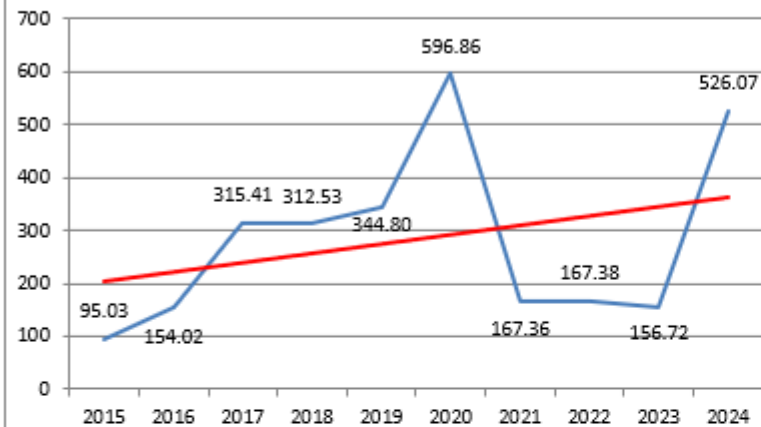


North Coast - MAIFI

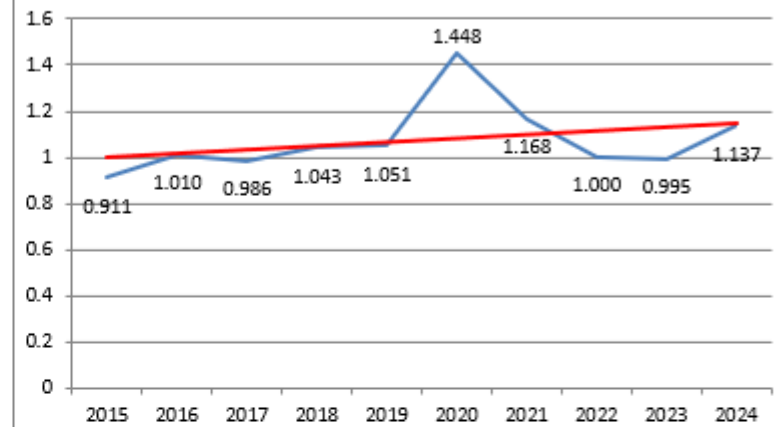


District Indices - Planned and Unplanned (Excludes ISO; Includes MED)

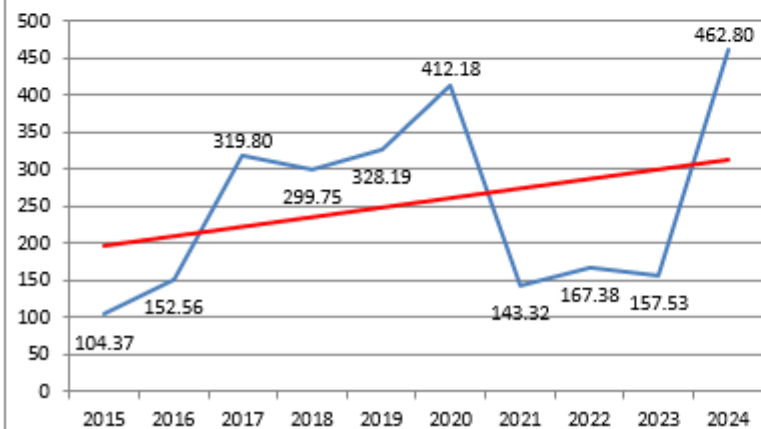
Northeast - SAIDI



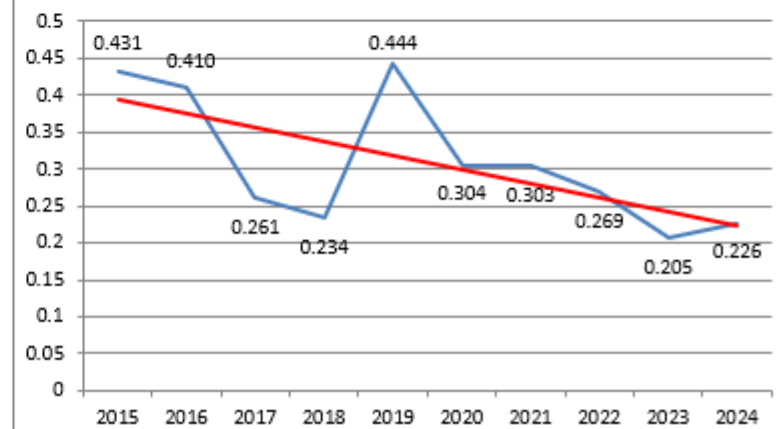
Northeast - SAIFI



Northeast - CAIDI

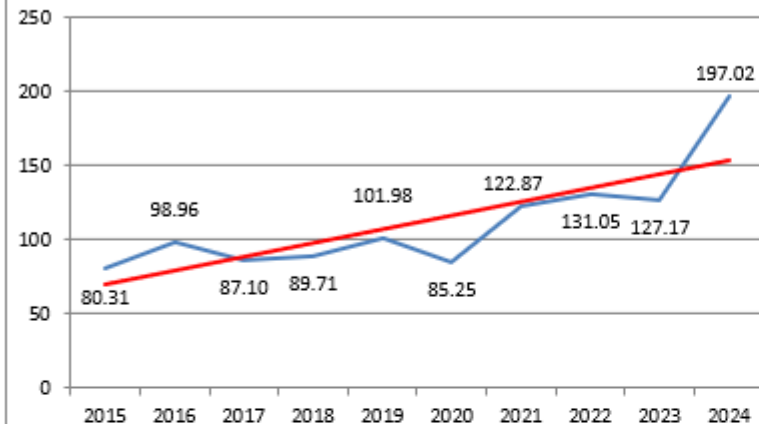


Northeast - MAIFI

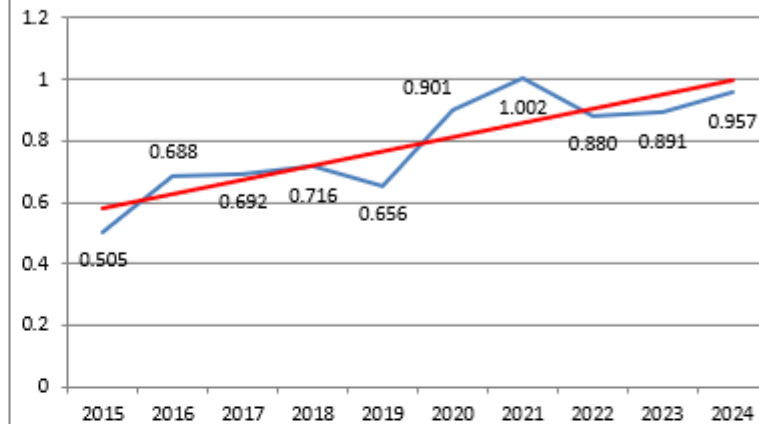


District Indices - Planned and Unplanned (Excludes ISO; Includes MED)

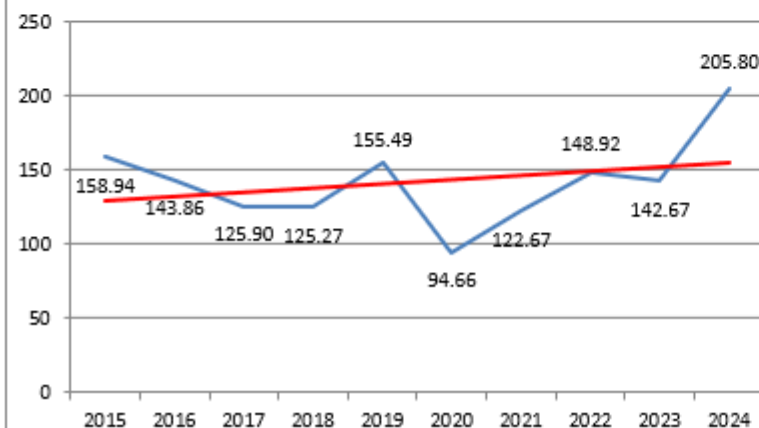
Orange County - SAIDI



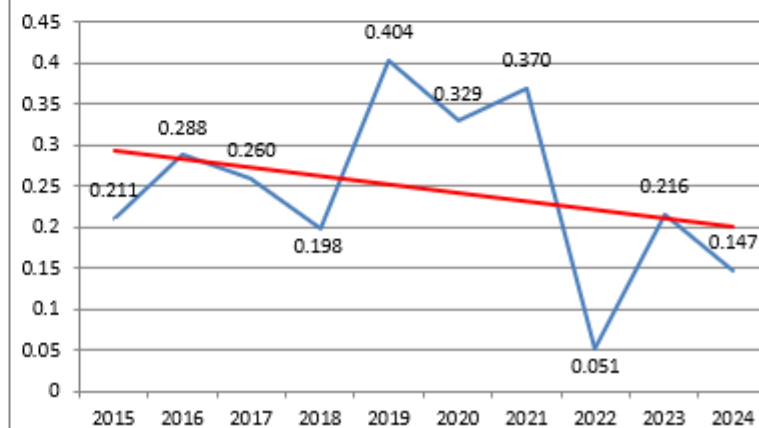
Orange County - SAIFI



Orange County - CAIDI

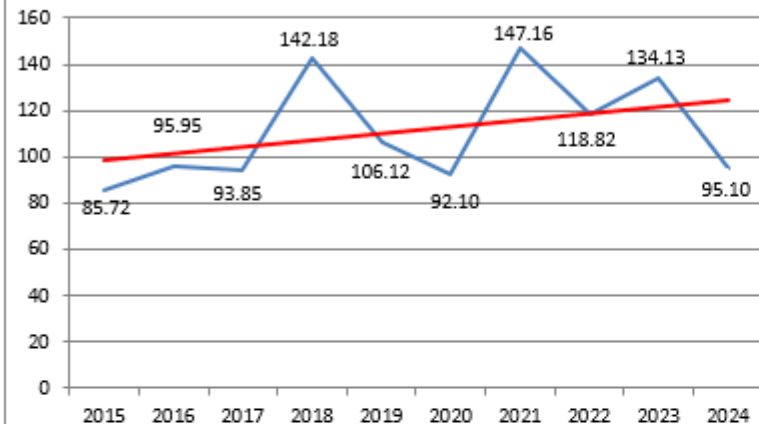


Orange County - MAIFI

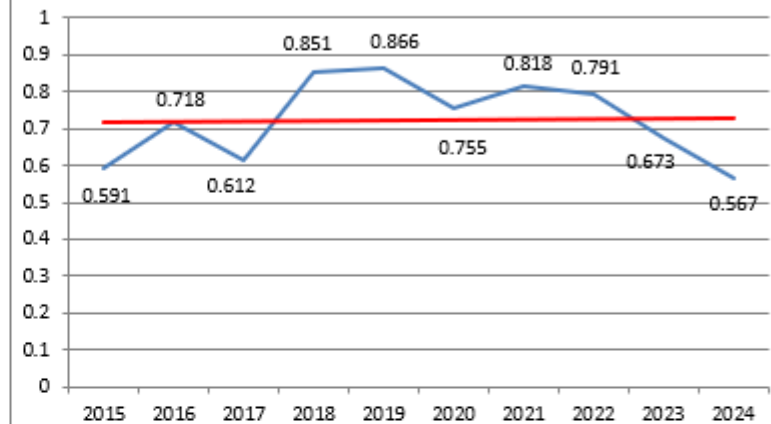


District Indices - Planned and Unplanned (Excludes ISO and MED)

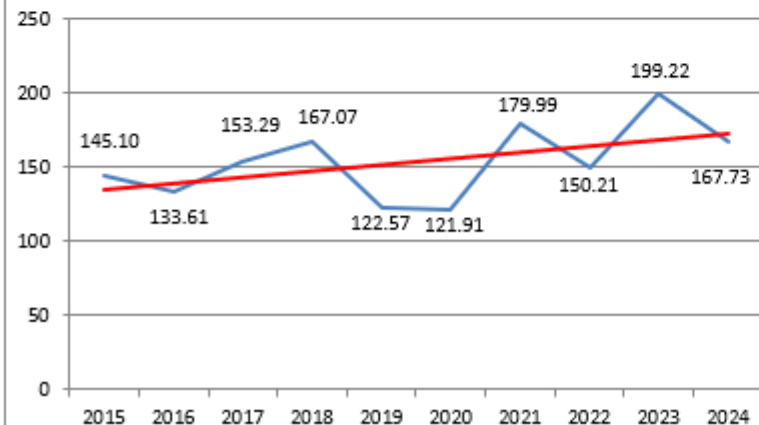
Beach Cities - SAIDI



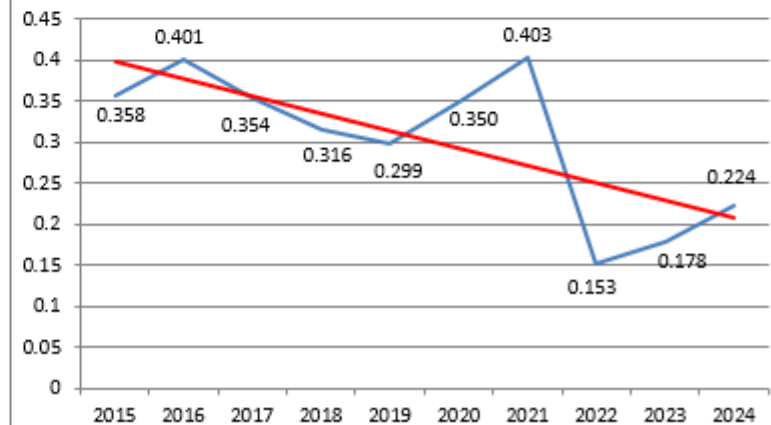
Beach Cities - SAIFI



Beach Cities - CAIDI

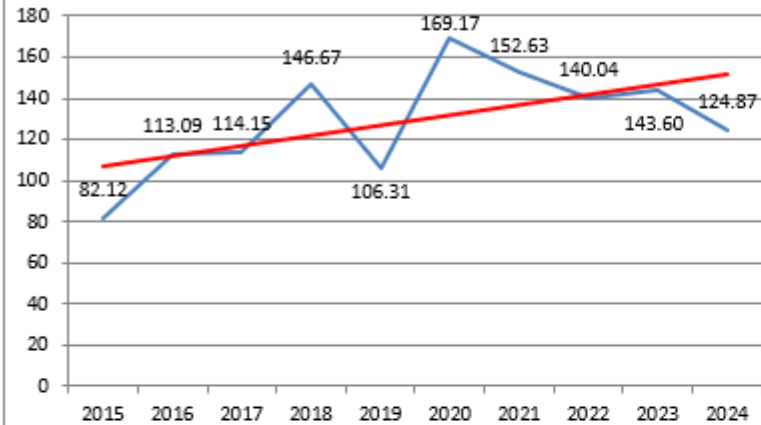


Beach Cities - MAIFI

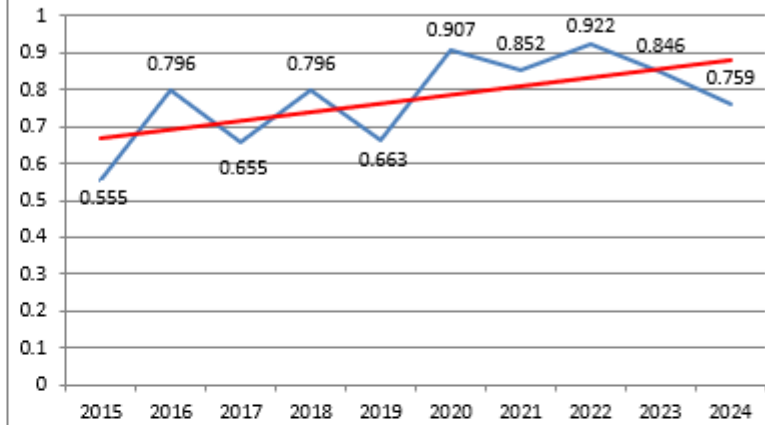


District Indices - Planned and Unplanned (Excludes ISO and MED)

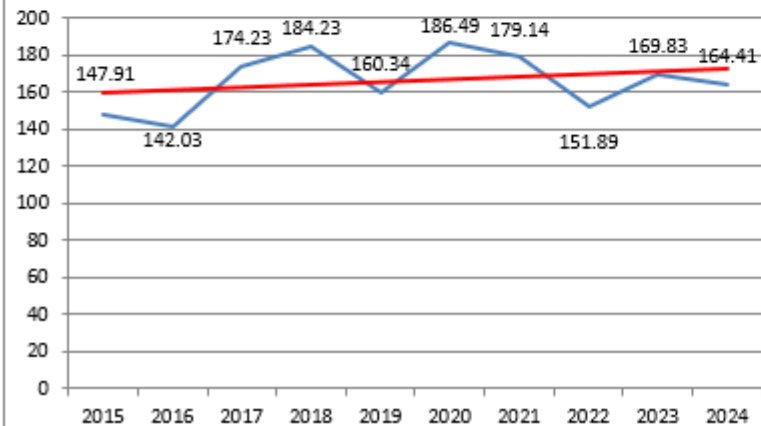
Eastern - SAIDI



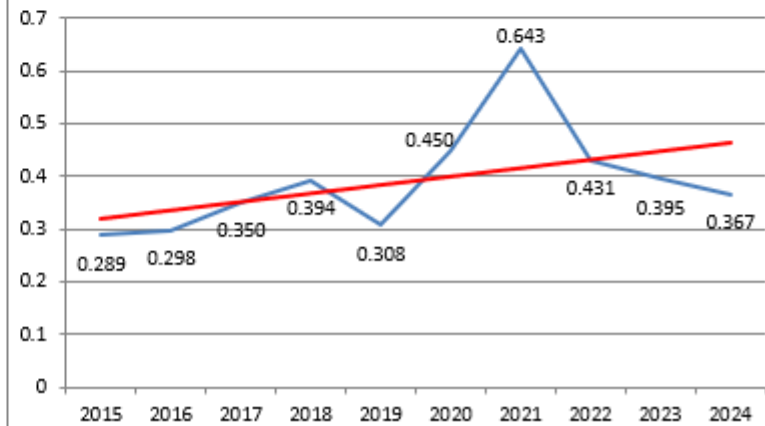
Eastern - SAIFI



Eastern - CAIDI

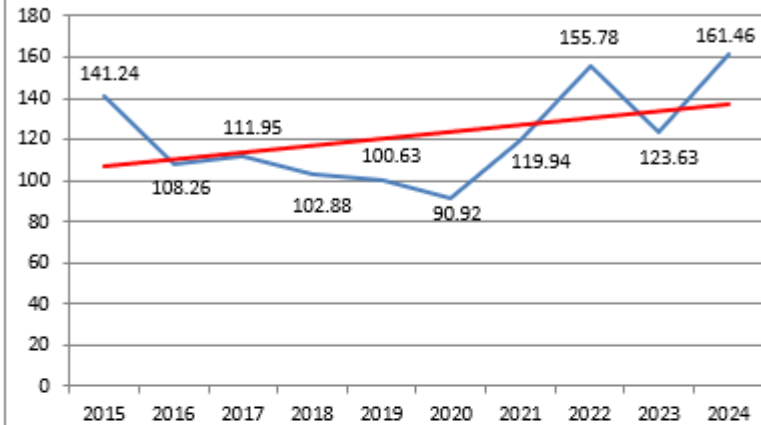


Eastern - MAIFI

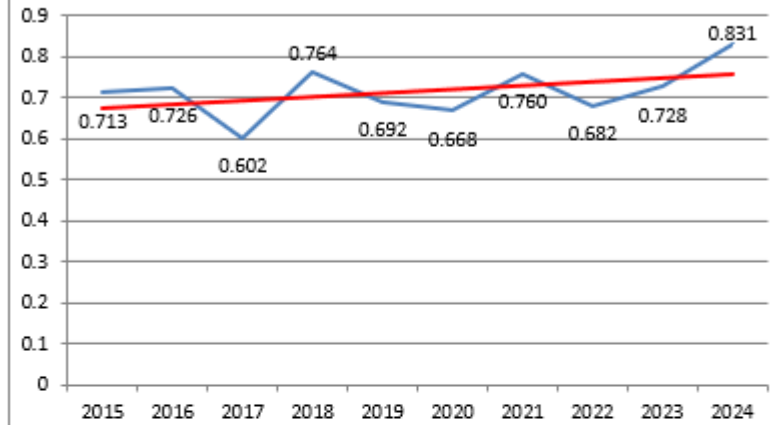


District Indices - Planned and Unplanned (Excludes ISO and MED)

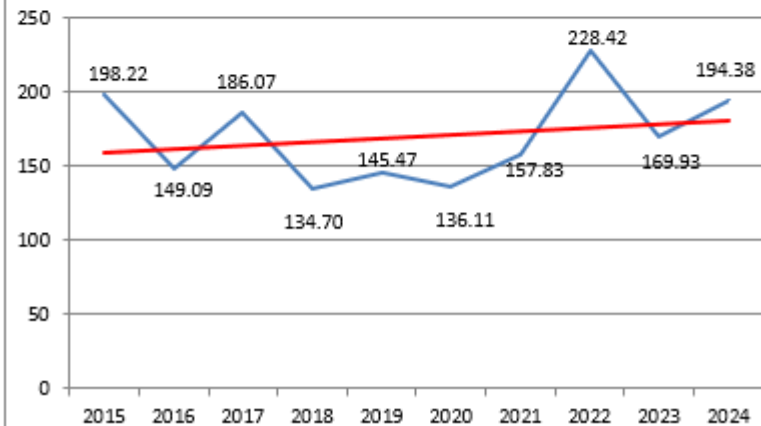
Metro - SAIDI



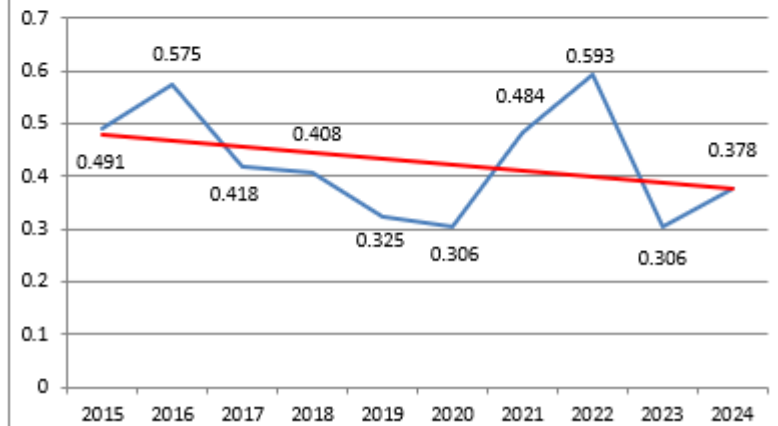
Metro - SAIFI



Metro - CAIDI

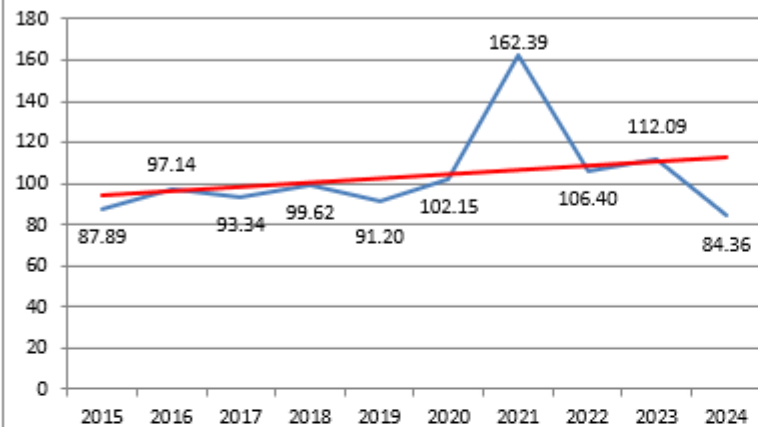


Metro - MAIFI

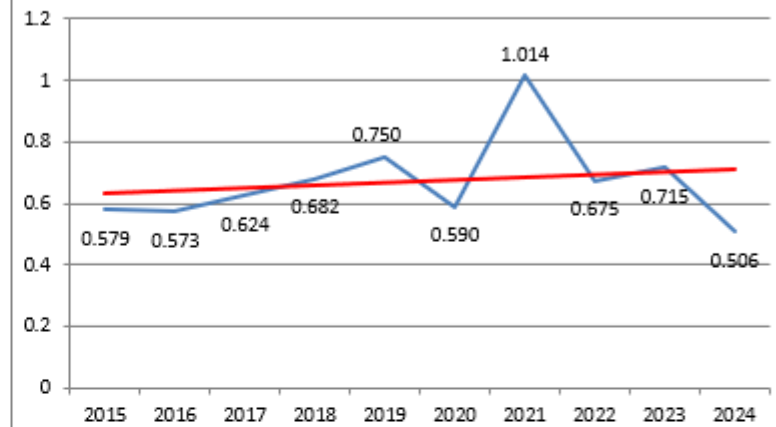


District Indices - Planned and Unplanned (Excludes ISO and MED)

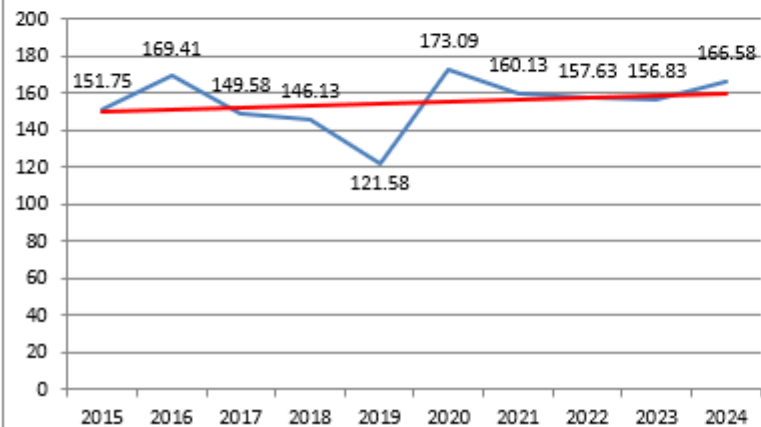
North Coast - SAIDI



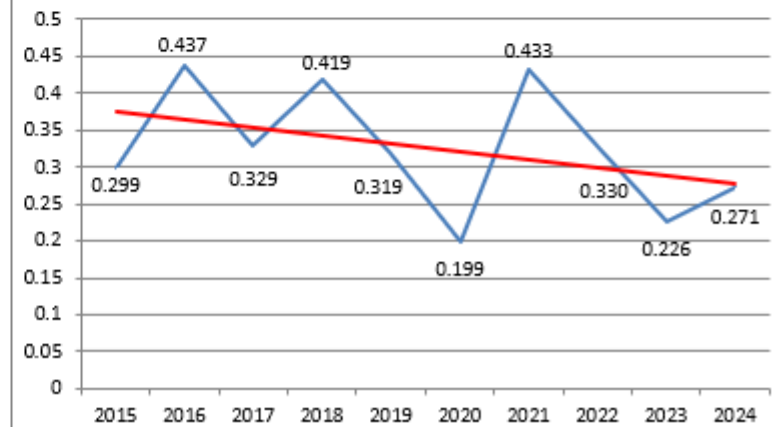
North Coast - SAIFI



North Coast - CAIDI

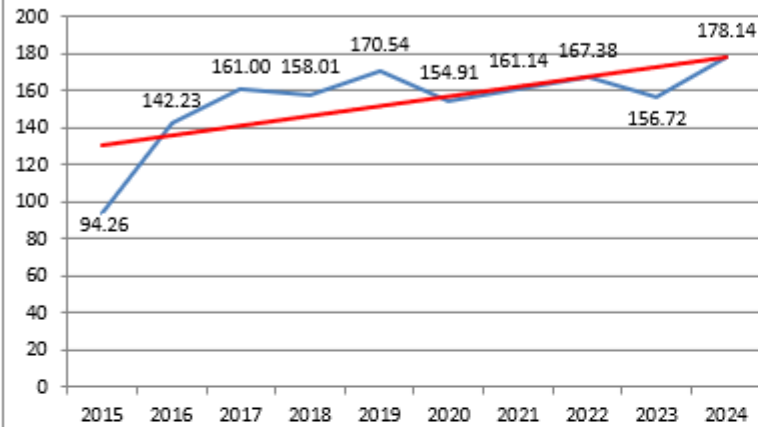


North Coast - MAIFI

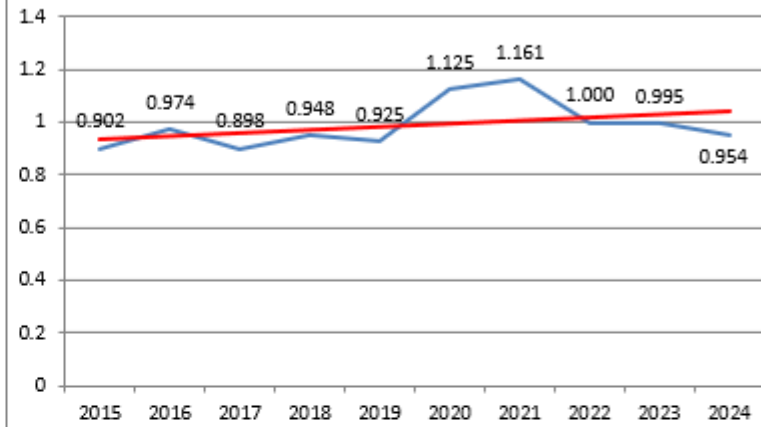


District Indices - Planned and Unplanned (Excludes ISO and MED)

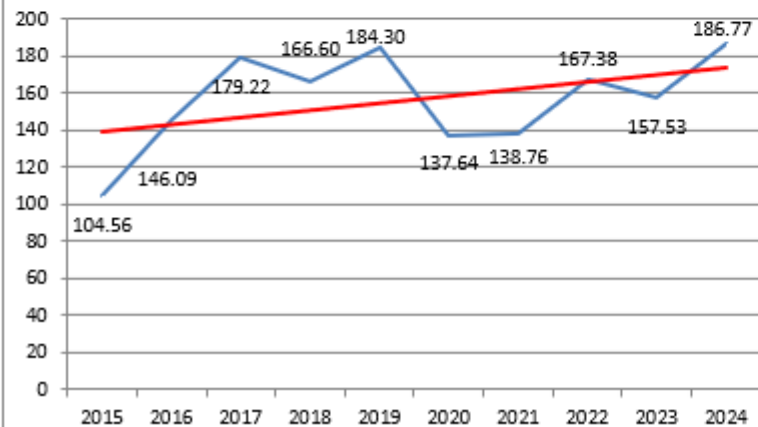
Northeast - SAIDI



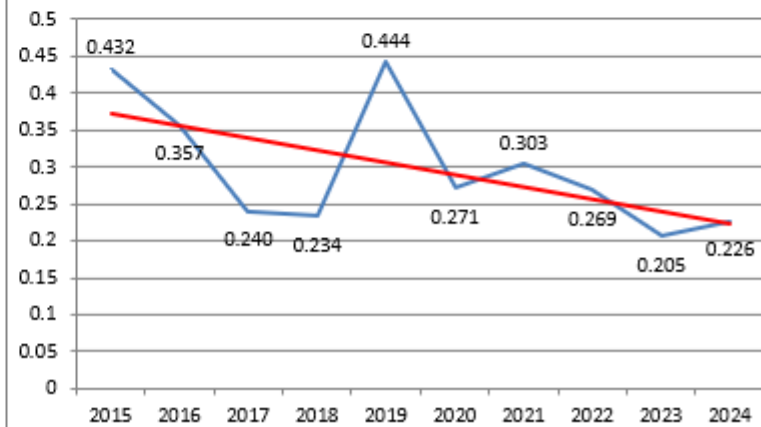
Northeast - SAIFI



Northeast - CAIDI

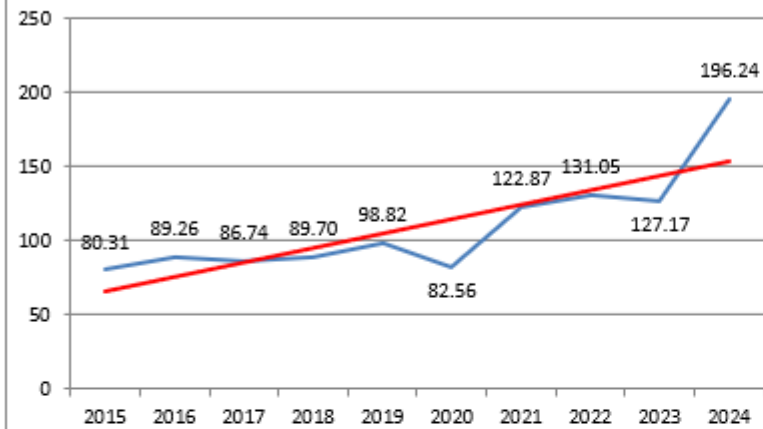


Northeast - MAIFI

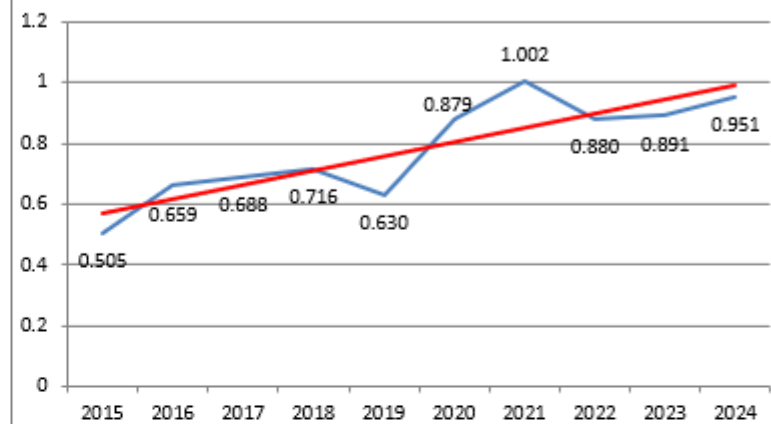


District Indices - Planned and Unplanned (Excludes ISO and MED)

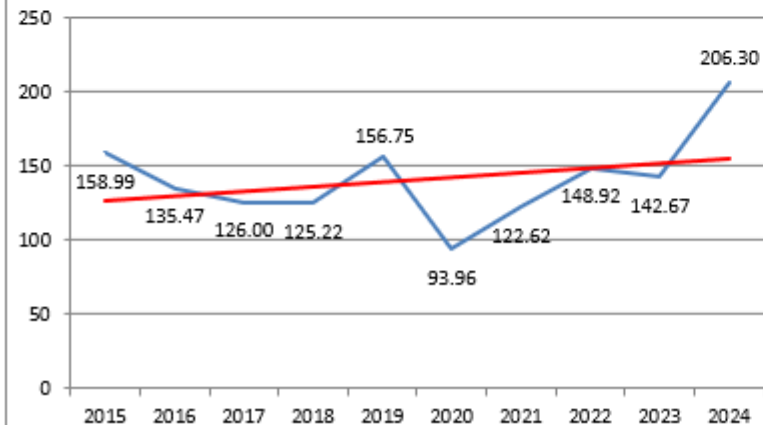
Orange County - SAIDI



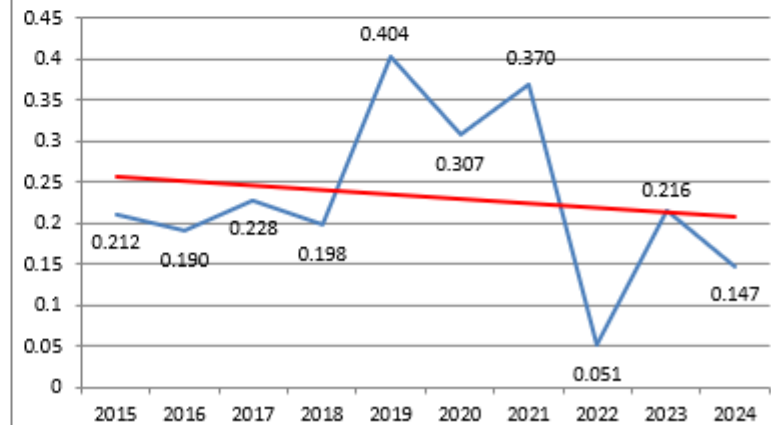
Orange County - SAIFI



Orange County - CAIDI



Orange County - MAIFI



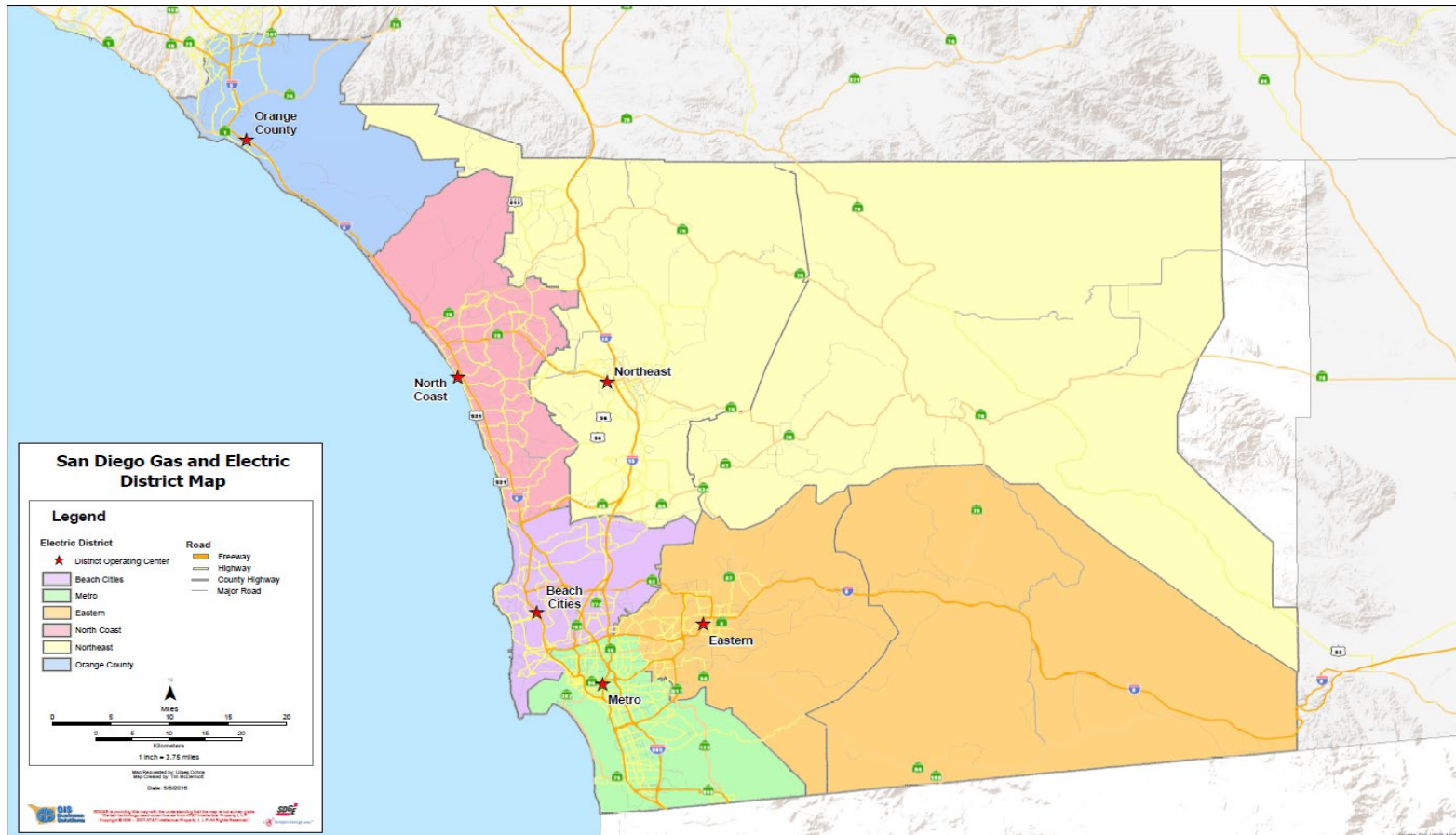
NUMBER, DATE, AND LOCATION OF PLANNED OUTAGES IN EACH DISTRICT (2024)

Planned Outages - 2024						
Month	Beach Cities	Eastern	Metro	North Coast	Northeast	Orange County
January	25	90	28	31	98	18
February	30	63	44	23	84	14
March	41	77	66	36	144	34
April	55	67	56	38	184	21
May	38	79	49	32	184	25
June	40	54	37	28	157	15
July	35	38	41	28	129	13
August	40	68	33	35	133	6
September	39	61	15	31	95	10
October	39	79	33	43	143	18
November	30	39	36	26	123	8
December	28	37	36	24	95	12
Totals	440	752	474	375	1569	194

In 2024, there were 3,804 primary planned outages.

SECTION 4 – SERVICE TERRITORY MAP INCLUDING DIVISIONS OF DISTRICTS

MAP OF SERVICE TERRITORY WITH DIVISIONS OF DISTRICTS



SECTION 5 – TOP 1% OF WORST-PERFORMING CIRCUITS (WPC), EXCLUDING MED

TOP 1% OF WORST-PERFORMING CIRCUITS (2023-2024)

- a. Per the Decision, each utility shall include the following information in its annual report for each WPC: 1) Circuit Name; 2) District/Division; 3) Customer Count; 4) Substation name; 5) Circuit-miles; 6) Percentage underground, or “% UG”; 7) Percentage overhead or “% OH”; 8) Number of mainline/feeder/backbone outages resulting in the operation of either a circuit breaker (“CB”) or automatic re-closer (“AR”); and, 9) its preferred reliability metric.

As required by the Decision, SDG&E is providing a table of WPCs based on the Circuit SAIDI indices (Table 5.1) and the Circuit SAIFI indices (Table 5.2). Each index is based on a two-year historical period¹.

The Below Metric is Circuit SAIDI

Table 5.1: 2024 Worst SAIDI Circuits List based upon 2023-2024 data (Excludes Planned, MED and Load Curtailment)

Circuit	District	Circuit Customers	Substation Name	Circuit Miles	% OH	% UG	Annualized Feeder Outage Count	Annualized Total Circuit SAIDI **
*CTL1	Northeast	194	CRESTLINE	5.8	69%	31%	5	1629
171	Northeast	1,201	BORREGO	46.0	64%	36%	2	1494
441	Eastern	113	GLENCLIFF	30.6	84%	16%	4	1277
172	Northeast	994	BORREGO	58.5	67%	33%	4	1159
1215	Eastern	154	CRESTWOOD	23.9	97%	3%	3	1118
170	Northeast	605	BORREGO	52.1	68%	32%	2	1059
445	Eastern	959	BOULEVARD EAST	119.5	77%	23%	5	778
DV1	Eastern	171	DEHESA VALLEY	8.6	70%	30%	2	648
558	Orange County	1,251	TRABUCO	17.5	19%	81%	2	640
757	North Coast	807	BATIKUITOS	7.9	0%	100%	1	607

* Circuit appeared for three consecutive years in the worst performance list

** Circuit SAIDI represents the two-year average (2023-2024) of all outages: Mainline, Feeder, Backbone, and Branch

¹ As stated in Section 3.2 of D.16-01-008, each utility shall use two or three years of data, at its discretion, to flag a grouping of worst performing circuits.

The Below Metric is Circuit SAIFI.

Table 5.2: 2024 Worst SAIFI Circuits List based upon 2023-2024 data (Excludes Planned, MED, and Load Curtailment)

Circuit	District	Circuit Customers	Substation Name	Circuit Miles	% OH	% UG	Annualized Feeder Outage Count	Annualized Total Circuit SAIFI **
*CTL1	Northeast	194	CRESTLINE	5.8	69%	31%	5	4.5
RB1	Northeast	268	RAINBOW	17.1	91%	9%	4	4.0
171	Northeast	1,201	BORREGO	46.0	64%	36%	2	3.5
SR4	Metro	611	STREAMVIEW 4	3.3	80%	20%	1	3.5
*442	Eastern	1,133	GLENCLIFF	66.2	59%	41%	4	3.4
172	Northeast	994	BORREGO	58.5	67%	33%	4	3.3
170	Northeast	605	BORREGO	52.1	68%	32%	2	3.2
441	Eastern	113	GLENCLIFF	30.6	84%	16%	4	3.2
239	Northeast	1,073	PALA	40.9	77%	23%	5	3.2
NVS1	North Coast	793	NORTH VISTA	11.4	53%	47%	3	3.2

* Circuit appeared for three consecutive years in the worst performance list

** Circuit SAIFI represents the two-year average (2023-2024) of all outages: Mainline, Feeder, Backbone, and Branch

-
- b. Any circuit appearing on either list of “deficient” WPC circuits that also appeared on the previous 2 year's lists would be marked by an asterisk. For each asterisked circuit, each utility shall provide the following information:

Circuit 442

An explanation of why it was ranked as a "deficient" circuit, i.e., the value of the metric used to indicate its performance;

C442 was listed as a worst-performing circuit due to circuit SAIFI performance.

A historical record of the metric:

C442: 3-Year Circuit SAIFI Data

Cir	Metric	2022*	2023*	2024*
442	Circuit SAIFI	3.2	4.6	2.2

*As reported in the Annual Report for the listed year; value reported is a 2-year average.

An explanation of why it was on the deficiency list again;

Circuit 442 is included on the worst performing circuit list largely due to de-energization and bird contacts, with the balance being due to various outage causes.

An explanation of what is being done to improve the circuit's future performance and the anticipated timeline for completing those activities (or an explanation why remediation is not being planned); and

Since 2020, approximately 32 miles of traditional hardening and covered conductor have been installed. In 2023-2024, additional PSPS Engineering Enhancement projects were energized, along with numerous Avian Protection and Wireless Fault Indicator projects. In 2024, ~5 additional miles of this circuit were strategically undergrounded. Any additional overhead to underground conversion been delayed until funding for the strategic undergrounding program is secured.

A quantitative description of the utility's expectation for that circuit's future performance.

SDG&E expects an improvement in C442's reliability through mitigation of the failure mechanisms (e.g., reduction in bird contacts through undergrounding of the energized conductors and the installation of avian protection equipment) that have caused many of the past outages.

Circuit CTL1

An explanation of why it was ranked as a "deficient" circuit, i.e., the value of the metric used to indicate its performance;

CTL1 was listed as a worst-performing circuit due to circuit SAIDI and SAIFI performance.

A historical record of the metric:

CTL1: 3-Year Circuit SAIDI Data

Cir	Metric	2022*	2023*	2024*
CTL1	Circuit SAIDI		3166	91

*As reported in the Annual Report for the listed year; value reported is a 2-year average.

CTL1: 3-Year Circuit SAIFI Data

Cir	Metric	2022*	2023*	2024*
CTL1	Circuit SAIFI		8.1	1.0

*As reported in the Annual Report for the listed year; value reported is a 2-year average.

An explanation of why it was on the deficiency list again;

4kV Circuit CTL1 is included in the worst performing circuit list largely due to an insulator/pin failure on its feeder circuit, 12kV Circuit 214 (C214), which occurred in 2023. A wide variety of causes have contributed to the balance of circuit SAIDI and SAIFI, primarily from outages due to severe weather on the feeder circuit, C214.

An explanation of what is being done to improve the circuit's future performance and the anticipated timeline for completing those activities (or an explanation why remediation is not being planned); and

Since 2020, SDG&E has completed the installation of wireless fault indicators, early fault detection, and avian protection equipment on Circuit CTL1 and its feeder Circuit, C214. Additionally, SDG&E had planned to underground the feeder Circuit C214 as part of its strategic undergrounding program. This overhead to underground conversion project has been delayed until funding for the strategic undergrounding program is secured.

A quantitative description of the utility's expectation for that circuit's future performance.

SDG&E expects an improvement in CTL1's reliability because the planned undergrounding projects on C214 will mitigate the failure mechanisms (e.g., reduction in severe weather impacts) that have caused outages on that feeder circuit.

Language to explain how the IOUs' include a cost effectiveness review as part of their respective internal review processes for circuit remediation projects.

i. Definitions of terms, acronyms, limitations, and assumptions;

Definitions:

SRET – Strategic Reliability Enhancement Team (formerly referred to as the Reliability Assessment Team)

WPC – Worst Performing Circuits

Assumptions:

Our analysis excludes planned outages, MED outages, and circuits with less than 100 customers for WPC calculation.

ii. A clear explanation of the utility's process to determine the worst performing circuits:

Methodology used in the Annual Reliability Report

The Worst Performing Circuits identified in this Report are determined by first calculating the SAIDI for each circuit based upon the previous two years of unplanned outage data, ranking those circuits from highest to lowest based on the SAIDI value, and then selecting the 1% of the circuits with the highest SAIDI value. Planned and MED events are excluded, and circuits with less than 100 customers are also excluded. SDG&E had 1028 active circuits in 2024 serving at least one customer, so this report reflects the ten WPCs.

iii. A clear explanation of the utility's process to determine cost-effective remediation projects. This shall include why the utility may decide to implement a project to address one worst performing circuit issue while deciding to not implement a project to address a different worst performing circuit.

SDG&E addresses circuit reliability in multiple ways which primarily focuses on assets and/or segments with higher failure rates and/or impacts. This includes focusing on specific component replacements such as main feeder tee connectors, underground cable, and switches. The scope of work for each initiative will vary.

The SDG&E Asset Strategy team (previously Distribution Strategy) scopes and prioritizes the various component-level asset replacements. These proactive replacement and enhancement projects are based on individual asset performance (Tee, cables, etc.). In those cases, proactive replacement of assets with higher failure rates and/or impact are prioritized. One example of a managed asset class is proactive cable replacement, where the scoping process considers both historical SAIDI and SAIFI values, as well as the predicted SAIDI and SAIFI net gain from an internal asset management tool.

SDG&E's Strategic Reliability Enhancement Team (SRET), comprised of technical leaders from Electric Distribution Operations, Engineering Standards, Regional Operations, System Protection, and Distribution Asset Management, meets regularly to evaluate and authorize reliability improvement projects for areas with low circuit reliability and where customer satisfaction issues arise. The team provides strategy and guidance for continuous improvements to system reliability, integrated planning support, and budget management.

At SRET meetings, district engineers present proposals for reliability improvement projects along with a circuit analysis, cost-benefit analysis, and details on customer impact. SDG&E has implemented a practice to identify projects to be reviewed and approved by an engineering committee and then prioritized based on system impact and budgetary constraints.

Together, the Strategic Reliability Enhancement Team and the Asset Strategy Team coordinate activities with various stakeholders to optimize capital investment risk reduction activities.

SDG&E's Project Management Organization manages and executes the reliability projects identified by both the Asset Strategy team and SRET. During project execution, project managers will notify the team of execution risks, such as scheduling and system impacts, to determine which projects will be constructed in the current year.

SECTION 6 – TOP 10 MAJOR UNPLANNED POWER OUTAGE EVENTS WITHIN A REPORTING YEAR

TOP 10 MAJOR UNPLANNED OUTAGE EVENTS (2024)

The table below captures the top 10 major unplanned outage events for 2024, including the cause and the location of the outage.

Top 10 Major Unplanned Power Outage Events						
Rank	Outage Date	Cause	Location	Customer Impact	SAIDI	SAIFI
1	12/9/2024	Severe Weather / High Winds	EA, NE	40625	64.51	0.027
2	9/8/2024	Severe Heat	All Districts	37336	3.26	0.024
3	1/22/2024	Severe Weather / Rain Storm	BC, CM, NE	25992	5.22	0.017
4	10/13/2024	Vehicle Contact	BC, OC	21616	2.91	0.014
5	9/5/2024	Severe Heat	All Districts	18002	1.42	0.012
6	12/10/2024	Severe Weather / High Winds	EA, NE	11570	13.58	0.008
7	1/2/2024	Switch	NE	11559	0.64	0.008
8	2/8/2024	Tee Connector	CM, EA, NC, NE, OC	11554	2.44	0.008
9	1/22/2024	Vehicle Contact	CM	6537	0.61	0.004
10	10/19/2024	Lightning Arrestor	CM	5310	0.47	0.003

Based upon customer impact.

SECTION 7 – SUMMARY LIST OF MED PER IEEE 1366

2024 SUMMARY LIST OF MED (2024)

The tables below summarize the three MED events occurring in 2024. The information includes the number of customers without service at periodic intervals, the cause and the location of the Major Event.

Table 7-1 2024 Summary List of 1/22/24 MED

Date of Event	Description of Event	Location	Number of Customers Out of Service	Customers Interrupted - Hours Into the Event Day								
				0	1	2	3	4	5	6	7	8
January 22	Severe Weather (Rain Storm)	All Districts	45,663	0	507	507	127	127	127	127	127	132
				Customers Interrupted - Hours Into the Event Day (continued)								
				9	10	11	12	13	14	15	16	17
				132	912	10717	22835	19030	14205	10741	9492	7328
				Customers Interrupted - Hours Into the Event Day (continued)								
				18	19	20	21	22	23	24	25	26
				4748	4587	2553	691	7476	5816	5489	4668	4556
				Customers Interrupted - Hours Into the Event Day (continued)								
				27	28	29	30	31	32	33	34	35
				4556	4556	4619	4560	4560	4599	3444	3444	1898
				Customers Interrupted - Hours Into the Event Day (continued)								
				36	37	38	39	40	41	42	43	44
				1898	74	74	74	74	3	3	2	2
				Customers Interrupted - Hours Into the Event Day (continued)								
				45								
				0								

Customers reflected in the time increments include all customers experiencing sustained outages at that point in time. The event day begins at midnight.

Table 7-2 2024 Summary List of 12/9/24 MED

Date of Event	Description of Event	Location	Number of Customers Out of Service	Customers Interrupted - Hours Into the Event Day								
				0	1	2	3	4	5	6	7	8
December 9	Severe Weather (High Winds)	CM, EA, NE	47,375	0	0	0	0	0	0	3361	4121	421
				Customers Interrupted - Hours Into the Event Day (continued)								
				9	10	11	12	13	14	15	16	17
				421	421	30	13	231	231	563	6290	12450
				Customers Interrupted - Hours Into the Event Day (continued)								
				18	19	20	21	22	23	24	25	26
				29492	41708	41691	41691	41471	40309	38942	38960	39138
				Customers Interrupted - Hours Into the Event Day (continued)								
				27	28	29	...	38	39	40	41	42
				38996	38944	38944	38944	38944	38944	35961	35961	35837
				Customers Interrupted - Hours Into the Event Day (continued)								
				43	44	45	46	47	48	49	50	51
				35837	35837	35837	35837	35837	35837	35837	35837	35837
				Customers Interrupted - Hours Into the Event Day (continued)								
				52	53	54	55	56	57	58	59	60
				35837	35837	35837	35837	35837	35702	34915	26693	21132
				Customers Interrupted - Hours Into the Event Day (continued)								
				61	62	63	64	65	66	67	68	
				16533	11067	6100	3608	2299	1011	246	0	

Customers reflected in the time increments include all customers experiencing sustained outages at that point in time.
The event day begins at midnight.

Table 7-3 2024 Summary List of 12/10/24 MED

Date of Event	Description of Event	Location	Number of Customers Out of Service	Customers Interrupted - Hours Into the Event Day								
				0	1	2	3	4	5	6	7	8
December 10	Severe Weather (High Winds)	BC, EA, NC, NE	12,778	0	4671	6048	6048	7933	9279	11573	11629	11824
				Customers Interrupted - Hours Into the Event Day (continued)								
				9	10	11	12	13	14	15	16	17
				11824	12549	12025	12025	12025	11846	11846	10701	10701
				Customers Interrupted - Hours Into the Event Day (continued)								
				18	19	20	21	22	23	24	25	26
				10679	10660	10660	10660	10660	10660	10660	10660	10660
				Customers Interrupted - Hours Into the Event Day (continued)								
				27	28	29	30	31	32	33	34	35
				10660	10660	10660	10660	10660	10660	10660	7881	4632
				Customers Interrupted - Hours Into the Event Day (continued)								
				36	37	38	39					
				2216	1357	894	0					
				Customers Interrupted - Hours Into the Event Day (continued)								

Customers reflected in the time increments include all customers experiencing sustained outages at that point in time.
The event day begins at midnight.

SECTION 8 – HISTORICAL TEN LARGEST UNPLANNED OUTAGES EVENTS FOR THE PAST TEN YEARS

HISTORICAL LARGEST UNPLANNED OUTAGE EVENTS (2015-2024)

The tables below capture the ten largest unplanned outage events for each of the years from 2015 – 2024 based upon SAIDI values.

2024

Historical 10 Largest Unplanned Outage Events				
Rank	Date	SAIDI	SAIFI	Description
1	12/9/2024	64.51	0.027	Severe Weather / High Winds
2	12/10/2024	13.58	0.008	Severe Weather / High Winds
3	1/22/2024	5.22	0.017	Severe Weather / Rain Storm
4	9/8/2024	3.26	0.024	Severe Heat
5	10/13/2024	2.91	0.014	Vehicle Contact
6	2/8/2024	2.44	0.008	Tee Connector
7	9/5/2024	1.42	0.012	Severe Heat
8	3/10/2024	1.36	0.002	Tee Connector
9	11/6/2024	1.20	0.001	Severe Weather / High Winds
10	1/11/2024	1.12	0.002	Pole

2023

Historical 10 Largest Unplanned Outage Events				
Rank	Date	SAIDI	SAIFI	Description
1	2/21/2023	3.23	0.009	Severe Weather
2	1/16/2023	3.03	0.018	Severe Weather
3	8/20/2023	2.28	0.024	Severe Weather
4	1/7/2023	1.44	0.007	Vehicle Contact
5	4/30/2023	1.22	0.002	UG Cable Failure
6	12/16/2023	1.04	0.002	Tee Connector
7	2/22/2023	1.04	0.006	Severe Weather
8	12/12/2023	0.90	0.002	Vehicle Contact
9	3/1/2023	0.84	0.005	Severe Weather
10	1/15/2023	0.80	0.001	Tee Connector

2022

Historical 10 Largest Unplanned Outage Events				
Rank	Date	SAIDI	SAIFI	Description
1	9/3/2022	1.95	0.009	Severe Weather / Heat
2	4/12/2022	1.44	0.003	Tee Connector
3	8/27/2022	0.90	0.003	Tee Connector
4	8/23/2022	0.83	0.004	Vehicle Contact
5	10/9/2022	0.79	0.004	UG Cable Failure
6	11/3/2022	0.79	0.012	Tee Connector
7	5/21/2022	0.78	0.004	UG Cable Failure
8	2/4/2022	0.78	0.003	UG Cable Failure
9	12/25/2022	0.77	0.022	Fire
10	11/17/2022	0.75	0.002	Tee Connector

2021

Historical 10 Largest Unplanned Outage Events				
Rank	Date	SAIDI	SAIFI	Description
1	11/24/2021	5.96	0.004	High Winds / RFW
2	10/4/2021	2.29	0.018	Severe Weather / Lightning
3	12/13/2021	2.18	0.022	Cap Bank Bus Disconnect
4	12/14/2021	2.11	0.017	Severe Weather / High Winds
5	1/19/2021	1.56	0.003	Severe Weather / High Winds
6	1/25/2021	1.21	0.011	Severe Weather / High Winds
7	12/14/2021	1.04	0.004	Fuse Cutout
8	8/12/2021	0.86	0.004	Tee Connector
9	8/31/2021	0.85	0.009	Severe Weather / Lightning
10	2/10/2021	0.77	0.002	Tee Connector

2020

Historical 10 Largest Unplanned Outage Events				
Rank	Date	SAIDI	SAIFI	Description
1	12/2/2020	81.94	0.047	High Winds / RFW spanning multiple days
2	12/7/2020	16.05	0.010	High Winds / RFW spanning multiple days
3	9/5/2020	13.35	0.006	Valley Fire
4	12/23/2020	2.89	0.004	High Winds / RFW spanning multiple days
5	12/2/2020	1.97	0.006	Vehicle Contact
6	8/14/2020	1.77	0.051	ISO Load Curtailment
7	5/26/2020	1.36	0.020	Foreign Object
8	10/22/2020	1.33	0.016	Load Imbalance
9	10/26/2020	1.23	0.003	High Winds / RFW spanning multiple days
10	2/25/2020	1.06	0.001	Severe Weather / Lightning

2019

Historical 10 Largest Unplanned Outage Events				
Rank	Date	SAIDI	SAIFI	Description
1	10/20/2019	47.09	0.028	High Winds / RFW spanning multiple days
2	10/25/2019	4.92	0.004	High Winds / RFW
3	11/12/2019	3.45	0.018	Substation - Bird Contact
4	10/22/2019	1.44	0.001	Undetermined Cause
5	10/25/2019	1.21	0.002	Pothead Failure
6	2/14/2019	1.20	0.013	Rain Storm
7	8/9/2019	0.90	0.003	Vehicle Contact
8	3/2/2019	0.78	0.004	Mylar Balloon Contact
9	10/24/2019	0.72	0.001	Vegetation Contact
10	11/25/2019	0.70	0.001	UG Cable Contact / Dig in

2018

Historical 10 Largest Unplanned Outage Events				
Rank	Date	SAIDI	SAIFI	Description
1	11/11/2018	43.98	0.024	High Winds / RFW spanning multiple days
2	1/28/2018	3.87	0.003	High Wind Event
3	1/31/2018	2.55	0.020	Substation - Bushings
4	7/6/2018	1.66	0.002	Brush Fire
5	11/12/2018	1.37	0.001	Substation - Undetermined Cause
6	12/6/2018	1.27	0.008	Faulted Recloser
7	10/12/2018	1.23	0.014	Lightning Storm
8	7/7/2018	1.12	0.003	Vehicle Contact
9	2/25/2018	1.06	0.004	Tee Failure

10	9/13/2018	0.96	0.004	Switch Failure
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2017

Historical 10 Largest Unplanned Outage Events				
Rank	Date	SAIDI	SAIFI	Description
1	12/7/2017	18.32	0.023	High Wind Event
2	1/20/2017	11.48	0.030	Rain Storm Event
3	12/7/2017	9.65	0.003	Lilac FIRE
4	12/9/2017	6.82	0.004	High Wind Event
5	12/6/2017	4.86	0.002	High Wind Event
6	12/5/2017	4.77	0.010	High Wind Event (over multiple days)
7	7/25/2017	1.93	0.031	STATION F outage - squirrel
8	2/27/2017	1.12	0.003	Rain Storm Event
9	1/20/2017	1.07	0.001	C941 - Deenergized for safety/transformer
10	2/17/2017	1.07	0.009	Rain Storm Event

2016

Historical 10 Largest Unplanned Outage Events				
Rank	Date	SAIDI	SAIFI	Description
1	1/31/2016	13.35	0.061	1/31-2/1 El Niño Storm
2	7/21/2016	1.15	0.012	Station F – Mylar Balloon on Circuit 366
3	1/31/2016	0.99	0.003	Circuit 486 – Tree in primary
4	8/9/2016	0.93	0.002	Genesee Sub–Circuits 268 & 65
5	7/26/2016	0.88	0.002	Circuit 582 – Wire Down, faulted cable, blown switch
6	6/19/2016	0.87	0.001	Border Fire – Circuits 448 & 157
7	8/23/2016	0.84	0.003	Transmission Lines 6926 & 681 – car contact
8	11/12/2016	0.83	0.001	Circuit 198 – Pendleton Aircraft Contact

9	1/5/2016	0.80	0.011	El Niño Storm – 1/5-1/7
10	6/26/2016	0.77	0.001	Circuit RD2 - Vehicle contact w/ Trayer switch

2015

Historical 10 Largest Unplanned Outage Events				
Rank	Date	SAIDI	SAIFI	Description
1	9/20/2015	5.15	0.089	9/20 Load Curtailment
2	7/18/2015	2.26	0.016	July 18-20 Rain Storm
3	11/25/2015	1.75	0.010	Transmission Lines 641 & 642 - Montgomery Sub Outage
4	7/3/2015	1.00	0.006	Circuits 366 & BRM1 Outage
5	8/13/2015	0.67	0.001	Circuit 438 - Faulted Tee
6	4/18/2015	0.64	0.002	Circuit 821 - Tee Failure
7	9/15/2015	0.60	0.006	Circuits 1049 & 167 - Car contact w/ fuse cab
8	9/12/2015	0.59	0.003	Circuit 255 - Wire Down
9	9/9/2015	0.49	0.004	Circuit 287 - Blowing tees
10	5/12/2015	0.47	0.003	Circuit 952 - Vehicle Contact

SECTION 9 – NUMBER OF CUSTOMER INQUIRIES ON RELIABILITY DATA AND THE NUMBER OF DAYS PER RESPONSE

CUSTOMER INQUIRIES ON RELIABILITY DATA (2024)

SDG&E received 950 customer inquiries for reliability data in 2024.

The average response time was one business day.