

PACIFIC GAS AND ELECTRIC COMPANY
2019 ANNUAL ELECTRIC RELIABILITY REPORT
(Per Decision 16-01-008)

July 15, 2020

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Executive Summary

PG&E's electric service reliability performance in 2019 was challenged by several weather events, including severe winter storms, and extreme summer heat waves. Given the continued and growing threat of extreme weather and wildfires, PG&E expanded our Community Wildfire Safety Program to further reduce wildfire risks and help keep our customers and the communities we serve safe. This includes expanding our Public Safety Power Shutoff (PSPS) program beginning with the 2019 wildfire season to include all electric lines that pass through high fire-threat areas. As a result, PG&E's reliability performance declined compared to 2018.

Electric utilities measure reliability in many ways: duration of customer outages, frequency of customer outages, average restoration time, counting only unplanned outages, counting planned outages, excluding unusual events such as major storms (typically referred to as Major Event Days or "MED"), including or excluding certain types of outages, among other distinctions. This report explains the various different measures and includes the various metrics required by CPUC Decision 16-01-008. For purposes of this Executive Summary, PG&E is focusing on metrics that include planned outages but exclude major event days. These metrics are found in Section 3. PG&E believes these metrics best reflect the typical customer's experience and are common benchmark metrics across the electric utility industry.

Table 1 below displays the electric reliability metrics SAIDI, SAIFI, MAIFI and CAIDI from 2010 through 2019.

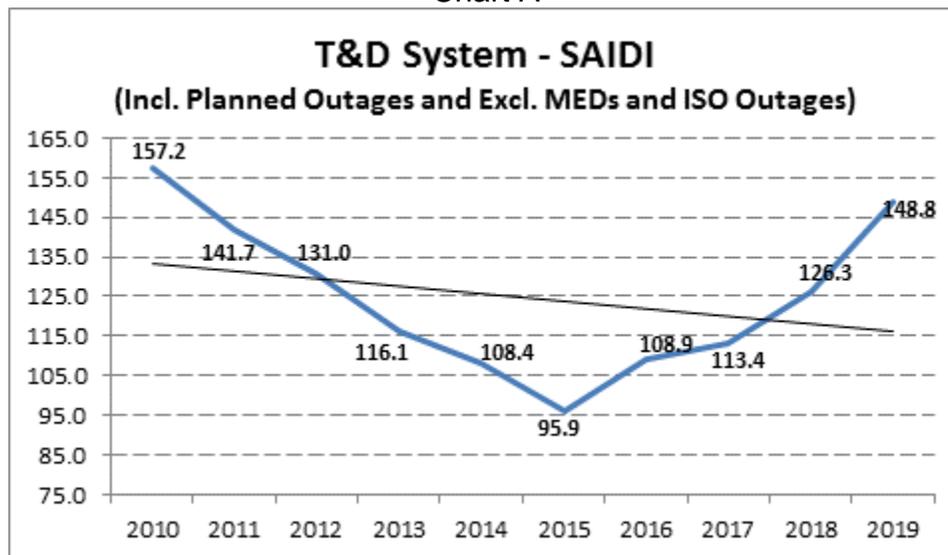
Table 1 – Combined Transmission and Distribution System Indices (2010-2019)
(Excludes MED and Independent System Operator (ISO) outages, and includes planned outages)

Year	Major Events Excluded			
	SAIDI	SAIFI	MAIFI	CAIDI
2010	157.2	1.207	1.254	130.3
2011	141.7	1.097	1.170	129.3
2012	131.0	1.130	1.800	115.9
2013	116.1	1.070	1.527	108.5
2014	108.4	0.966	1.396	112.2
2015	95.9	0.871	1.594	110.1
2016	108.9	1.021	1.494	106.7
2017	113.4	0.958	1.568	118.3
2018	126.3	1.079	1.479	117.0
2019	148.8	1.129	1.282	131.9

Chart A below shows the amount of time the average PG&E customer experienced a sustained outage or outages each year in graphical form and includes a linear trend line:

2010-2019 Transmission & Distribution System SAIDI Performance Results

Chart A



(Includes Planned Outages, Excludes Major Event Days and ISO Outages)¹

Not surprisingly, similar trends are mirrored at the division level.

¹ See Table 198 as shown in Section 3.

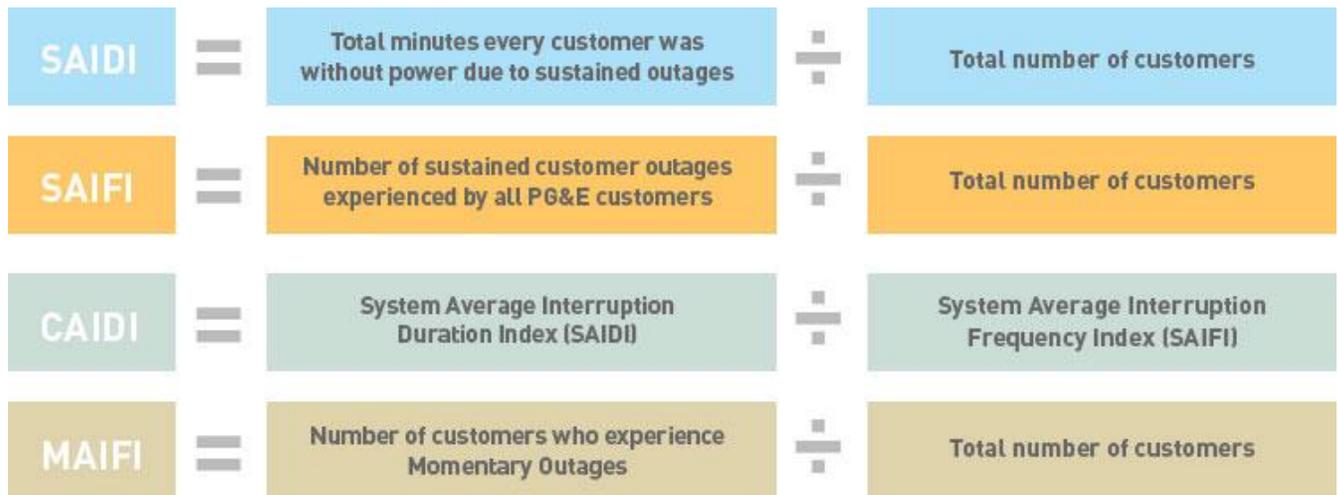
How PG&E Measures Reliability

PG&E uses four metrics commonly utilized in the electric utility industry to measure reliability for both unplanned and planned outages: the System Average Interruption Duration Index (SAIDI), the System Average Interruption Frequency Index (SAIFI), the Momentary Average Interruption Frequency Index (MAIFI), and the Customer Average Interruption Duration Index (CAIDI).

- SAIDI is the amount of time the average PG&E customer experiences a sustained outage or outages (being without power for more than five minutes) in a given year. **In 2019, PG&E's SAIDI was 148.8 minutes per customer.**
- SAIFI is the number of times the average PG&E customer experiences a sustained outage in a given year. **In 2019, PG&E's SAIFI was 1.129.**
- MAIFI² is the number of times the average customer is interrupted by momentary outages each year. Momentary outages are outages lasting 5 minutes or less. **In 2019, PG&E's MAIFI was 1.282.**
- CAIDI is the average duration of sustained outages. It is determined by taking the total outage minutes for all customer outages³ (SAIDI) and dividing it by the total number of customer outages (SAIFI). **In 2019, PG&E's CAIDI was 131.9 minutes.**

² PG&E's outage reporting tools were originally designed to track momentary outages as defined in D96-09-045. Under D.16-01-008, this method of tracking momentary outages corresponds to the MAIFI_E definition contained in the IEEE Guide for Electric Power Distribution Reliability Indices (IEEE 1366 standard), which counts multiple outage interruptions that occur close to each other in time as a single momentary outage event. This metric is equal to the total number of customer momentary interruption events divided by the total number of customers served and does not include the events immediately preceding a sustained interruption.

³ Measures sustained outage events and excludes momentary outage events.



What follows is the 2019 Electric Reliability Report for Pacific Gas and Electric Company as required by Decision 16-01-008. This report includes system reliability data based on the Institute of Electrical and Electronic Engineers (IEEE) Standard 1366 methodology, as required by D.16-01-008. The report includes very specific details, including reliability numbers for each of PG&E's 19 divisions. It also includes a list of worst performing circuits in Section 5.

Introduction

This is the 2019 Electric Reliability Report for Pacific Gas and Electric Company as required by Decision 16-01-008. This report includes system reliability data based on the Institute of Electrical and Electronic Engineers (IEEE) Standard 1366 methodology. This report consists of the following:

Section	Description
1.	System Indices for the Last 10 Years (2010-2019)
2.	Division Reliability Indices (2010-2019) Including and Excluding Major Event Days (MED)
3.	System and Division Indices Based on IEEE 1366 (2010-2019) Including Planned Outages and Including and Excluding MED
4.	Service Territory Map including Divisions
5.	Top 1% of Worst Performing Circuits (WPC) excluding MED
6.	Top 10 Major Unplanned Power Outage Events in 2019
7.	Summary List of MED per IEEE 1366
8.	Historical Ten Largest Unplanned Outage Events (2010-2019)
9.	The Number of Customer Inquiries on Reliability Data and the Number of Days per Response
10.	Appendix A – Definitions, Acronyms and Abbreviations

As noted in previous reports, PG&E implemented a new outage reporting system that included the data conversion of its legacy (DART/OUTAGE) database. This new system consists of two main components that are typically referred to as PG&E's Integrated Logging and Information System (ILIS) and its Operations Database (ODB), also called ILIS-ODB for short. ILIS models the actual electric switching operations reported during

the circuit restoration process (which is useful for determining accurate customer outage minutes for calculating SAIDI and CAIDI). PG&E maintains account specific information for customers affected by outages that are recorded and stored in PG&E's ODB. This system tracks outages at various levels (generation, transmission, substation, primary distribution, and individual transformers) and the most current outage data was used to compile the information contained in this report.

Distribution operators log outage information in PG&E's ILIS tool, which uses minutes as the smallest time increment to record the outage start, switching operations, and outage end times. Smart Meters measure outage duration in seconds and are used to automatically report momentary outages beyond non-SCADA auto-reclosing devices. Momentary outages for SCADA related and other events are logged by distribution operators using the ILIS tool, which does not have the benefit of measuring the outage duration in seconds. Consequently, and although infrequent, it is possible that an outage duration is recorded as 5 minutes when the actual outage duration was up to 5 minutes and 59 seconds. In 2015, PG&E updated its reporting tools and process to help minimize this occurrence and allow the operator in these situations to log this event as a 6-minute sustained outage.

We have added a list of Definitions, Acronyms and Abbreviations at the end as Appendix A to help the reader who is not familiar with the jargon used in reliability reporting.

1. System Indices for the Last Ten Years

a. System Indices (2010-2019)

Table 2 lists the required SAIDI, SAIFI, MAIFI⁴, and CAIDI with MED Included and Excluded as directed in Appendix B of D.16-01-008:

Table 2 – Combine Transmission and Distribution System Indices (2010-2019)
(Excludes planned and ISO outages)

Year	Major Events Included				Major Events Excluded			
	SAIDI	SAIFI	MAIFI	CAIDI	SAIDI	SAIFI	MAIFI	CAIDI
2010	250.4	1.395	1.485	179.6	130.3	1.106	1.250	117.8
2011	279.5	1.276	1.472	219.1	109.6	0.974	1.163	112.5
2012	141.1	1.130	1.918	124.9	110.7	1.036	1.796	106.8
2013	117.0	1.070	1.633	109.3	95.8	0.969	1.523	98.9
2014	131.9	1.045	1.561	126.2	91.0	0.879	1.390	103.5
2015	131.8	0.967	1.812	136.3	80.7	0.787	1.585	102.5
2016	106.8	1.022	1.596	104.5	93.9	0.941	1.487	99.8
2017	357.9	1.466	2.295	244.0	97.4	0.878	1.487	110.9
2018	282.9	1.056	1.422	267.9	99.9	0.962	1.355	103.8
2019	1,365.1	1.874	1.780	728.5	117.7	1.010	1.269	116.5

Note: Includes Generation, Transmission, Substation, and Distribution related outages

⁴ On November 18, 2011 the EON recording system was removed from service. Momentary outage data is now being collected from SCADA devices and through the use of Smart Meters. Data collection from the Smart Meters is more effective than the previous EON system since Smart Meters don't rely on customer volunteers having EON devices connected inside their buildings. The increased frequency of momentary outages recorded does not necessarily indicate an actual increase in momentary outages in 2012 and after (as compared to prior years) but is a result of this improved method for recording momentary outages.

i. Distribution System Indices

Table 3 – Distribution System Indices (2010-2019)
(Excludes planned outages, transmission, substation, and generation related outages)

Year	Major Events Included			Major Events Excluded		
	SAIDI	SAIFI	CAIDI	SAIDI	SAIFI	CAIDI
2010	210.8	1.164	181.1	108.2	0.921	117.5
2011	239.2	1.041	229.7	92.8	0.796	116.5
2012	120.1	0.959	125.2	96.3	0.882	109.2
2013	100.1	0.869	115.2	84.8	0.804	105.5
2014	119.7	0.926	129.2	85.2	0.780	109.2
2015	99.4	0.804	123.6	72.5	0.689	105.3
2016	95.5	0.896	106.6	83.1	0.819	101.5
2017	302.8	1.274	237.7	90.0	0.792	113.6
2018	261.7	0.907	288.7	90.7	0.843	107.6
2019	1,324.1	1.673	791.6	102.9	0.879	117.1

Note: PG&E defines its distribution system as line voltage less than 60 kilovolts (KV)

The MAIFI information is not included in Table 3 and Table 4 since non-SCADA automatic recording devices (EON or Smart Meters) do not distinguish between transmission system outages or distribution system outages.

ii. Transmission System Indices

Table 4 – Transmission System Indices (2010-2019)
(Excludes planned outages, distribution, and generation related outages)
(Includes substation outages)

Year	Major Events Included			Major Events Excluded		
	SAIDI	SAIFI	CAIDI	SAIDI	SAIFI	CAIDI
2010	38.7	0.230	168.2	22.0	0.186	118.4
2011	39.5	0.224	176.2	16.9	0.168	100.6
2012	21.3	0.165	128.7	14.8	0.149	99.6
2013	13.1	0.168	77.7	11.7	0.160	72.6
2014	14.1	0.116	121.0	7.5	0.097	77.8
2015	32.1	0.160	201.0	7.8	0.095	82.7
2016	11.2	0.125	89.5	10.7	0.121	88.3
2017	54.9	0.191	286.9	7.3	0.085	85.4
2018	16.3	0.145	112.3	7.8	0.114	68.9
2019	40.8	0.200	203.7	14.8	0.131	112.8

Note: PG&E defines its transmission system as line voltage 60 kilovolts (KV) and above

b. Separate System Charts of SAIDI, SAIFI, MAIFI, and CAIDI for the past 10 years with linear trend line (MED Excluded)

i. SAIDI Performance Results (MED Excluded)

Chart 1: Transmission & Distribution System SAIDI Indices

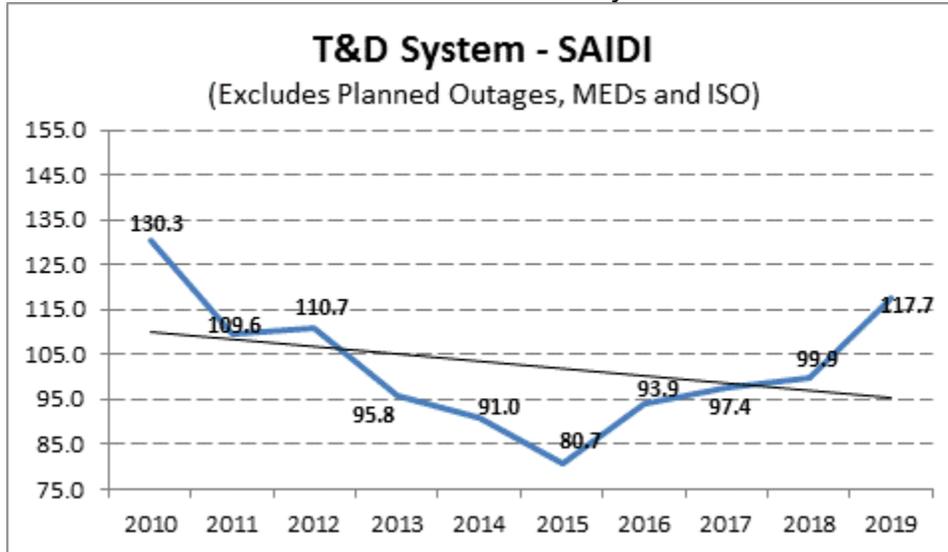


Chart 2: Distribution System SAIDI Indices

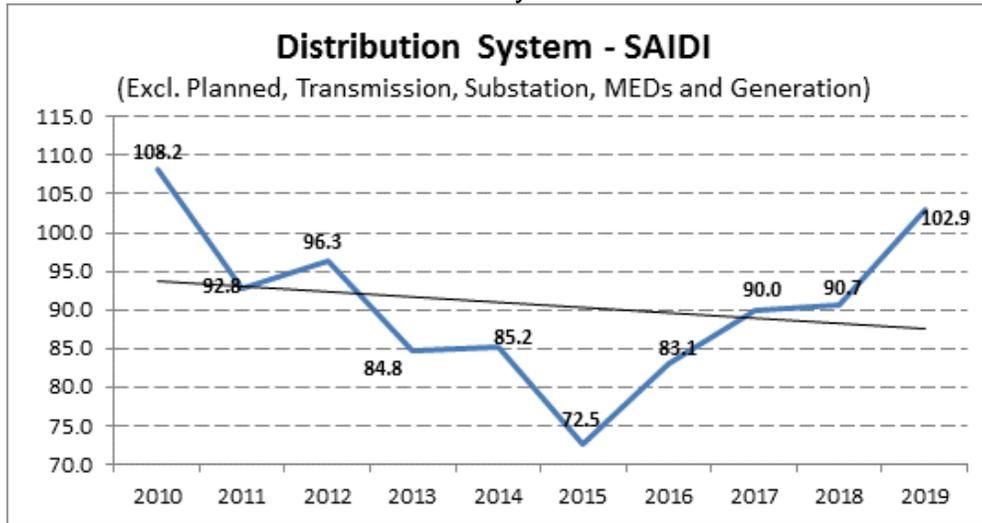
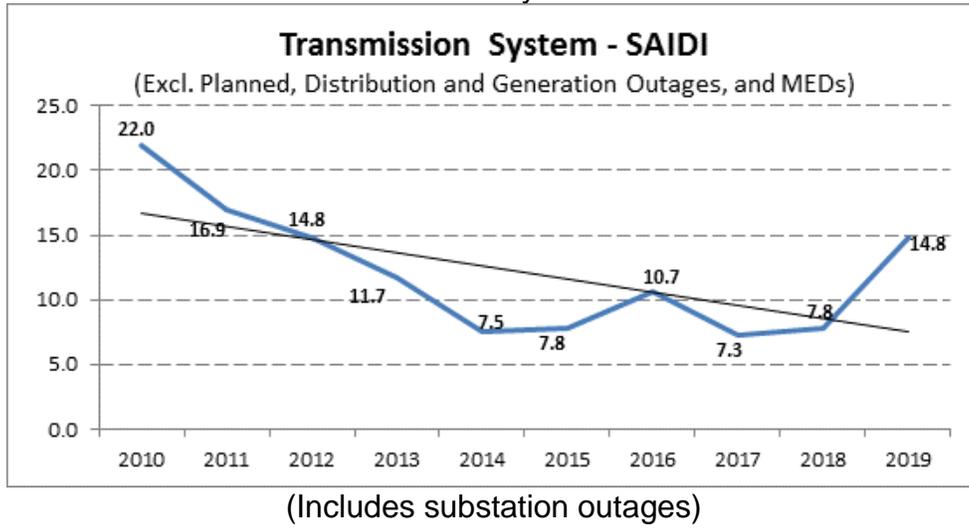


Chart 3: Transmission System SAIDI Indices



ii. SAIFI Performance Results (MED Excluded)

Chart 4: Transmission & Distribution System SAIFI Indices

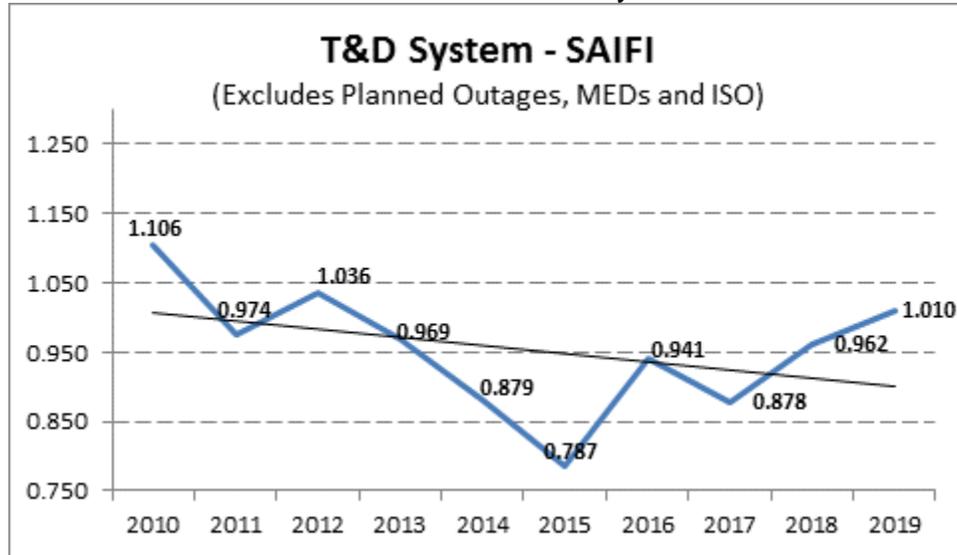


Chart 5: Distribution System SAIFI Indices

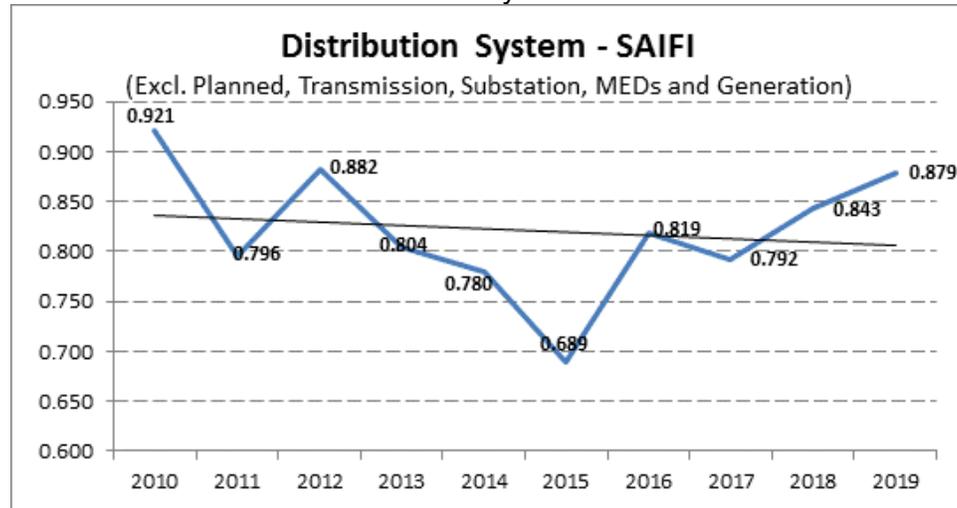
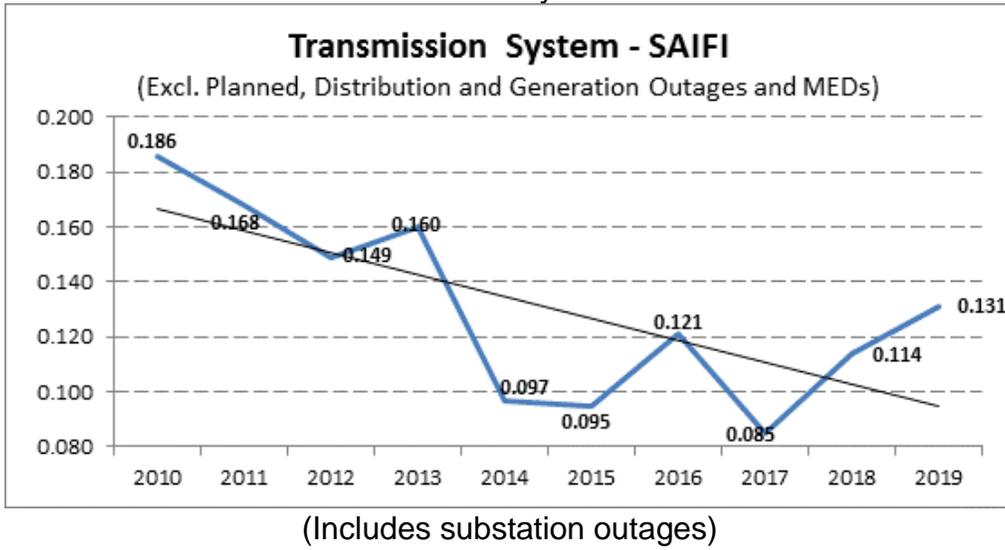
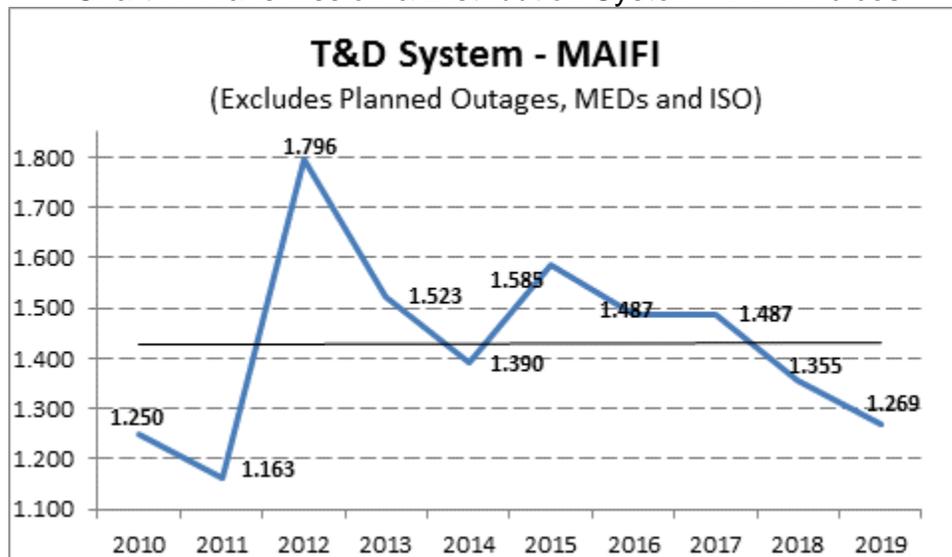


Chart 6: Transmission System SAIFI Indices



iii. MAIFI⁵ Performance Results (MED Excluded)

Chart 7: Transmission & Distribution System MAIFI Indices



⁵ See footnote 4.

iv. CAIDI Performance Results (MED Excluded)

Chart 8: Transmission & Distribution System CAIDI Indices

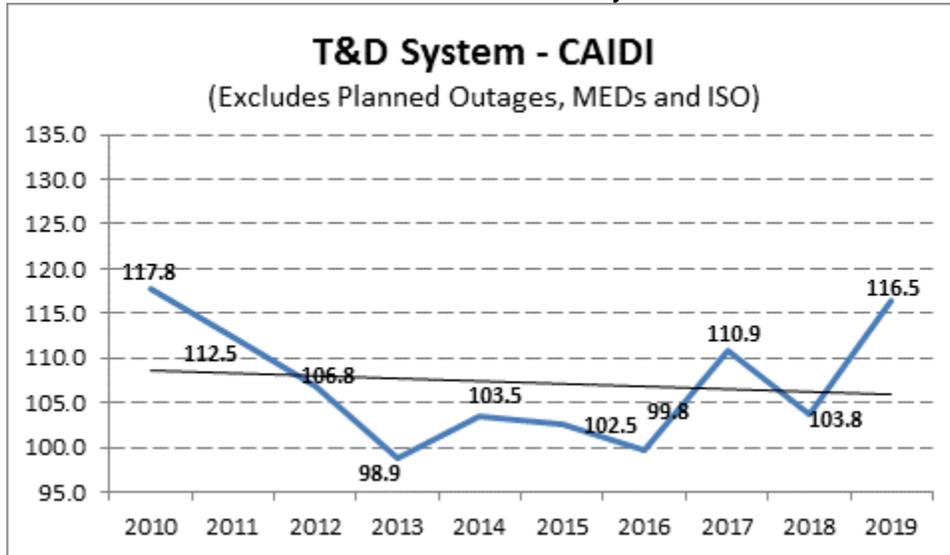


Chart 9: Distribution System CAIDI Indices

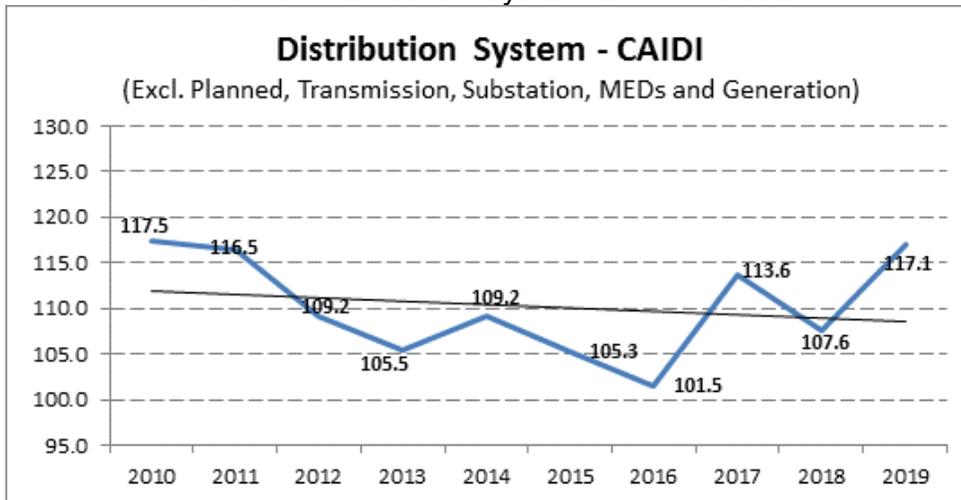
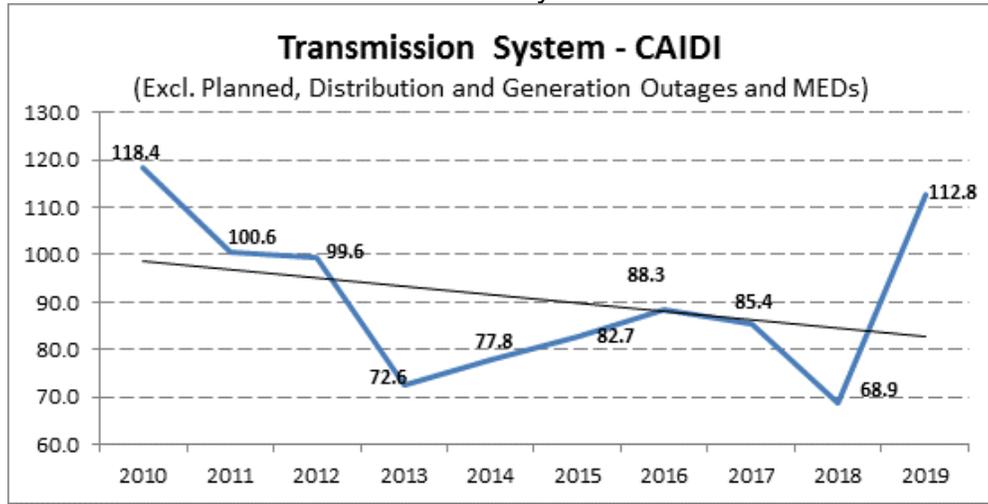


Chart 10: Transmission System CAIDI Indices



(Includes substation outages)

2. Division Reliability Indices for the past 10 years including and excluding MED

a. Division Reliability Indices for the past 10 years excluding ISO and planned outages and including Major Event Days

Table 5: Division Reliability Indices

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
CENTRAL COAST	2010	390.7	1.984	3.941	196.9
CENTRAL COAST	2011	497.2	1.995	2.060	249.2
CENTRAL COAST	2012	152.0	1.317	2.362	115.5
CENTRAL COAST	2013	125.3	1.315	2.041	95.3
CENTRAL COAST	2014	199.3	1.351	2.133	147.5
CENTRAL COAST	2015	253.0	1.289	2.173	196.3
CENTRAL COAST	2016	190.4	1.646	2.730	115.7
CENTRAL COAST	2017	807.8	2.462	4.576	328.2
CENTRAL COAST	2018	186.8	1.598	2.502	117.0
CENTRAL COAST	2019	1,296.8	2.585	3.151	501.6
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
DE ANZA	2010	172.8	1.171	1.420	147.7
DE ANZA	2011	82.2	0.712	1.495	115.5
DE ANZA	2012	82.8	0.718	1.223	115.3
DE ANZA	2013	78.8	0.831	1.173	94.8
DE ANZA	2014	112.9	1.017	1.318	111.1
DE ANZA	2015	63.4	0.594	1.281	106.7
DE ANZA	2016	109.6	0.924	1.414	118.6
DE ANZA	2017	317.3	1.514	1.792	209.6
DE ANZA	2018	86.7	0.836	1.426	103.8
DE ANZA	2019	406.0	1.387	2.008	292.7
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
DIABLO	2010	119.9	1.376	1.309	87.1
DIABLO	2011	78.7	0.936	1.394	84.0
DIABLO	2012	105.3	1.230	1.400	85.6
DIABLO	2013	83.1	1.023	1.297	81.3
DIABLO	2014	82.2	0.979	1.374	84.0
DIABLO	2015	83.7	0.985	1.873	85.0
DIABLO	2016	79.0	1.008	1.729	78.4
DIABLO	2017	140.7	1.218	2.138	115.5
DIABLO	2018	89.5	1.112	1.540	80.4
DIABLO	2019	612.7	1.601	1.855	382.7
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
EAST BAY	2010	126.3	1.092	0.754	115.7
EAST BAY	2011	104.5	0.981	1.060	106.6
EAST BAY	2012	110.7	1.372	1.347	80.7
EAST BAY	2013	117.3	1.010	1.266	116.2
EAST BAY	2014	81.1	0.847	1.515	95.8
EAST BAY	2015	59.6	0.723	1.179	82.5
EAST BAY	2016	128.2	1.205	1.242	106.4
EAST BAY	2017	147.3	1.217	1.983	121.1
EAST BAY	2018	87.6	0.990	1.126	88.4
EAST BAY	2019	462.4	1.347	1.216	343.3

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
FRESNO	2010	175.4	1.275	1.953	137.6
FRESNO	2011	164.9	1.122	2.012	147.0
FRESNO	2012	100.1	1.066	2.359	94.0
FRESNO	2013	95.0	1.100	2.104	86.4
FRESNO	2014	81.6	1.002	1.781	81.5
FRESNO	2015	100.3	1.151	2.057	87.2
FRESNO	2016	85.1	1.127	1.975	75.5
FRESNO	2017	102.5	0.986	1.863	104.0
FRESNO	2018	113.9	1.046	1.415	108.9
FRESNO	2019	120.7	0.994	1.695	121.4
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
HUMBOLDT	2010	575.3	2.537	1.686	226.7
HUMBOLDT	2011	543.1	1.954	2.282	277.9
HUMBOLDT	2012	338.1	1.747	4.654	193.5
HUMBOLDT	2013	304.3	1.416	2.627	214.9
HUMBOLDT	2014	288.4	1.368	1.940	210.9
HUMBOLDT	2015	695.2	2.234	2.736	311.2
HUMBOLDT	2016	219.4	1.637	2.055	134.0
HUMBOLDT	2017	919.8	2.362	3.510	389.5
HUMBOLDT	2018	403.5	2.180	1.570	185.1
HUMBOLDT	2019	6,899.9	4.388	2.407	1,572.3
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
KERN	2010	137.4	1.198	1.566	114.8
KERN	2011	169.8	1.273	1.617	133.4
KERN	2012	89.2	0.999	1.218	89.2
KERN	2013	91.3	1.073	1.226	85.1
KERN	2014	108.8	1.109	1.848	98.2
KERN	2015	92.0	0.947	1.925	97.1
KERN	2016	89.8	0.932	2.072	96.3
KERN	2017	138.9	1.072	1.958	129.6
KERN	2018	72.4	0.789	1.747	91.8
KERN	2019	162.0	1.325	2.079	122.2
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
LOS PADRES	2010	277.0	1.745	2.045	158.7
LOS PADRES	2011	135.4	1.230	2.195	110.1
LOS PADRES	2012	95.4	1.010	1.658	94.4
LOS PADRES	2013	212.5	1.495	1.105	142.1
LOS PADRES	2014	186.6	1.238	1.354	150.7
LOS PADRES	2015	132.2	0.844	1.783	156.6
LOS PADRES	2016	114.1	1.172	1.672	97.4
LOS PADRES	2017	315.7	1.574	2.127	200.6
LOS PADRES	2018	145.4	1.291	1.153	112.6
LOS PADRES	2019	225.9	1.532	1.134	147.4

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
MISSION	2010	111.1	0.987	0.794	112.5
MISSION	2011	74.3	0.869	0.656	85.4
MISSION	2012	93.9	0.931	0.862	100.9
MISSION	2013	73.5	0.805	0.837	91.3
MISSION	2014	73.7	0.751	0.820	98.1
MISSION	2015	62.6	0.596	1.150	105.1
MISSION	2016	82.7	0.763	0.961	108.4
MISSION	2017	138.4	1.015	1.470	136.4
MISSION	2018	67.1	0.672	0.839	99.9
MISSION	2019	295.5	0.948	0.937	311.8
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
NORTH BAY	2010	161.8	1.233	1.401	131.2
NORTH BAY	2011	202.8	1.332	1.230	152.3
NORTH BAY	2012	140.4	0.920	1.949	152.6
NORTH BAY	2013	114.0	0.996	1.730	114.5
NORTH BAY	2014	235.1	1.250	2.721	188.1
NORTH BAY	2015	135.4	1.059	2.161	127.9
NORTH BAY	2016	110.3	0.920	1.434	119.8
NORTH BAY	2017	733.3	1.761	2.810	416.5
NORTH BAY	2018	164.6	0.982	1.837	167.6
NORTH BAY	2019	3,518.1	3.182	2.272	1,105.8
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
NORTH VALLEY	2010	552.3	1.843	1.979	299.7
NORTH VALLEY	2011	625.3	2.033	2.133	307.5
NORTH VALLEY	2012	514.0	1.886	2.947	272.6
NORTH VALLEY	2013	139.4	1.093	1.962	127.6
NORTH VALLEY	2014	173.2	1.177	1.778	147.2
NORTH VALLEY	2015	479.6	1.787	2.528	268.3
NORTH VALLEY	2016	175.1	1.265	2.173	138.4
NORTH VALLEY	2017	398.6	1.672	3.163	238.5
NORTH VALLEY	2018	4,287.2	1.634	1.393	2,623.7
NORTH VALLEY	2019	4,913.6	3.973	2.501	1,236.8
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
PENINSULA	2010	163.6	1.565	1.475	104.6
PENINSULA	2011	112.7	1.195	0.939	94.3
PENINSULA	2012	101.1	1.144	1.709	88.4
PENINSULA	2013	94.3	0.885	1.322	106.5
PENINSULA	2014	98.4	1.061	1.363	92.8
PENINSULA	2015	76.2	0.866	1.798	87.9
PENINSULA	2016	87.4	0.990	1.381	88.3
PENINSULA	2017	167.0	1.328	2.382	125.7
PENINSULA	2018	66.4	0.856	1.255	77.5
PENINSULA	2019	734.9	1.557	1.646	472.0

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SACRAMENTO	2010	193.1	1.115	1.423	173.2
SACRAMENTO	2011	182.1	1.203	1.897	151.4
SACRAMENTO	2012	152.7	1.335	2.142	114.4
SACRAMENTO	2013	98.3	0.983	1.697	100.0
SACRAMENTO	2014	107.9	0.913	1.437	118.2
SACRAMENTO	2015	92.4	0.894	1.771	103.3
SACRAMENTO	2016	99.4	1.035	1.803	96.1
SACRAMENTO	2017	283.0	1.870	3.213	151.3
SACRAMENTO	2018	109.4	1.069	1.935	102.4
SACRAMENTO	2019	670.8	1.686	2.349	397.9
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SAN FRANCISCO	2010	56.6	0.709	0.086	79.9
SAN FRANCISCO	2011	48.8	0.569	0.217	85.9
SAN FRANCISCO	2012	51.7	0.611	1.051	84.6
SAN FRANCISCO	2013	58.1	0.657	0.332	88.4
SAN FRANCISCO	2014	131.0	0.780	0.353	167.9
SAN FRANCISCO	2015	36.1	0.521	0.537	69.3
SAN FRANCISCO	2016	40.7	0.537	0.397	75.8
SAN FRANCISCO	2017	116.4	0.860	0.513	135.4
SAN FRANCISCO	2018	38.0	0.417	0.298	91.0
SAN FRANCISCO	2019	71.6	0.718	0.363	99.7
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SAN JOSE	2010	103.6	0.920	0.594	112.6
SAN JOSE	2011	113.8	0.988	0.793	115.2
SAN JOSE	2012	85.2	0.844	0.972	100.9
SAN JOSE	2013	99.7	0.962	1.037	103.7
SAN JOSE	2014	98.9	0.975	1.066	101.4
SAN JOSE	2015	75.6	0.763	1.151	99.1
SAN JOSE	2016	68.9	0.678	1.200	101.5
SAN JOSE	2017	179.8	1.241	1.807	144.8
SAN JOSE	2018	86.9	0.872	1.349	99.6
SAN JOSE	2019	275.7	1.083	1.428	254.6
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SIERRA	2010	774.9	2.288	1.568	338.7
SIERRA	2011	1,034.4	2.191	2.764	472.2
SIERRA	2012	243.2	1.481	3.224	164.2
SIERRA	2013	156.7	1.411	3.222	111.1
SIERRA	2014	194.8	1.411	2.349	138.1
SIERRA	2015	181.9	1.274	3.150	142.8
SIERRA	2016	174.3	1.252	1.864	139.2
SIERRA	2017	620.1	2.076	3.105	298.7
SIERRA	2018	399.2	1.450	1.431	275.3
SIERRA	2019	5,831.1	4.105	2.545	1,420.4

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SONOMA	2010	205.2	1.384	1.017	148.2
SONOMA	2011	246.0	1.283	1.532	191.8
SONOMA	2012	208.4	1.109	2.030	187.9
SONOMA	2013	181.7	1.119	2.536	162.3
SONOMA	2014	214.9	1.270	2.049	169.3
SONOMA	2015	119.1	0.868	1.992	137.3
SONOMA	2016	95.4	0.834	1.605	114.3
SONOMA	2017	1,850.1	1.951	2.885	948.3
SONOMA	2018	107.4	0.974	1.240	110.3
SONOMA	2019	3,874.4	2.541	1.661	1,524.8
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
STOCKTON	2010	386.3	1.711	1.603	225.8
STOCKTON	2011	473.7	1.766	1.182	268.2
STOCKTON	2012	166.1	1.166	2.095	142.4
STOCKTON	2013	115.6	1.462	2.137	79.1
STOCKTON	2014	123.9	0.843	1.444	147.0
STOCKTON	2015	124.5	1.035	2.243	120.3
STOCKTON	2016	100.0	0.994	1.777	100.6
STOCKTON	2017	271.1	1.627	1.924	166.6
STOCKTON	2018	231.0	1.155	1.994	200.1
STOCKTON	2019	1,580.3	2.366	1.904	667.8
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
YOSEMITE	2010	711.1	2.015	3.164	352.9
YOSEMITE	2011	1,172.0	1.984	2.632	590.8
YOSEMITE	2012	147.7	1.311	4.168	112.6
YOSEMITE	2013	189.1	1.362	3.429	138.9
YOSEMITE	2014	135.6	1.290	2.669	105.2
YOSEMITE	2015	112.4	1.072	3.095	104.8
YOSEMITE	2016	129.9	1.234	2.156	105.2
YOSEMITE	2017	310.8	1.720	3.048	180.7
YOSEMITE	2018	177.5	1.471	1.834	120.7
YOSEMITE	2019	1,400.6	2.655	2.686	527.5

b. Division Reliability Indices for the past 10 years excluding planned outages, ISO outages and Major Event Days

Table 6: Division reliability Indices

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
CENTRAL COAST	2010	171.1	1.511	2.928	113.2
CENTRAL COAST	2011	156.8	1.513	1.576	103.6
CENTRAL COAST	2012	137.4	1.244	2.184	110.4
CENTRAL COAST	2013	119.7	1.291	1.958	92.7
CENTRAL COAST	2014	122.1	1.088	1.835	112.3
CENTRAL COAST	2015	102.0	0.847	1.844	120.4
CENTRAL COAST	2016	167.8	1.479	2.476	113.4
CENTRAL COAST	2017	146.3	1.293	2.589	113.1
CENTRAL COAST	2018	162.4	1.447	2.242	112.2
CENTRAL COAST	2019	203.6	1.470	2.229	138.5
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
DE ANZA	2010	116.4	0.958	1.151	121.5
DE ANZA	2011	62.6	0.625	1.187	100.1
DE ANZA	2012	74.6	0.668	1.109	111.7
DE ANZA	2013	77.0	0.821	1.138	93.8
DE ANZA	2014	89.3	0.890	1.213	100.3
DE ANZA	2015	51.2	0.476	1.171	107.6
DE ANZA	2016	87.3	0.753	1.336	116.0
DE ANZA	2017	99.9	0.996	1.150	100.3
DE ANZA	2018	83.9	0.789	1.402	106.4
DE ANZA	2019	91.3	0.873	1.657	104.6
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
DIABLO	2010	104.3	1.225	1.216	85.1
DIABLO	2011	66.8	0.808	1.235	82.7
DIABLO	2012	98.8	1.186	1.363	83.3
DIABLO	2013	80.4	1.001	1.237	80.3
DIABLO	2014	66.1	0.892	1.220	74.1
DIABLO	2015	73.8	0.860	1.666	85.8
DIABLO	2016	76.5	0.995	1.694	76.9
DIABLO	2017	78.0	0.876	1.620	89.1
DIABLO	2018	78.3	1.004	1.496	78.0
DIABLO	2019	78.8	0.935	1.212	84.3
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
EAST BAY	2010	90.5	0.874	0.678	103.4
EAST BAY	2011	88.1	0.868	0.830	101.5
EAST BAY	2012	100.6	1.289	1.278	78.0
EAST BAY	2013	63.0	0.832	1.155	75.6
EAST BAY	2014	64.8	0.726	1.299	89.2
EAST BAY	2015	45.0	0.586	1.085	76.9
EAST BAY	2016	101.4	1.050	1.079	96.6
EAST BAY	2017	73.8	0.903	1.528	81.7
EAST BAY	2018	78.8	0.901	1.074	87.5
EAST BAY	2019	84.5	0.854	0.956	99.0

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
FRESNO	2010	115.0	1.054	1.846	109.1
FRESNO	2011	81.6	0.815	1.685	100.1
FRESNO	2012	98.6	1.043	2.323	94.5
FRESNO	2013	92.4	1.068	2.063	86.5
FRESNO	2014	79.4	0.983	1.709	80.7
FRESNO	2015	70.0	0.849	1.829	82.4
FRESNO	2016	83.4	1.105	1.951	75.4
FRESNO	2017	72.3	0.799	1.546	90.5
FRESNO	2018	73.5	0.861	1.368	85.4
FRESNO	2019	78.8	0.828	1.477	95.2
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
HUMBOLDT	2010	402.9	2.158	1.505	186.7
HUMBOLDT	2011	227.0	1.448	1.887	156.8
HUMBOLDT	2012	276.6	1.560	4.330	177.3
HUMBOLDT	2013	210.4	1.170	2.437	179.8
HUMBOLDT	2014	212.4	1.217	1.809	174.5
HUMBOLDT	2015	276.3	1.621	2.423	170.5
HUMBOLDT	2016	203.0	1.537	1.995	132.1
HUMBOLDT	2017	275.1	1.306	2.280	210.6
HUMBOLDT	2018	226.8	1.825	1.502	124.3
HUMBOLDT	2019	274.6	1.640	1.834	167.5
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
KERN	2010	120.4	1.076	1.408	111.9
KERN	2011	112.5	0.979	1.340	114.8
KERN	2012	88.1	0.981	1.218	89.8
KERN	2013	87.5	1.027	1.133	85.2
KERN	2014	81.0	0.936	1.635	86.5
KERN	2015	80.4	0.862	1.850	93.2
KERN	2016	89.2	0.916	2.066	97.4
KERN	2017	78.1	0.733	1.403	106.5
KERN	2018	71.6	0.783	1.720	91.4
KERN	2019	106.6	1.101	1.743	96.8
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
LOS PADRES	2010	110.5	1.159	1.722	95.3
LOS PADRES	2011	89.9	0.970	1.666	92.7
LOS PADRES	2012	94.8	1.008	1.652	94.1
LOS PADRES	2013	86.7	0.726	0.960	119.5
LOS PADRES	2014	95.2	1.043	1.135	91.2
LOS PADRES	2015	72.2	0.687	1.408	105.1
LOS PADRES	2016	112.3	1.147	1.671	97.9
LOS PADRES	2017	106.7	0.944	1.442	113.0
LOS PADRES	2018	134.1	1.208	1.010	111.0
LOS PADRES	2019	150.7	1.188	0.798	126.8

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
MISSION	2010	101.4	0.910	0.723	111.5
MISSION	2011	62.9	0.781	0.586	80.6
MISSION	2012	91.2	0.905	0.860	100.7
MISSION	2013	67.8	0.736	0.775	92.1
MISSION	2014	62.9	0.672	0.770	93.6
MISSION	2015	56.7	0.543	1.054	104.4
MISSION	2016	72.7	0.702	0.916	103.7
MISSION	2017	60.6	0.606	1.002	100.1
MISSION	2018	62.0	0.644	0.815	96.4
MISSION	2019	65.8	0.669	0.691	98.4
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
NORTH BAY	2010	133.9	1.035	1.294	129.3
NORTH BAY	2011	110.7	1.074	1.094	103.1
NORTH BAY	2012	109.7	0.791	1.646	138.8
NORTH BAY	2013	101.8	0.910	1.455	111.9
NORTH BAY	2014	114.6	0.875	2.505	131.0
NORTH BAY	2015	97.4	0.904	1.977	107.8
NORTH BAY	2016	83.9	0.767	1.209	109.4
NORTH BAY	2017	148.5	0.955	1.832	155.5
NORTH BAY	2018	116.3	0.921	1.771	126.3
NORTH BAY	2019	148.2	1.312	1.647	112.9
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
NORTH VALLEY	2010	156.9	1.220	1.814	128.7
NORTH VALLEY	2011	161.2	1.218	1.557	132.3
NORTH VALLEY	2012	223.2	1.505	2.576	148.3
NORTH VALLEY	2013	118.9	1.035	1.904	114.9
NORTH VALLEY	2014	111.1	0.968	1.521	114.8
NORTH VALLEY	2015	132.8	1.062	1.930	125.0
NORTH VALLEY	2016	146.4	1.128	1.937	129.8
NORTH VALLEY	2017	112.3	0.863	2.007	130.2
NORTH VALLEY	2018	187.3	1.367	1.325	137.0
NORTH VALLEY	2019	205.0	1.506	1.458	136.1
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
PENINSULA	2010	117.9	1.324	1.060	89.0
PENINSULA	2011	83.8	1.047	0.782	80.0
PENINSULA	2012	86.8	0.999	1.528	86.9
PENINSULA	2013	70.1	0.785	1.114	89.4
PENINSULA	2014	77.1	0.898	1.164	85.9
PENINSULA	2015	60.5	0.752	1.601	80.4
PENINSULA	2016	79.2	0.908	1.195	87.2
PENINSULA	2017	61.5	0.640	1.176	96.0
PENINSULA	2018	60.5	0.806	1.204	75.0
PENINSULA	2019	88.5	0.816	0.983	108.4

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SACRAMENTO	2010	118.6	0.875	1.082	135.5
SACRAMENTO	2011	107.9	0.991	1.693	108.9
SACRAMENTO	2012	130.1	1.194	1.969	108.9
SACRAMENTO	2013	93.0	0.937	1.566	99.2
SACRAMENTO	2014	94.4	0.807	1.258	117.0
SACRAMENTO	2015	80.1	0.799	1.556	100.3
SACRAMENTO	2016	83.6	0.944	1.539	88.5
SACRAMENTO	2017	121.2	1.070	1.708	113.2
SACRAMENTO	2018	101.9	1.031	1.825	98.9
SACRAMENTO	2019	98.9	0.866	1.574	114.3
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SAN FRANCISCO	2010	49.6	0.652	0.066	76.0
SAN FRANCISCO	2011	45.3	0.540	0.211	83.9
SAN FRANCISCO	2012	47.0	0.570	1.008	82.6
SAN FRANCISCO	2013	52.0	0.604	0.302	86.1
SAN FRANCISCO	2014	41.5	0.457	0.235	90.8
SAN FRANCISCO	2015	33.9	0.504	0.501	67.2
SAN FRANCISCO	2016	39.7	0.518	0.355	76.7
SAN FRANCISCO	2017	36.5	0.500	0.372	73.0
SAN FRANCISCO	2018	35.2	0.378	0.270	93.0
SAN FRANCISCO	2019	56.8	0.614	0.258	92.4
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SAN JOSE	2010	69.4	0.758	0.525	91.6
SAN JOSE	2011	101.5	0.900	0.685	112.8
SAN JOSE	2012	80.6	0.793	0.945	101.6
SAN JOSE	2013	96.7	0.914	0.977	105.7
SAN JOSE	2014	76.0	0.806	1.026	94.4
SAN JOSE	2015	65.9	0.678	1.008	97.2
SAN JOSE	2016	65.5	0.644	1.152	101.7
SAN JOSE	2017	72.3	0.739	1.171	97.8
SAN JOSE	2018	85.0	0.858	1.322	99.1
SAN JOSE	2019	81.5	0.747	1.259	109.1
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SIERRA	2010	194.0	1.332	1.124	145.6
SIERRA	2011	179.5	1.168	1.401	153.7
SIERRA	2012	182.4	1.322	2.906	137.9
SIERRA	2013	109.9	1.279	3.085	85.9
SIERRA	2014	142.2	1.210	2.128	117.5
SIERRA	2015	123.2	1.115	2.816	110.5
SIERRA	2016	121.7	1.029	1.705	118.2
SIERRA	2017	155.0	1.191	1.856	130.2
SIERRA	2018	152.9	1.241	1.350	123.2
SIERRA	2019	167.5	1.151	1.482	145.6

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SONOMA	2010	151.4	1.131	0.818	133.9
SONOMA	2011	103.4	0.896	1.341	115.4
SONOMA	2012	117.9	0.897	1.730	131.5
SONOMA	2013	113.4	0.846	2.256	134.0
SONOMA	2014	113.7	0.899	1.587	126.6
SONOMA	2015	73.0	0.673	1.534	108.5
SONOMA	2016	88.6	0.792	1.508	111.8
SONOMA	2017	120.7	0.886	1.566	136.2
SONOMA	2018	105.5	0.956	1.201	110.3
SONOMA	2019	145.8	1.071	1.233	136.2
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
STOCKTON	2010	166.2	1.310	1.402	126.8
STOCKTON	2011	180.5	1.234	0.898	146.2
STOCKTON	2012	91.1	0.993	1.972	91.8
STOCKTON	2013	106.5	1.427	2.025	74.6
STOCKTON	2014	105.9	0.749	1.309	141.4
STOCKTON	2015	96.1	0.874	1.947	109.9
STOCKTON	2016	84.0	0.900	1.663	93.3
STOCKTON	2017	84.6	0.946	1.264	89.5
STOCKTON	2018	107.7	1.036	1.872	103.9
STOCKTON	2019	175.4	1.276	1.130	137.4
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
YOSEMITE	2010	226.3	1.474	2.598	153.5
YOSEMITE	2011	207.9	1.279	1.811	162.5
YOSEMITE	2012	140.8	1.272	4.088	110.7
YOSEMITE	2013	187.8	1.344	3.259	139.7
YOSEMITE	2014	117.6	1.226	2.446	96.0
YOSEMITE	2015	102.3	0.984	2.638	103.9
YOSEMITE	2016	123.2	1.178	2.025	104.5
YOSEMITE	2017	143.0	1.170	2.150	122.2
YOSEMITE	2018	158.4	1.361	1.773	116.4
YOSEMITE	2019	160.7	1.472	1.603	109.2

c. Charts for Division Reliability Indices for the past 10 years

i. Charts for Division Reliability Indices for the past 10 years with linear trend line excluding ISO and planned outages and including MED

1. AIDI Performance Results (MED Included)

Chart 11: Division Reliability - AIDI Indices

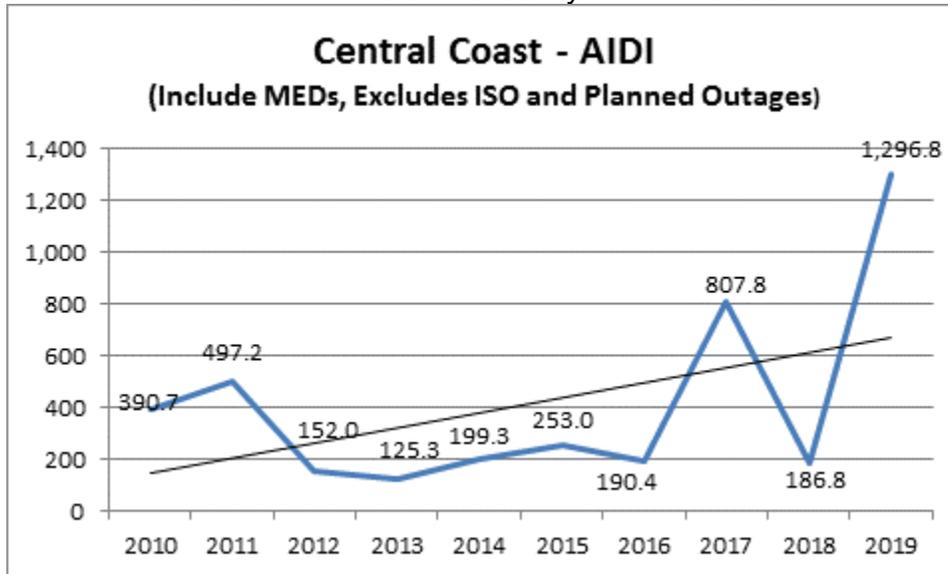


Chart 12: Division Reliability - AIDI Indices

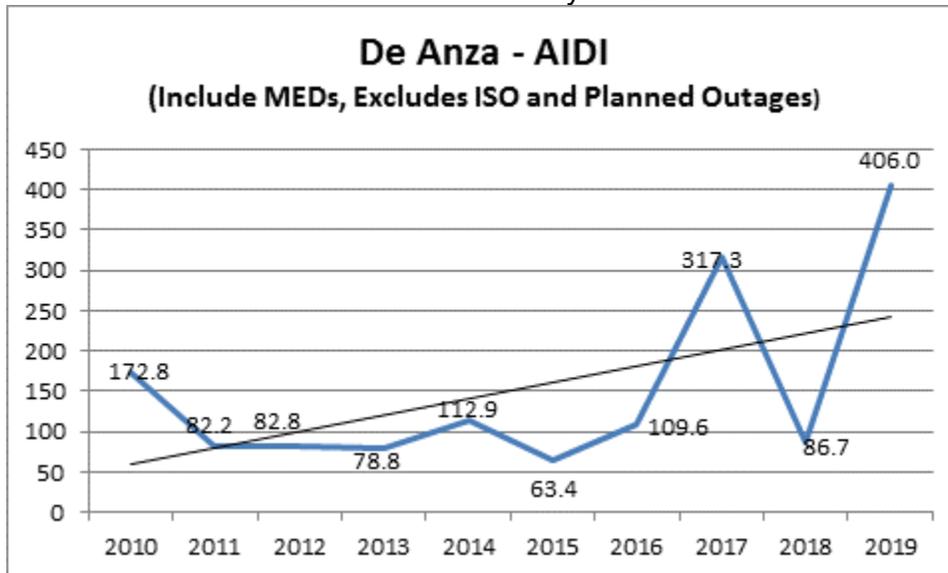


Chart 13: Division Reliability - AIDI Indices

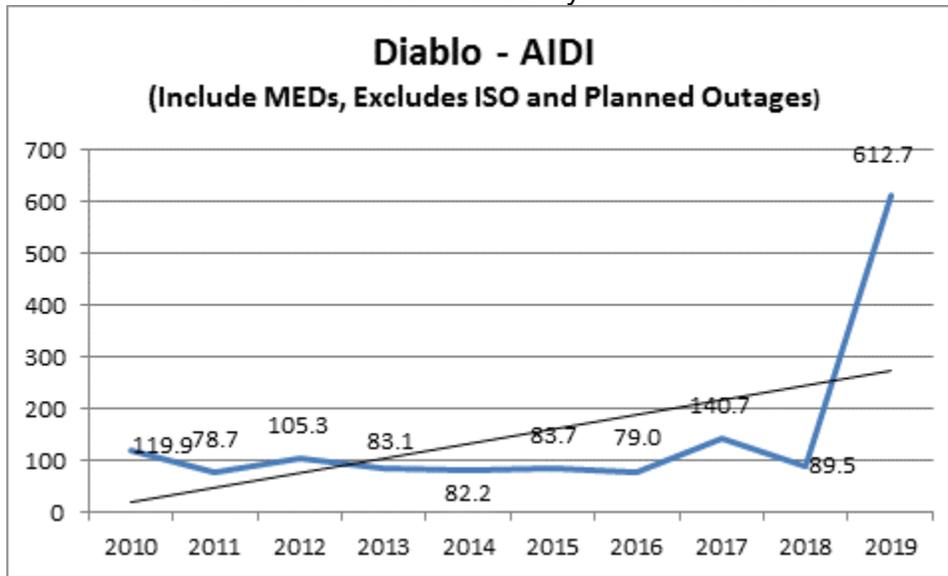


Chart 14: Division Reliability - AIDI Indices

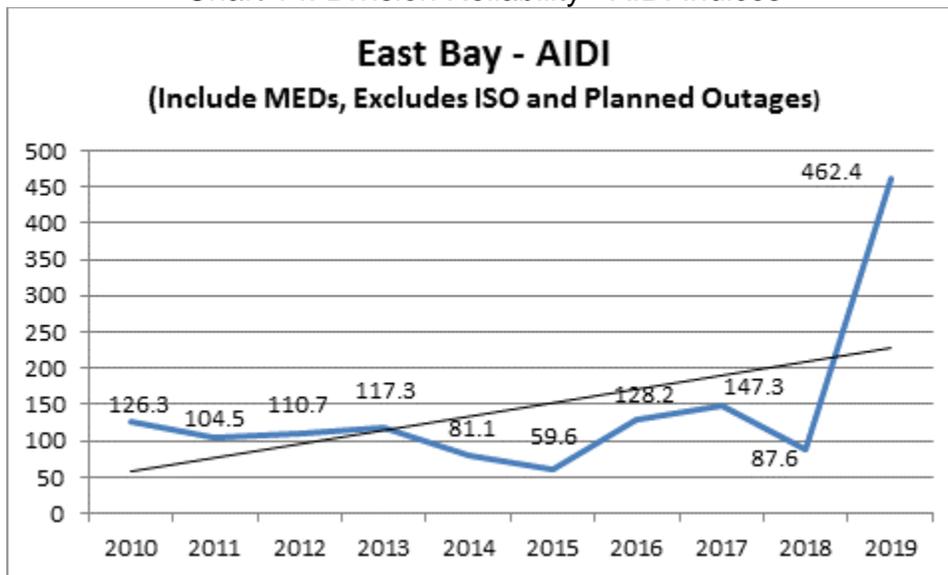


Chart 15: Division Reliability - AIDI Indices

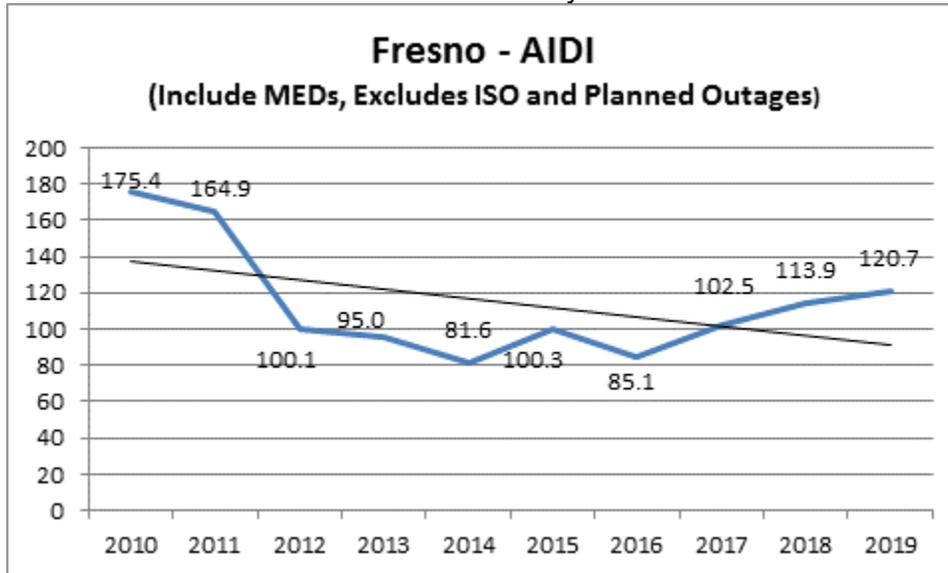


Chart 16: Division Reliability - AIDI Indices

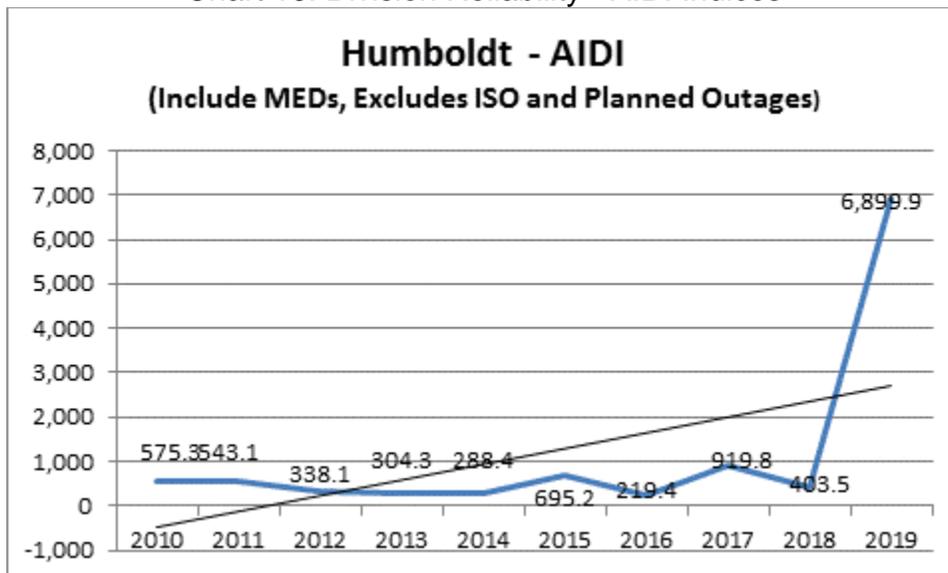


Chart 17: Division Reliability - AIDI Indices

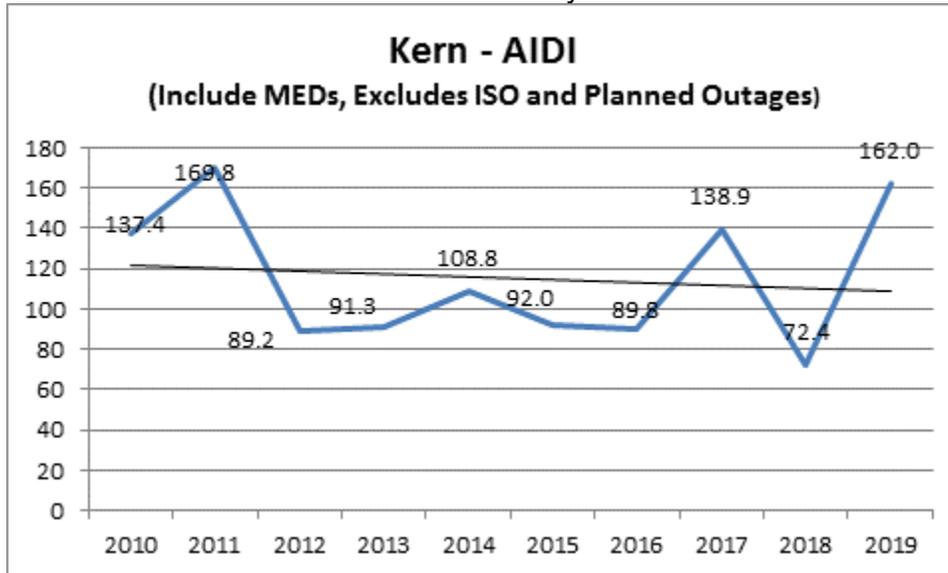


Chart 18: Division Reliability - AIDI Indices

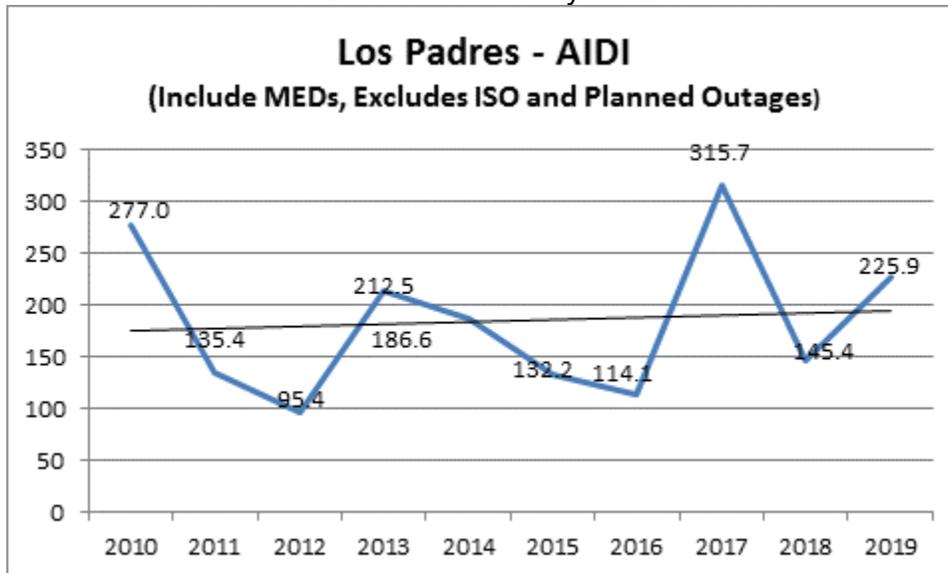


Chart 19: Division Reliability - AIDI Indices

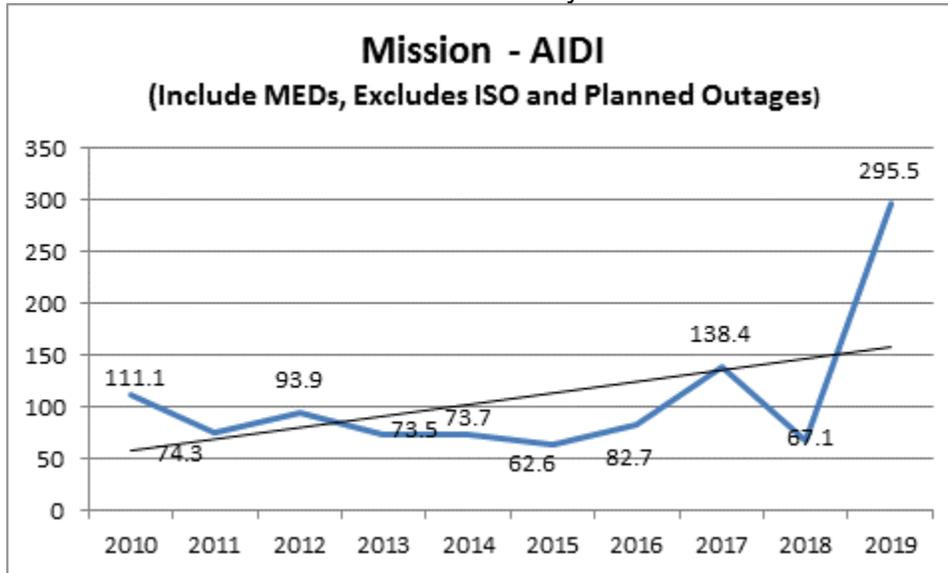


Chart 20: Division Reliability – AIDI Indices

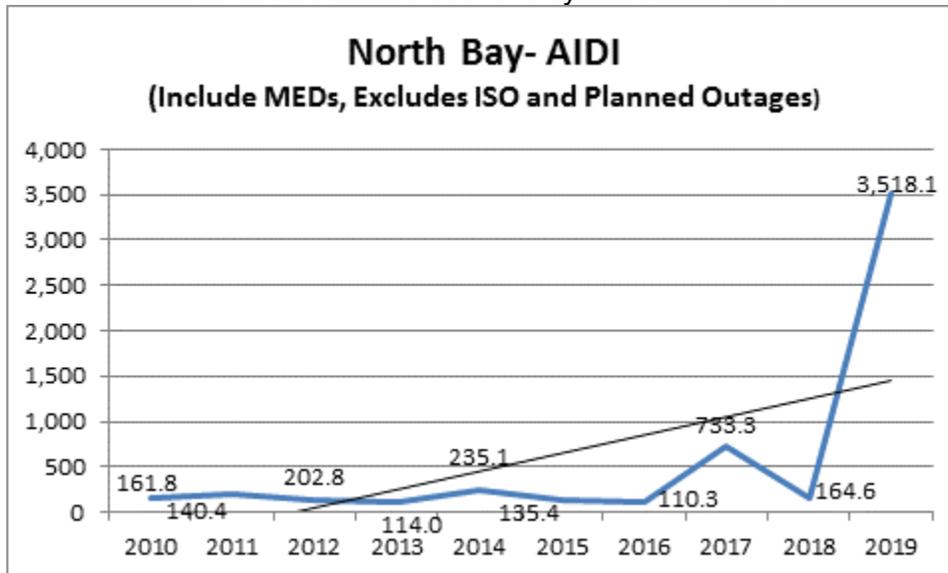


Chart 21: Division Reliability - AIDI Indices

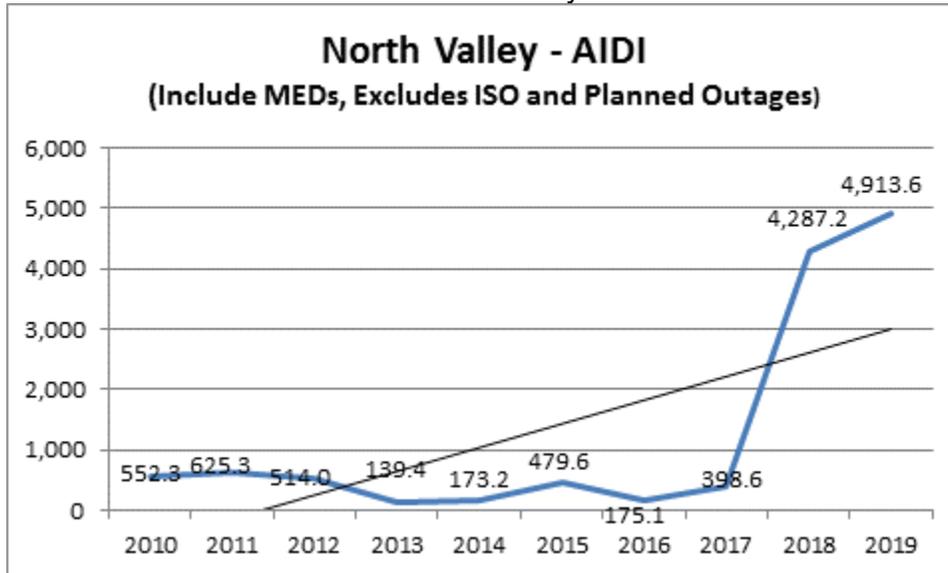


Chart 22: Division Reliability - AIDI Indices

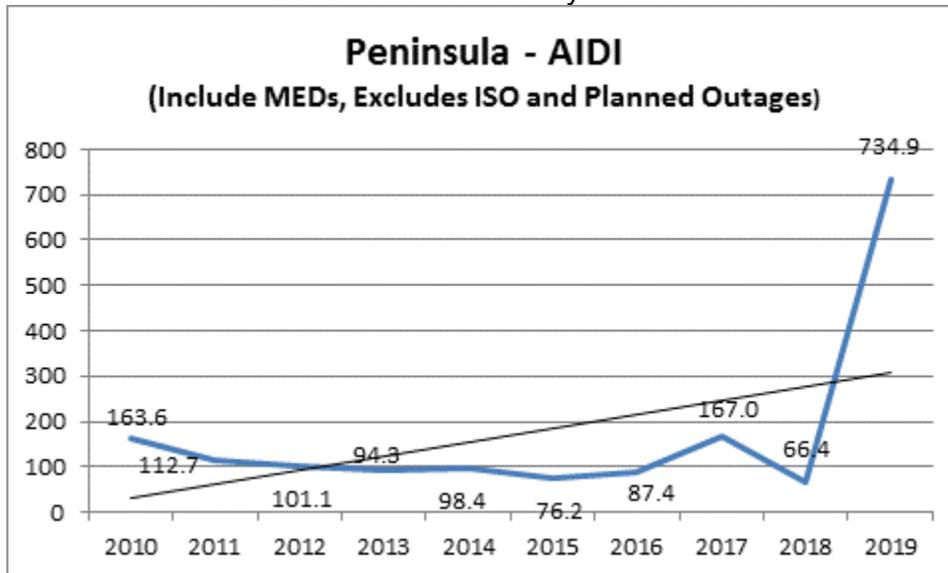


Chart 23: Division Reliability - AIDI Indices

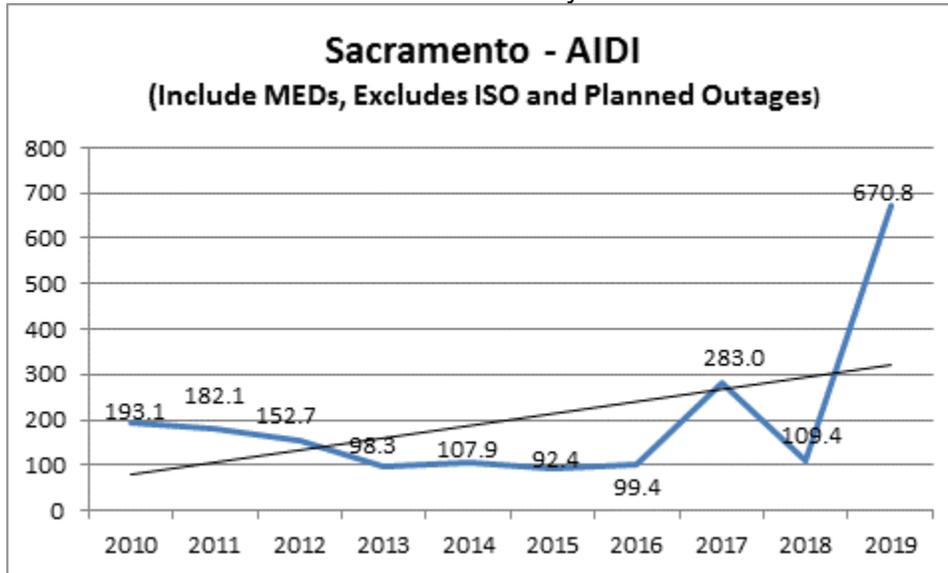


Chart 24: Division Reliability - AIDI Indices

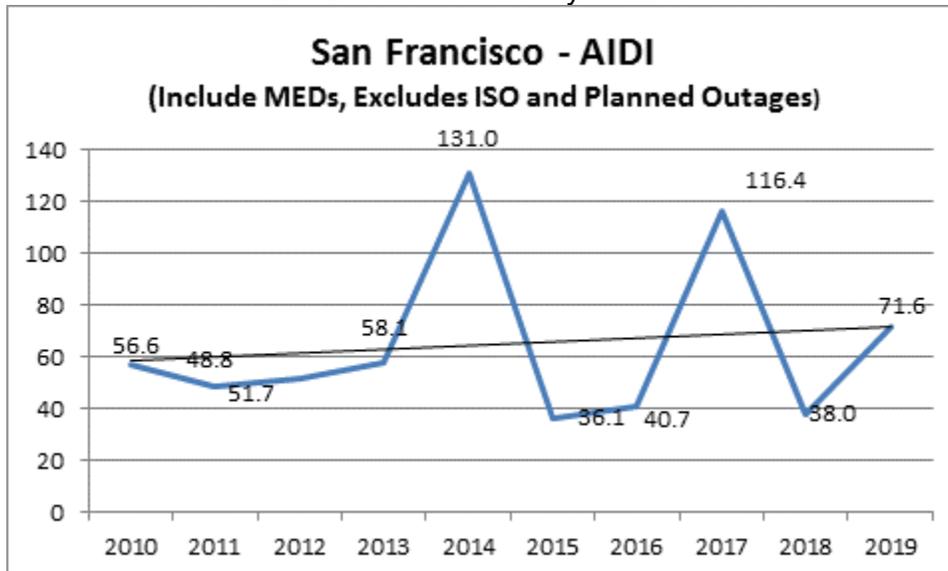


Chart 25: Division Reliability - AIDI Indices

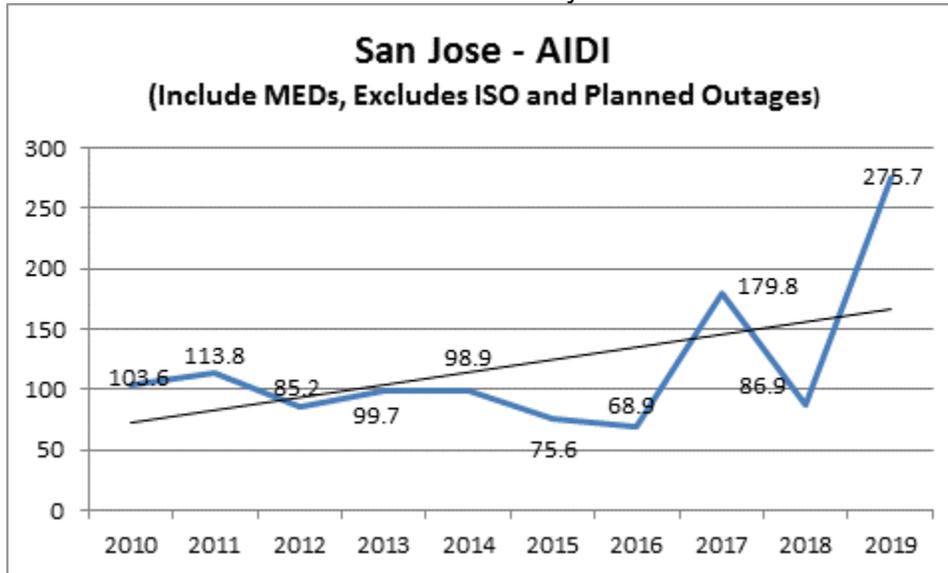


Chart 26: Division Reliability – AIDI Indices

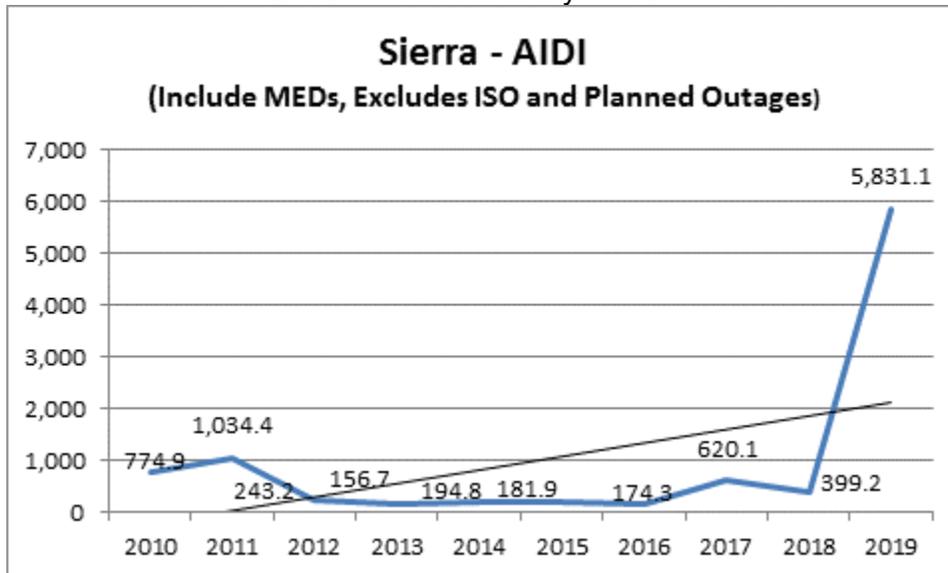


Chart 27: Division Reliability – AIDI Indices

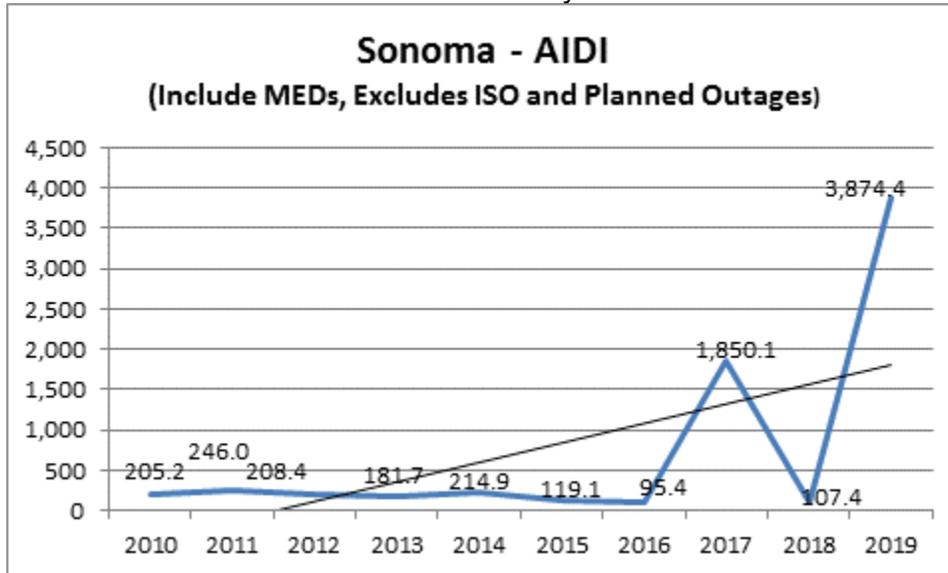


Chart 28: Division Reliability - AIDI Indices

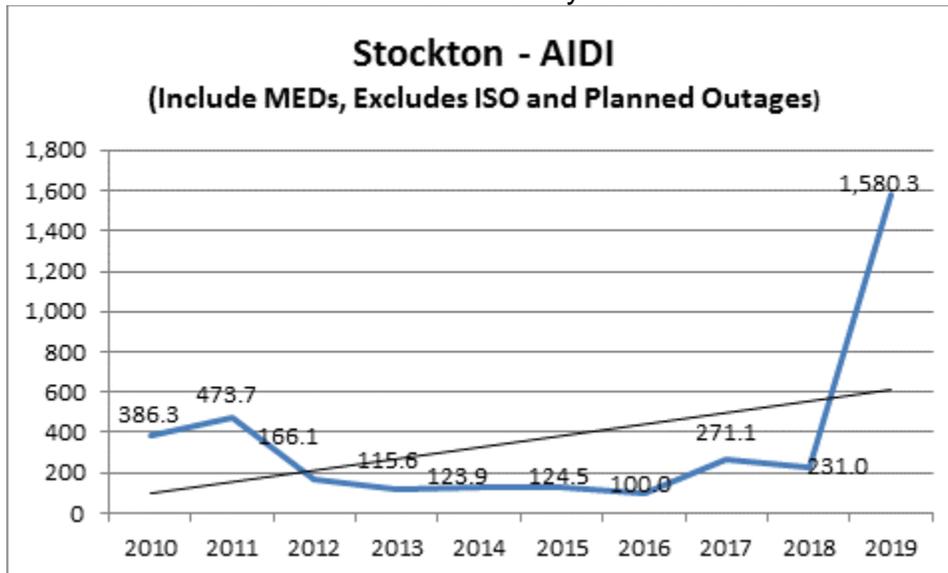
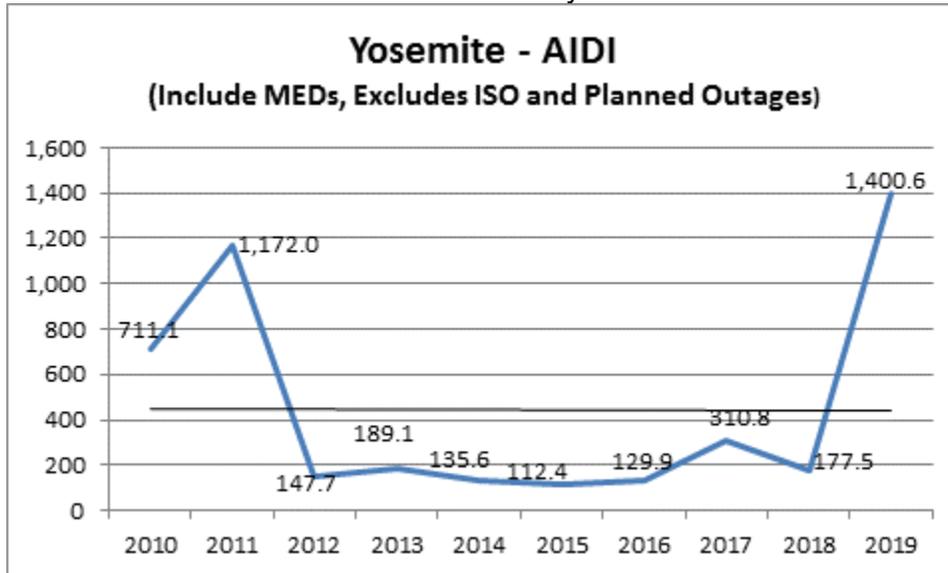


Chart 29: Division Reliability - AIDI Indices



2. AIFI Performance Results (MED Included)

Chart 30: Division Reliability - AIFI Indices

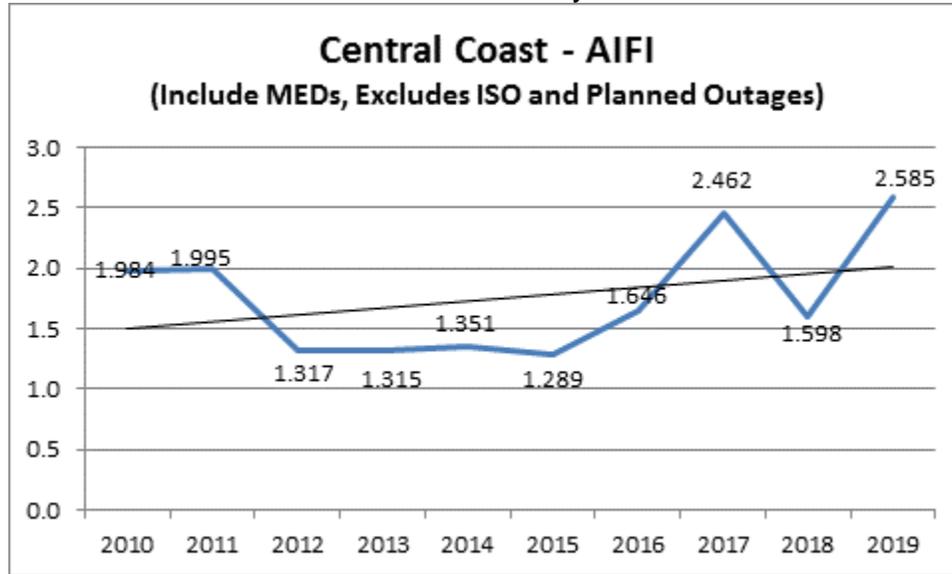


Chart 31: Division Reliability - AIFI Indices

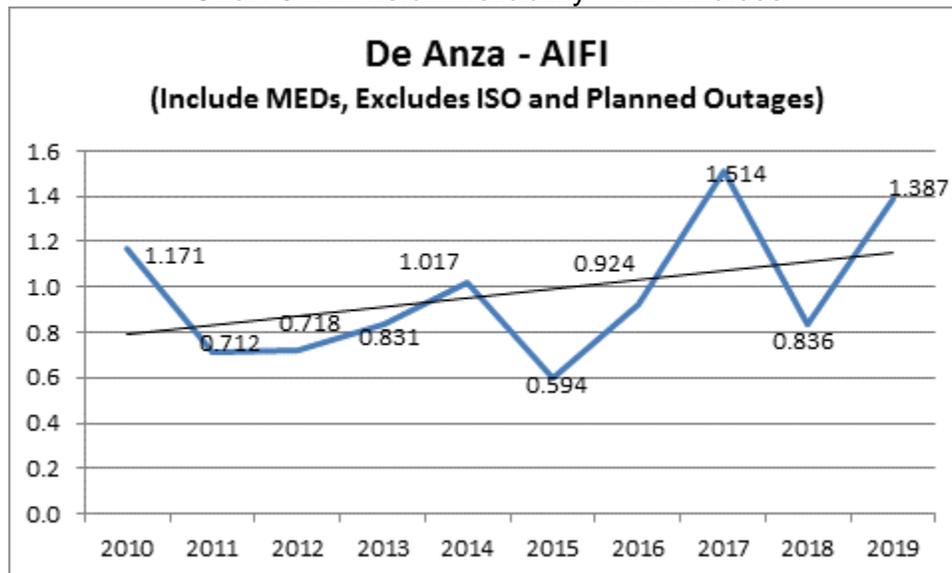


Chart 32: Division Reliability - AIFI Indices

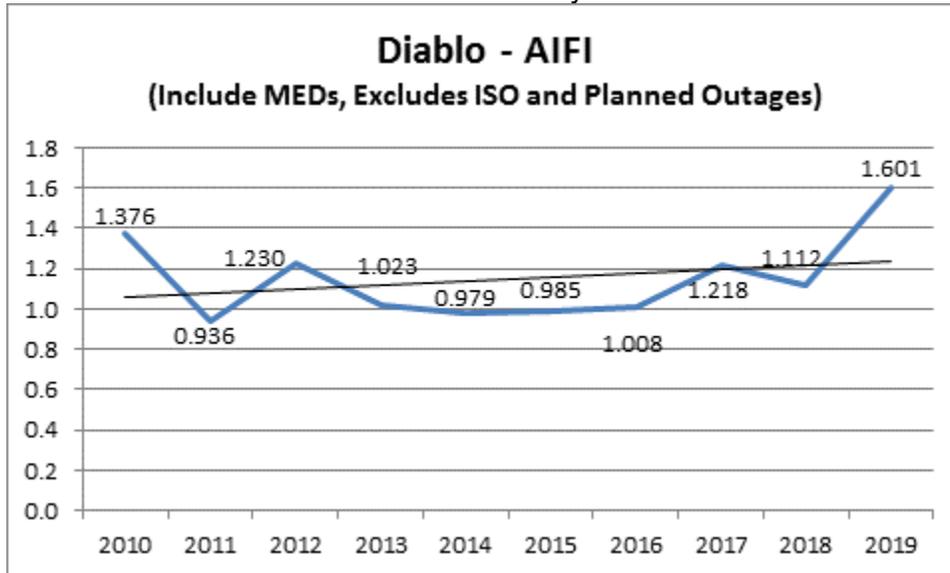


Chart 33: Division Reliability - AIFI Indices

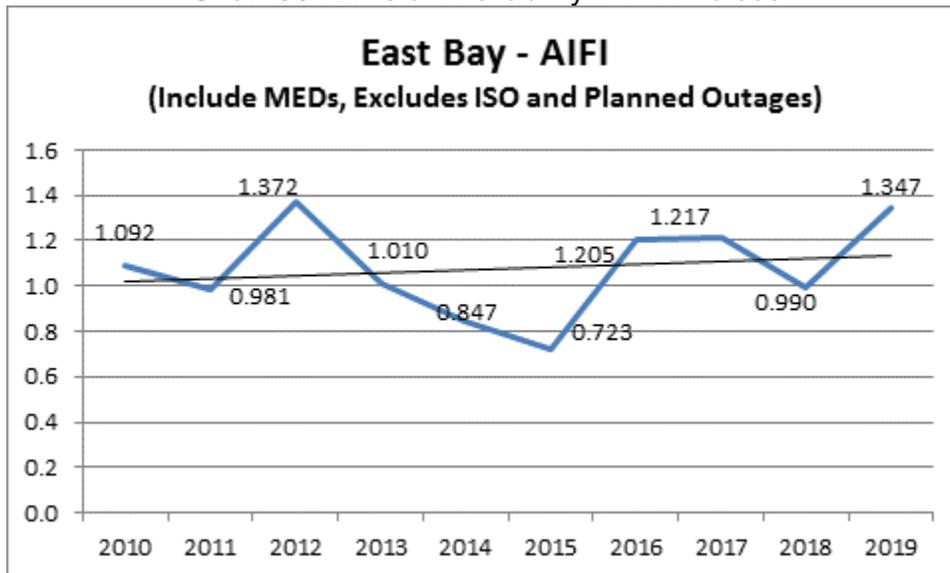


Chart 34: Division Reliability - AIFI Indices

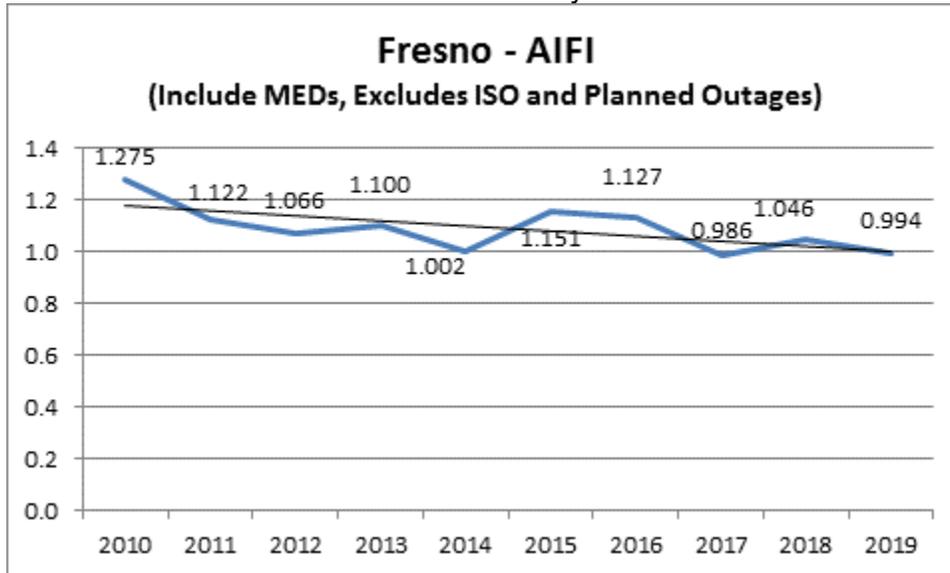


Chart 35: Division Reliability - AIFI Indices

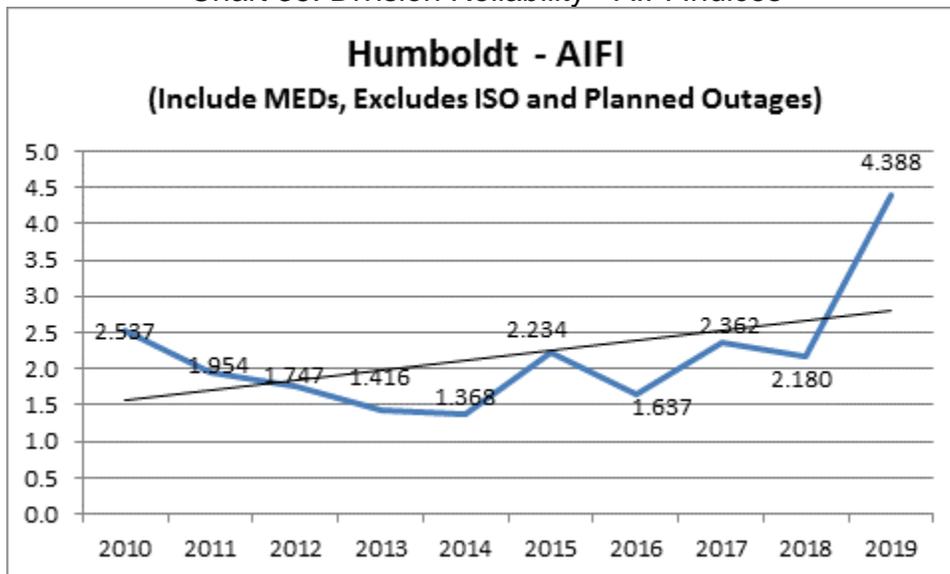


Chart 36: Division Reliability - AIFI Indices

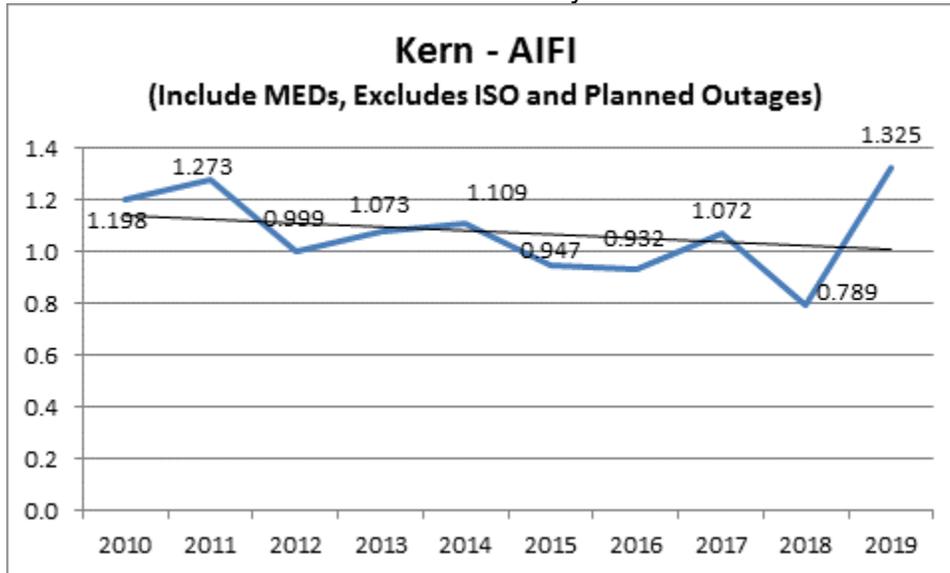


Chart 37: Division Reliability - AIFI Indices

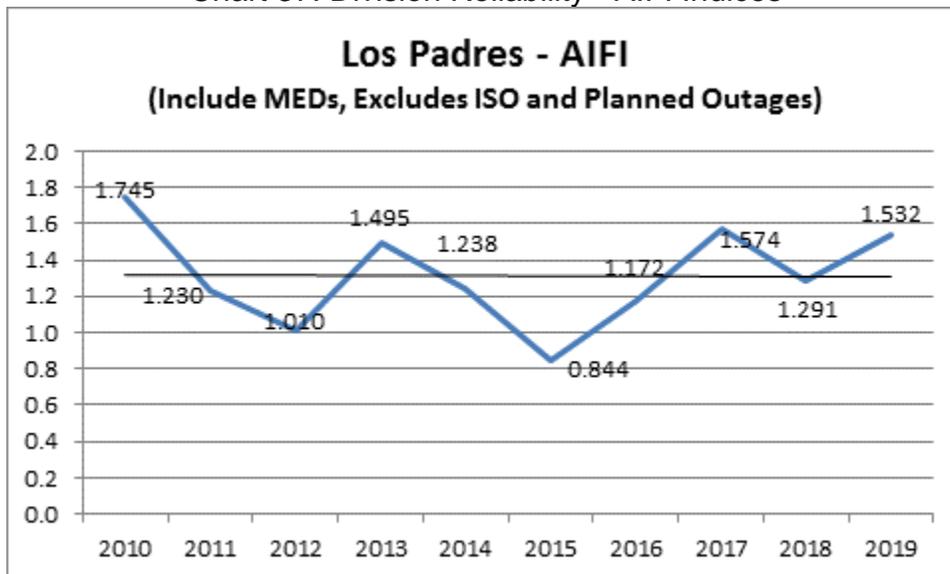


Chart 38: Division Reliability - AIFI Indices

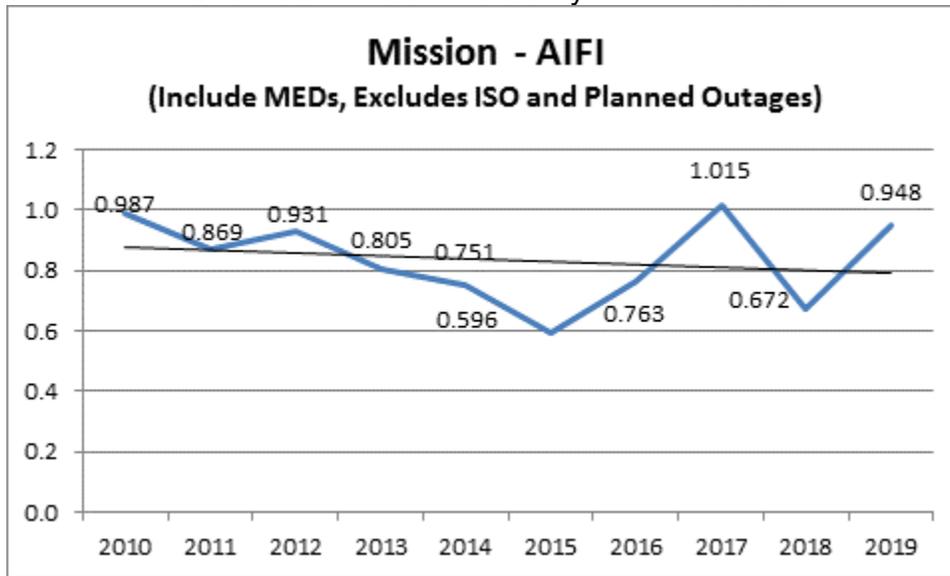


Chart 39: Division Reliability - AIFI Indices

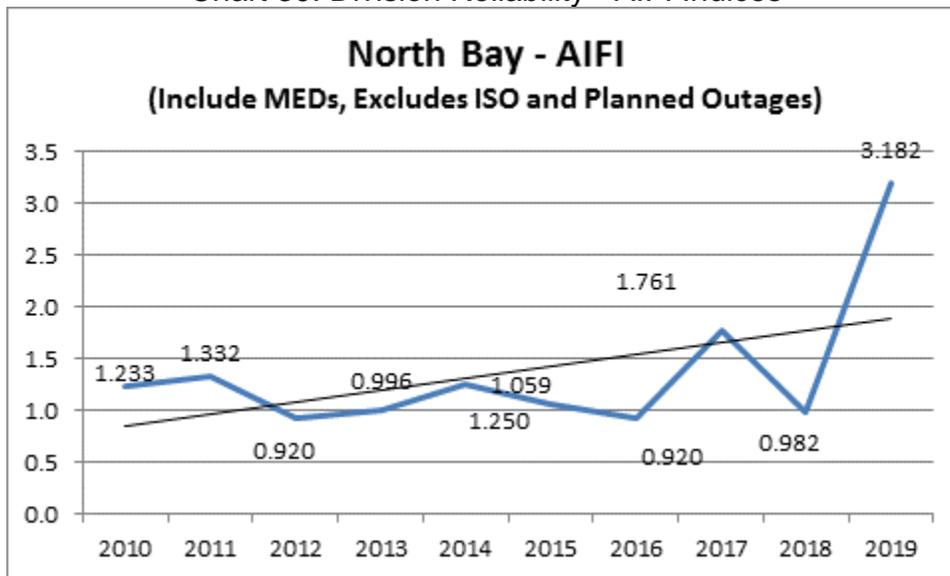


Chart 40: Division Reliability - AIFI Indices

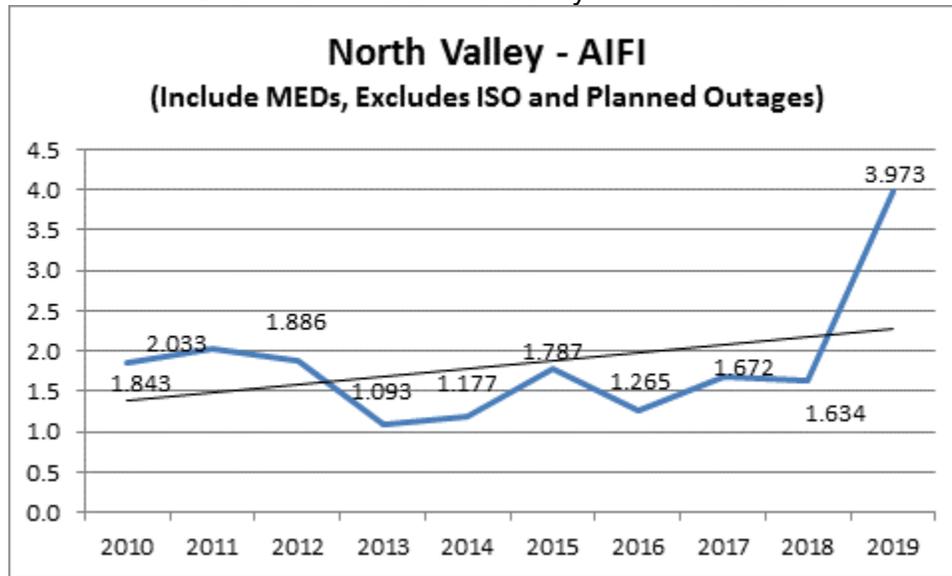


Chart 41: Division Reliability - AIFI Indices

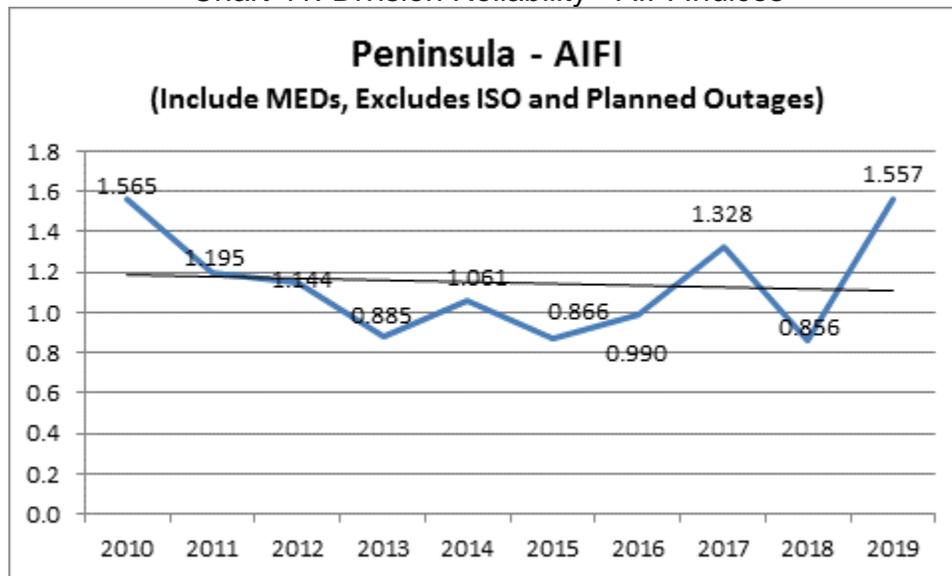


Chart 42: Division Reliability - AIFI Indices

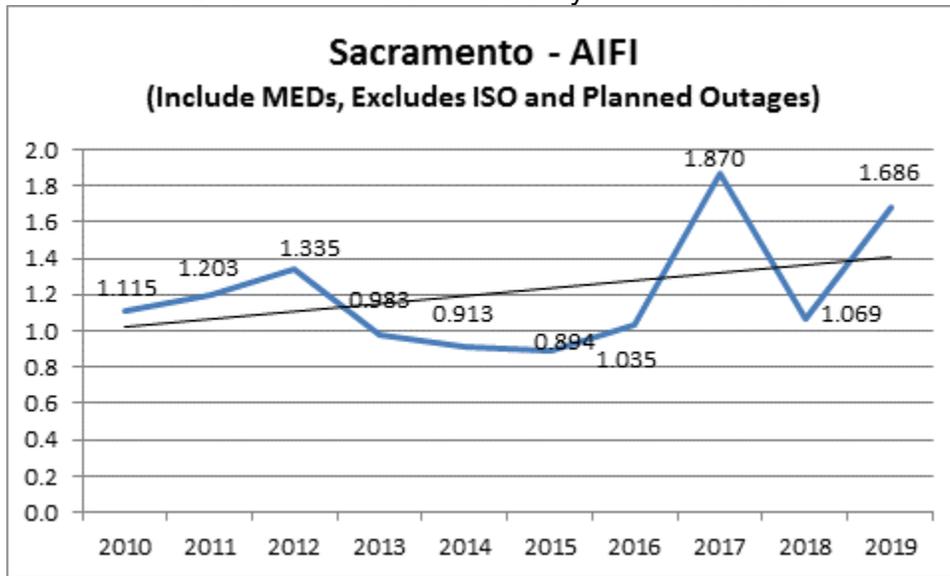


Chart 43: Division Reliability - AIFI Indices

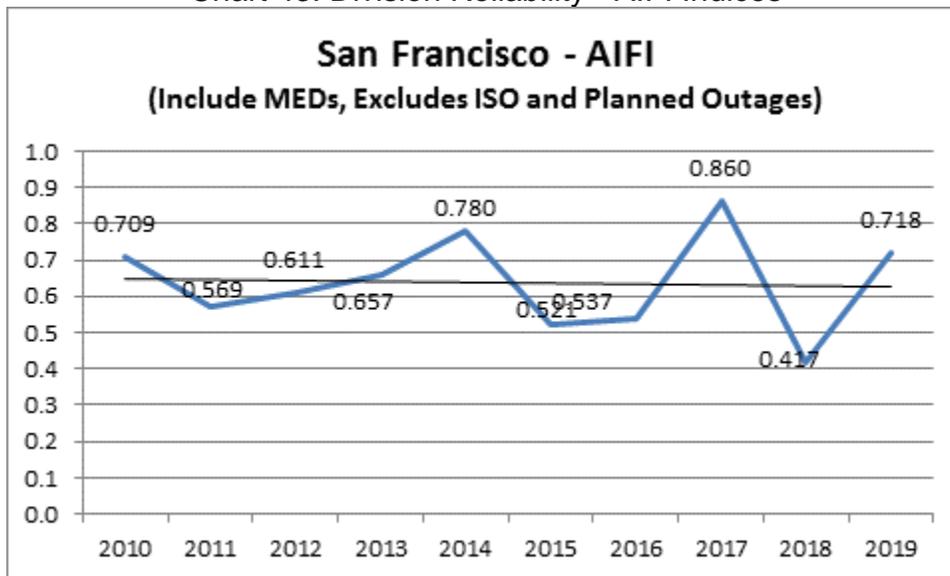


Chart 44: Division Reliability - AIFI Indices

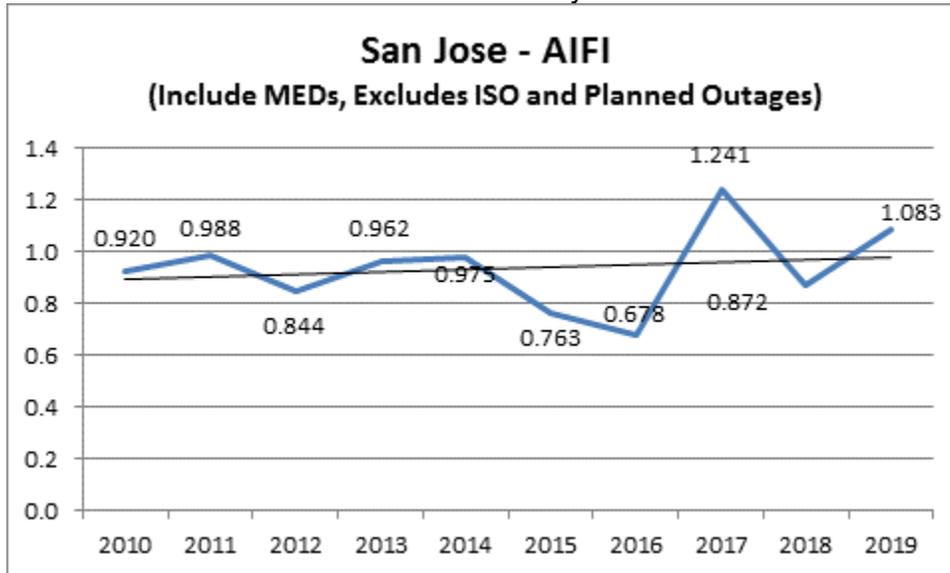


Chart 45: Division Reliability - AIFI Indices

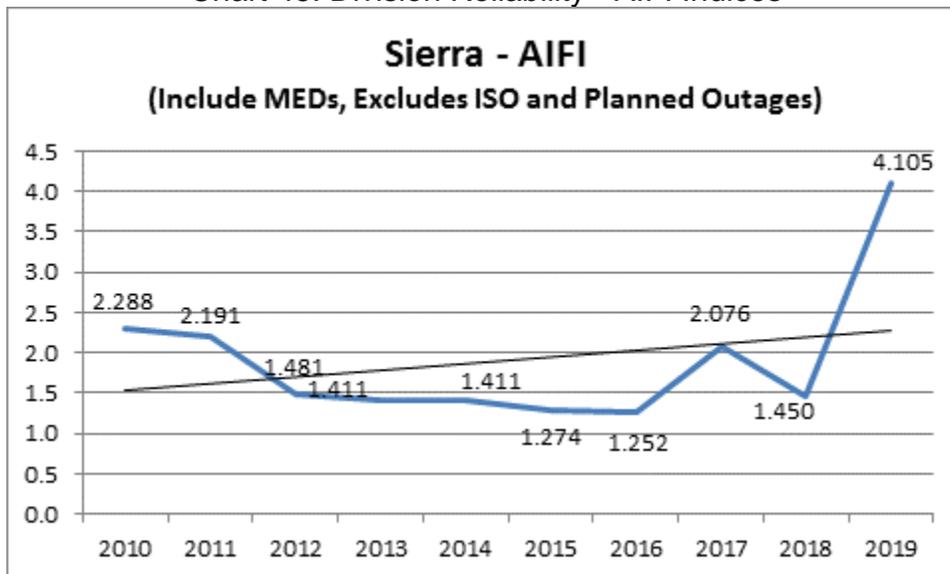


Chart 46: Division Reliability - AIFI Indices

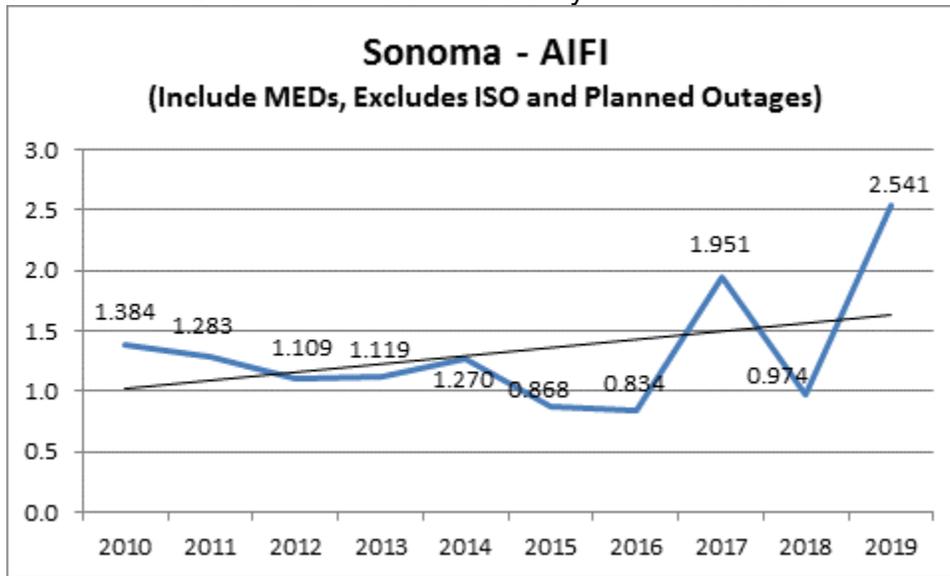


Chart 47: Division Reliability - AIFI Indices

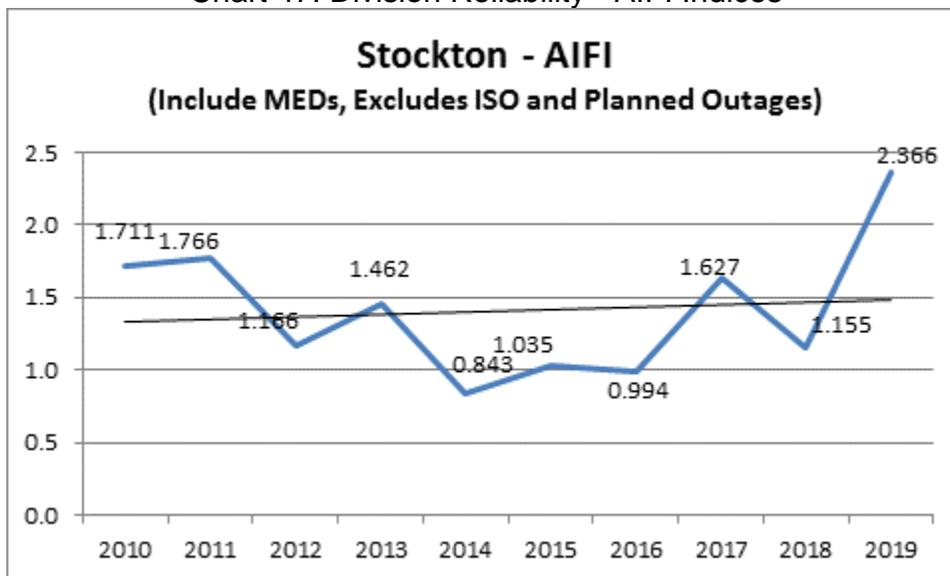
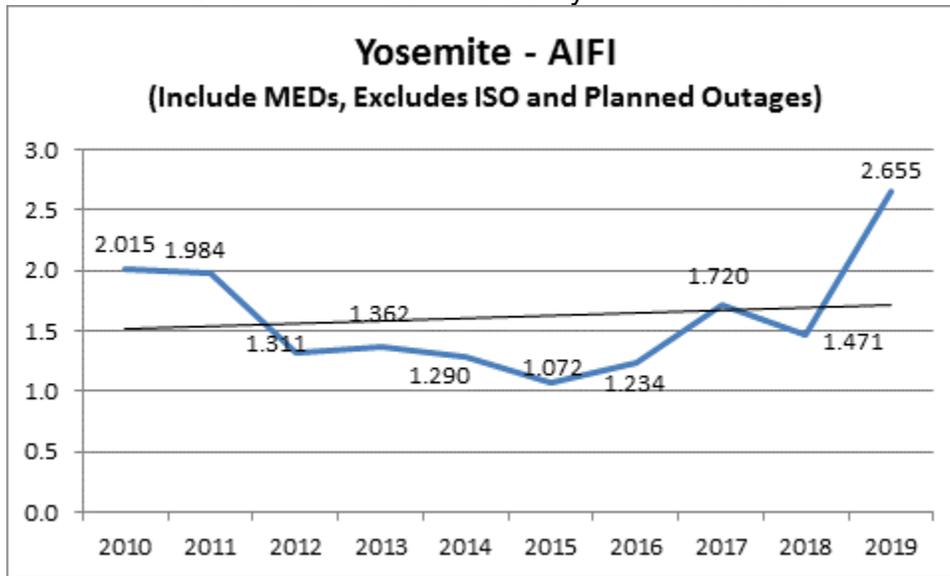


Chart 48: Division Reliability - AIFI Indices



3. MAIFI Performance Results (MED Inclusive)

Chart 49: Division Reliability - MAIFI Indices

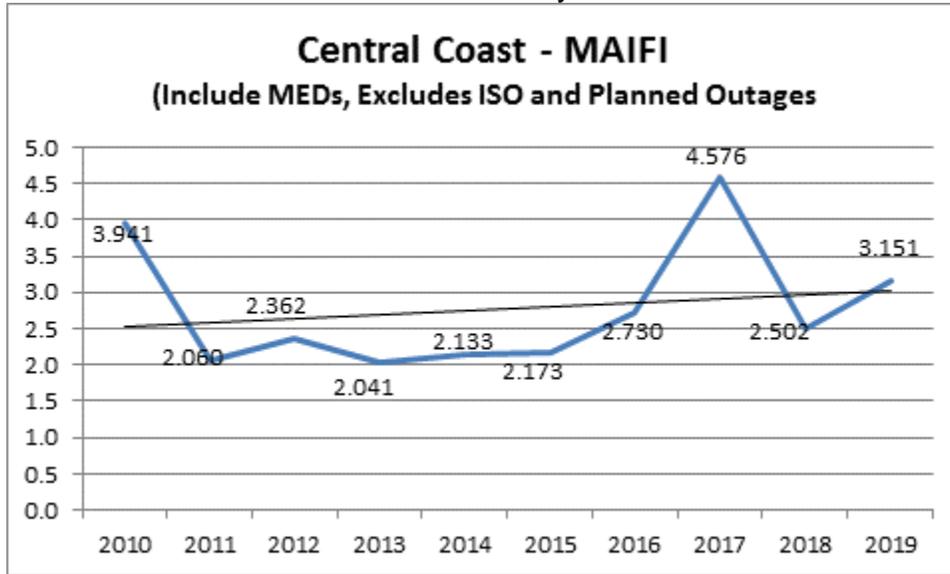


Chart 50: Division Reliability - MAIFI Indices

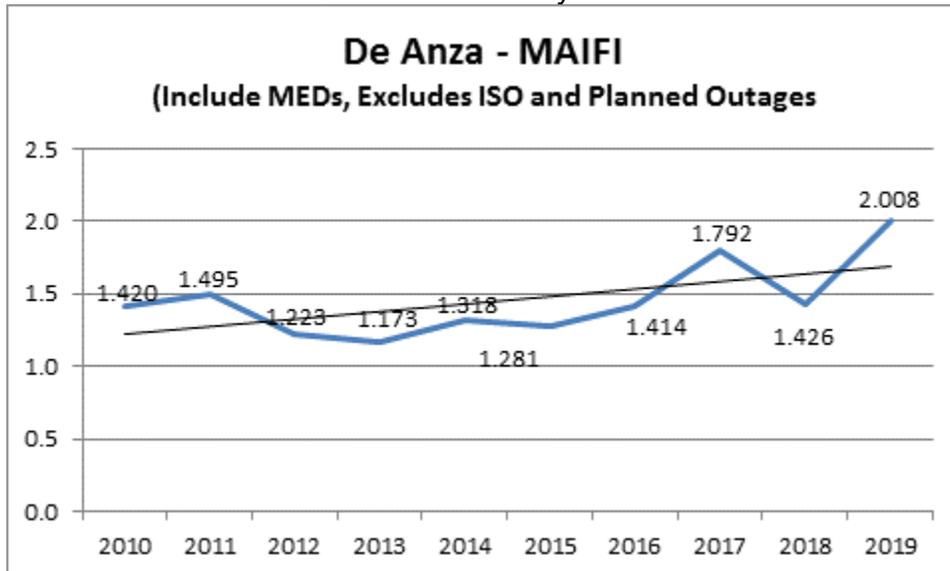


Chart 51: Division Reliability - MAIFI Indices

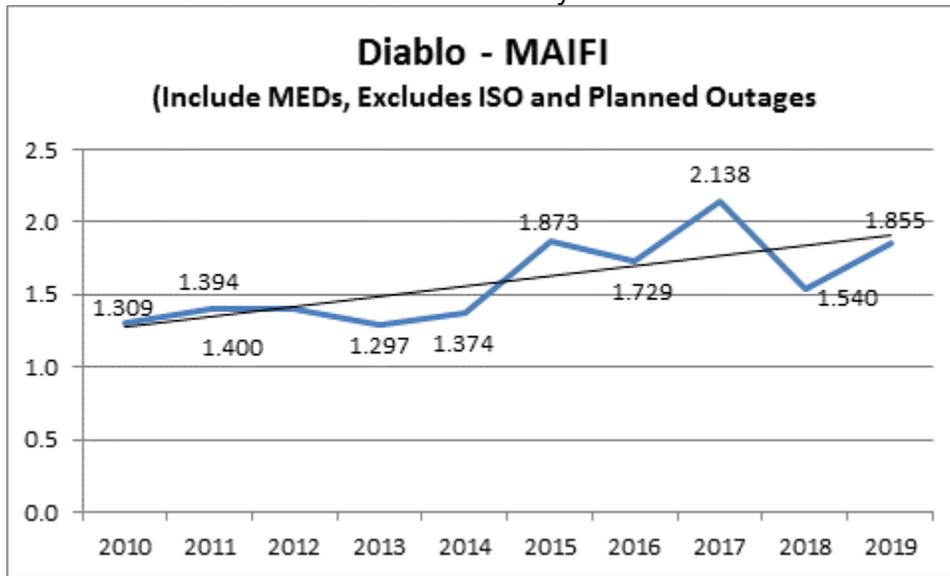


Chart 52: Division Reliability - MAIFI Indices

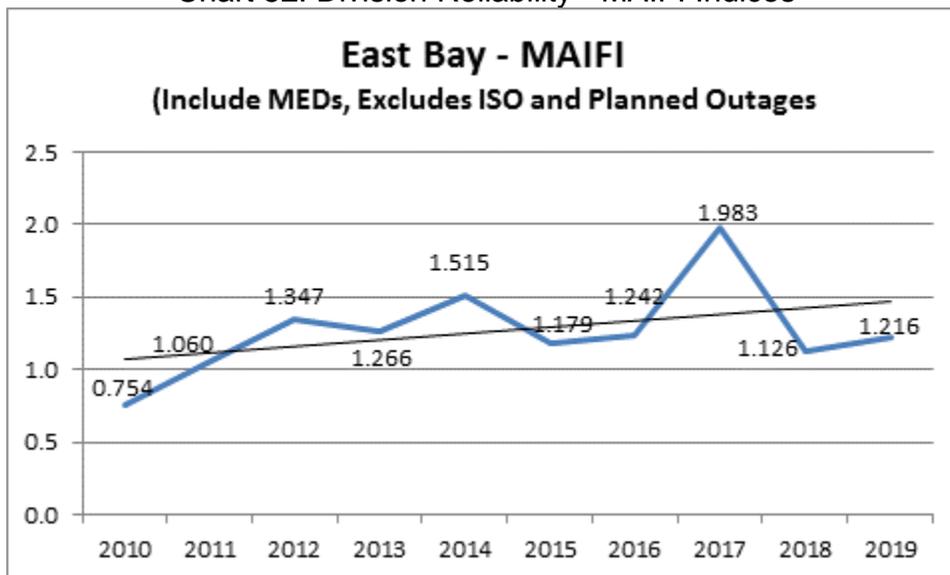


Chart 53: Division Reliability - MAIFI Indices

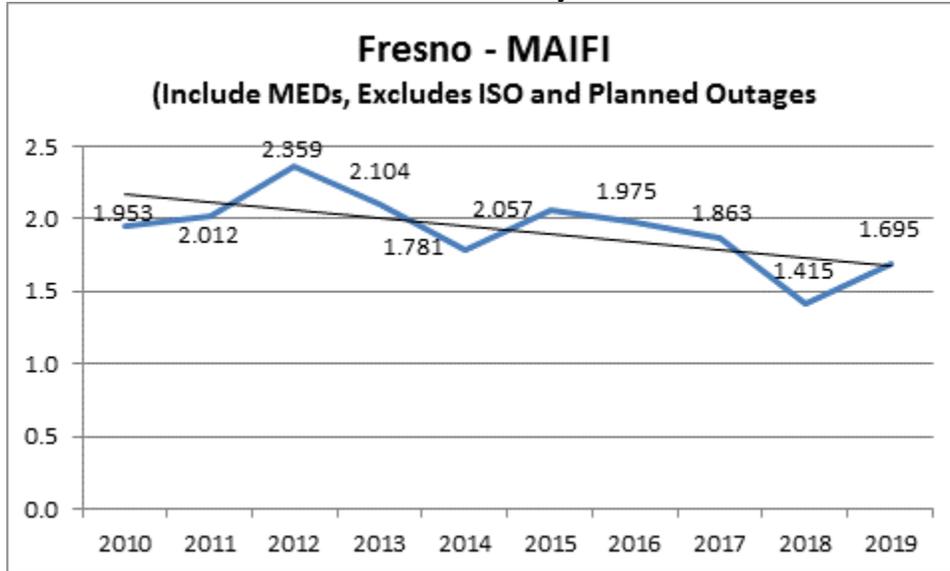


Chart 54: Division Reliability - MAIFI Indices

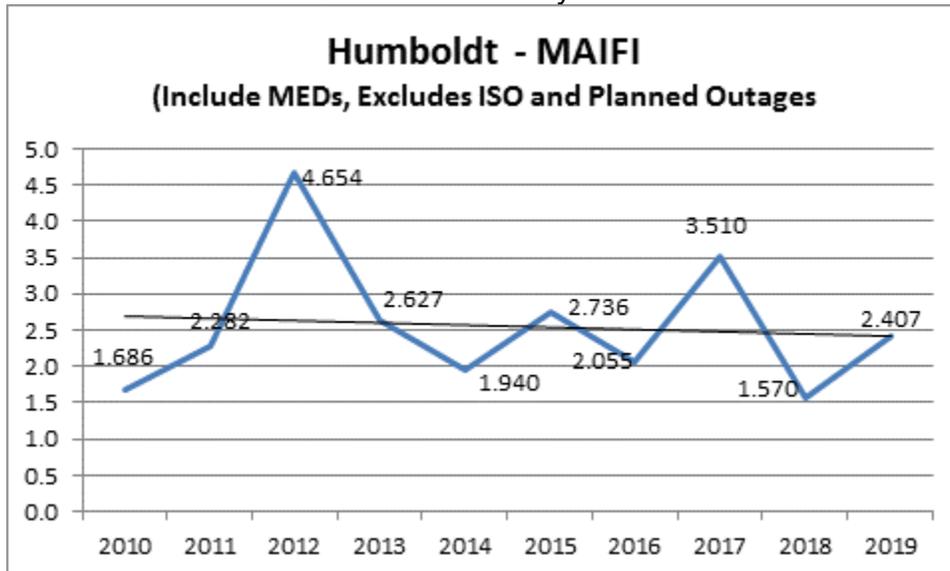


Chart 55: Division Reliability - MAIFI Indices

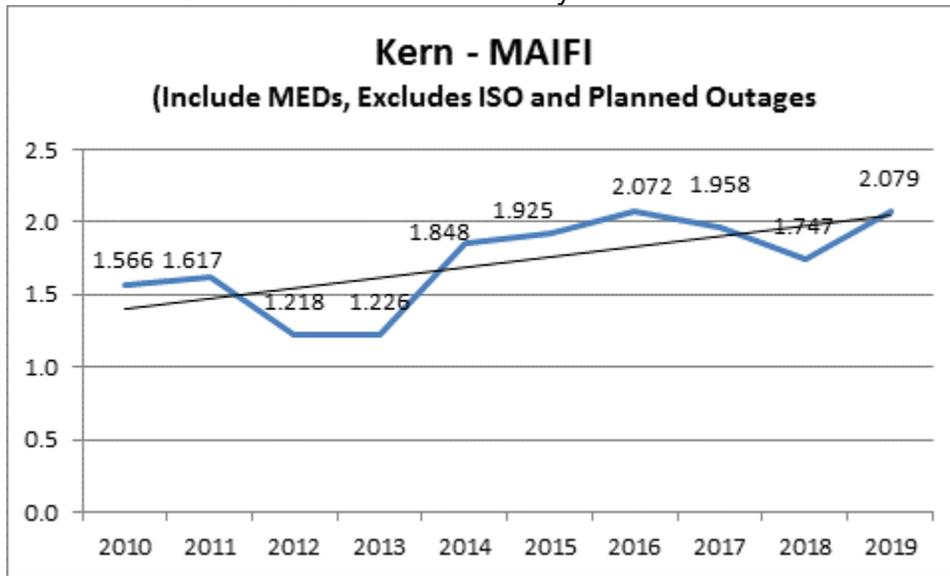


Chart 56: Division Reliability - MAIFI Indices

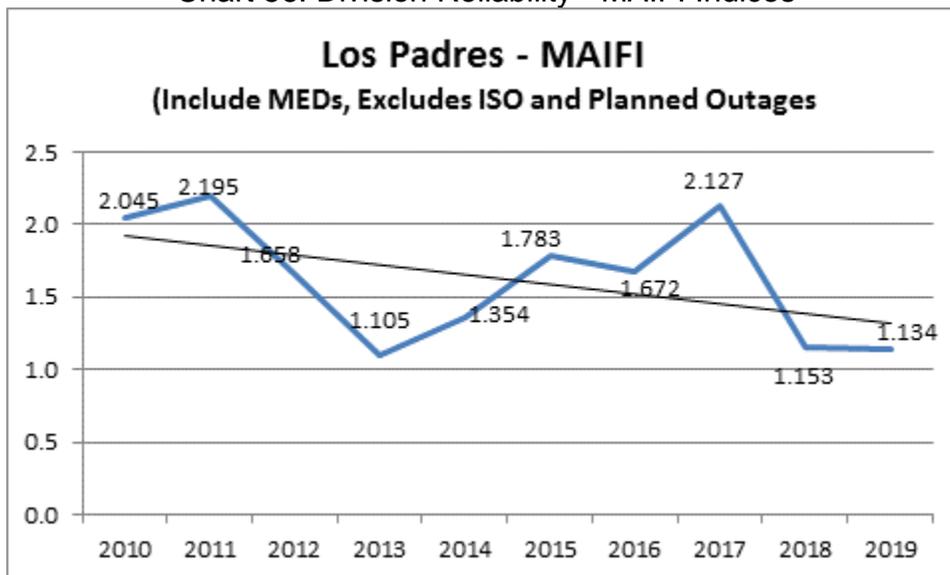


Chart 57: Division Reliability - MAIFI Indices

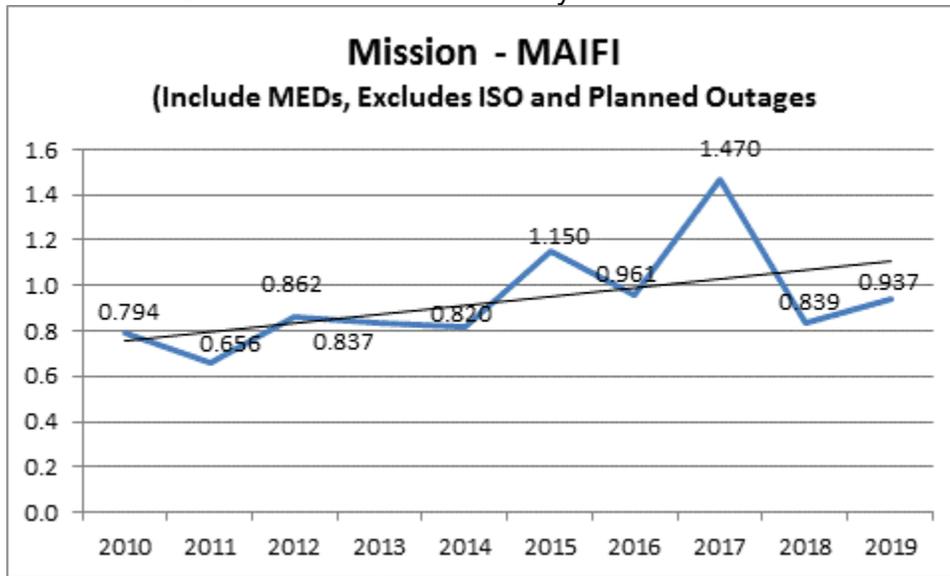


Chart 58: Division Reliability - MAIFI Indices

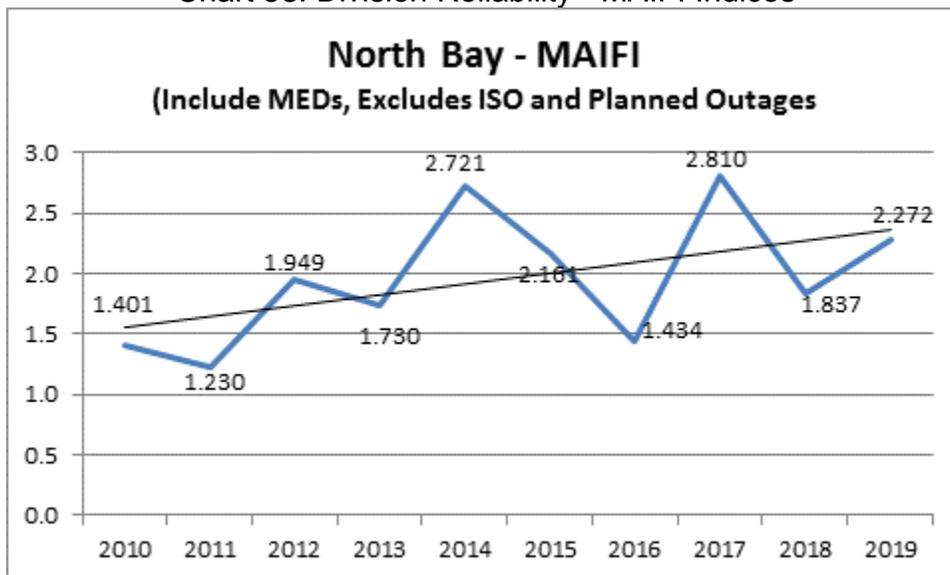


Chart 59: Division Reliability - MAIFI Indices

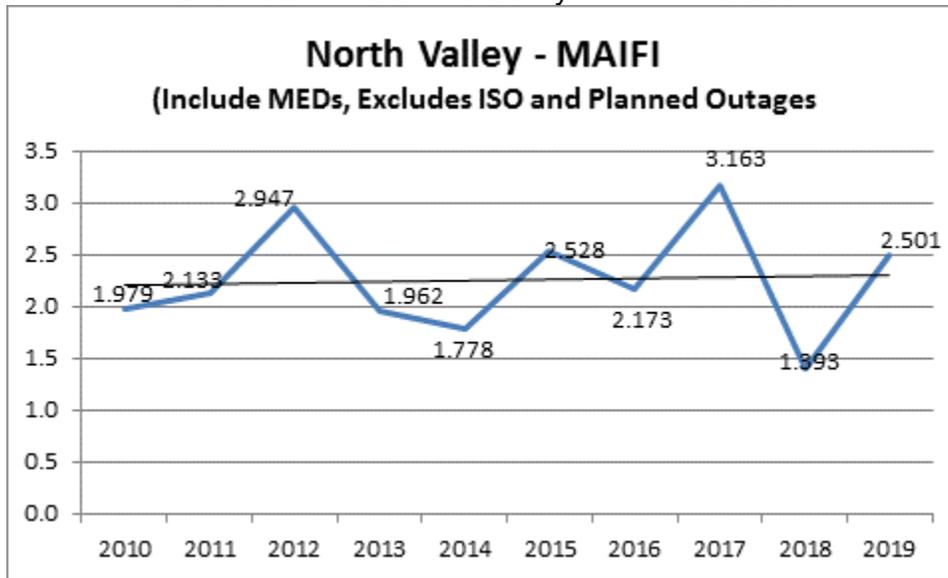


Chart 60: Division Reliability - MAIFI Indices

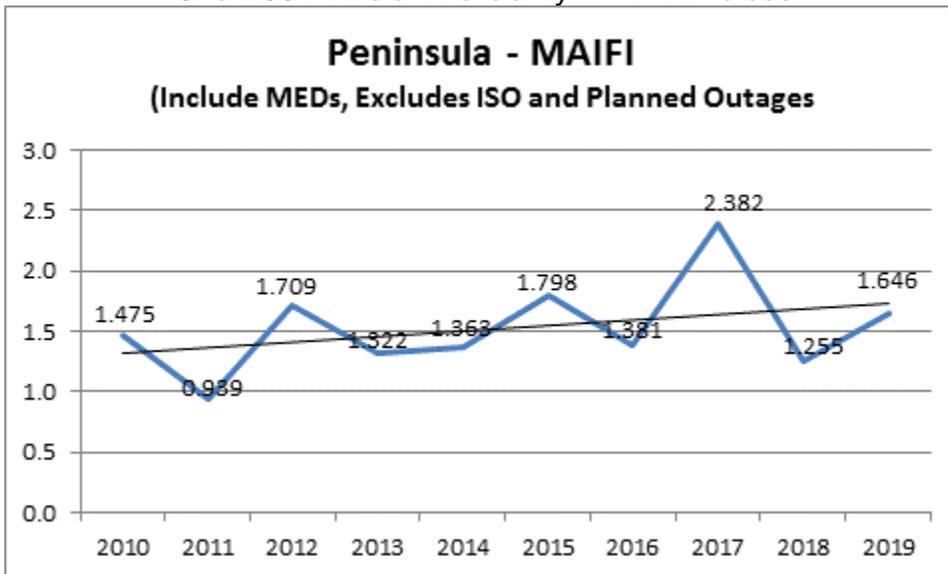


Chart 61: Division Reliability - MAIFI Indices

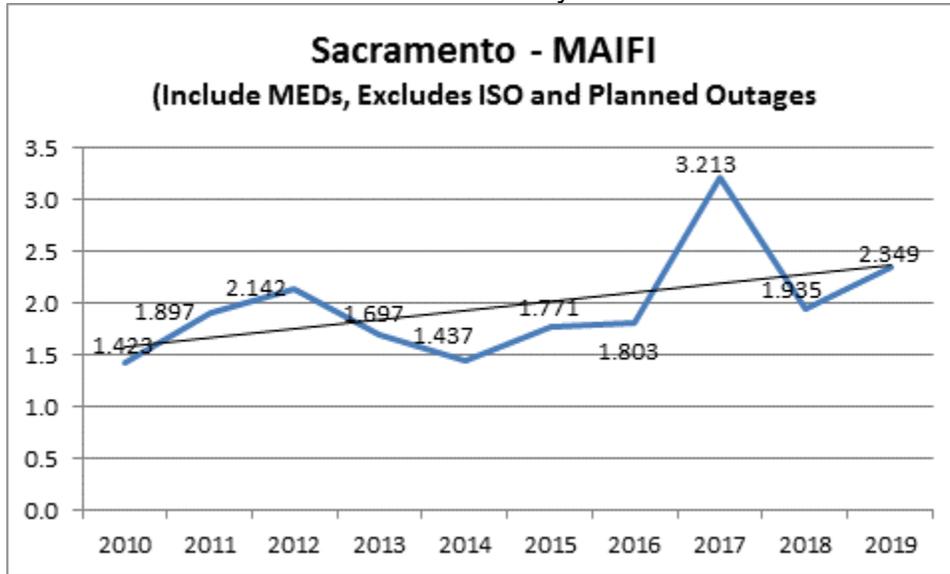


Chart 62: Division Reliability - MAIFI Indices

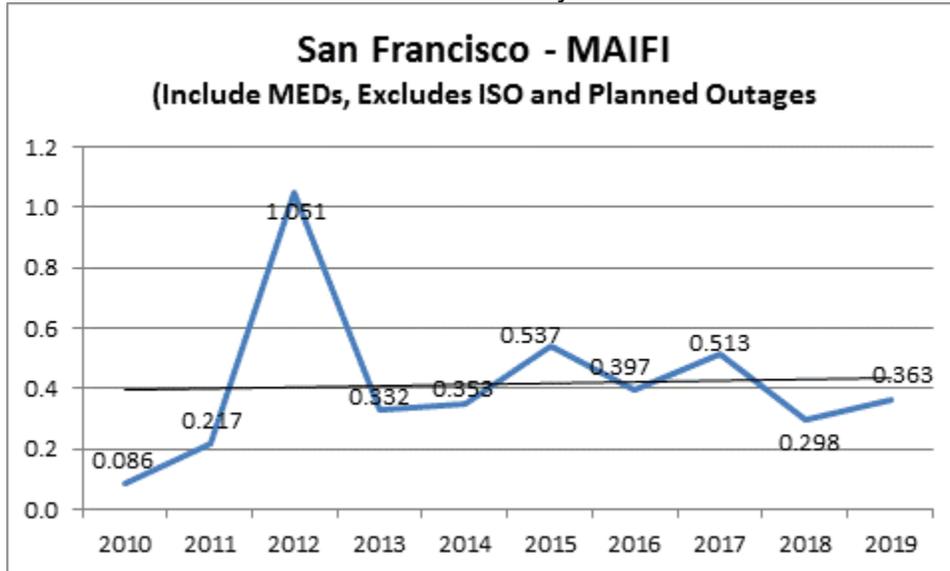


Chart 63: Division Reliability - MAIFI Indices

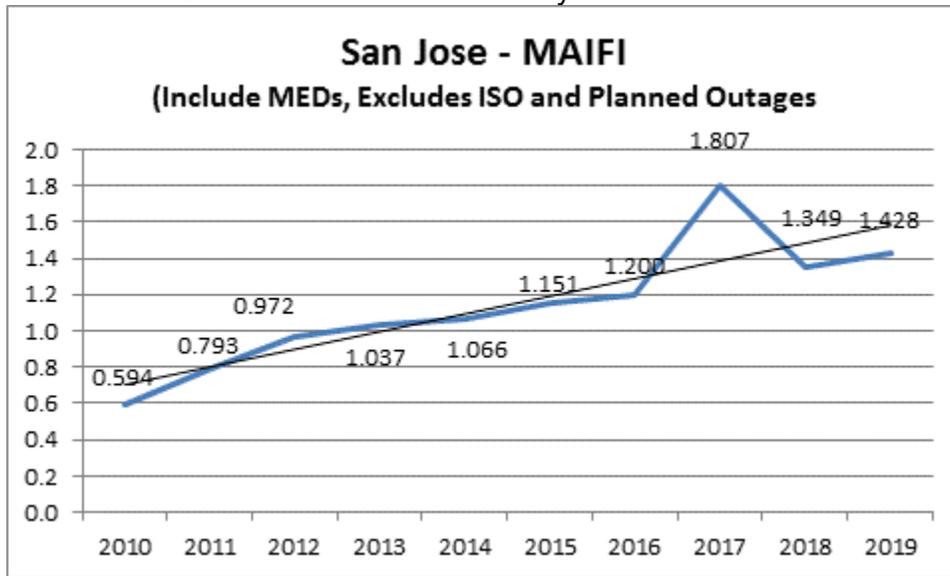


Chart 64: Division Reliability - MAIFI Indices

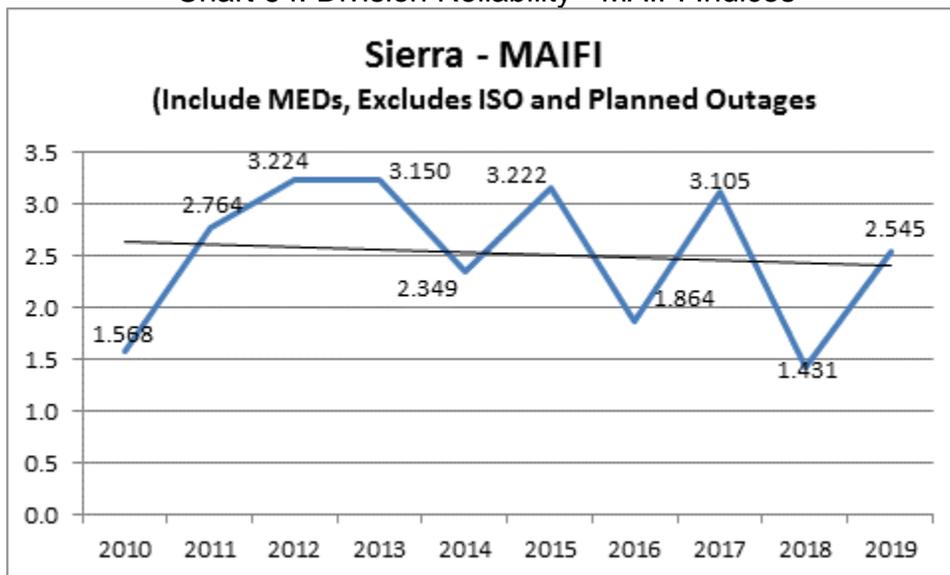


Chart 65: Division Reliability - MAIFI Indices

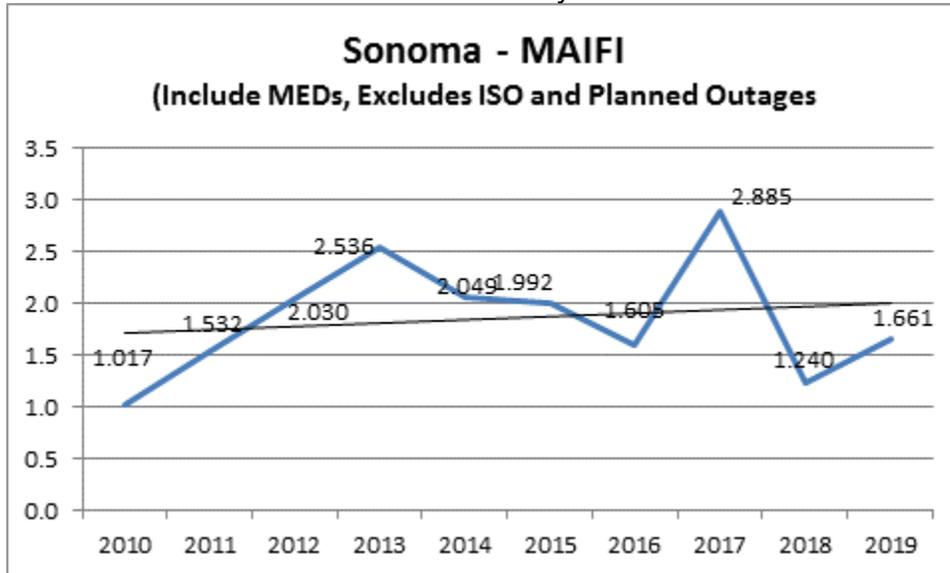


Chart 66: Division Reliability - MAIFI Indices

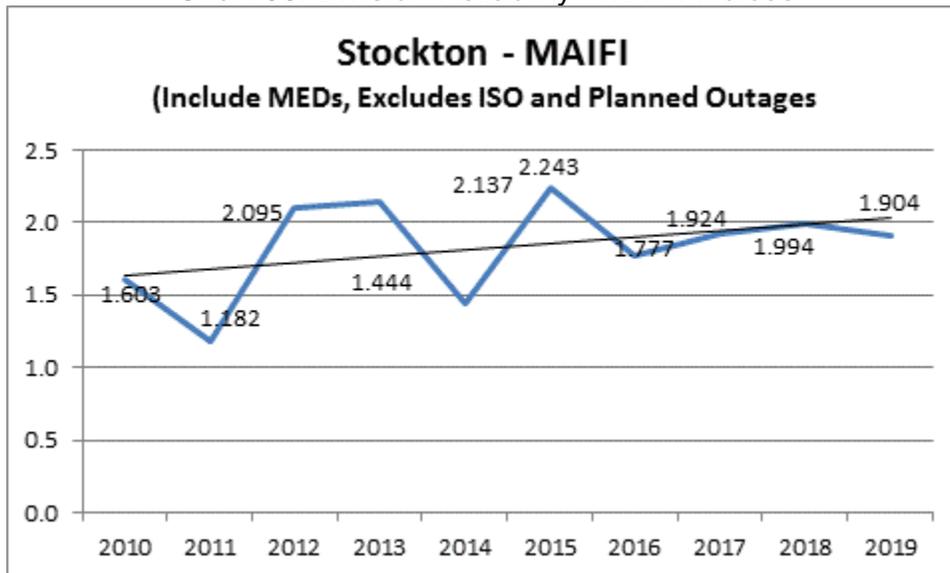
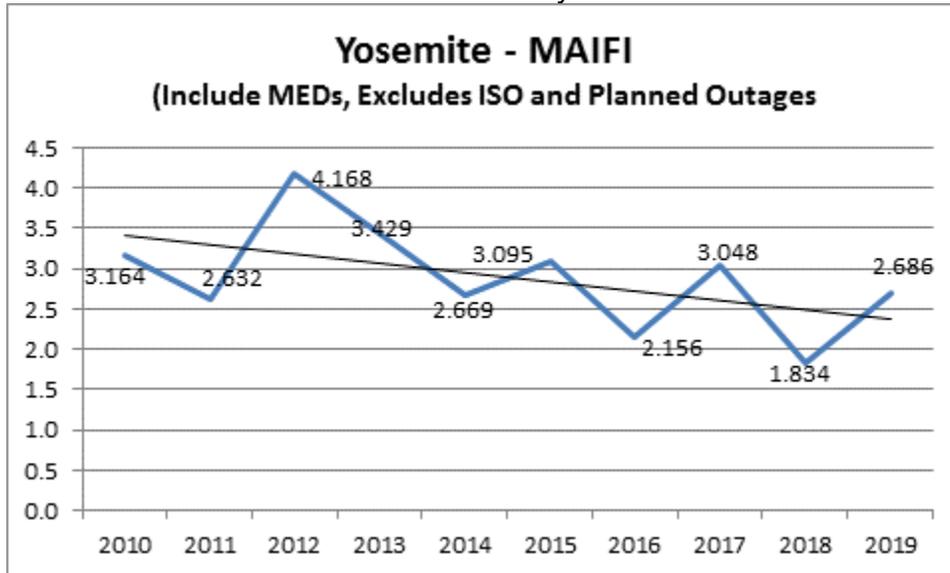


Chart 67: Division Reliability - MAIFI Indices



4. CAIDI Performance Results (MED Included)

Chart 68: Division Reliability - CAIDI Indices

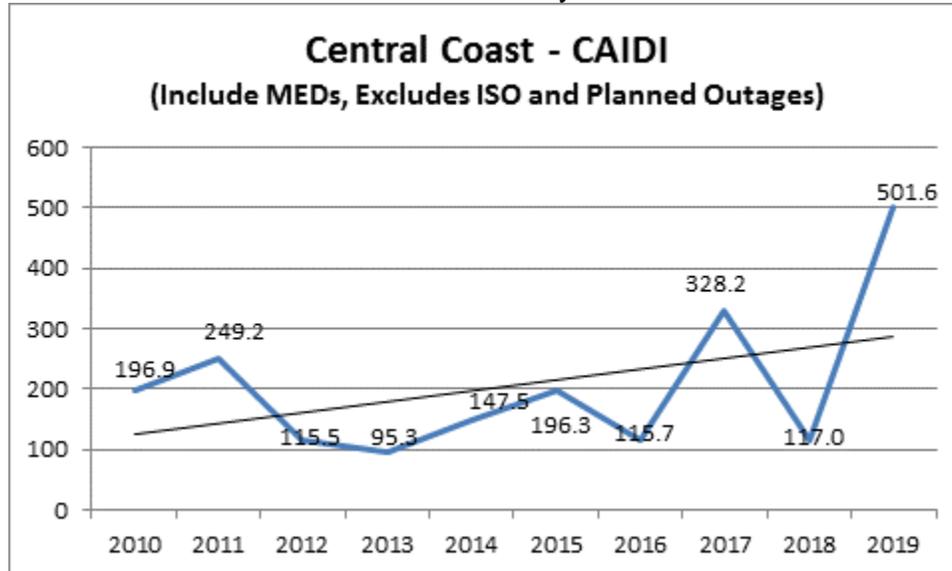


Chart 69: Division Reliability - CAIDI Indices

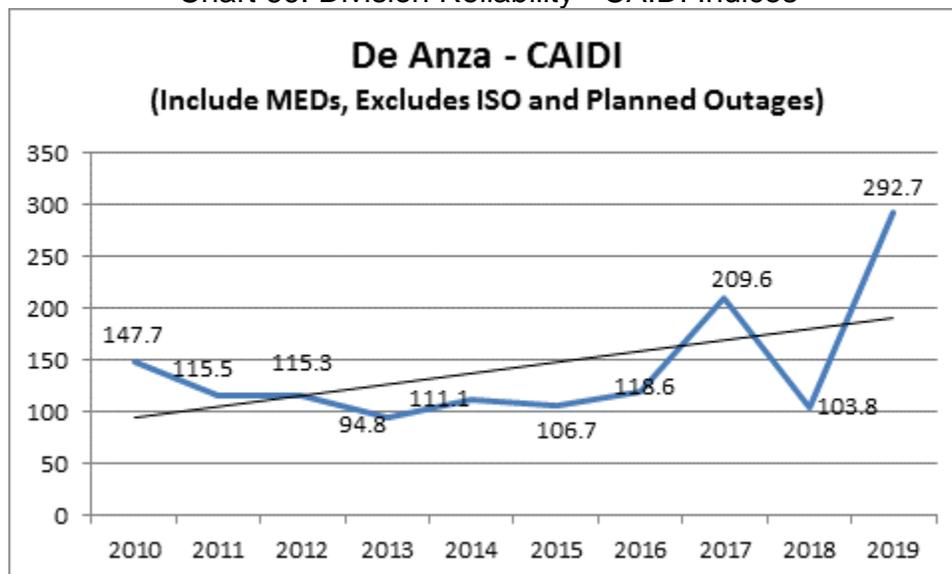


Chart 70: Division Reliability - CAIDI Indices

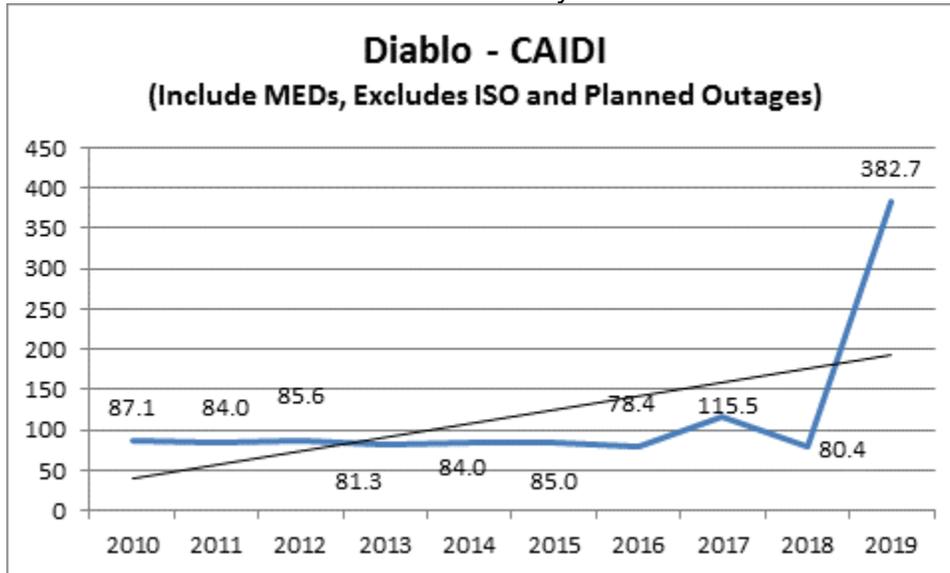


Chart 71: Division Reliability - CAIDI Indices

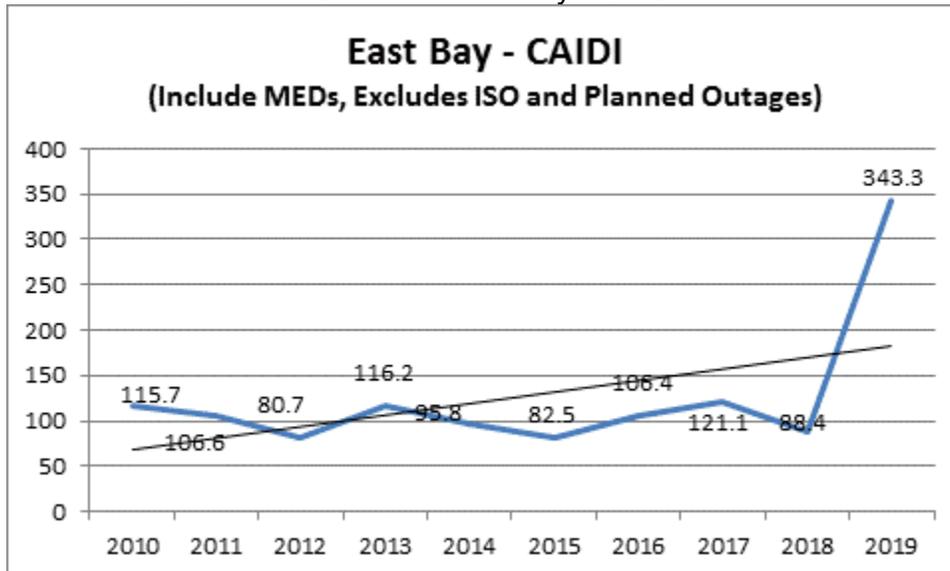


Chart 72: Division Reliability - CAIDI Indices

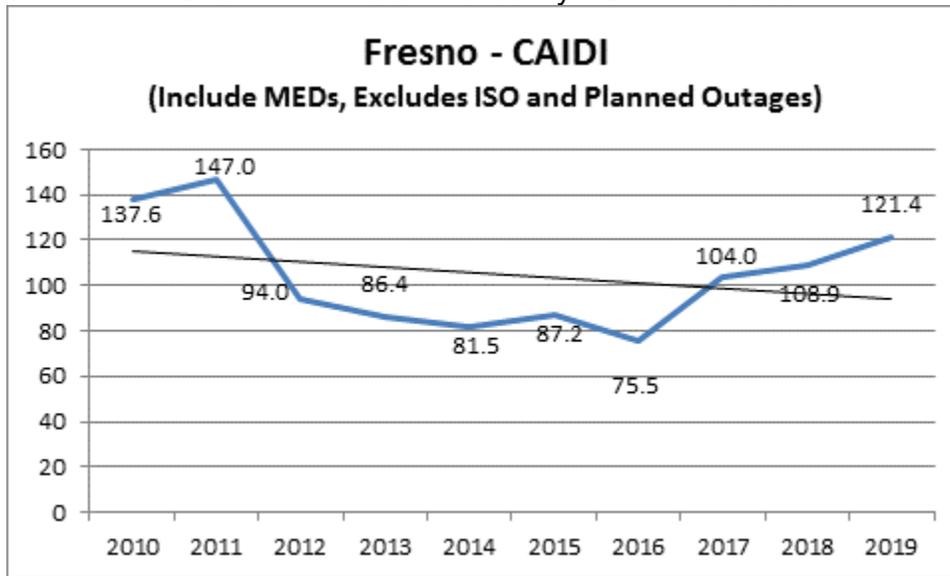


Chart 73: Division Reliability - CAIDI Indices

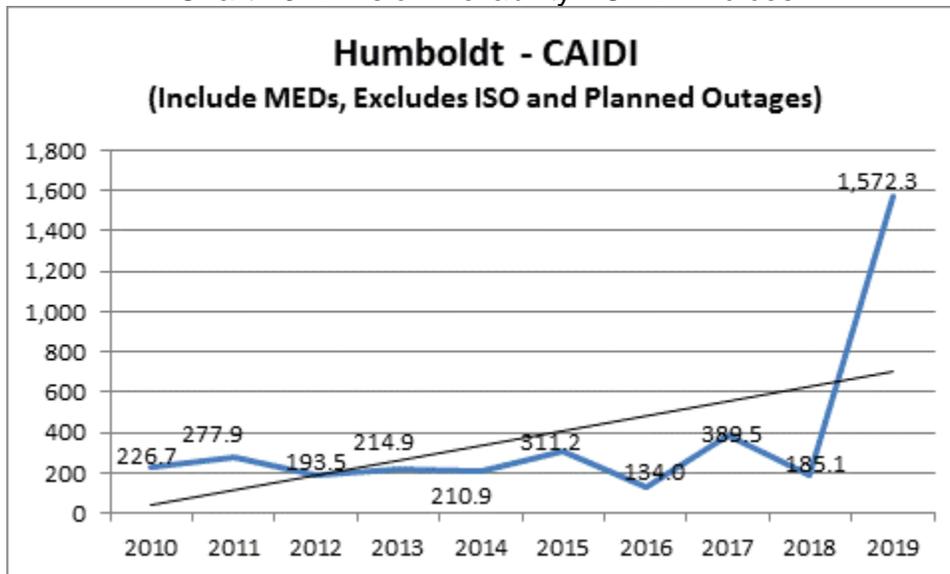


Chart 74: Division Reliability - CAIDI Indices

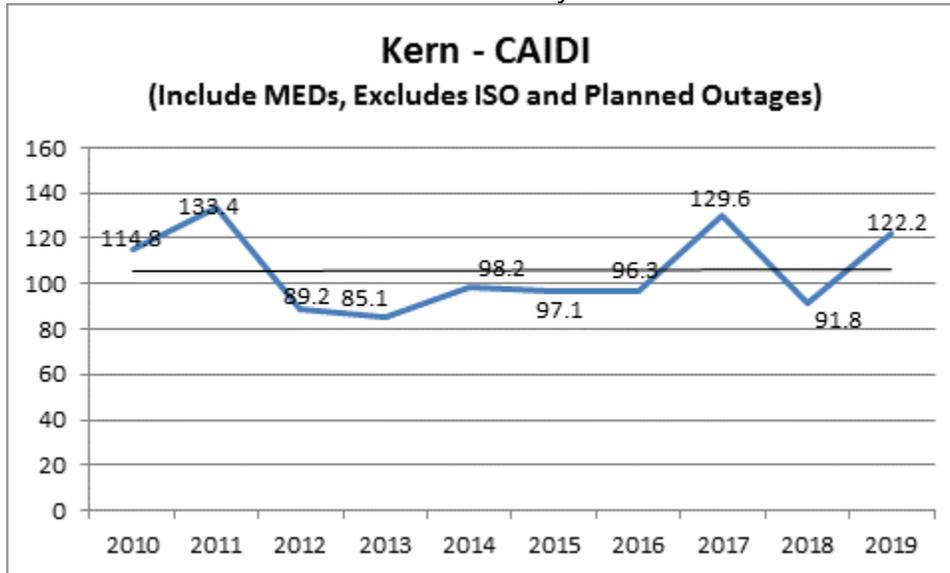


Chart 75: Division Reliability - CAIDI Indices

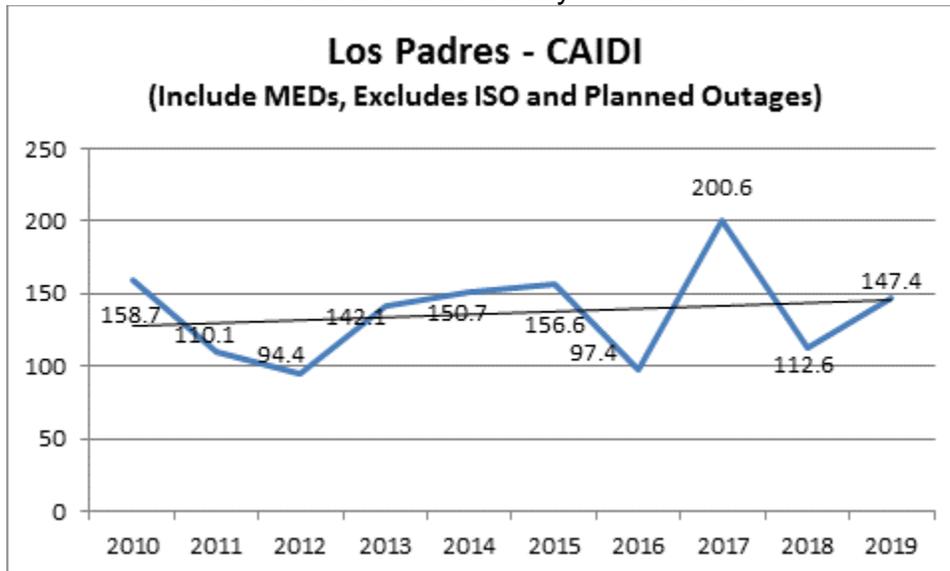


Chart 76: Division Reliability - CAIDI Indices

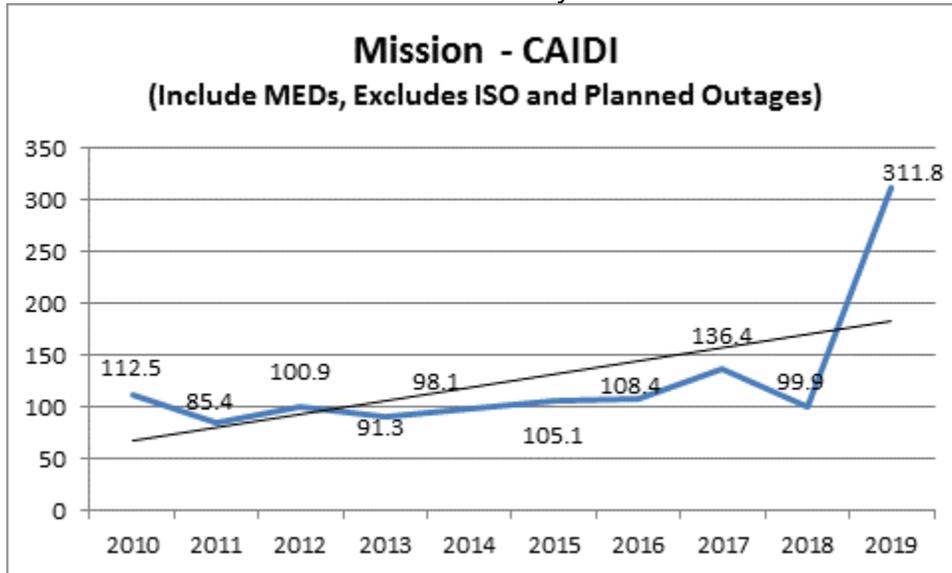


Chart 77: Division Reliability - CAIDI Indices

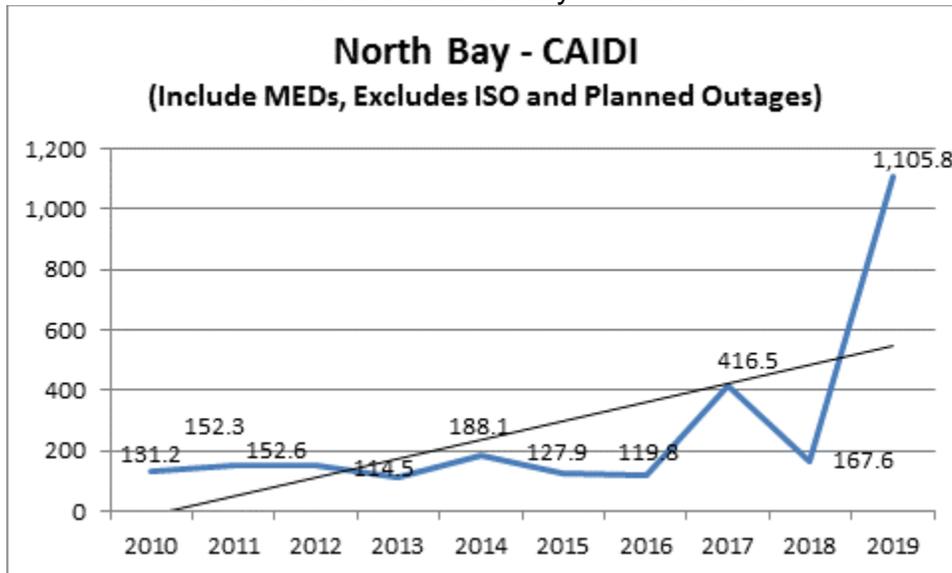


Chart 78: Division Reliability - CAIDI Indices

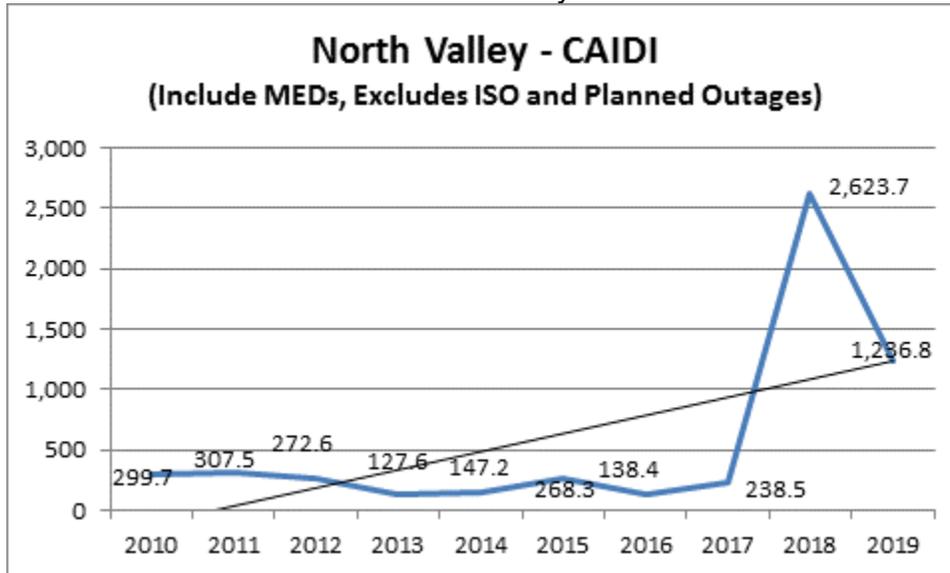


Chart 79: Division Reliability - CAIDI Indices

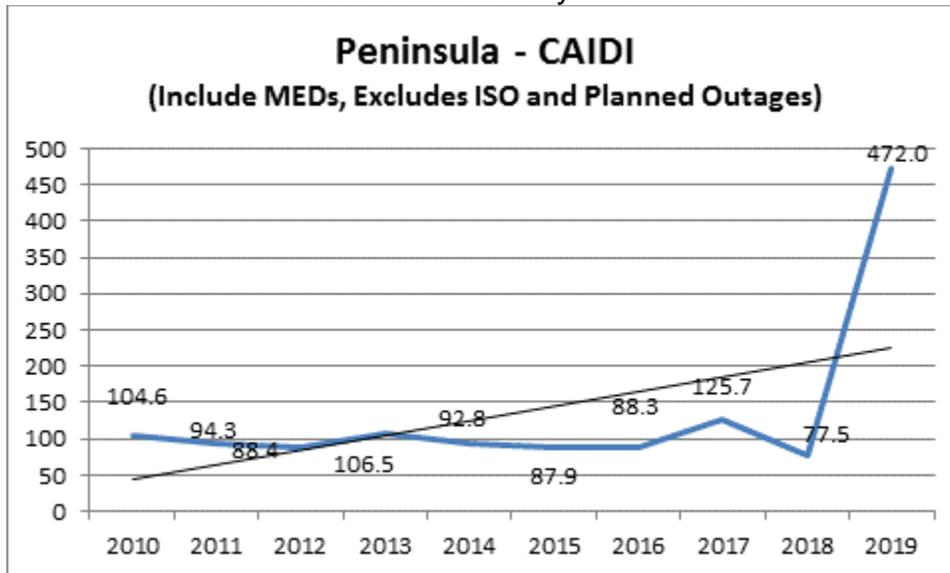


Chart 80: Division Reliability - CAIDI Indices

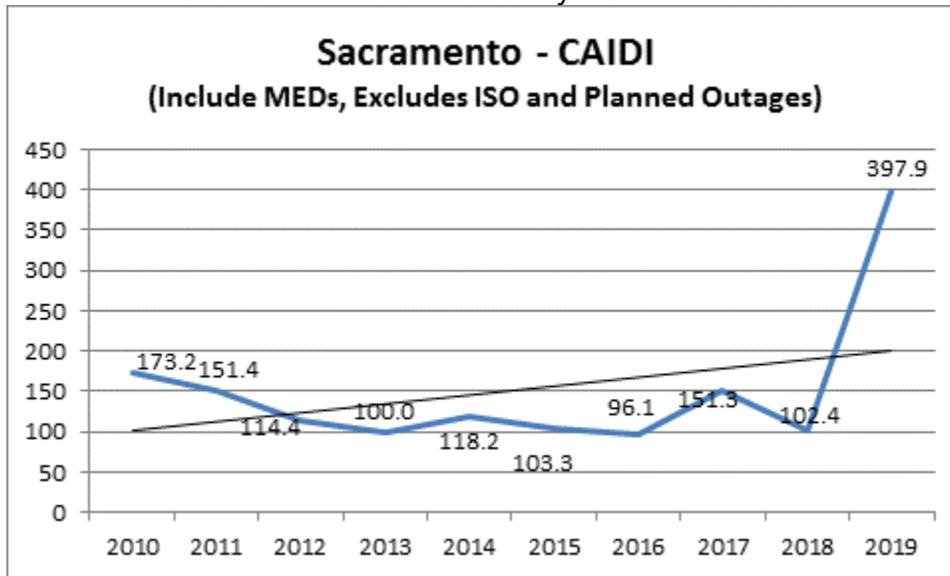


Chart 81: Division Reliability - CAIDI Indices

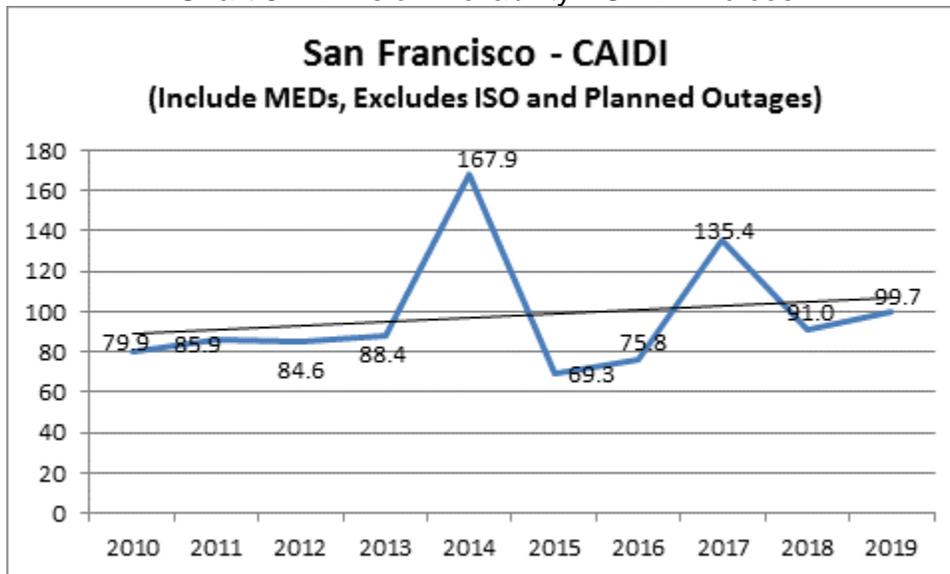


Chart 82: Division Reliability - CAIDI Indices

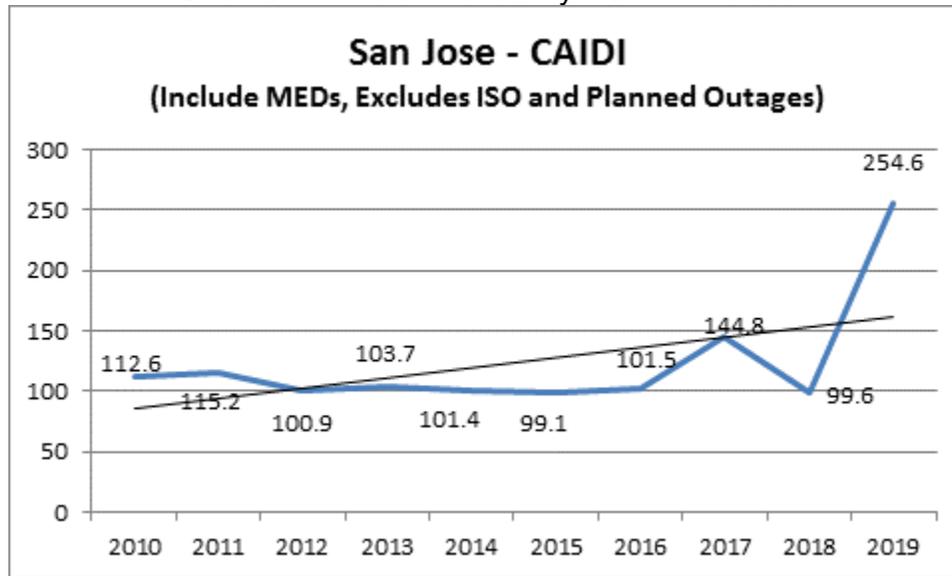


Chart 83: Division Reliability - CAIDI Indices

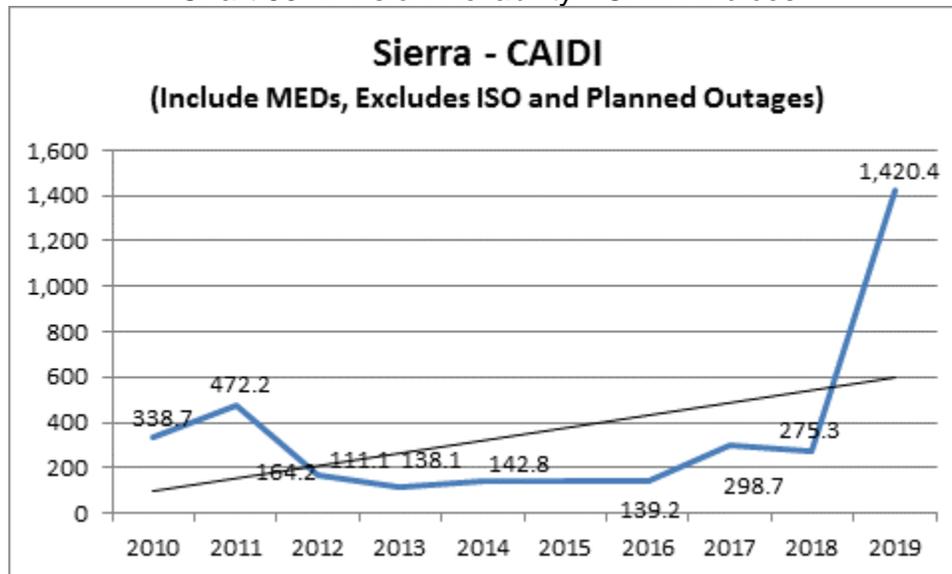


Chart 84: Division Reliability - CAIDI Indices

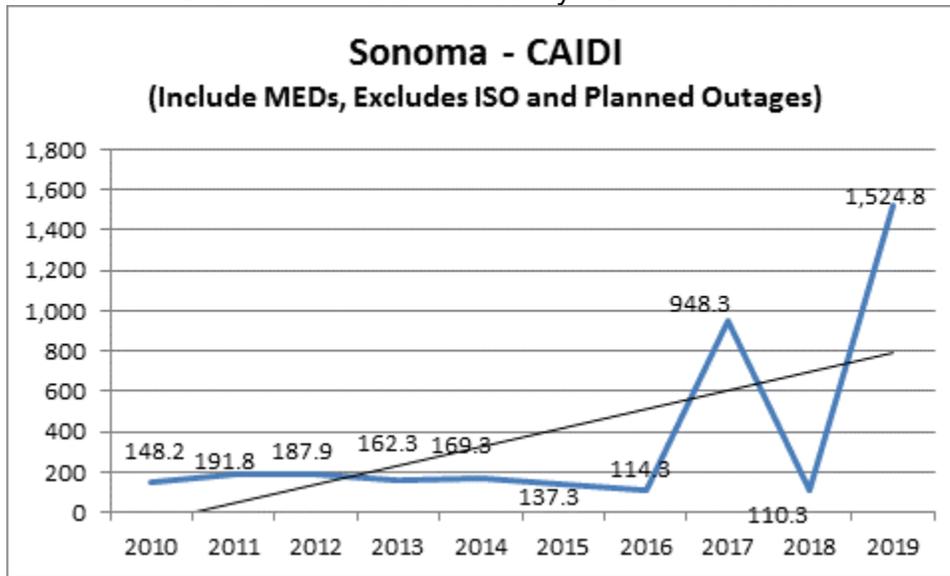


Chart 85: Division Reliability - CAIDI Indices

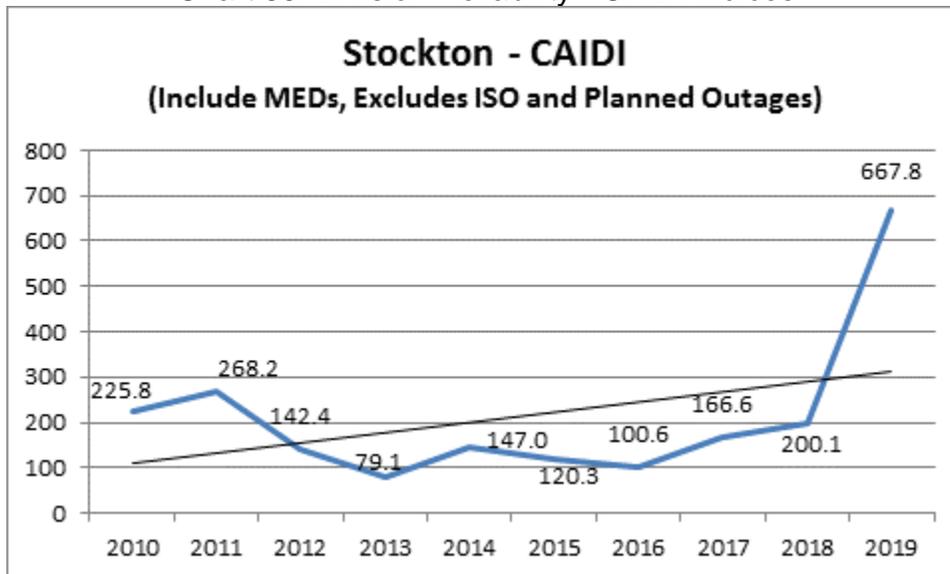
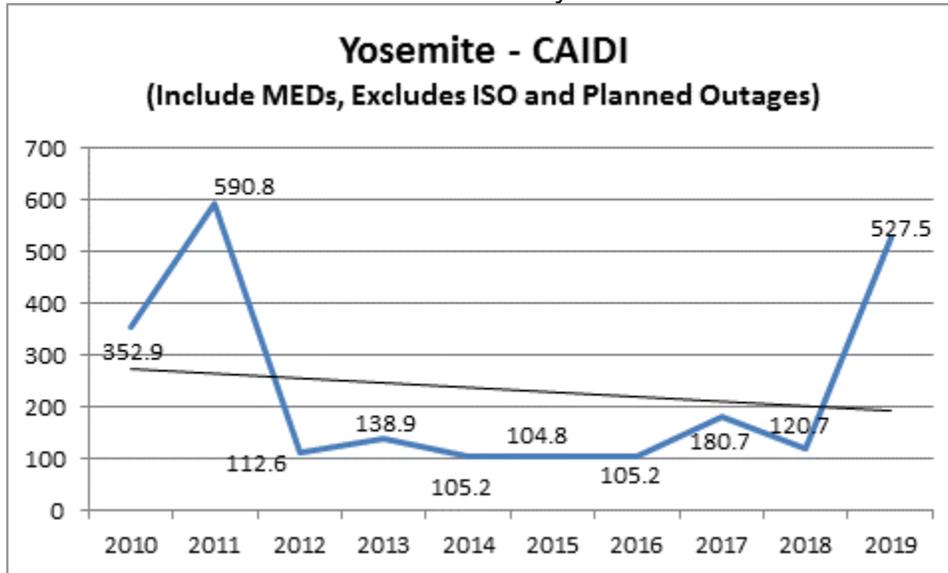


Chart 86: Division Reliability - CAIDI Indices



ii. Charts for Division Reliability Indices for the past 10 years with linear trend line excluding ISO, planned outages and MED

1. AIDI Performance Results (MED Excluded)

Chart 87: Division Reliability - AIDI Indices

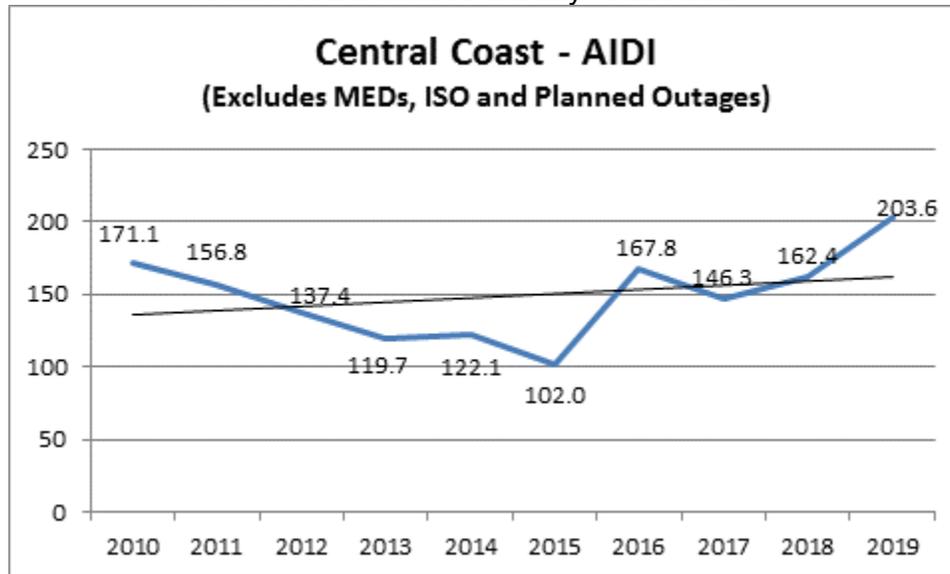


Chart 88: Division Reliability - AIDI Indices

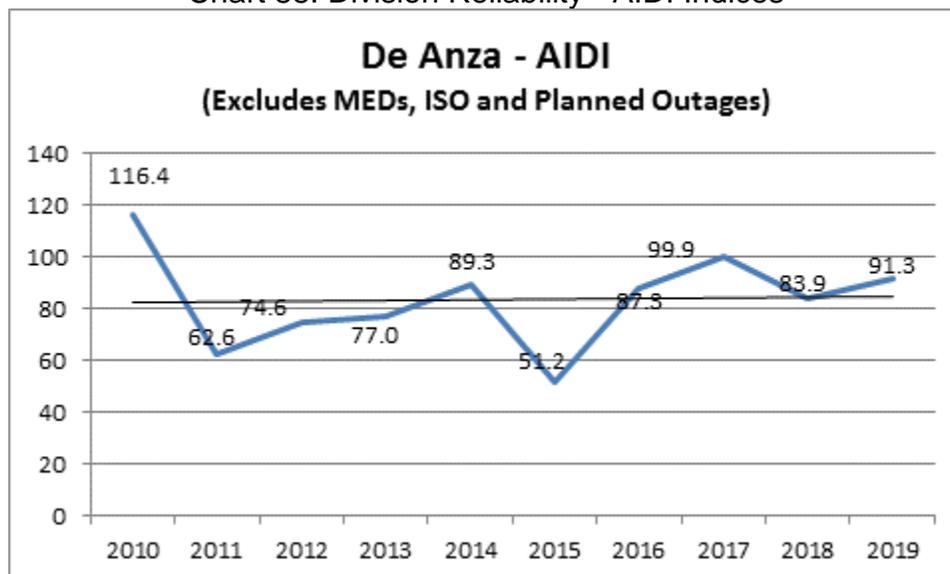


Chart 89: Division Reliability - AIDI Indices

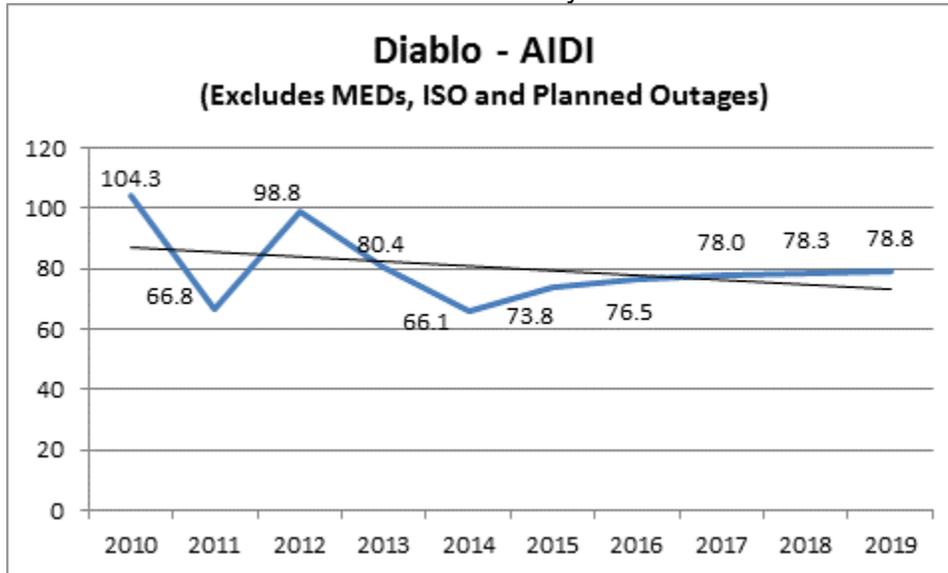


Chart 90: Division Reliability - AIDI Indices

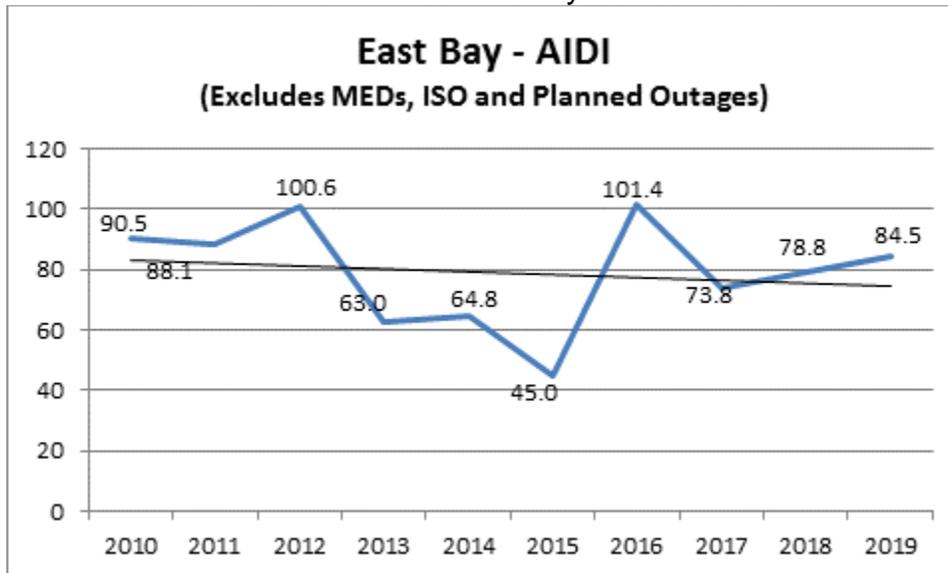


Chart 91: Division Reliability - AIDI Indices

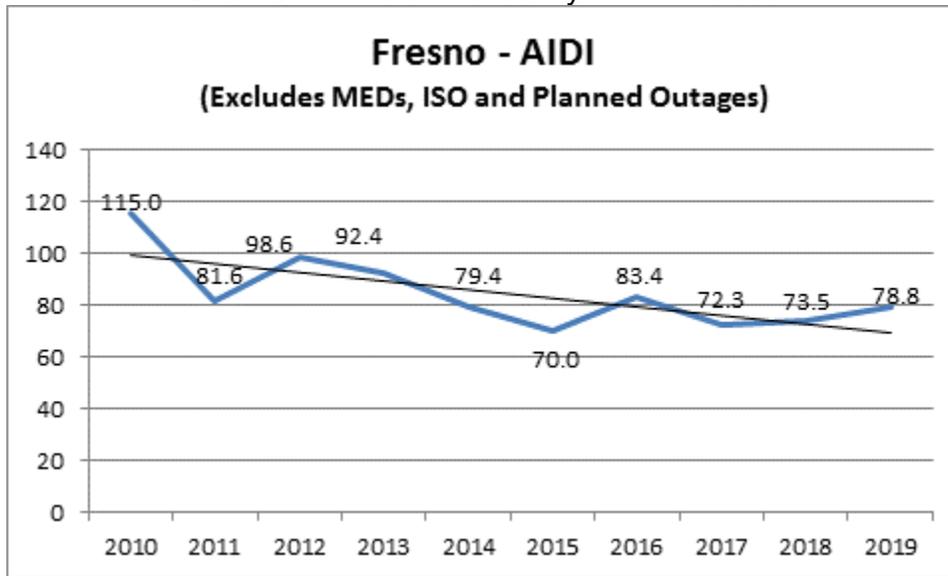


Chart 92: Division Reliability - AIDI Indices

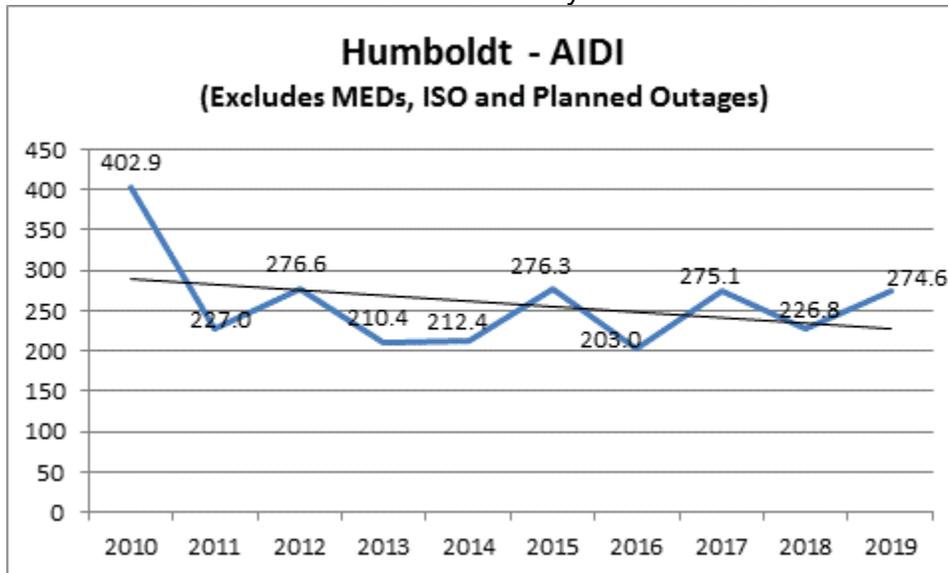


Chart 93: Division Reliability - AIDI Indices

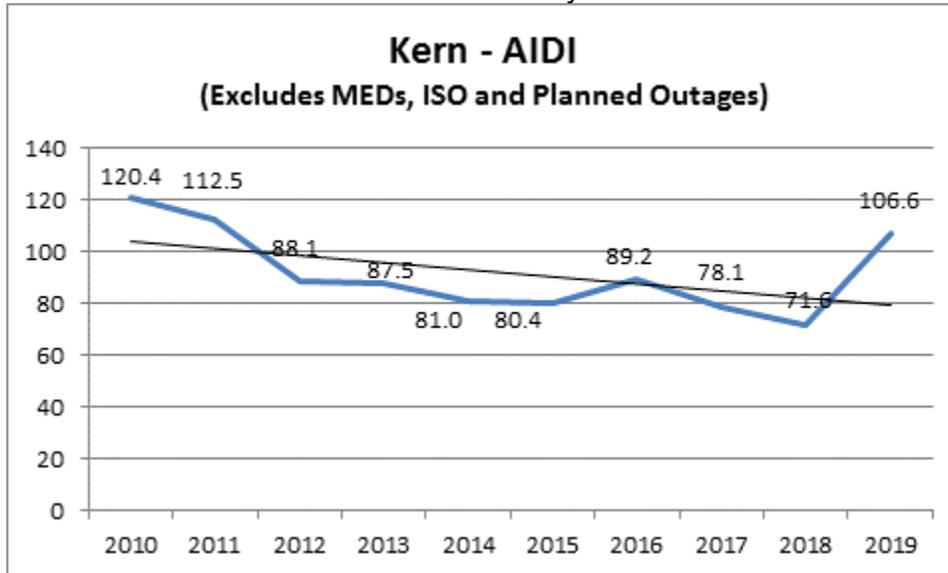


Chart 94: Division Reliability - AIDI Indices

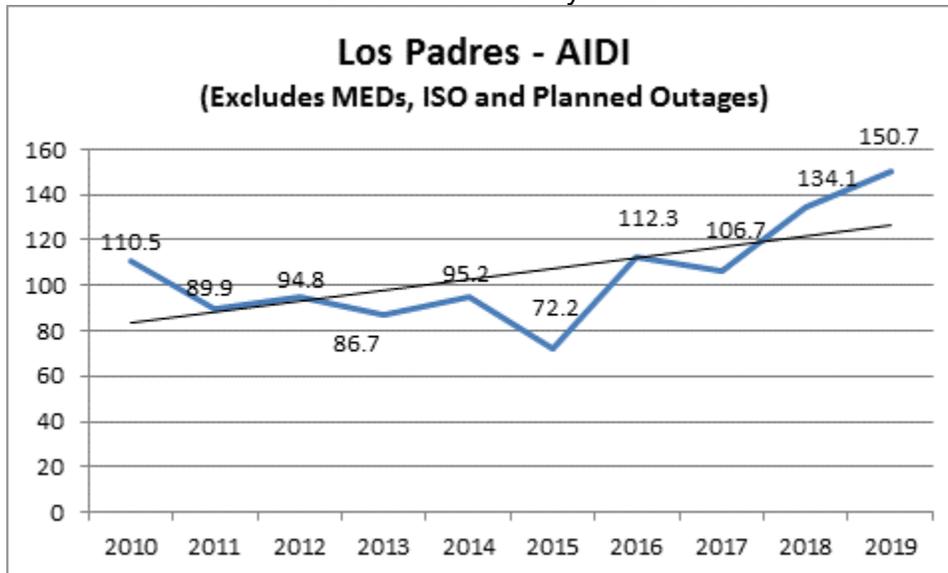


Chart 95: Division Reliability - AIDI Indices

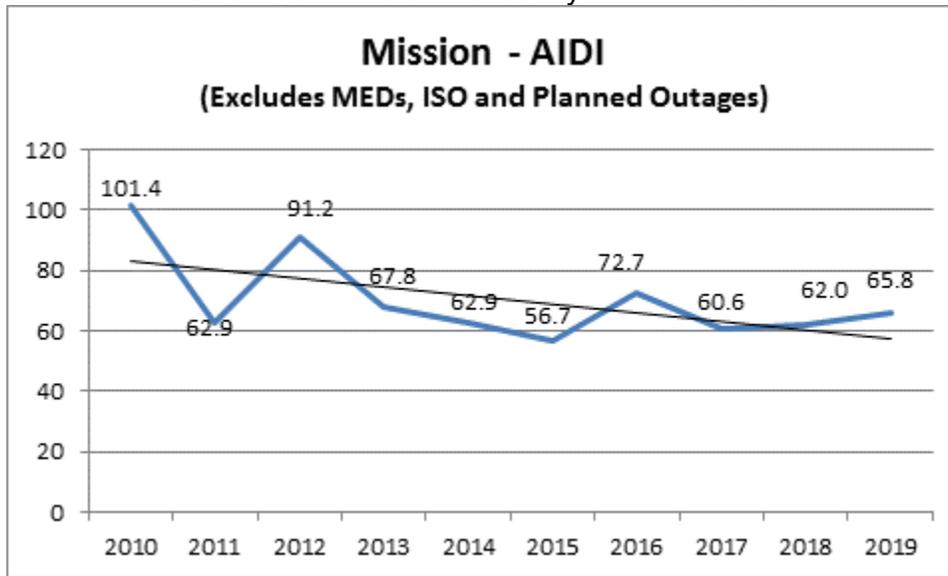


Chart 96: Division Reliability - AIDI Indices

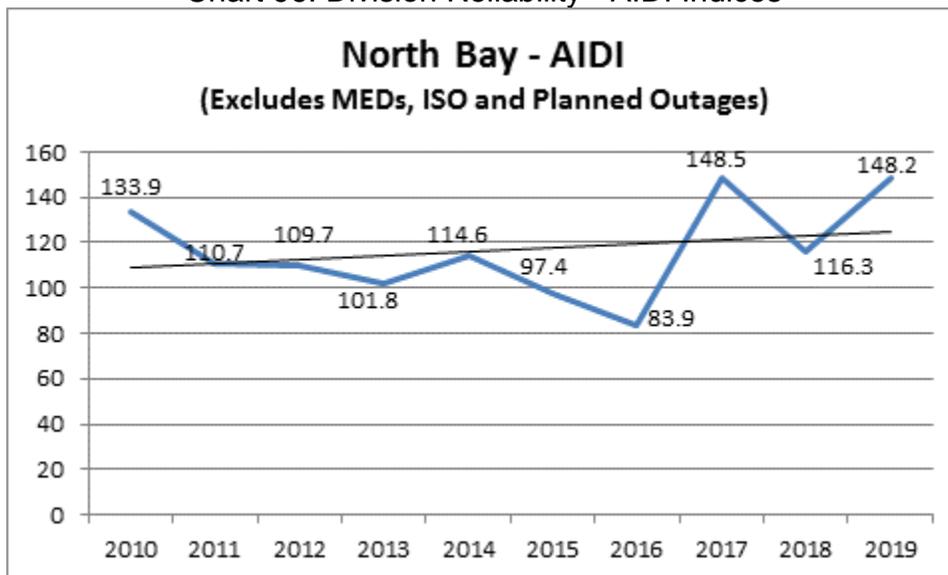


Chart 97: Division Reliability - AIDI Indices

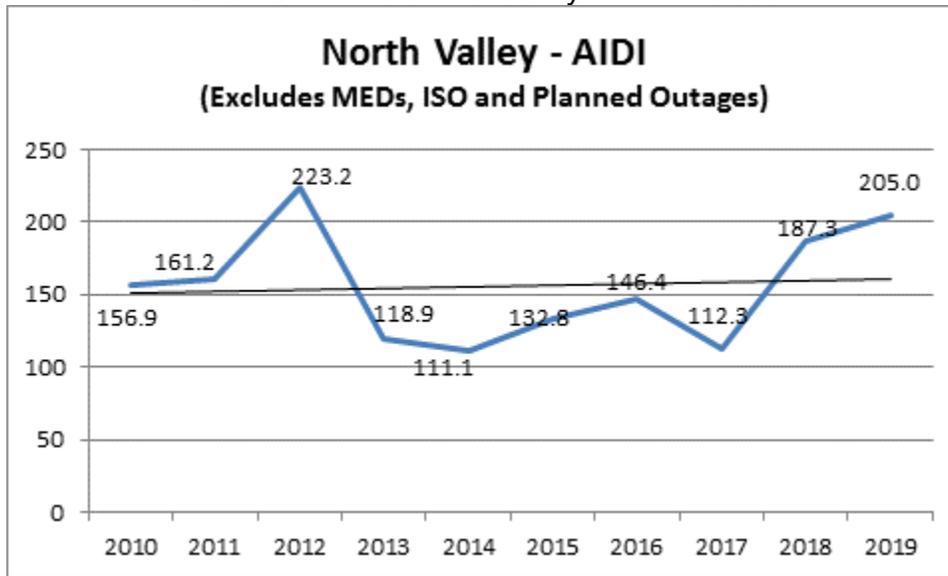


Chart 98: Division Reliability - AIDI Indices

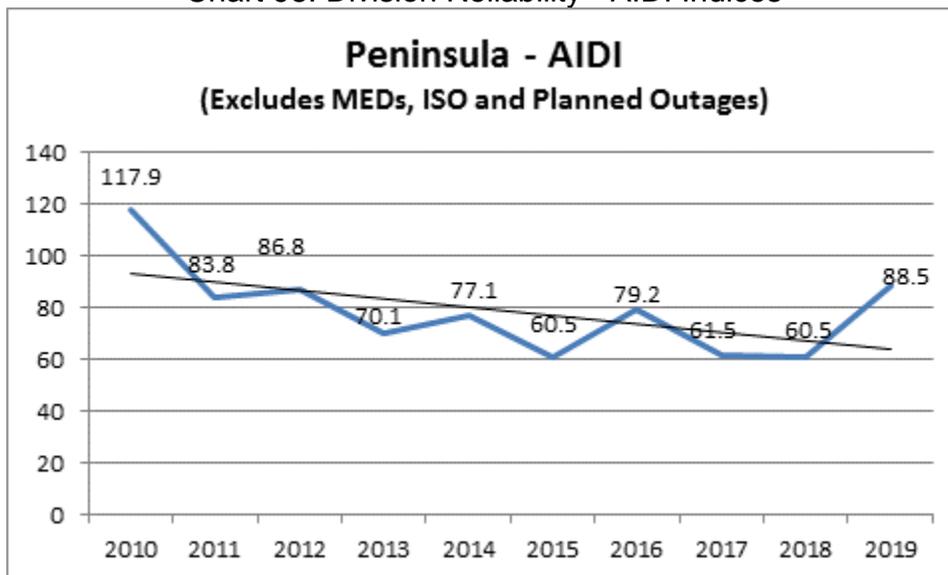


Chart 99: Division Reliability - AIDI Indices

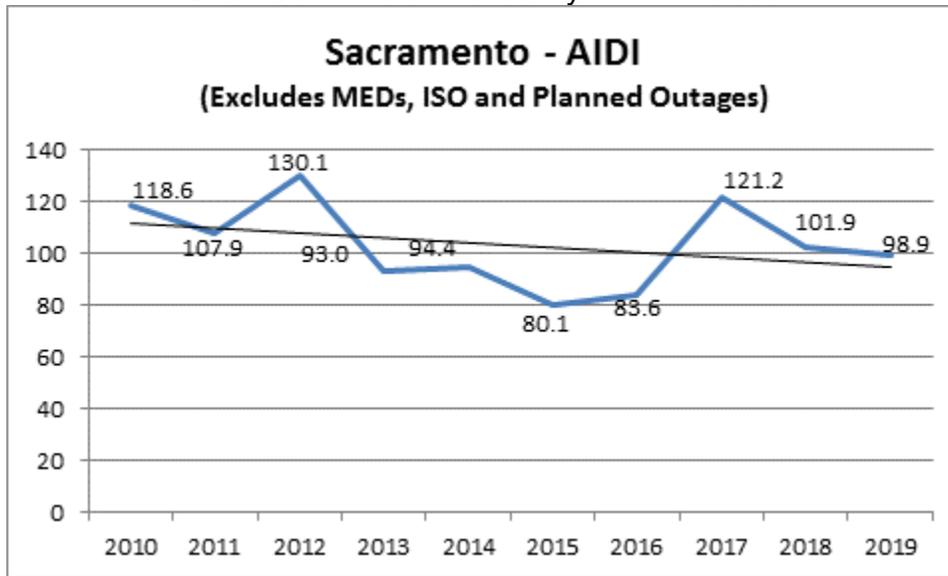


Chart 100: Division Reliability - AIDI Indices

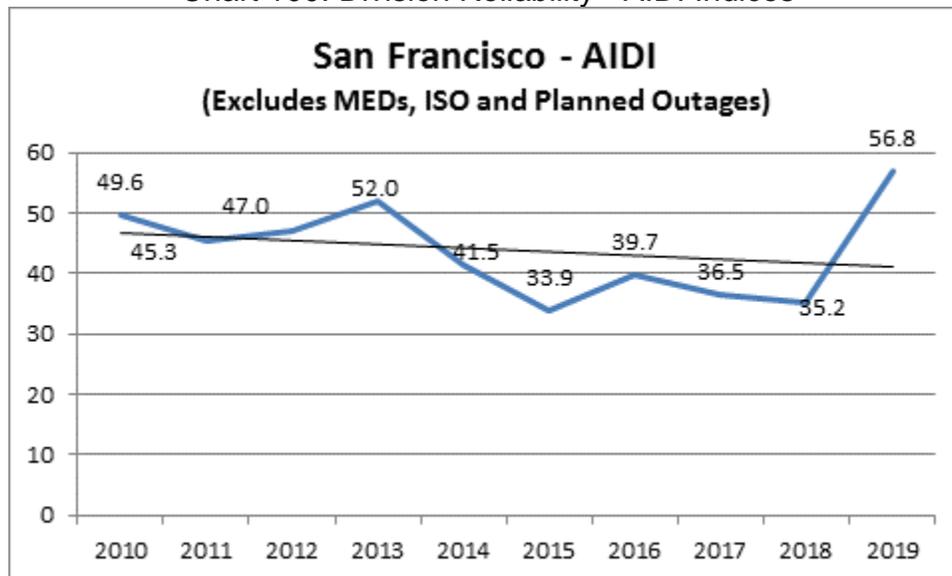


Chart 101: Division Reliability - AIDI Indices

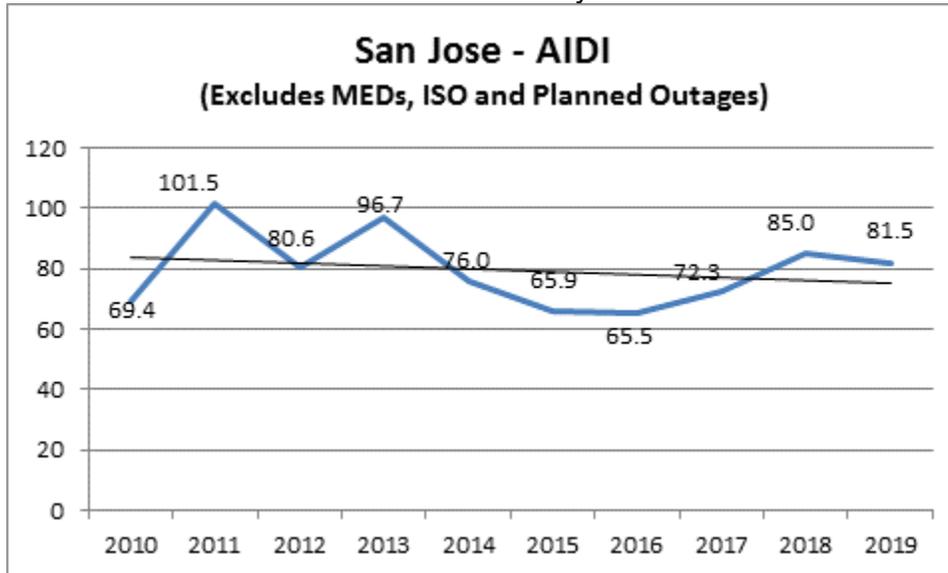


Chart 102: Division Reliability - AIDI Indices

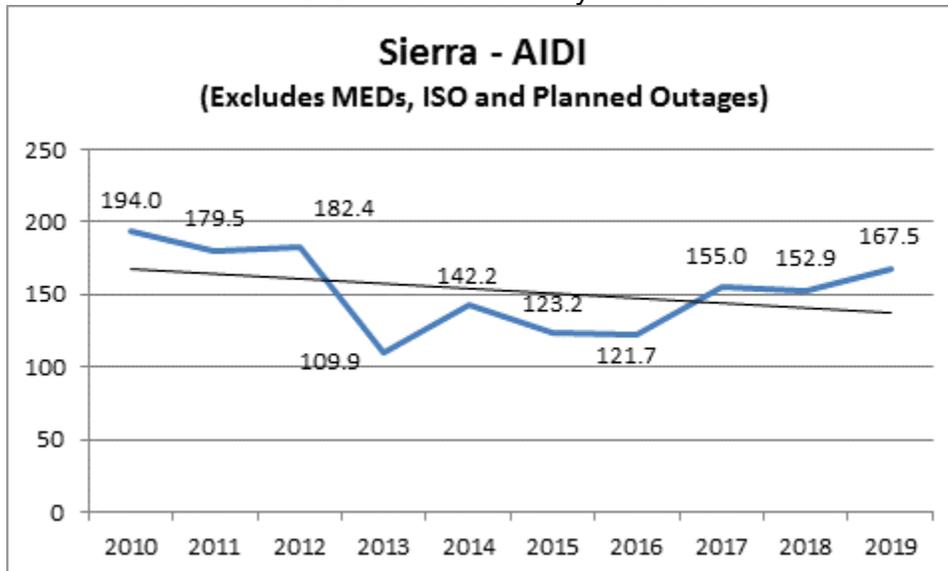


Chart 103: Division Reliability - AIDI Indices

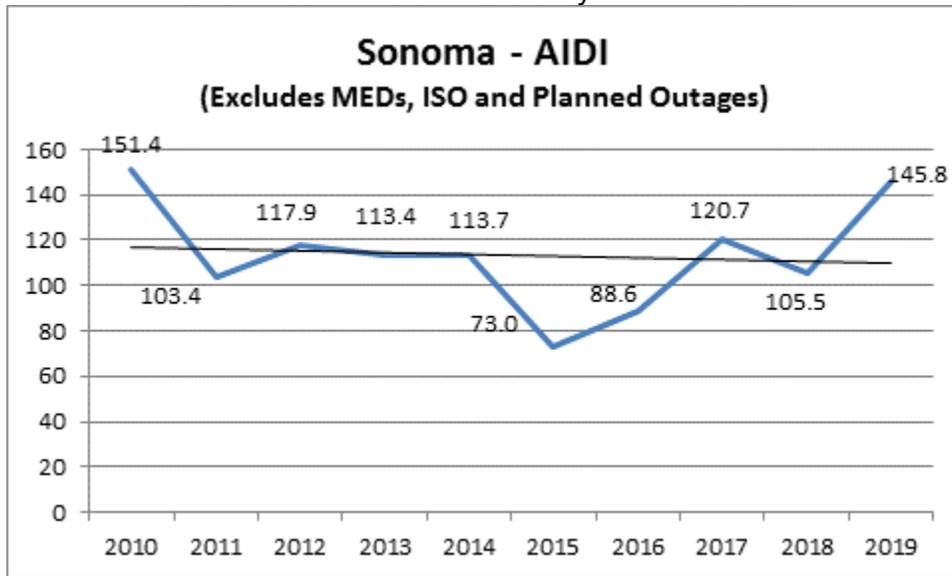


Chart 104: Division Reliability - AIDI Indices

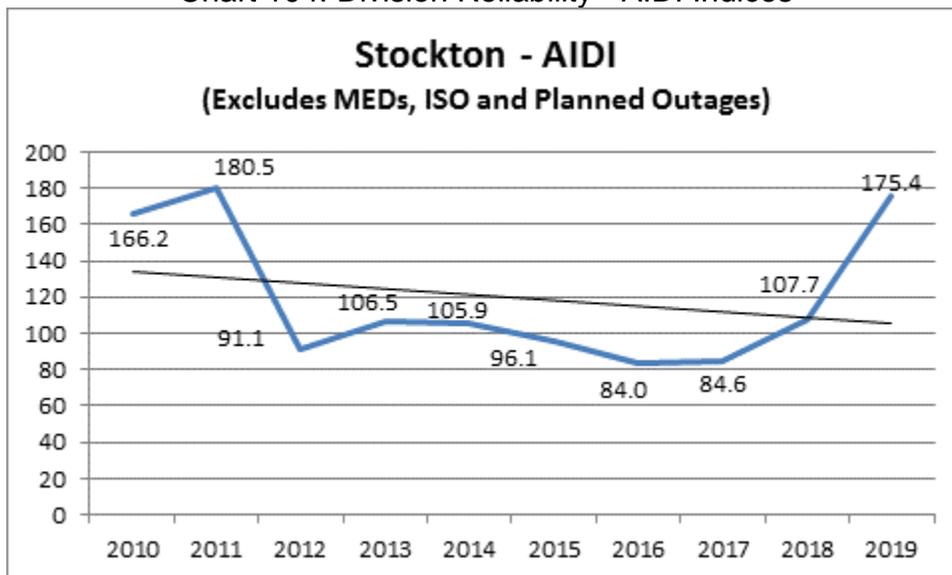
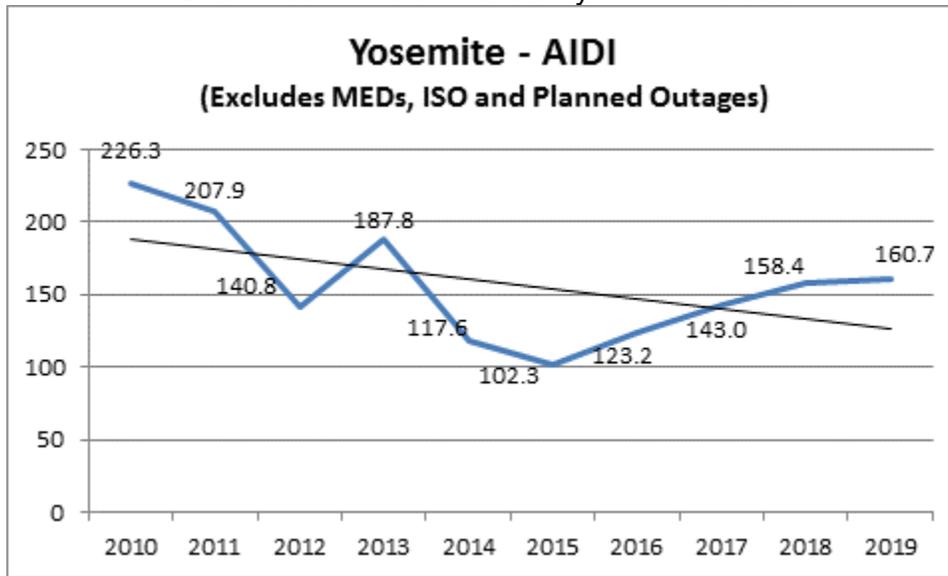


Chart 105: Division Reliability - AIDI Indices



2. AIFI Performance Results (MED Excluded)

Chart 106: Division Reliability - AIFI Indices

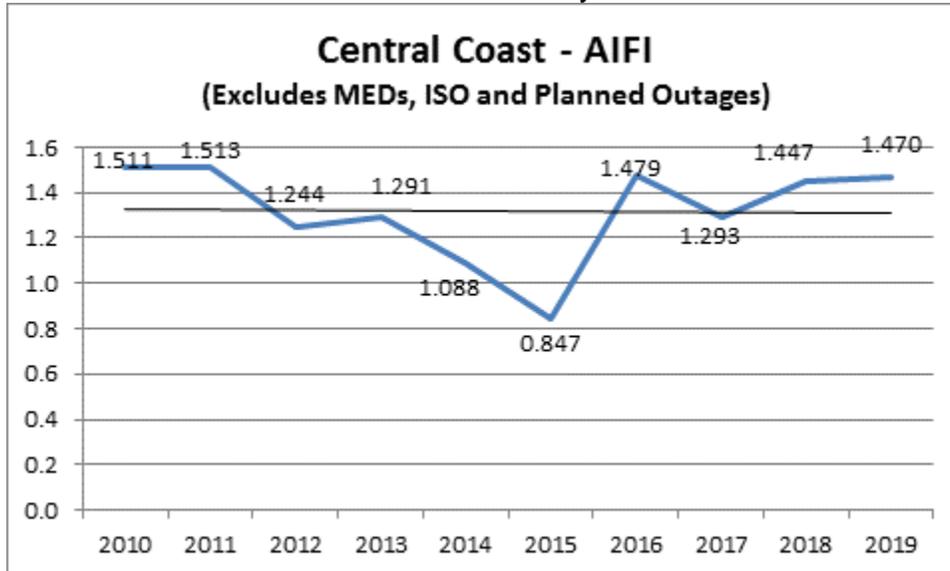


Chart 107: Division Reliability - AIFI Indices

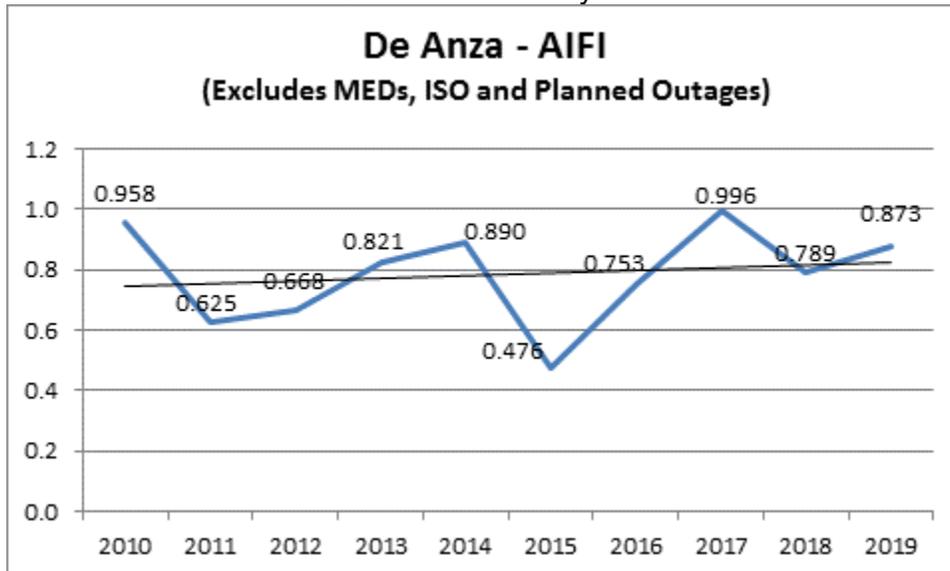


Chart 108: Division Reliability - AIFI Indices

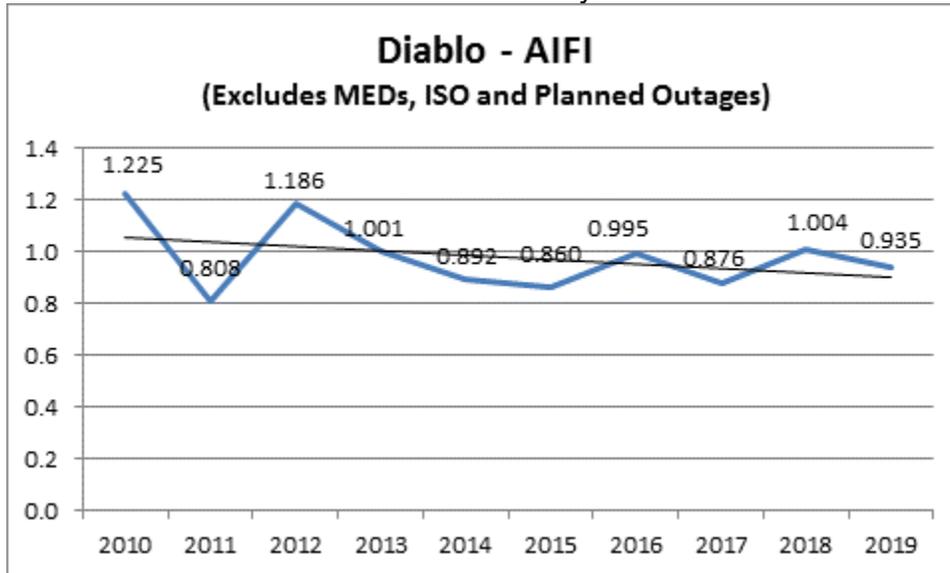


Chart 109: Division Reliability - AIFI Indices

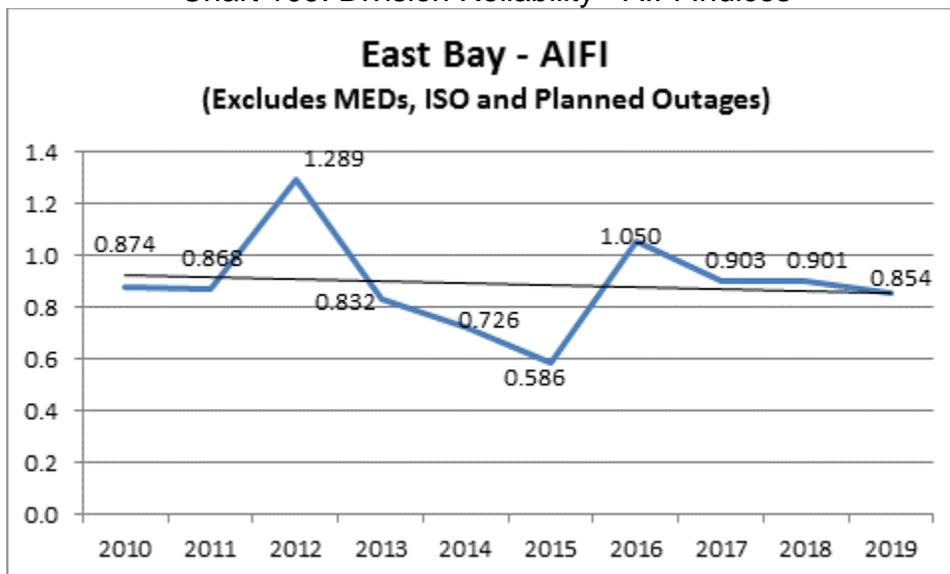


Chart 110: Division Reliability - AIFI Indices

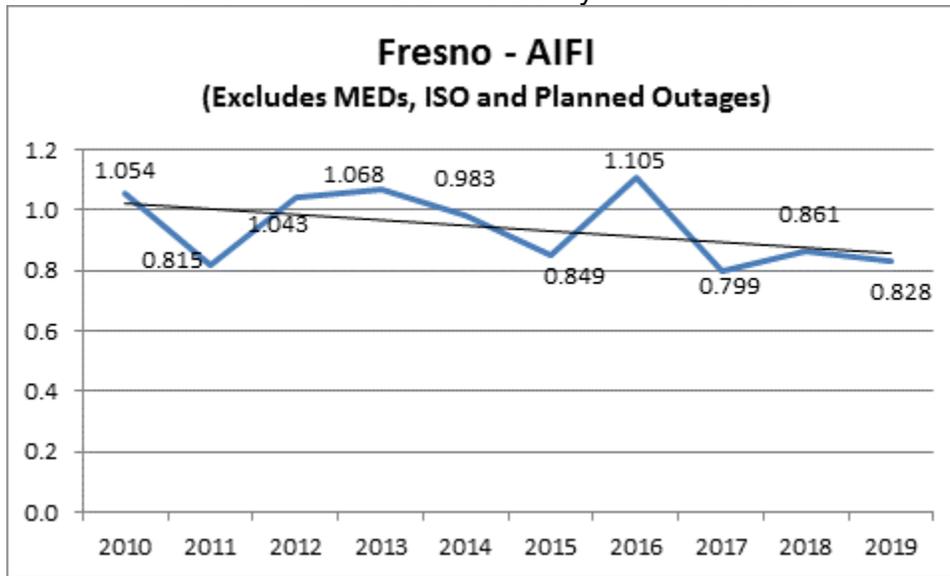


Chart 111: Division Reliability - AIFI Indices

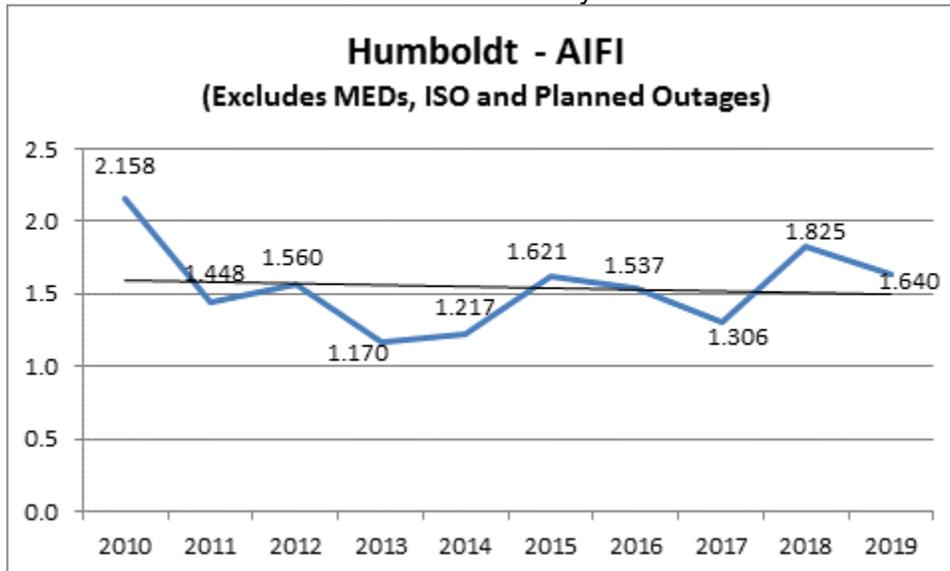


Chart 112: Division Reliability - AIFI Indices

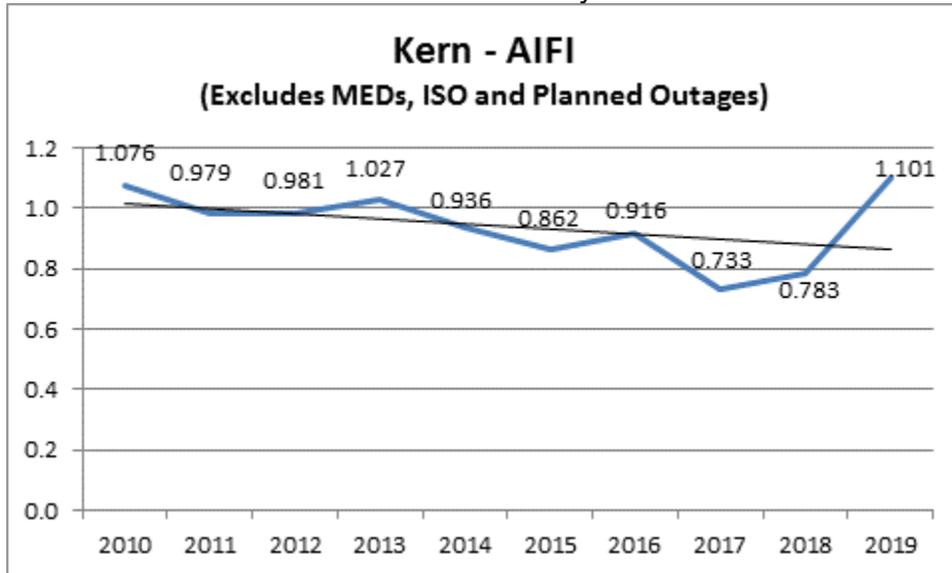


Chart 113: Division Reliability - AIFI Indices

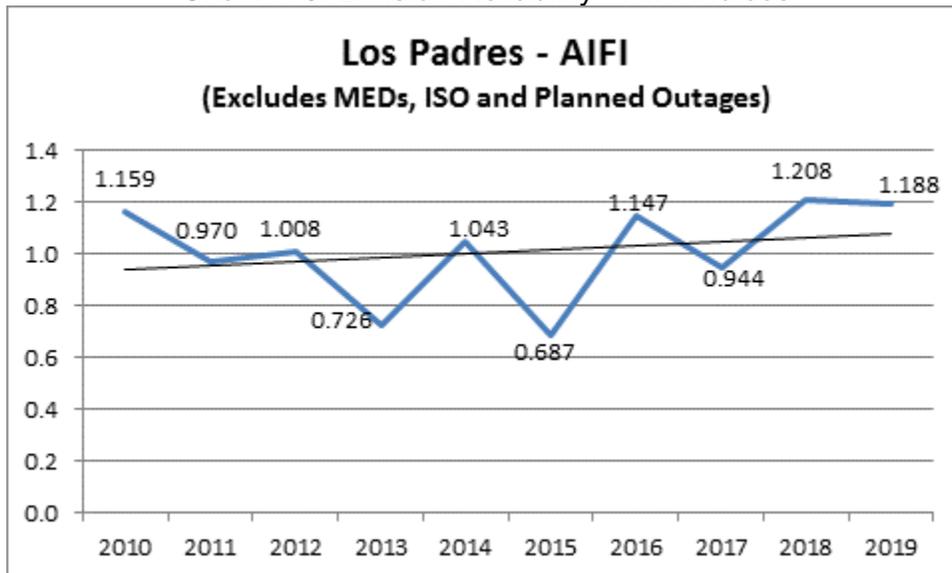


Chart 114: Division Reliability - AIFI Indices

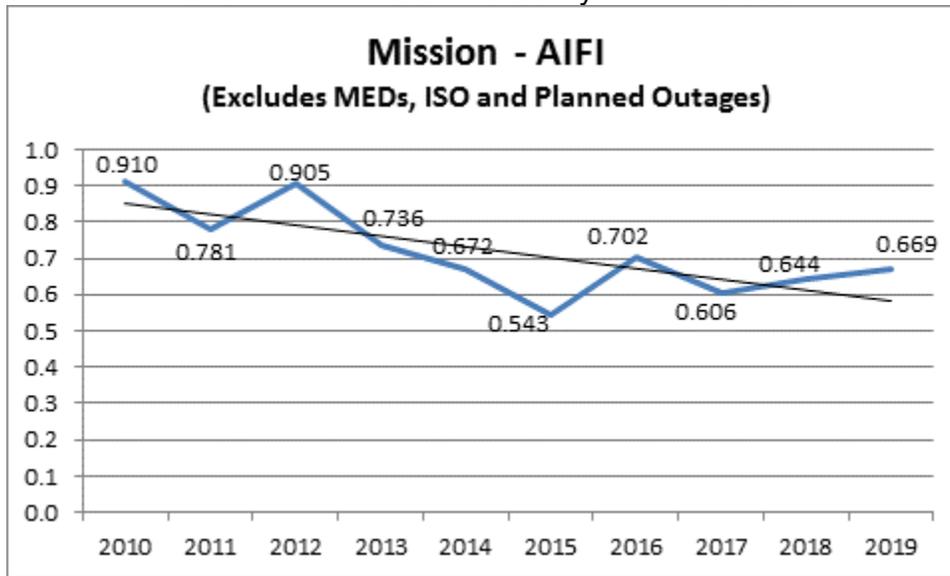


Chart 115: Division Reliability - AIFI Indices

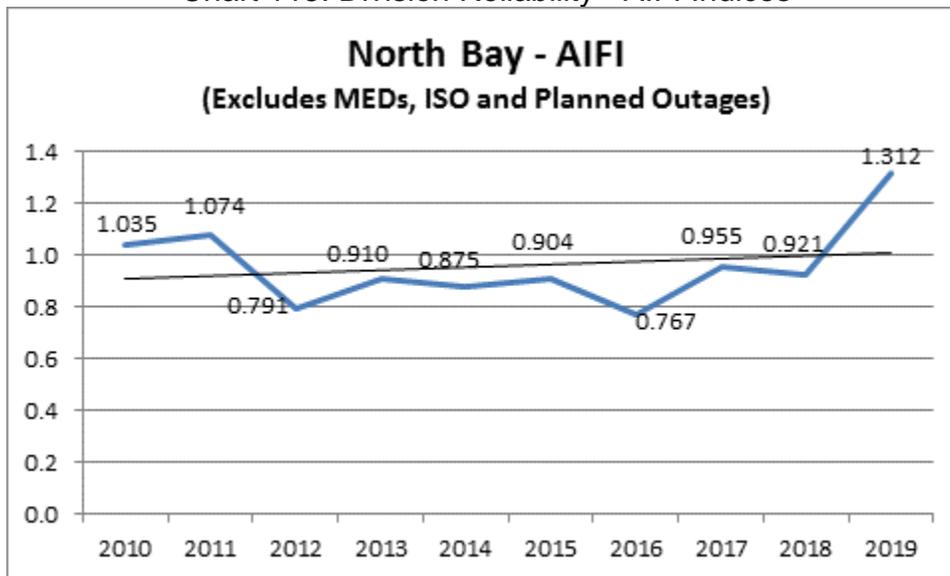


Chart 116: Division Reliability - AIFI Indices

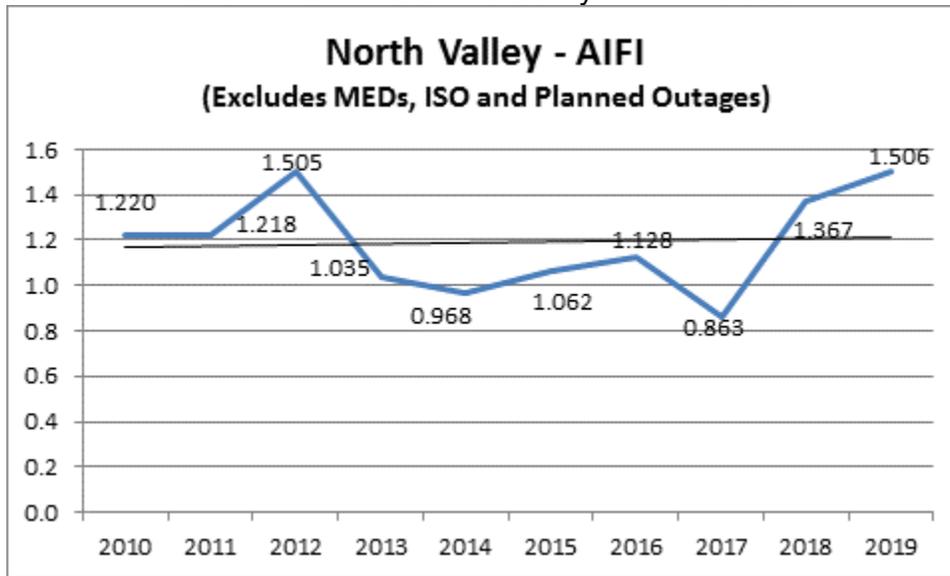


Chart 117: Division Reliability - AIFI Indices

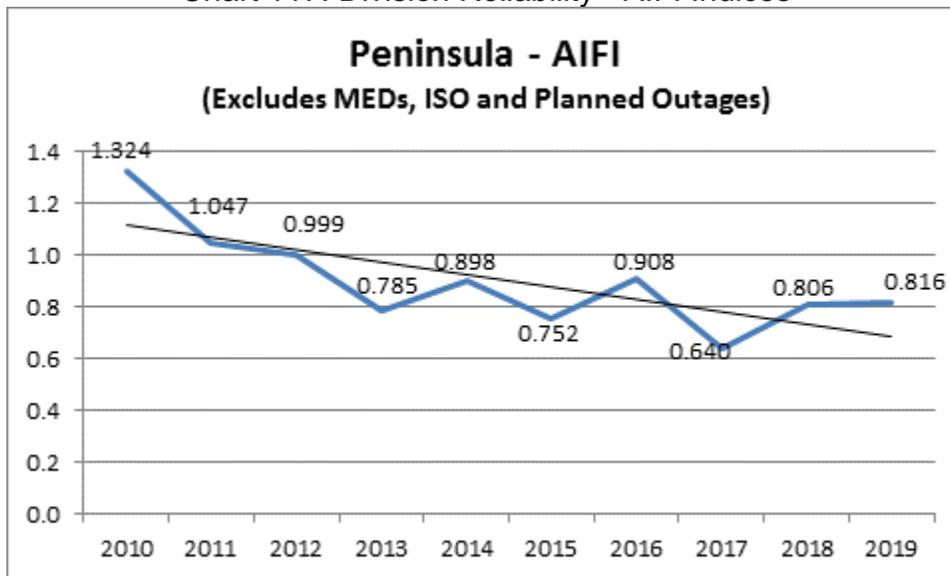


Chart 118: Division Reliability - AIFI Indices

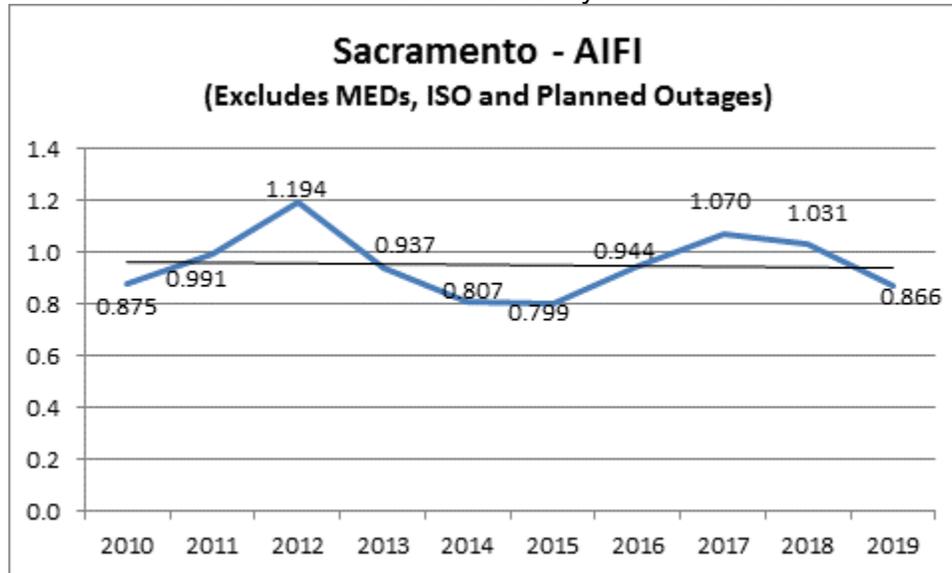


Chart 119: Division Reliability - AIFI Indices

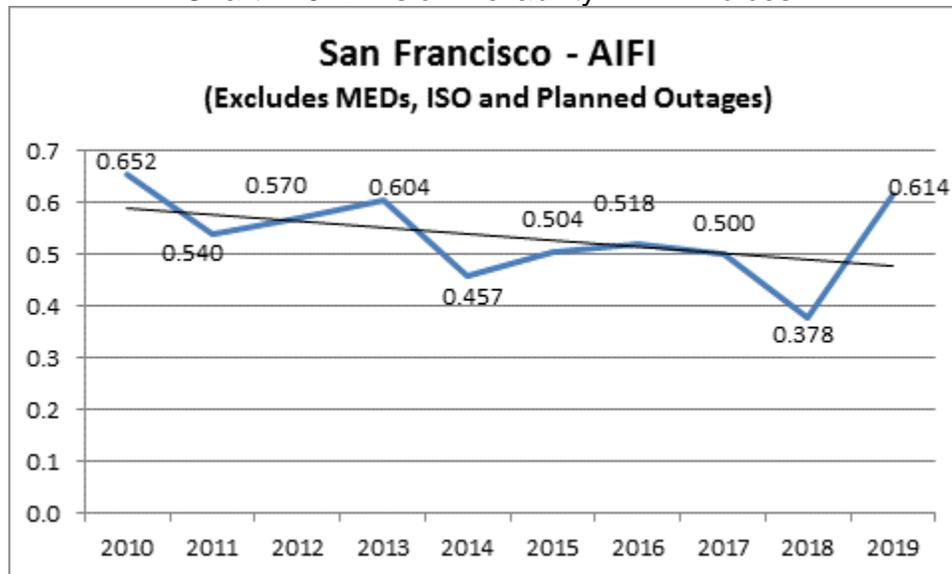


Chart 120: Division Reliability - AIFI Indices

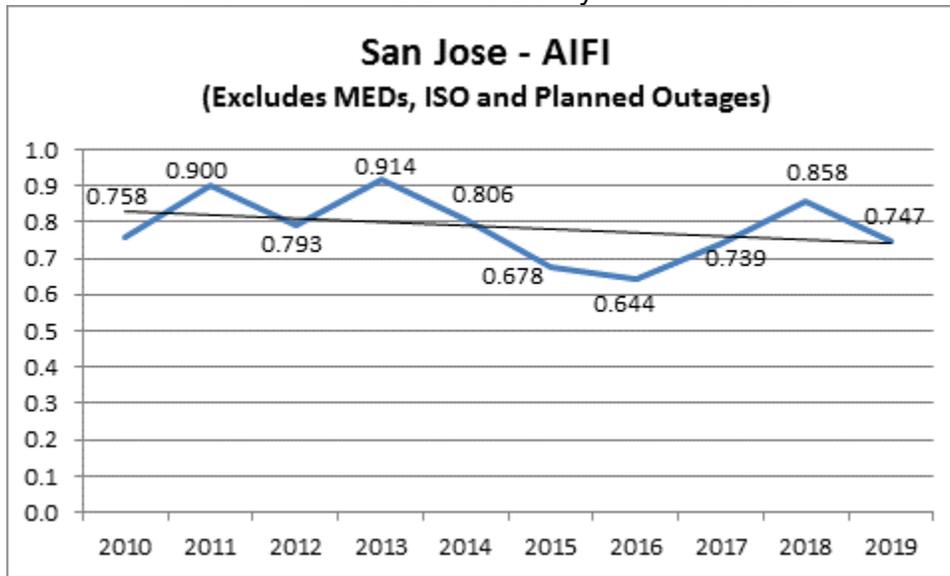


Chart 121: Division Reliability - AIFI Indices

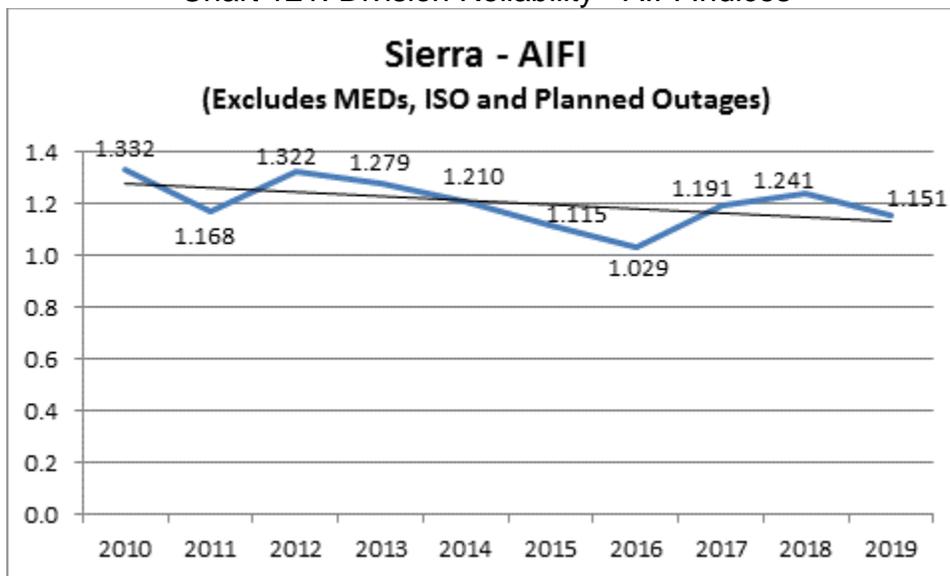


Chart 122: Division Reliability - AIFI Indices

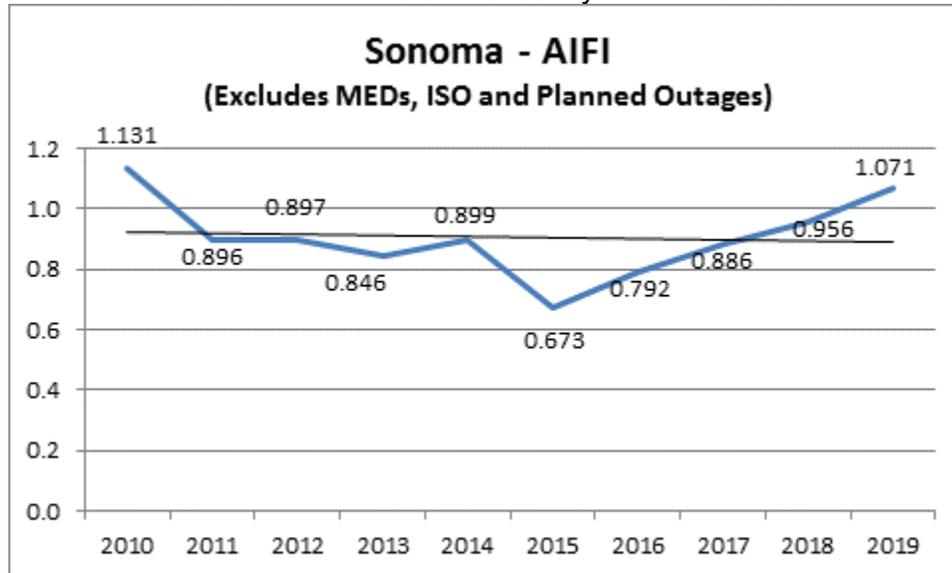


Chart 123: Division Reliability - AIFI Indices

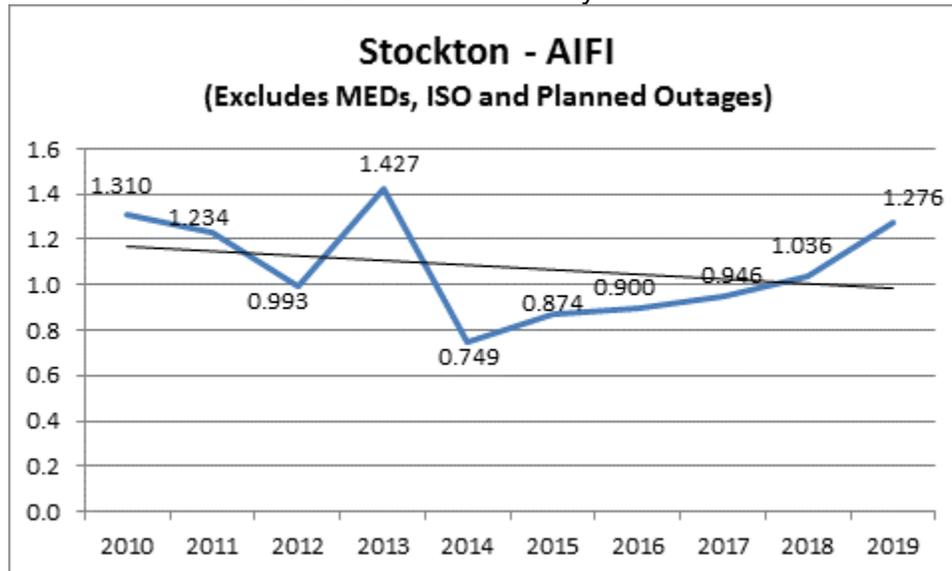
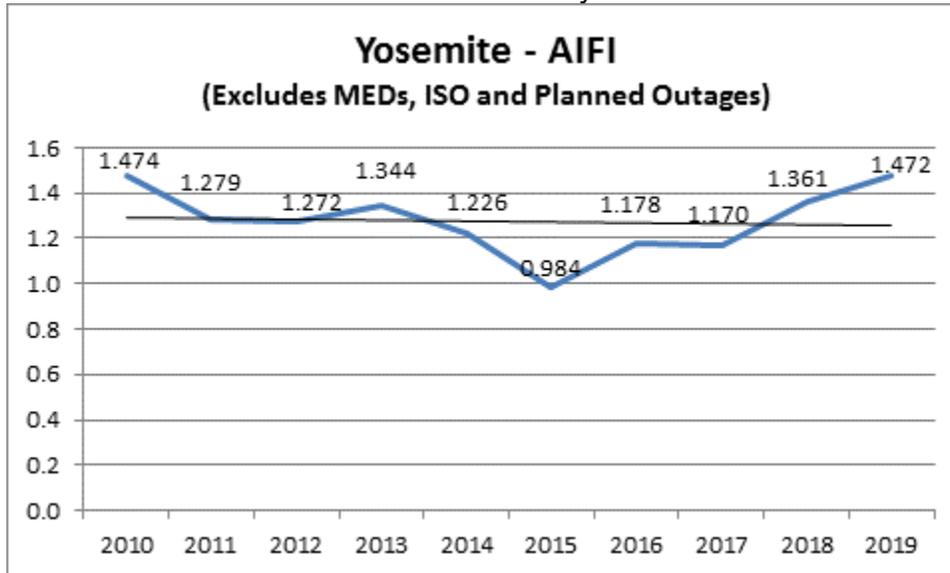


Chart 124: Division Reliability - AIFI Indices



3. MAIFI Performance Results (MED Excluded)

Chart 125: Division Reliability - MAIFI Indices

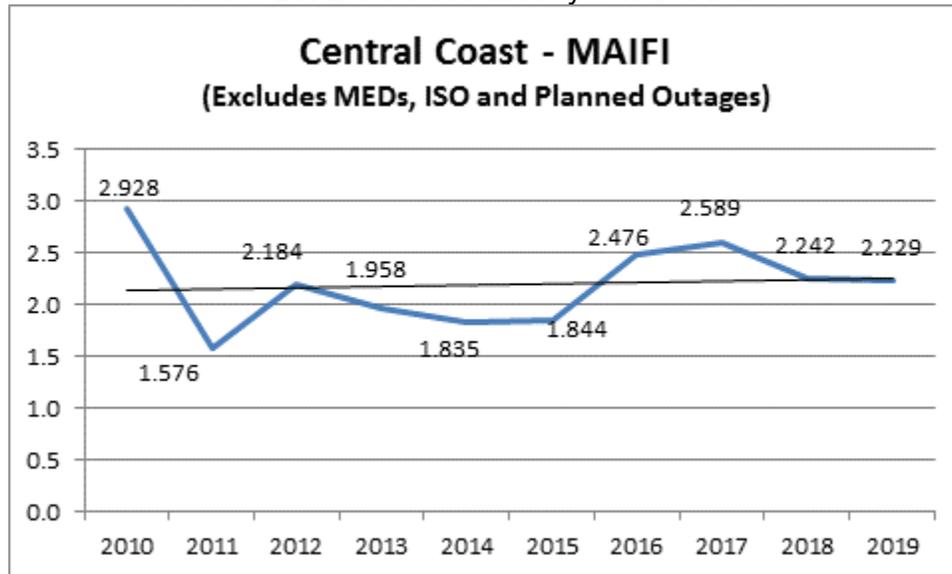


Chart 126: Division Reliability - MAIFI Indices

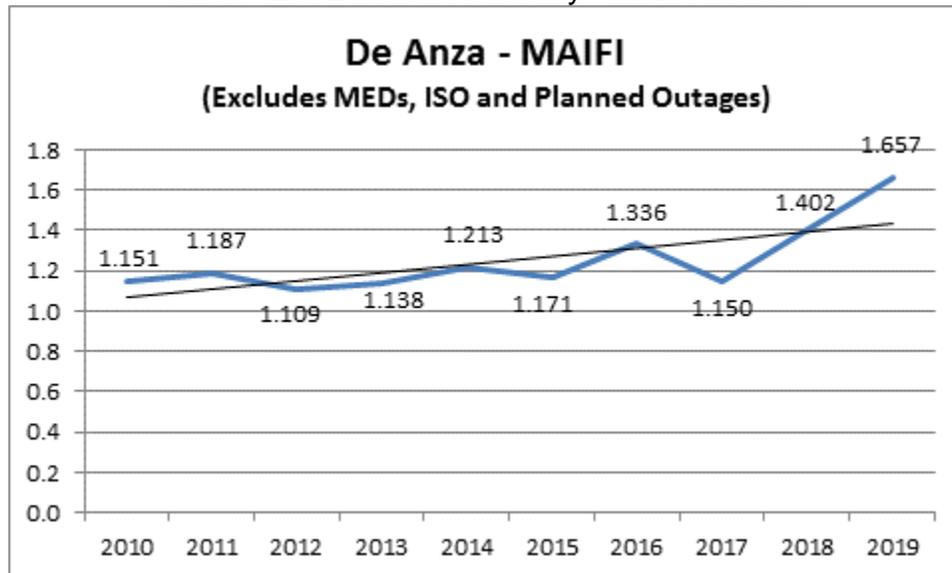


Chart 127: Division Reliability - MAIFI Indices

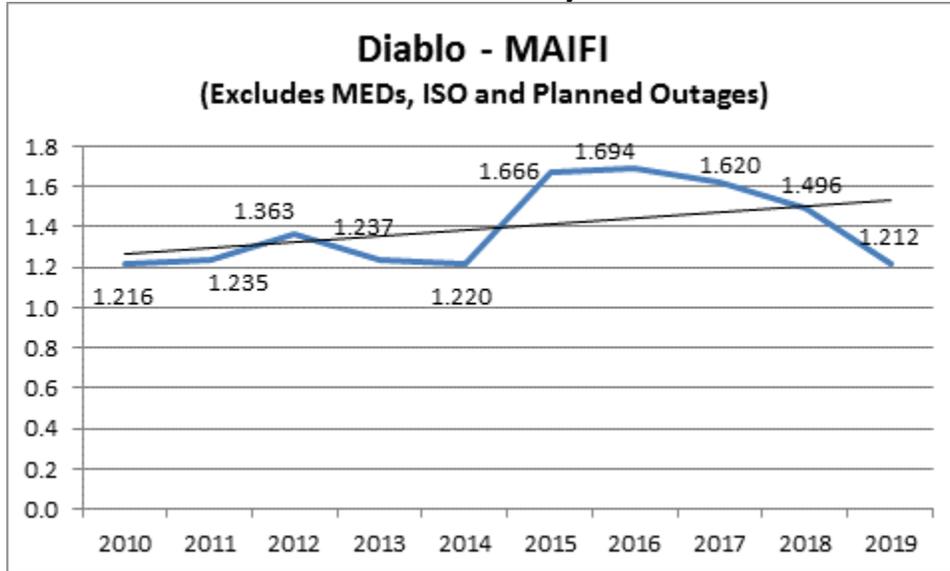


Chart 128: Division Reliability - MAIFI Indices

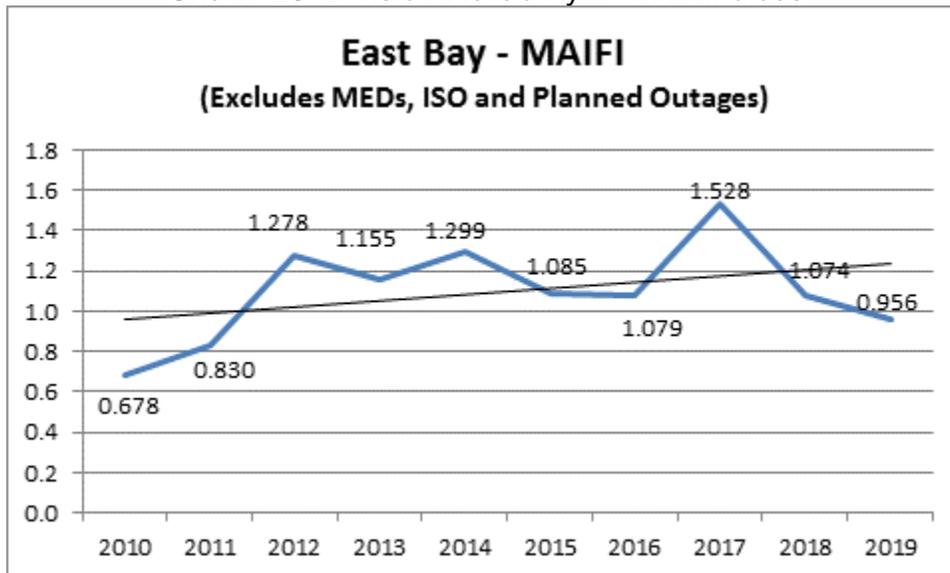


Chart 129: Division Reliability - MAIFI Indices

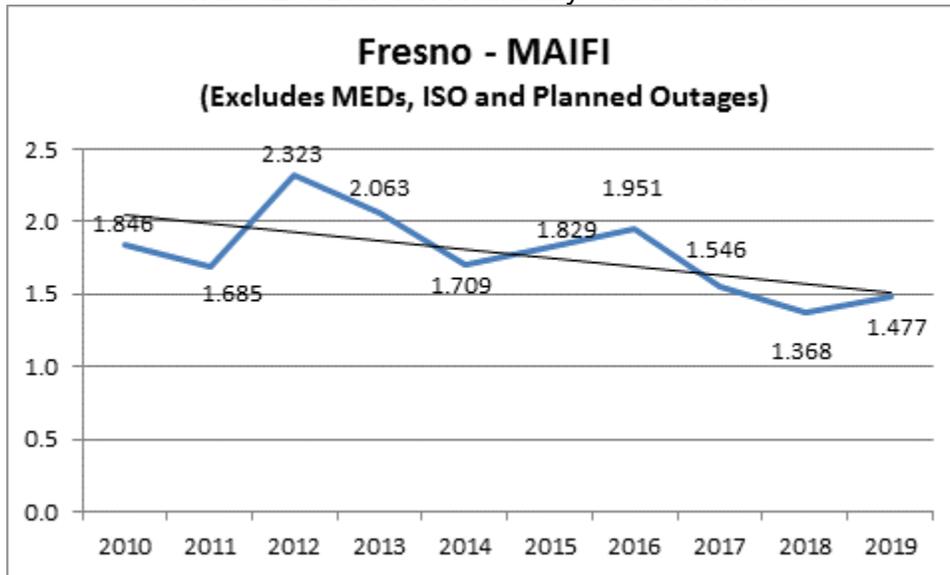


Chart 130: Division Reliability - MAIFI Indices

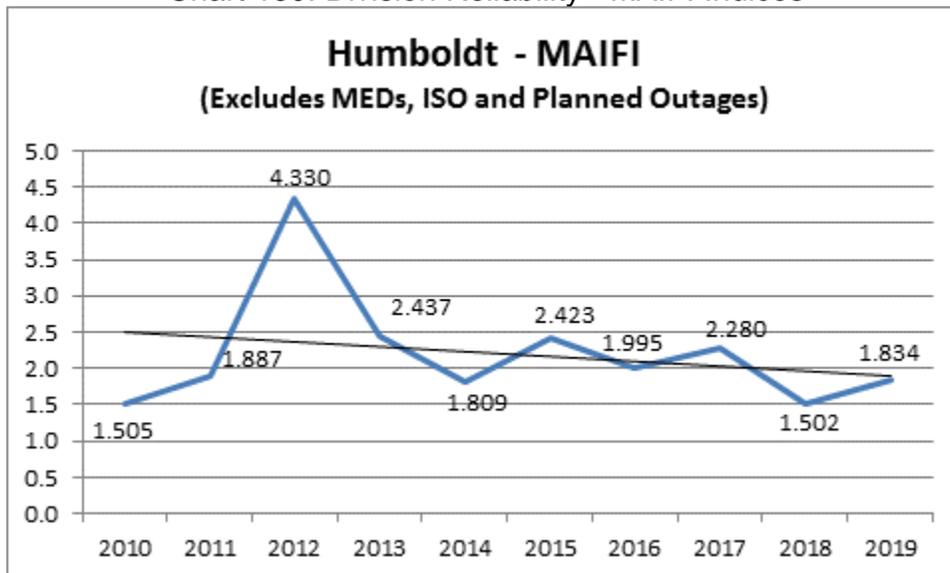


Chart 131: Division Reliability - MAIFI Indices

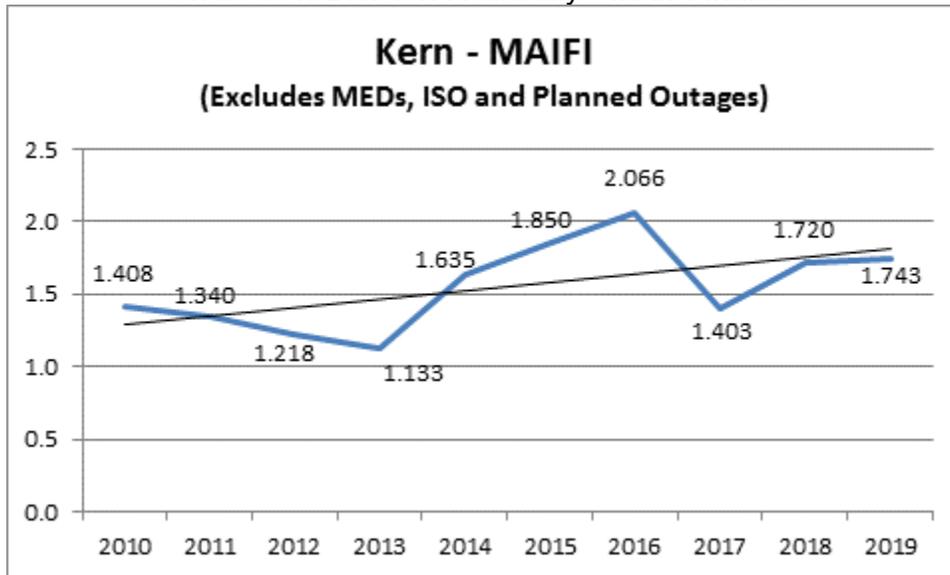


Chart 132: Division Reliability - MAIFI Indices

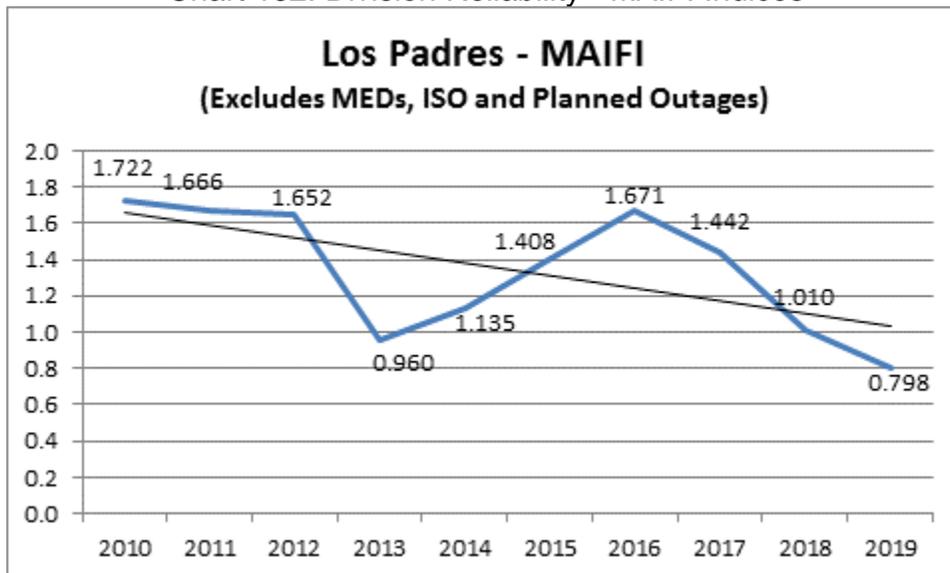


Chart 133: Division Reliability - MAIFI Indices

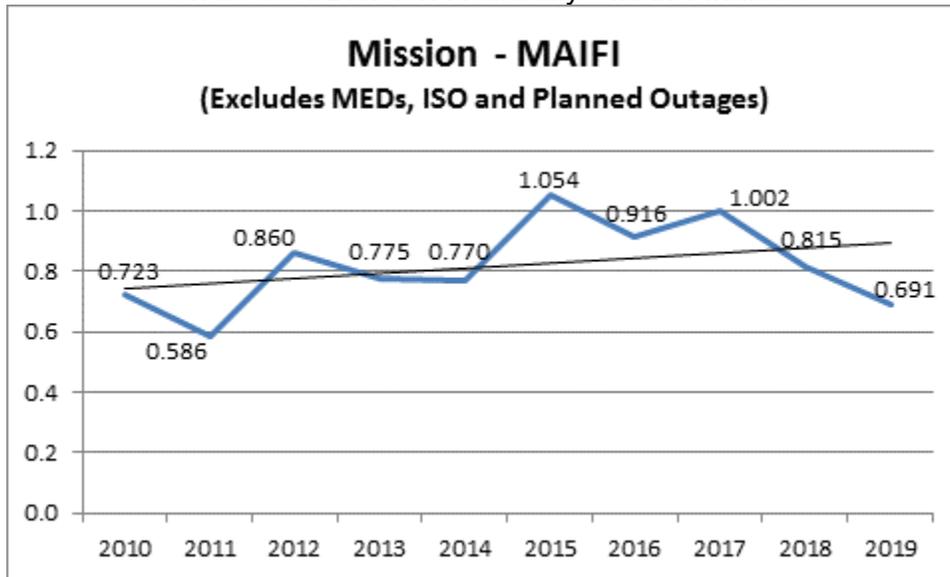


Chart 134: Division Reliability - MAIFI Indices

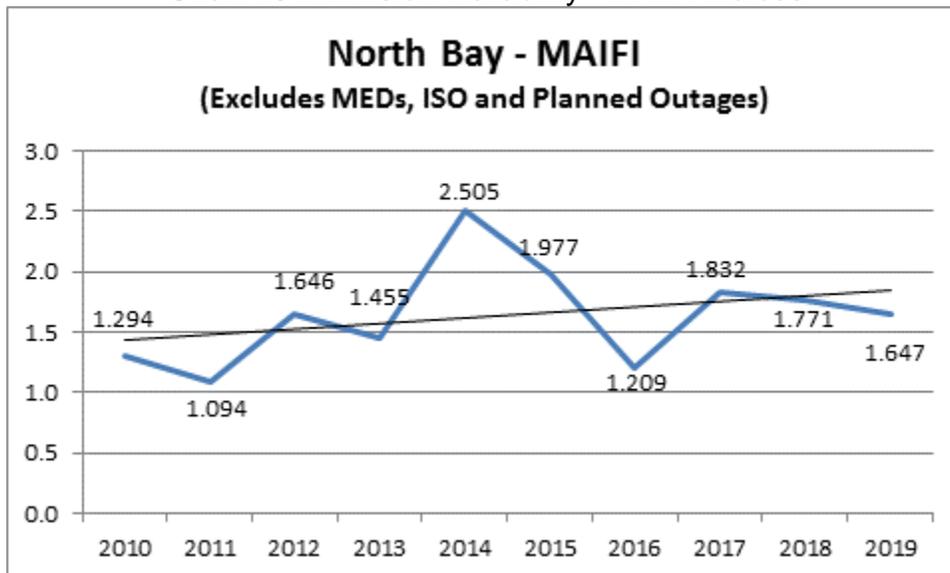


Chart 135: Division Reliability - MAIFI Indices

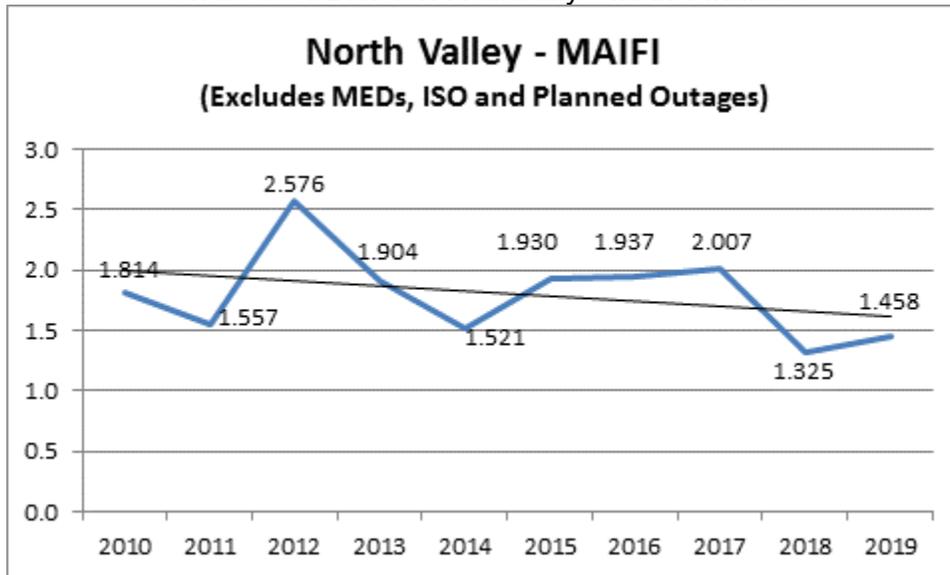


Chart 136: Division Reliability - MAIFI Indices

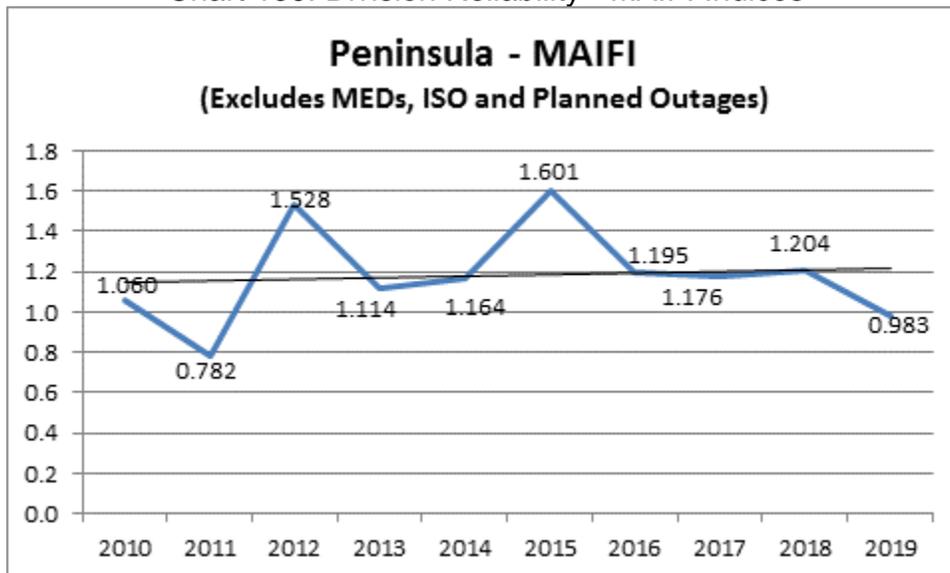


Chart 137: Division Reliability - MAIFI Indices

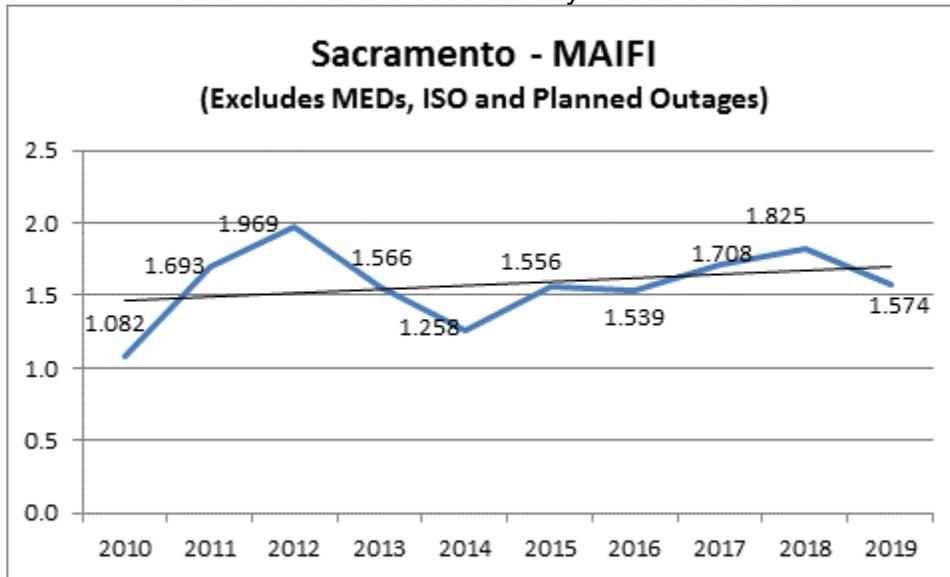


Chart 138: Division Reliability - MAIFI Indices

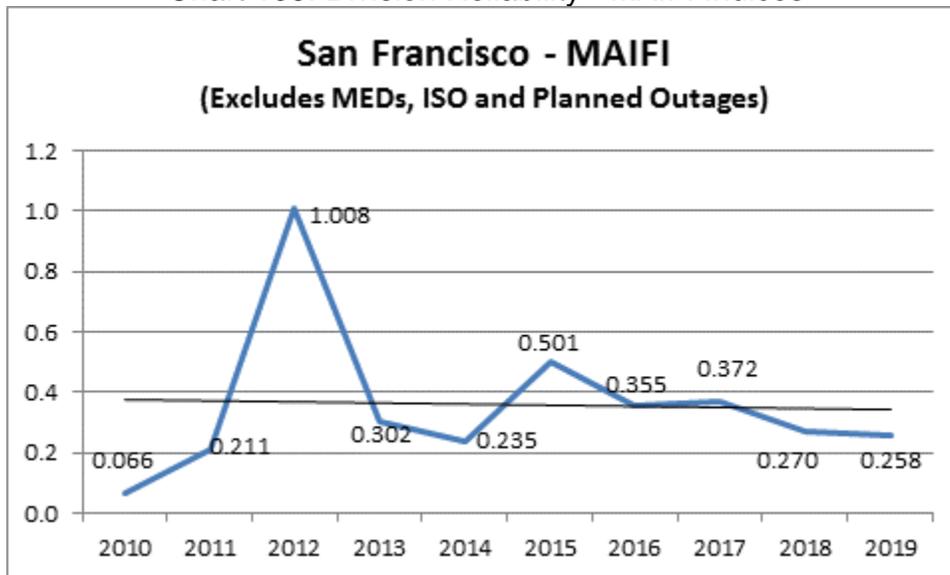


Chart 139: Division Reliability - MAIFI Indices

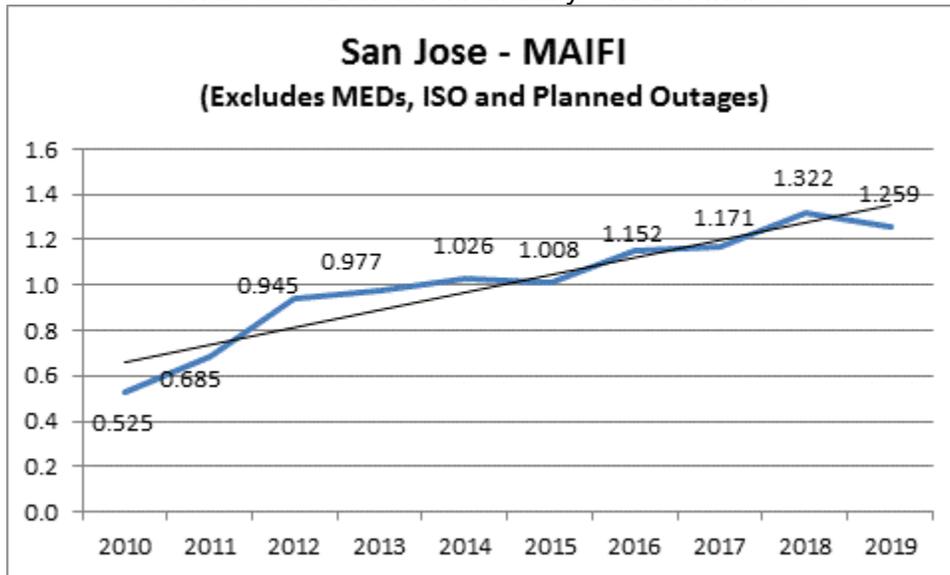


Chart 140: Division Reliability - MAIFI Indices

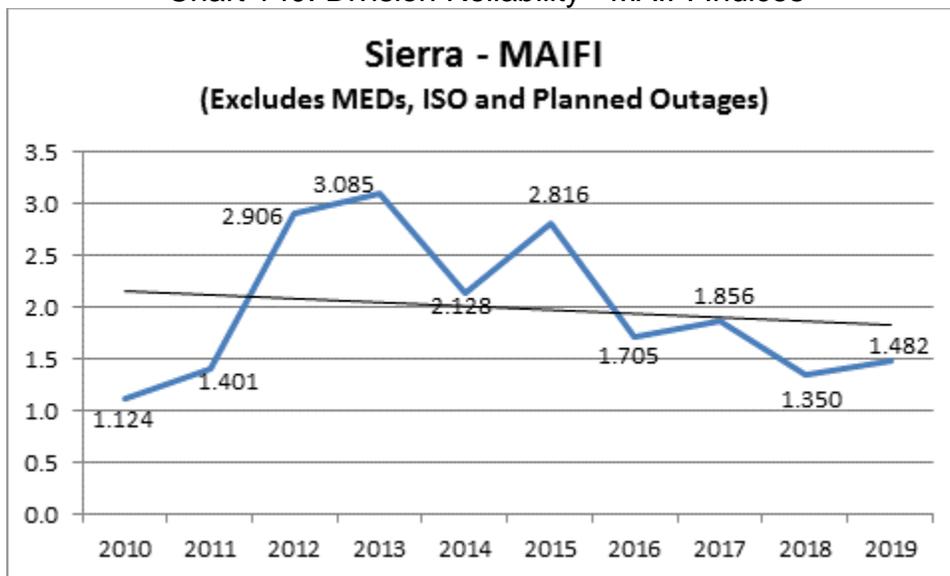


Chart 141: Division Reliability - MAIFI Indices

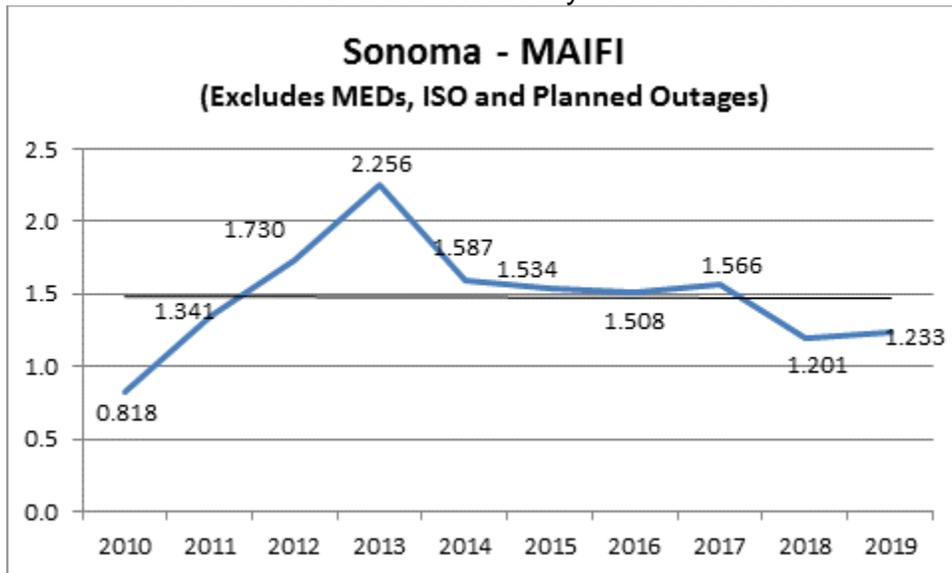


Chart 142: Division Reliability - MAIFI Indices

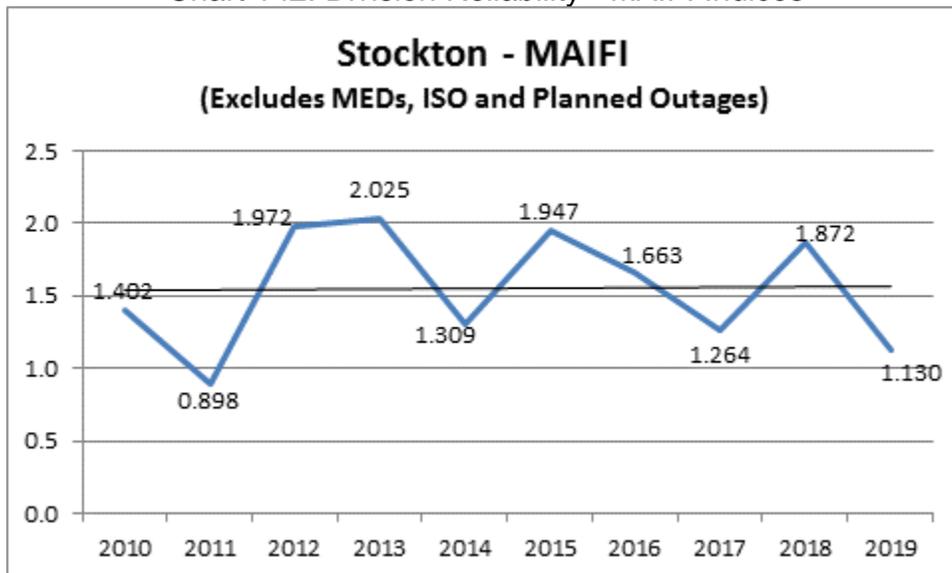
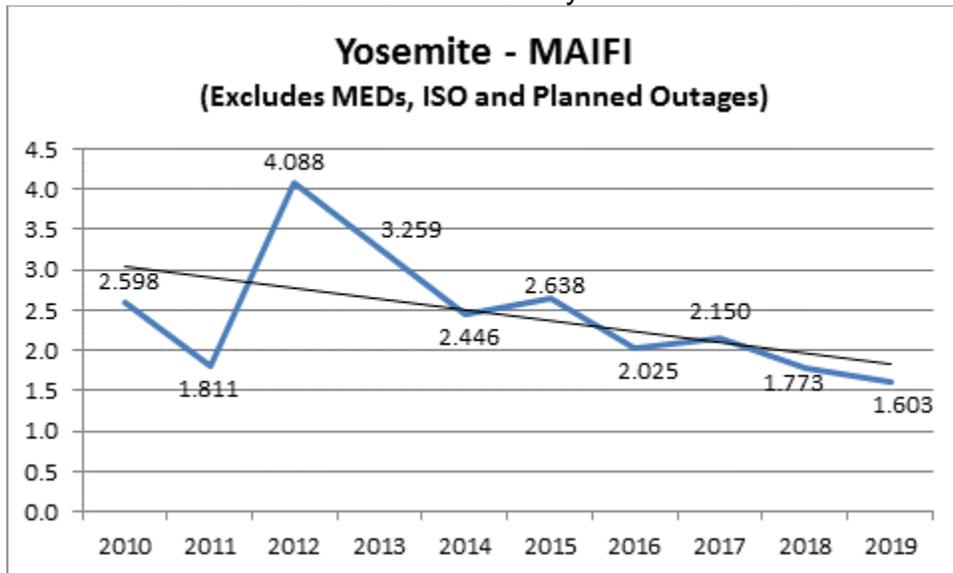


Chart 143: Division Reliability - MAIFI Indices



4. CAIDI Performance Results (MED Excluded)

Chart 144: Division Reliability - CAIDI Indices

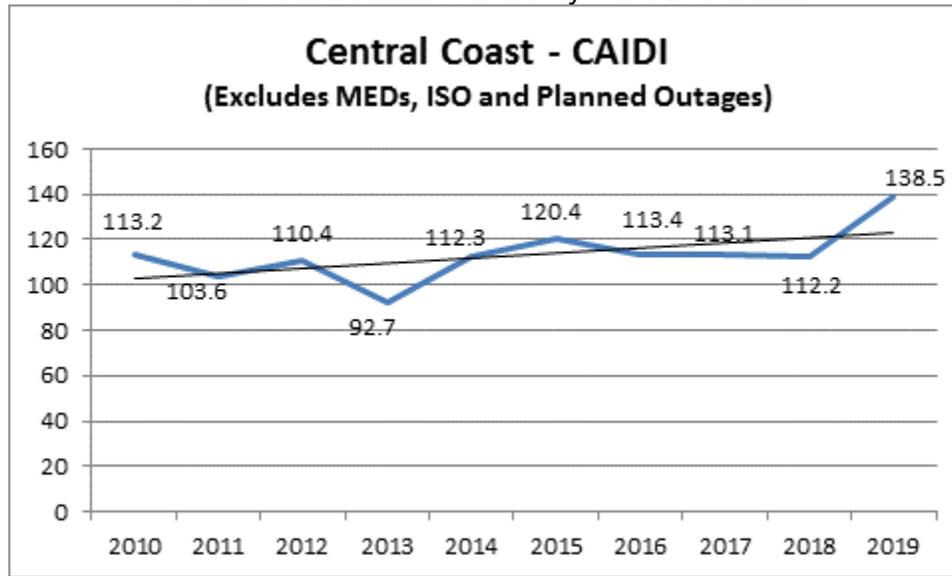


Chart 145: Division Reliability - CAIDI Indices

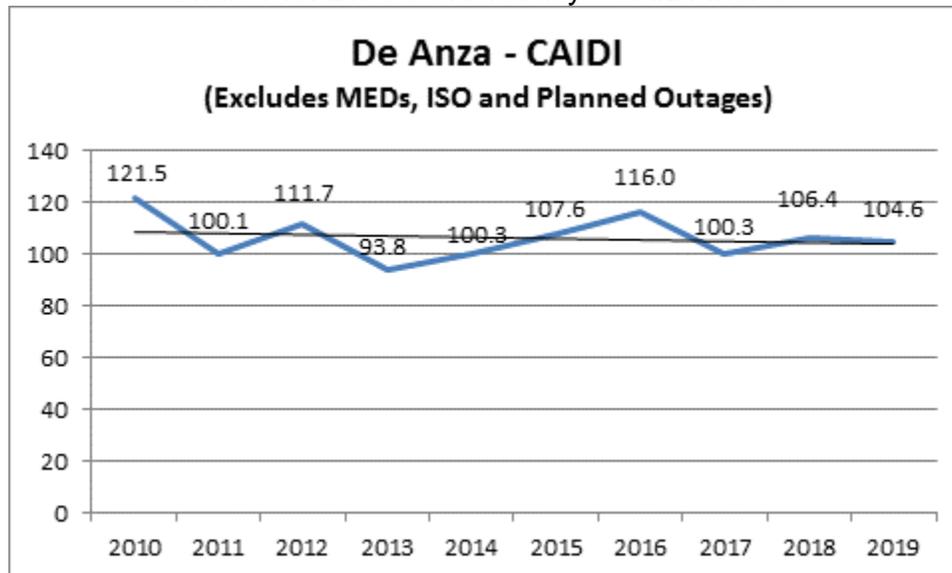


Chart 146: Division Reliability - CAIDI Indices

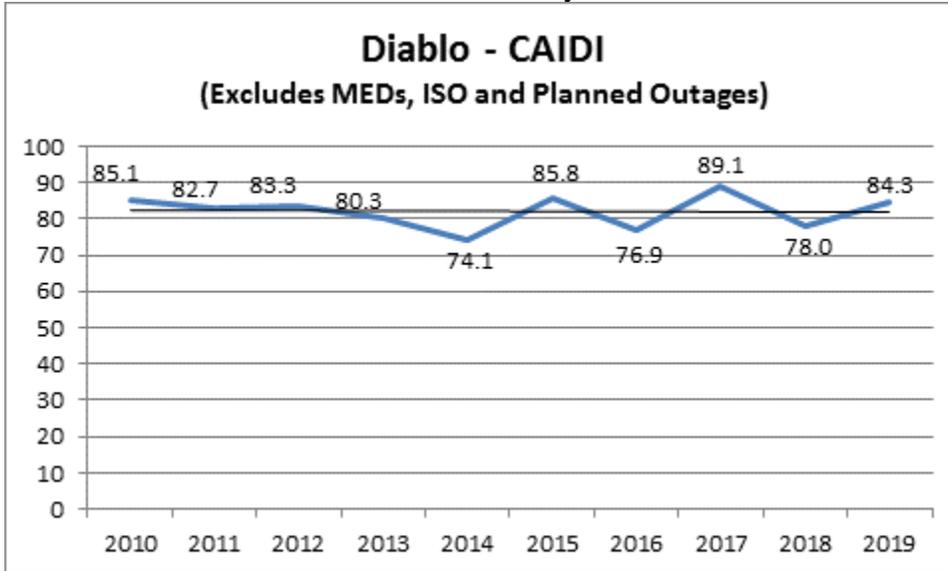


Chart 147: Division Reliability - CAIDI Indices

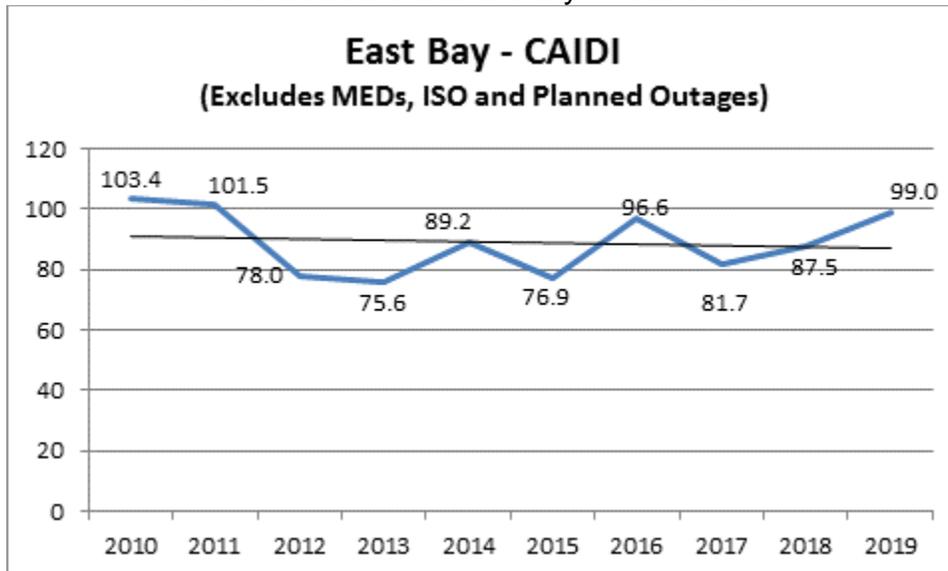


Chart 148: Division Reliability - CAIDI Indices

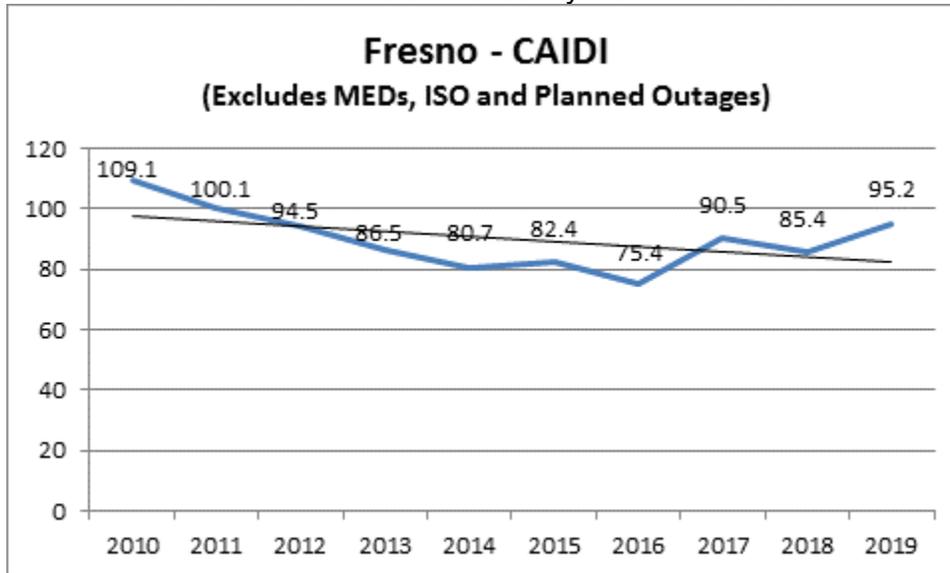


Chart 149: Division Reliability - CAIDI Indices

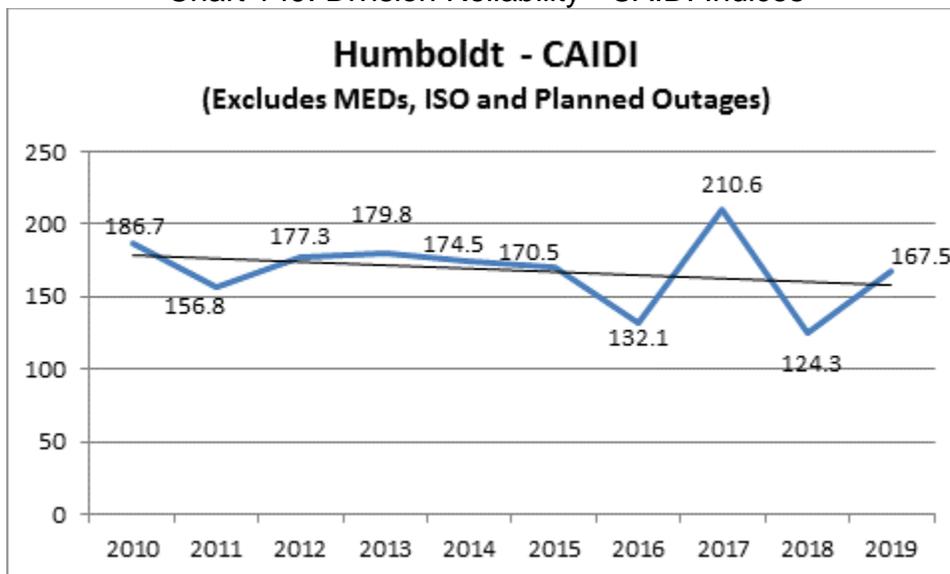


Chart 150: Division Reliability - CAIDI Indices

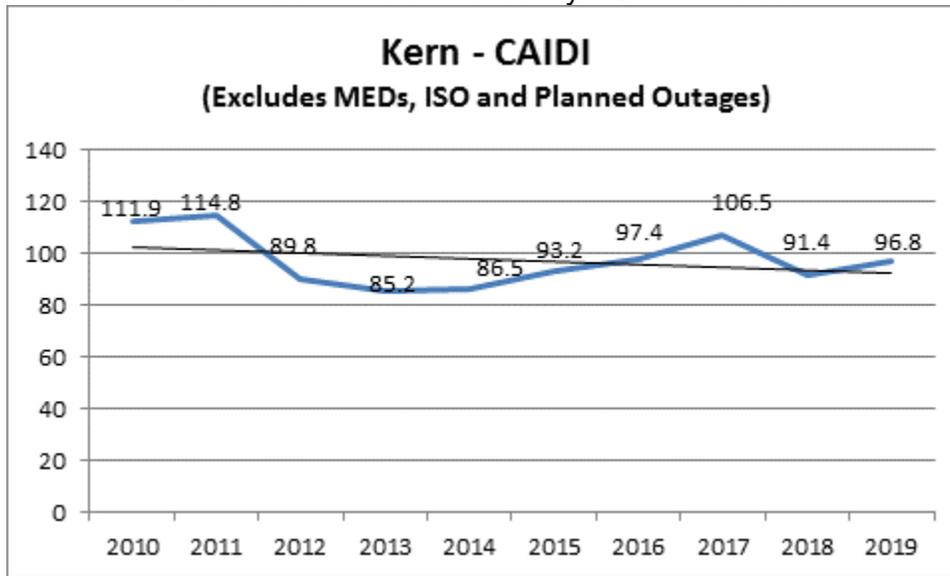


Chart 151: Division Reliability - CAIDI Indices

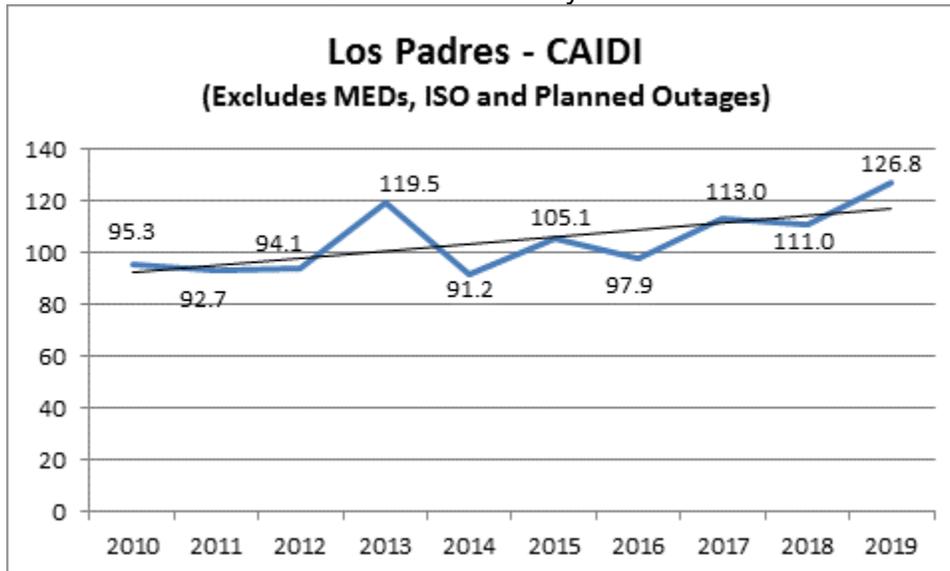


Chart 152: Division Reliability - CAIDI Indices

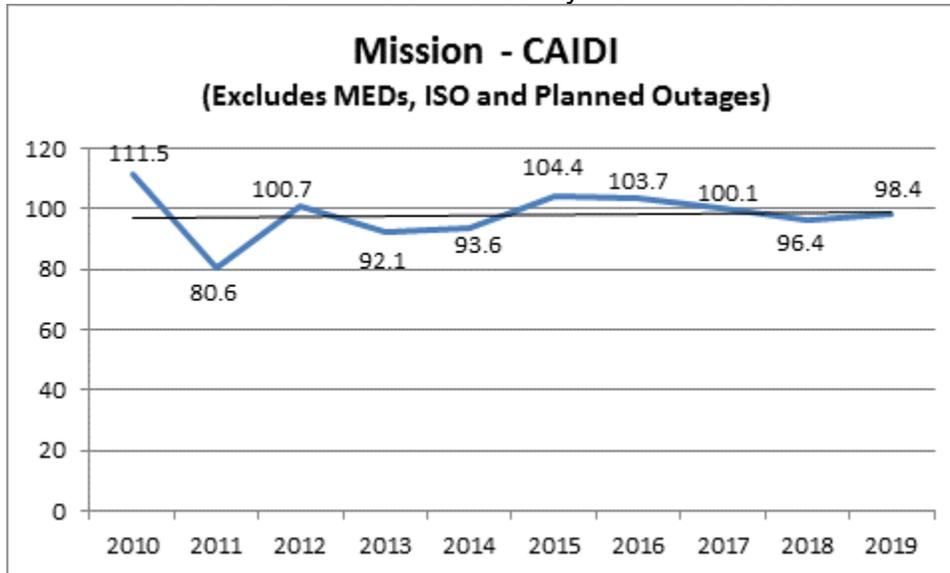


Chart 153: Division Reliability - CAIDI Indices

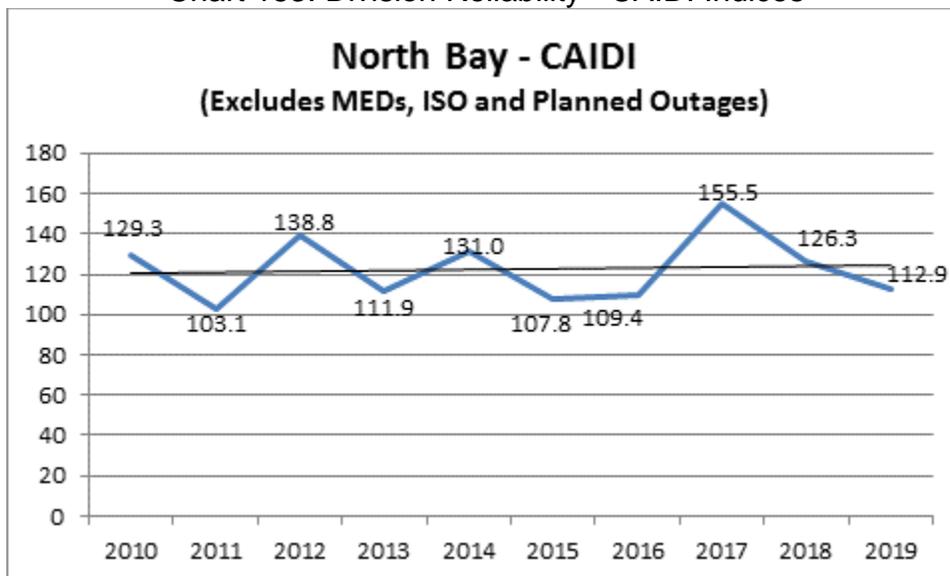


Chart 154: Division Reliability - CAIDI Indices

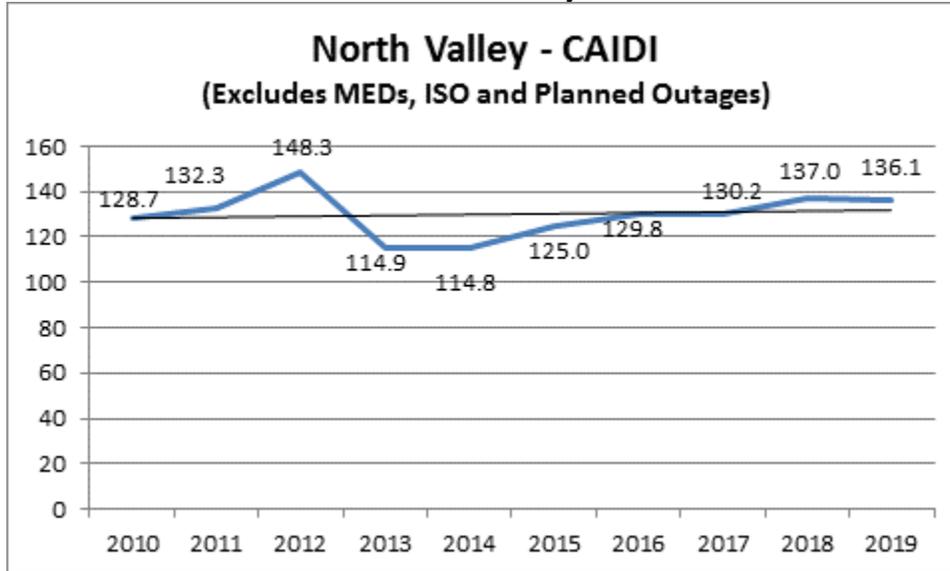


Chart 155: Division Reliability - CAIDI Indices

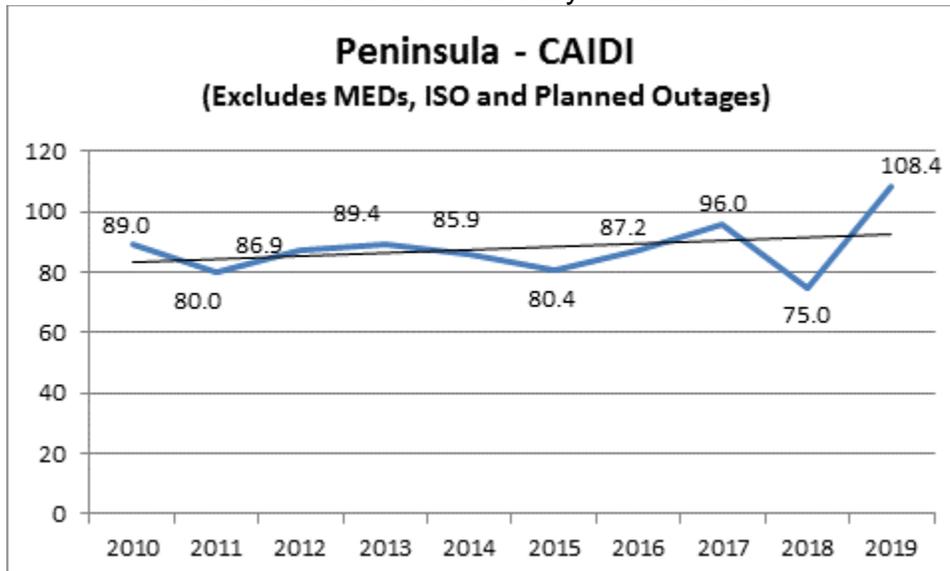


Chart 156: Division Reliability - CAIDI Indices

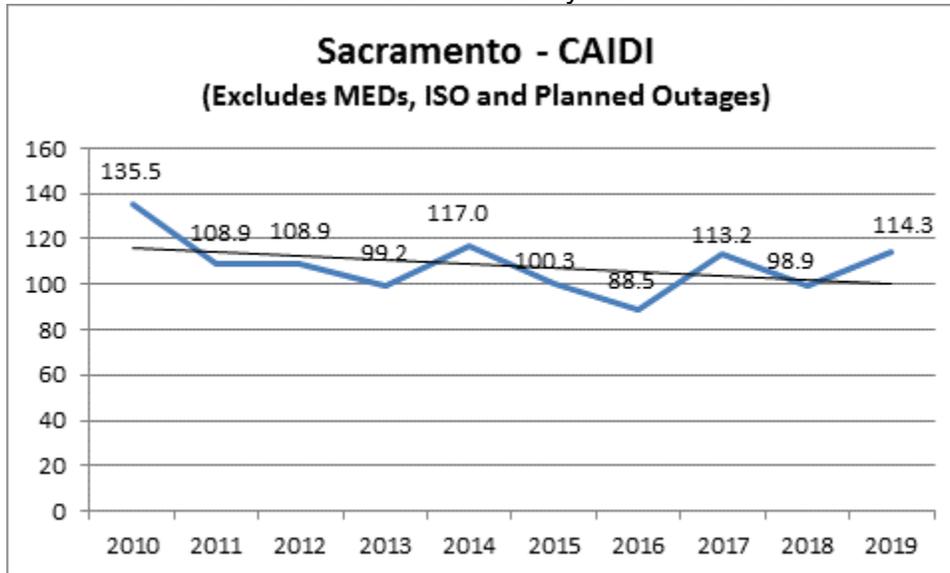


Chart 157: Division Reliability - CAIDI Indices

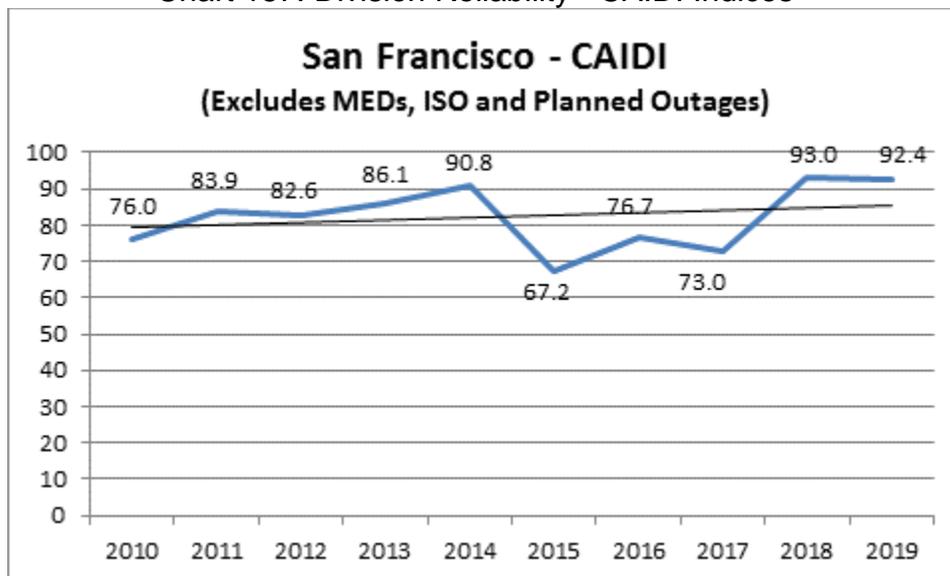


Chart 158: Division Reliability - CAIDI Indices

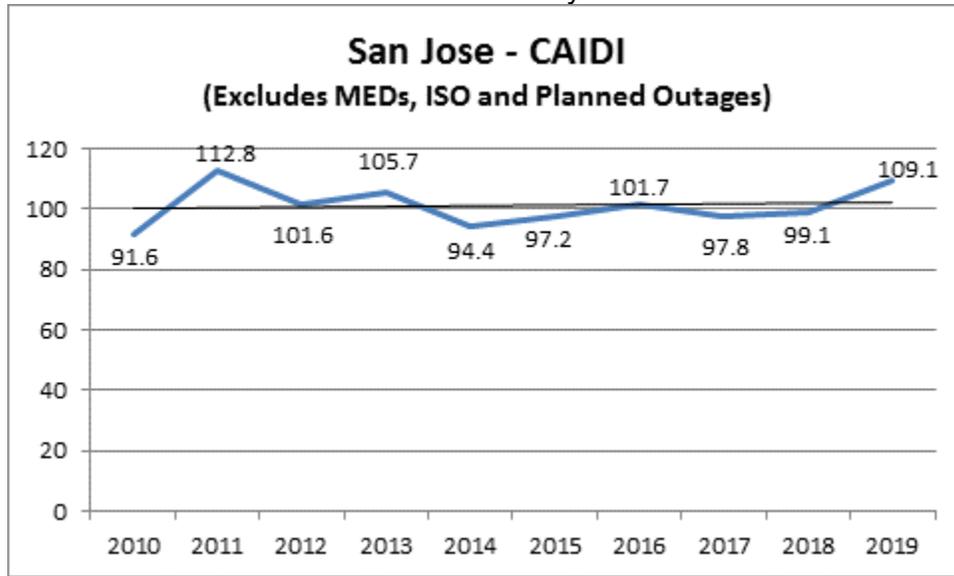


Chart 159: Division Reliability - CAIDI Indices

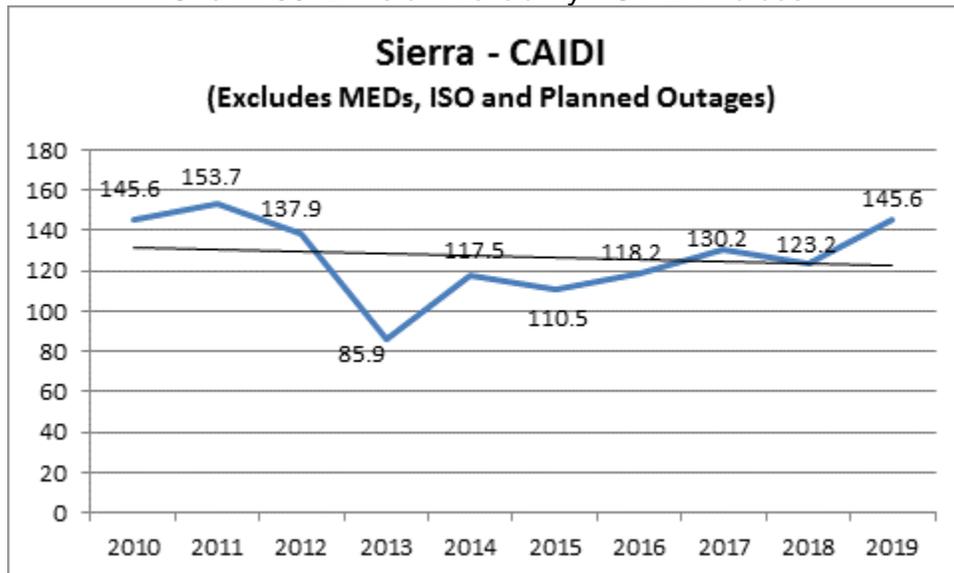


Chart 160: Division Reliability - CAIDI Indices\

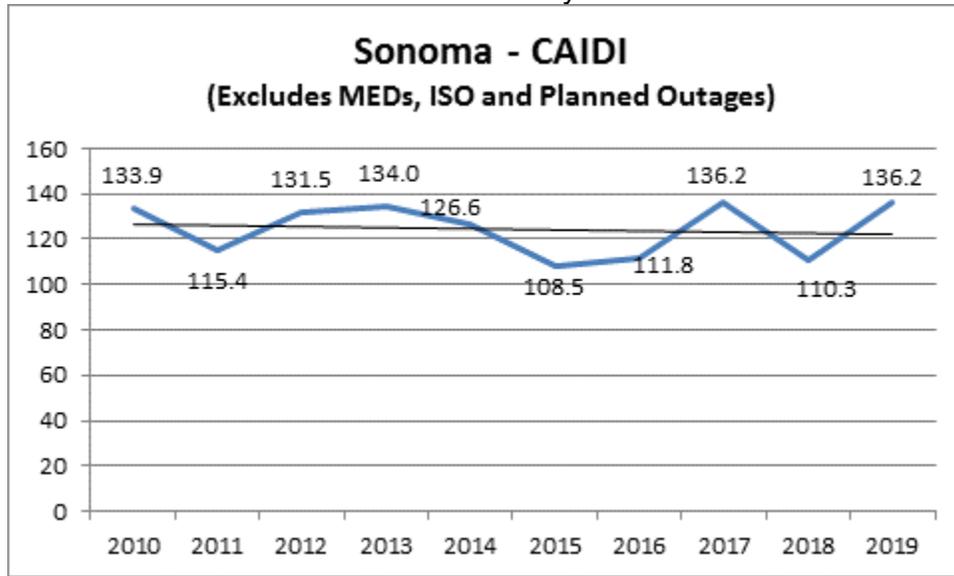


Chart 161: Division Reliability - CAIDI Indices

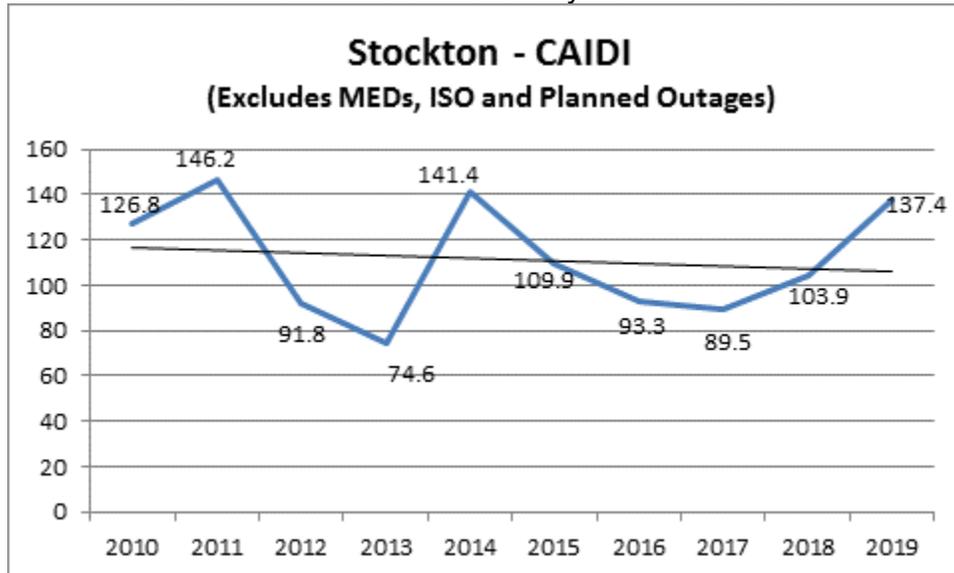
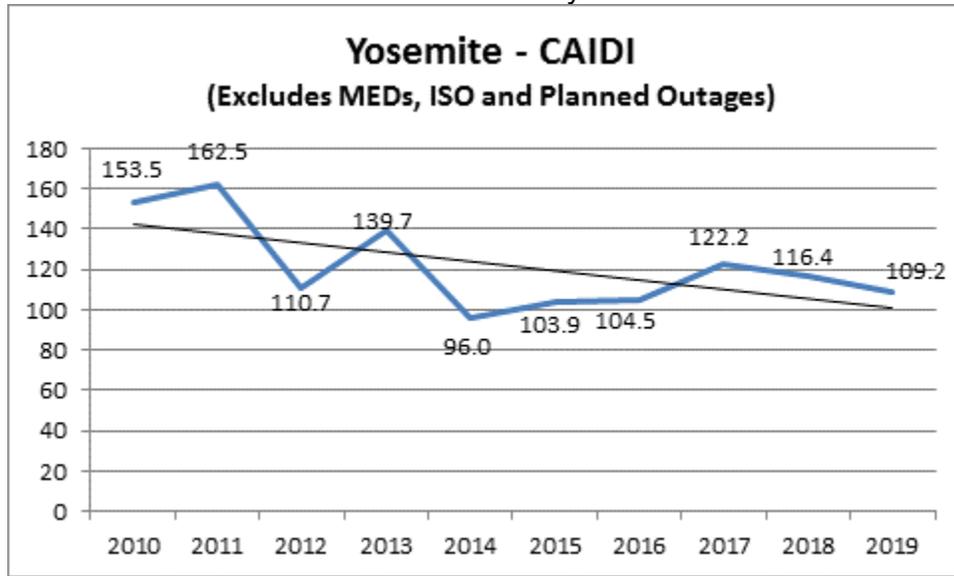


Chart 162: Division Reliability - CAIDI Indices



d. Division and System Reliability Indices Performance Variances (Five-Year Average)

This section contains additional division reliability information, as required by Decision 04-10-034, and Decision 16-01-008, Appendix B, footnote 6. This section explains threshold variations (unplanned outages only) in division and/or system reliability indices relative to the prior five-year averages (excluding major events, as defined per the IEEE 1366 methodology). This section also highlights the large outage events in each division that exceeded the reporting threshold.

Table 7 summarizes the 2019 division indices that meet the reporting requirement thresholds of 10 percent or more for the division, and 5 percent or more at the system level worse than the five year rolling average of reliability performance per D. 04-10-034.⁶ An “X” indicates that the 2019 Division and system index exceeded the 10 percent and 5 percent threshold, respectively, and is thus discussed in detail in this section.

⁶ As in prior reports, PG&E does not interpret this reporting requirement as applying to those indices where 2019 reliability was better than the prior five-year average.

**Table 7 – 2019 Indices excluding Major Events
(Meeting the Reporting Requirement Thresholds)**

	SAIDI	SAIFI	MAIFI	CAIDI
SYSTEM	X	X		X
CENTRAL COAST	X	X		X
DE ANZA	X	X	X	
DIABLO				
EAST BAY	X			X
FRESNO				X
HUMBOLDT	X			
KERN	X	X		
LOS PADRES	X	X		X
MISSION				
NORTH BAY	X	X		
NORTH VALLEY	X	X		
PENINSULA	X			X
SACRAMENTO				X
SAN FRANCISCO	X	X		X
SAN JOSE	X		X	X
SIERRA	X			X
SONOMA	X	X		X
STOCKTON	X	X		X
YOSEMITE	X	X		

Table 8: Division and System Reliability Indices Performance Variances (Excluding MED)

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SYSTEM	2014	91.0	0.879	1.390	103.5
SYSTEM	2015	80.7	0.787	1.585	102.5
SYSTEM	2016	93.9	0.941	1.487	99.8
SYSTEM	2017	97.4	0.878	1.487	110.9
SYSTEM	2018	99.9	0.962	1.355	103.8
5-Year Average	14-18 Avg	92.6	0.889	1.461	104.1
SYSTEM	2019	117.7	1.010	1.269	116.5
	%Difference	27.1%	13.5%	-13.1%	12.0%
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
CENTRAL COAST	2014	122.1	1.088	1.835	112.3
CENTRAL COAST	2015	102.0	0.847	1.844	120.4
CENTRAL COAST	2016	167.8	1.479	2.476	113.4
CENTRAL COAST	2017	146.3	1.293	2.589	113.1
CENTRAL COAST	2018	162.4	1.447	2.242	112.2
5-Year Average	14-18 Avg	140.1	1.231	2.198	113.8
CENTRAL COAST	2019	203.6	1.470	2.229	138.5
	%Difference	45.3%	19.4%	1.4%	21.7%
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
DE ANZA	2014	89.3	0.890	1.213	100.3
DE ANZA	2015	51.2	0.476	1.171	107.6
DE ANZA	2016	87.3	0.753	1.336	116.0
DE ANZA	2017	99.9	0.996	1.150	100.3
DE ANZA	2018	83.9	0.789	1.402	106.4
5-Year Average	14-18 Avg	82.3	0.781	1.254	105.4
DE ANZA	2019	91.3	0.873	1.657	104.6
	%Difference	10.9%	11.9%	32.1%	-0.8%
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
DIABLO	2014	66.1	0.892	1.220	74.1
DIABLO	2015	73.8	0.860	1.666	85.8
DIABLO	2016	76.5	0.995	1.694	76.9
DIABLO	2017	78.0	0.876	1.620	89.1
DIABLO	2018	78.3	1.004	1.496	78.0
5-Year Average	14-18 Avg	74.5	0.925	1.539	80.5
DIABLO	2019	78.8	0.935	1.212	84.3
	%Difference	5.8%	1.0%	-21.3%	4.7%
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
EAST BAY	2014	64.8	0.726	1.299	89.2
EAST BAY	2015	45.0	0.586	1.085	76.9
EAST BAY	2016	101.4	1.050	1.079	96.6
EAST BAY	2017	73.8	0.903	1.528	81.7
EAST BAY	2018	78.8	0.901	1.074	87.5
5-Year Average	14-18 Avg	72.8	0.833	1.213	87.3
EAST BAY	2019	84.5	0.854	0.956	99.0
	%Difference	16.1%	2.5%	-21.2%	13.3%

Division Reliability Indices
2014-2019
(Excluding MED)

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
FRESNO	2014	79.4	0.983	1.709	80.7
FRESNO	2015	70.0	0.849	1.829	82.4
FRESNO	2016	83.4	1.105	1.951	75.4
FRESNO	2017	72.3	0.799	1.546	90.5
FRESNO	2018	73.5	0.861	1.368	85.4
5-Year Average	14-18 Avg	75.7	0.919	1.681	82.3
FRESNO	2019	78.8	0.828	1.477	95.2
	%Difference	4.1%	-9.9%	-12.1%	15.6%
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
HUMBOLDT	2014	212.4	1.217	1.809	174.5
HUMBOLDT	2015	276.3	1.621	2.423	170.5
HUMBOLDT	2016	203.0	1.537	1.995	132.1
HUMBOLDT	2017	275.1	1.306	2.280	210.6
HUMBOLDT	2018	226.8	1.825	1.502	124.3
5-Year Average	14-18 Avg	238.7	1.501	2.002	159.0
HUMBOLDT	2019	274.6	1.640	1.834	167.5
	%Difference	15.0%	9.2%	-8.4%	5.3%
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
KERN	2014	81.0	0.936	1.635	86.5
KERN	2015	80.4	0.862	1.850	93.2
KERN	2016	89.2	0.916	2.066	97.4
KERN	2017	78.1	0.733	1.403	106.5
KERN	2018	71.6	0.783	1.720	91.4
5-Year Average	14-18 Avg	80.1	0.846	1.735	94.6
KERN	2019	106.6	1.101	1.743	96.8
	%Difference	33.2%	30.1%	0.5%	2.3%
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
LOS PADRES	2014	95.2	1.043	1.135	91.2
LOS PADRES	2015	72.2	0.687	1.408	105.1
LOS PADRES	2016	112.3	1.147	1.671	97.9
LOS PADRES	2017	106.7	0.944	1.442	113.0
LOS PADRES	2018	134.1	1.208	1.010	111.0
5-Year Average	14-18 Avg	104.1	1.006	1.333	103.5
LOS PADRES	2019	150.7	1.188	0.798	126.8
	%Difference	44.8%	18.2%	-40.1%	22.5%
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
MISSION	2014	62.9	0.672	0.770	93.6
MISSION	2015	56.7	0.543	1.054	104.4
MISSION	2016	72.7	0.702	0.916	103.7
MISSION	2017	60.6	0.606	1.002	100.1
MISSION	2018	62.0	0.644	0.815	96.4
5-Year Average	14-18 Avg	63.0	0.633	0.911	99.5
MISSION	2019	65.8	0.669	0.691	98.4
	%Difference	4.5%	5.7%	-24.2%	-1.1%

Division Reliability Indices
2014-2019
(Excluding MED)

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
NORTH BAY	2014	114.6	0.875	2.505	131.0
NORTH BAY	2015	97.4	0.904	1.977	107.8
NORTH BAY	2016	83.9	0.767	1.209	109.4
NORTH BAY	2017	148.5	0.955	1.832	155.5
NORTH BAY	2018	116.3	0.921	1.771	126.3
5-Year Average	14-18 Avg	112.1	0.884	1.859	126.8
NORTH BAY	2019	148.2	1.312	1.647	112.9
	%Difference	32.1%	48.4%	-11.4%	-11.0%
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
NORTH VALLEY	2014	111.1	0.968	1.521	114.8
NORTH VALLEY	2015	132.8	1.062	1.930	125.0
NORTH VALLEY	2016	146.4	1.128	1.937	129.8
NORTH VALLEY	2017	112.3	0.863	2.007	130.2
NORTH VALLEY	2018	187.3	1.367	1.325	137.0
5-Year Average	14-18 Avg	138.0	1.077	1.744	128.1
NORTH VALLEY	2019	205.0	1.506	1.458	136.1
	%Difference	48.6%	39.7%	-16.4%	6.3%
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
PENINSULA	2014	77.1	0.898	1.164	85.9
PENINSULA	2015	60.5	0.752	1.601	80.4
PENINSULA	2016	79.2	0.908	1.195	87.2
PENINSULA	2017	61.5	0.640	1.176	96.0
PENINSULA	2018	60.5	0.806	1.204	75.0
5-Year Average	14-18 Avg	67.8	0.801	1.268	84.6
PENINSULA	2019	88.5	0.816	0.983	108.4
	%Difference	30.6%	1.9%	-22.5%	28.1%
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SACRAMENTO	2014	94.4	0.807	1.258	117.0
SACRAMENTO	2015	80.1	0.799	1.556	100.3
SACRAMENTO	2016	83.6	0.944	1.539	88.5
SACRAMENTO	2017	121.2	1.070	1.708	113.2
SACRAMENTO	2018	101.9	1.031	1.825	98.9
5-Year Average	14-18 Avg	96.2	0.930	1.577	103.5
SACRAMENTO	2019	98.9	0.866	1.574	114.3
	%Difference	2.8%	-6.9%	-0.2%	10.5%
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SAN FRANCISCO	2014	41.5	0.457	0.235	90.8
SAN FRANCISCO	2015	33.9	0.504	0.501	67.2
SAN FRANCISCO	2016	39.7	0.518	0.355	76.7
SAN FRANCISCO	2017	36.5	0.500	0.372	73.0
SAN FRANCISCO	2018	35.2	0.378	0.270	93.0
5-Year Average	14-18 Avg	37.4	0.472	0.347	79.2
SAN FRANCISCO	2019	56.8	0.614	0.258	92.4
	%Difference	52.0%	30.3%	-25.5%	16.6%

Division Reliability Indices
2014-2019
(Excluding MED)

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SAN JOSE	2014	76.0	0.806	1.026	94.4
SAN JOSE	2015	65.9	0.678	1.008	97.2
SAN JOSE	2016	65.5	0.644	1.152	101.7
SAN JOSE	2017	72.3	0.739	1.171	97.8
SAN JOSE	2018	85.0	0.858	1.322	99.1
5-Year Average	14-18 Avg	73.0	0.745	1.136	97.9
SAN JOSE	2019	81.5	0.747	1.259	109.1
	%Difference	11.7%	0.2%	10.8%	11.4%
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SIERRA	2014	142.2	1.210	2.128	117.5
SIERRA	2015	123.2	1.115	2.816	110.5
SIERRA	2016	121.7	1.029	1.705	118.2
SIERRA	2017	155.0	1.191	1.856	130.2
SIERRA	2018	152.9	1.241	1.350	123.2
5-Year Average	14-18 Avg	139.0	1.157	1.971	120.1
SIERRA	2019	167.5	1.151	1.482	145.6
	%Difference	20.5%	-0.6%	-24.8%	21.2%
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SONOMA	2014	113.7	0.899	1.587	126.6
SONOMA	2015	73.0	0.673	1.534	108.5
SONOMA	2016	88.6	0.792	1.508	111.8
SONOMA	2017	120.7	0.886	1.566	136.2
SONOMA	2018	105.5	0.956	1.201	110.3
5-Year Average	14-18 Avg	100.3	0.841	1.479	119.2
SONOMA	2019	145.8	1.071	1.233	136.2
	%Difference	45.3%	27.3%	-16.7%	14.2%
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
STOCKTON	2014	105.9	0.749	1.309	141.4
STOCKTON	2015	96.1	0.874	1.947	109.9
STOCKTON	2016	84.0	0.900	1.663	93.3
STOCKTON	2017	84.6	0.946	1.264	89.5
STOCKTON	2018	107.7	1.036	1.872	103.9
5-Year Average	14-18 Avg	95.7	0.901	1.611	106.2
STOCKTON	2019	175.4	1.276	1.130	137.4
	%Difference	83.3%	41.6%	-29.9%	29.4%
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
YOSEMITE	2014	117.6	1.226	2.446	96.0
YOSEMITE	2015	102.3	0.984	2.638	103.9
YOSEMITE	2016	123.2	1.178	2.025	104.5
YOSEMITE	2017	143.0	1.170	2.150	122.2
YOSEMITE	2018	158.4	1.361	1.773	116.4
5-Year Average	14-18 Avg	128.9	1.184	2.206	108.9
YOSEMITE	2019	160.7	1.472	1.603	109.2
	%Difference	24.7%	24.3%	-27.3%	0.3%

i. System and Division Performance Assessment

1. System Performance Assessment

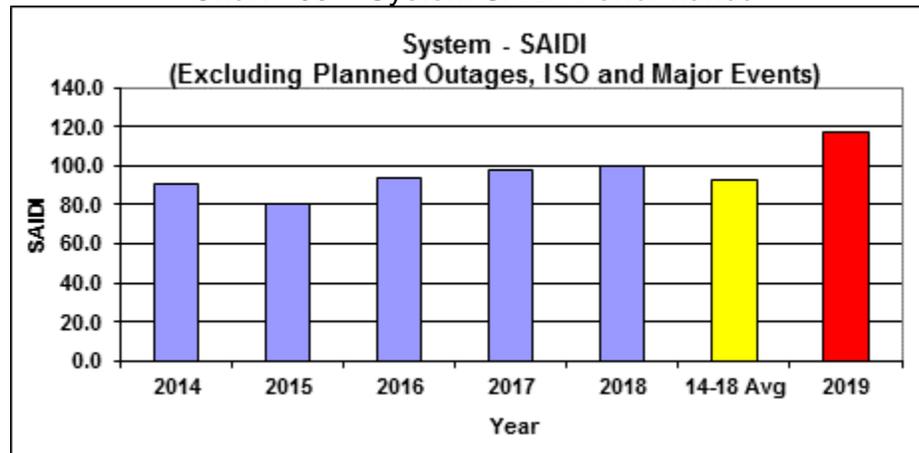
Table 9: System Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SYSTEM	2014	91.0	0.879	1.390	103.5
SYSTEM	2015	80.7	0.787	1.585	102.5
SYSTEM	2016	93.9	0.941	1.487	99.8
SYSTEM	2017	97.4	0.878	1.487	110.9
SYSTEM	2018	99.9	0.962	1.355	103.8
5-Year Average	14-18 Avg	92.6	0.889	1.461	104.1
SYSTEM	2019	117.7	1.010	1.269	116.5
	%Difference	27.1%	13.5%	-13.1%	12.0%

System SAIDI Performance

The system's 2019 SAIDI performance of 117.7 was 25.1 customer-minutes (or 27.1%) higher than the previous 5-year average of 92.6 as shown in the table above and illustrated in the figure below.

Chart 163 – System SAIDI Performance



The higher than average 2019 system SAIDI was attributed to the following:

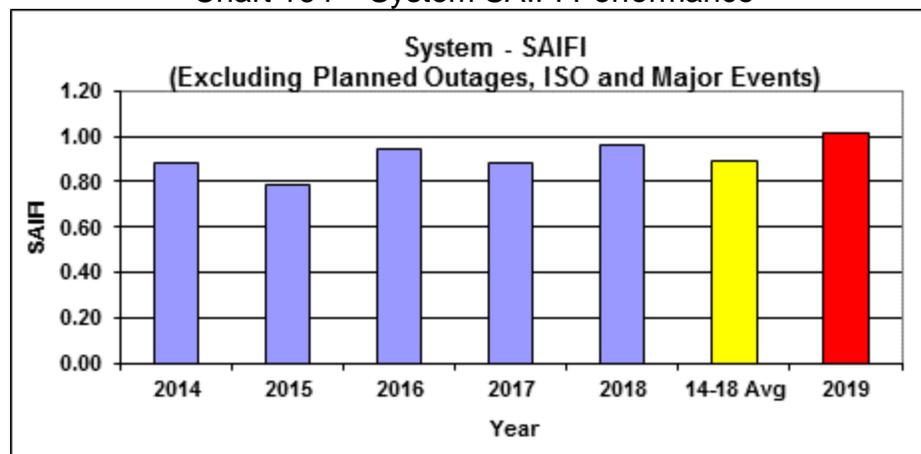
1. The January 5-9 storm event brought heavy rain and winds throughout the system and contributed (excluding the 6th which was an ME day) 2.3 customer-minutes to the system's SAIDI performance.
2. The January 14-18 storm event brought heavy rain and contributed (excluding the 16th and 17th which were ME days) 1.7 customer-minutes to the system's SAIDI performance.
3. The January 20th lightning storm contributed 1.2 customer-minutes to the system's SAIDI performance.
4. The March 5th and 6th lightning storms contributed 1.3 customer-minutes to the

- system's SAIDI performance.
5. The March 12th brought strong winds into the system and contributed 1.4 customer-minutes to the system's SAIDI performance.
 6. The April 23rd heat wave event contributed 1.7 customer-minutes to the system's SAIDI performance.
 7. The May 18th and 19th storm event contributed 1.4 customer minutes to the system's SAIDI performance.
 8. The June 11th and 12th heat wave contributed 2.5 customer-minutes to the system's SAIDI performance.
 9. The August 10th heat wave contributed 1.0 customer-minutes to the system's SAIDI performance.
 10. The August 14th and 16th heat wave contributed 1.5 customer-minutes to the system's SAIDI performance.
 11. The November 30th storm event brought heavy rain and winds throughout the system and contributed 1.8 customer-minutes to the system's SAIDI performance.
 12. The December 6th and 7th storm event brought heavy rain and winds throughout the system and contributed 1.5 customer-minutes to the system's SAIDI performance.
 13. The December 22nd storm event brought rain and winds throughout the system and contributed 1.5 customer-minutes to the system's SAIDI performance.

System SAIFI Performance

The system's 2019 SAIFI performance of 1.010 was 0.121 customer-interruptions (or 13.5%) higher than the previous 5-year average of 0.889 as shown in the table above and illustrated in the figure below.

Chart 164 – System SAIFI Performance

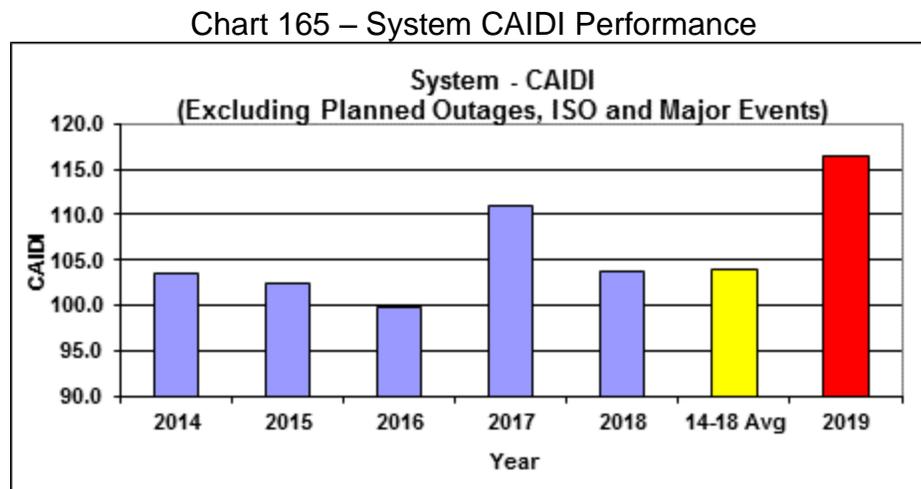


The higher than average 2019 system SAIFI was attributed to the following:

1. The January 5-9 storm brought heavy rain and winds throughout the system and contributed (excluding the 6th which was an ME day) 0.021 customer-interruptions to the system SAIFI.
2. The January 14-18 storm brought heavy rain across the system and contributed (excluding the 16th and 17th which were ME days) 0.011 customer-interruptions to the system's SAIFI.
3. The June 11th and 12th heat wave contributed 0.022 customer-interruptions to the system's SAIFI.
4. The August 14th and 16th heat wave contributed 0.013 customer-interruptions to the system's SAIFI.
5. The December 6th and 7th storm event contributed 0.012 customer-interruptions to the system's SAIFI.

System CAIDI Performance

The system's 2019 CAIDI performance of 116.5 was 12.4 customer-minutes (or 12.0%) higher than the previous 5-year average of 104.1 as shown in the table above and illustrated in the figure below.



The higher than average 2019 system CAIDI was attributed to the following:

Weather-Events:

1. The January 14-18 storm brought heavy rain throughout the system. In particular, the 15th and 18th.
2. Lightning events on January 20th.
3. Lightning events on March 6th.

4. Strong northwest winds on March 12th.
5. Heat wave of April 23rd.
6. The storm event of May 18th.
7. The heat wave of August 10th.
8. The November 30th storm event that brought heavy rain and winds into the system.
9. The December 6th and 7th storm event brought heavy rain and winds throughout the system.
10. The December 22nd storm event brought rain and winds throughout the system.

These weather-related events contributed 4.2 minutes to the overall CAIDI performance.

Non-Weather-Related Events:

11. January 31st – underground cable failure on the Salt Springs 2101 circuit.
12. March 24th – outage on the Monte Rio 1113 circuit due to a deteriorated wood pole.
13. March 26th – outage on the Woodside 1102 circuit due to a failed line recloser.
14. April 28th – outage on the Monroe 1106 circuit due to a metallic balloon.
15. May 7th – an outage on the Soledad-Manteca 60 kV line caused by an owl at Soledad substation.
16. July 1st – a car struck a pole on the Orick 60 kV line.
17. July 27th – an outage of unknown cause on the transmission line between Electra and West Point substations. The line was patrolled and a cause was not determined.
18. August 9th – a car pole accident on the Jessup 1102 circuit.
19. September 12th – an underground transformer failure on the Morro Bay 1102 circuit.
20. September 12th – a circuit breaker failure at El Cerrito substation.
21. October 16th – tree fell into the 60kV line causing outages to the Fort Seward, Fruitland, Garberville, and Rio Dell substations.
22. October 28th – tree fell into the transmission line cause an outage to the Pt. Moretti substation.
23. December 1st – failed circuit breaker at Colusa substation.

These non-weather-related outages contributed an additional 3.0 minutes to the overall system CAIDI.

2. Central Coast Division Performance Assessment

Central Coast Division Performance

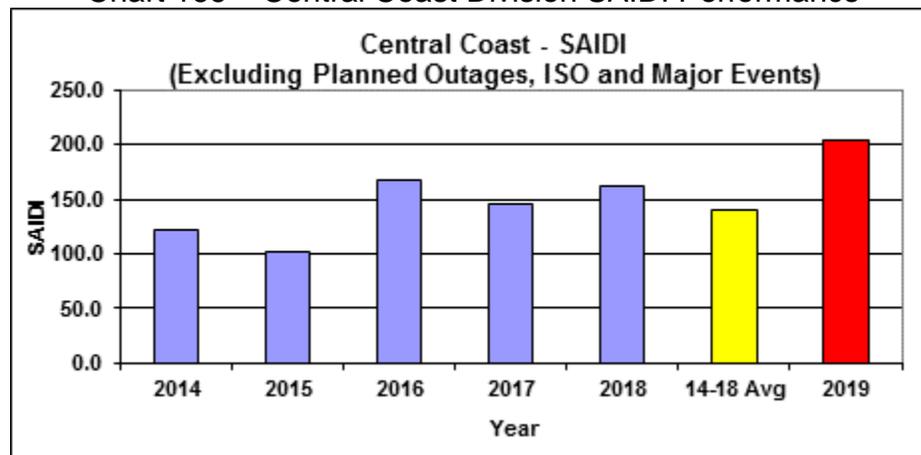
Table 10: Central Coast Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
CENTRAL COAST	2014	122.1	1.088	1.835	112.3
CENTRAL COAST	2015	102.0	0.847	1.844	120.4
CENTRAL COAST	2016	167.8	1.479	2.476	113.4
CENTRAL COAST	2017	146.3	1.293	2.589	113.1
CENTRAL COAST	2018	162.4	1.447	2.242	112.2
5-Year Average	14-18 Avg	140.1	1.231	2.198	113.8
CENTRAL COAST	2019	203.6	1.470	2.229	138.5
	%Difference	45.3%	19.4%	1.4%	21.7%

Central Coast Division SAIDI Performance

Central Coast Division's 2019 SAIDI performance of 203.6 minutes was 63.5 customer-minutes (or 45.3%) higher than the previous 5-year average of 140.1 as shown in the table above and illustrated in the figure below.

Chart 166 – Central Coast Division SAIDI Performance



The higher than average 2019 Central Coast division SAIDI was attributed to the following:

1. On January 15th, a storm event brought heavy rain through the area and contributed 7.2 customer-minutes to the division's SAIDI.
2. On February 3rd, a storm event brought strong south winds and rain into the area and contributed 3.5 customer-minutes to the division's SAIDI.
3. February 18th – a tree fell into the Camp Evers 2106 circuit and contributed 1.8 customer-minutes to the division's SAIDI.
4. March 18th – an underground elbow failure on the Cliff Drive 401 circuit and another on the Paul Sweet 2105 circuit contributed 3.3 customer-minutes to the

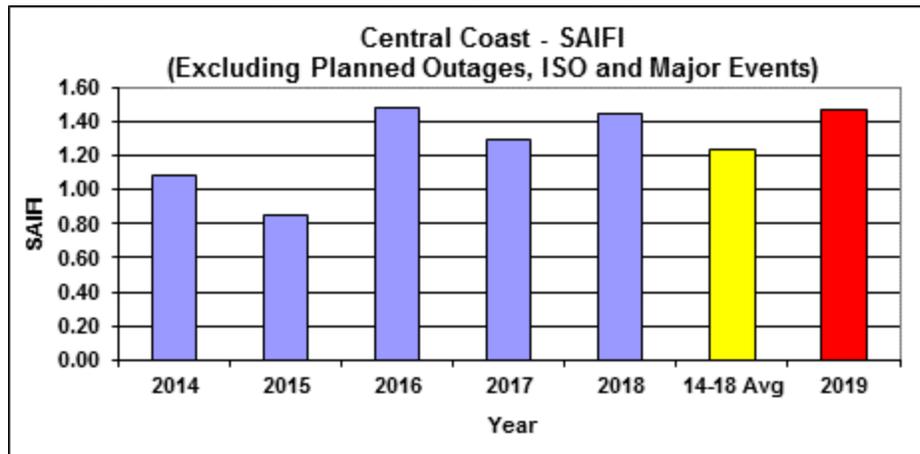
division’s SAIDI.

5. July 29th – a failed overhead jumper on the Viejo 2204 circuit contributed 2.6 customer-minutes to the division’s SAIDI.
6. September 28th – two tree related outages: (1) tree fell into the Paul Sweet 2103 circuit and (2) a tree branch fell into the line on the Rob Roy 2015 circuit contributed 4.5 customer-minutes to the division’s SAIDI.
7. October 28th – (1) a tree fell into the transmission line causing an outage to the Big Basin substation contributed 4.6 customer-minutes to the division’s SAIDI and (2) a tree fell into the transmission line causing an outage to the Pt. Moretti substation contributed 4.9 customer-minutes to the division’s SAIDI.
8. November 30th brought a storm event with strong winds and rain in the area and contributed 4.5 customer-minutes to the division’s SAIDI.
9. December 1st brought rain into the area and contributed 7.1 customer-minutes to the division’s SAIDI.
10. December 2nd - two tree related outages: (1) tree fell into the Camp Evers 2106 circuit and (2) a tree fell into the Rob Roy 2015 circuit contributed 1.9 customer-minutes to the division’s SAIDI.
11. December 7th brought rain into the area and contributed 4.6 customer-minutes to the division’s SAIDI.

Central Coast Division SAIFI Performance

Central Coast Division’s 2019 SAIFI performance of 1.470 was 0.239 customer-interruptions (or 19.4%) higher than the previous 5-year average of 1.231 as shown in the table above and illustrated in the figure below.

Chart 167 – Central Coast Division SAIFI Performance



The higher than average 2019 Central Coast SAIFI was attributed to the

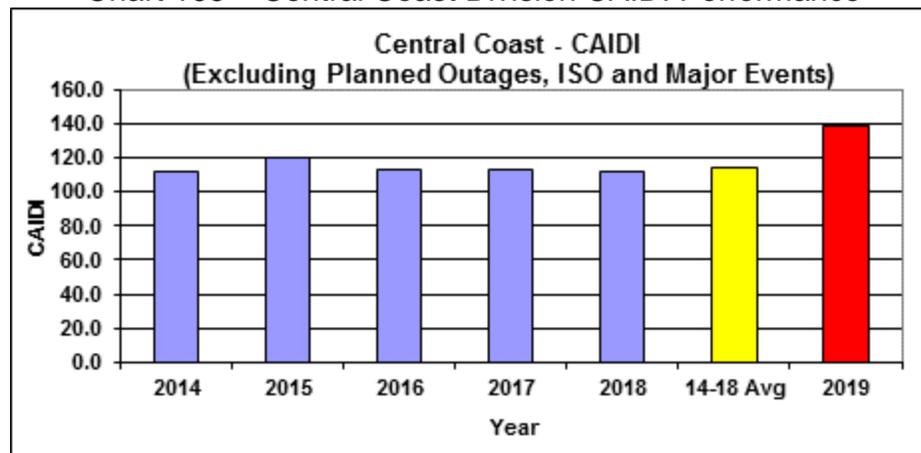
following:

1. On January 15th, a storm event brought heavy rain through the area and contributed 0.039 customer-interruptions to the division's SAIFI.
2. On February 3rd, a storm event brought strong south winds and rain into the area and contributed 0.011 customer-interruptions to the division's SAIFI.
3. November 30th brought a storm event with strong winds and rain in the area and contributed 0.015 customer-minutes to the division's SAIFI.
4. December 1st brought rain into the area and contributed 0.048 customer-minutes to the division's SAIFI.
5. December 7th brought rain into the area and contributed 0.020 customer-minutes to the division's SAIFI.

Central Coast Division CAIDI Performance

Central Coast Division's 2019 CAIDI performance of 138.5 was 24.7 minutes (or 21.7%) higher than the previous 5-year average of 113.8 as shown in the table above and illustrated in the figure below.

Chart 168 – Central Coast Division CAIDI Performance



The higher than average 2019 Central Coast CAIDI was attributed to the following:

1. The January 15th storm event that brought heavy rain through the area.
2. The February 3rd storm event that brought strong south winds and rain into the area.
3. March 18th – an underground elbow failure on the Cliff Drive 401 circuit and another on the Paul Sweet 2105 circuit.
4. September 28th – two tree related outages: (1) tree fell into the Paul Sweet 2103 circuit and (2) a tree branch fell into the line on the Rob Roy 2015 circuit.

5. October 28th – two tree related outage: (1) a tree fell into the transmission line causing an outage to the Big Basin substation and (2) a tree fell into the transmission line causing an outage to the Pt. Moretti substation.
6. The November 30th storm event that brought strong winds and rain in the area.
7. The December 1st rain event in the area.
8. December 2nd - two tree related outages: (1) tree fell into the Camp Evers 2106 circuit and (2) a tree fell into the Rob Roy 2015 circuit.
9. The December 7th rain event in the area.

These outages contributed 17.1 minutes to the division’s overall CAIDI performance.

3. De Anza Division Performance Assessment

De Anza Division Performance

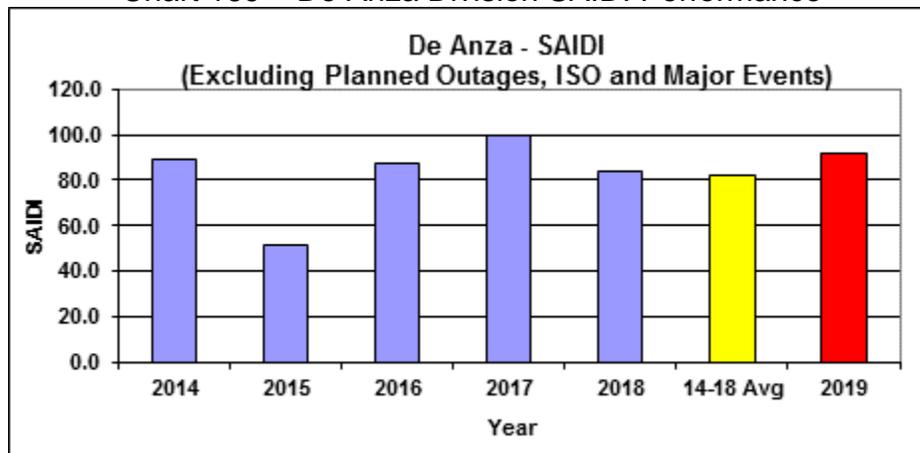
Table 11: De Anza Division Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
DE ANZA	2014	89.3	0.890	1.213	100.3
DE ANZA	2015	51.2	0.476	1.171	107.6
DE ANZA	2016	87.3	0.753	1.336	116.0
DE ANZA	2017	99.9	0.996	1.150	100.3
DE ANZA	2018	83.9	0.789	1.402	106.4
5-Year Average	14-18 Avg	82.3	0.781	1.254	105.4
DE ANZA	2019	91.3	0.873	1.657	104.6
	%Difference	10.9%	11.9%	32.1%	-0.8%

De Anza Division SAIDI Performance

De Anza Division’s 2019 SAIDI performance of 91.3 was 9.0 (or 10.9%) customer-minutes higher than the previous 5-year average of 82.3 as shown in the table above and illustrated in the figure below.

Chart 169 – De Anza Division SAIDI Performance



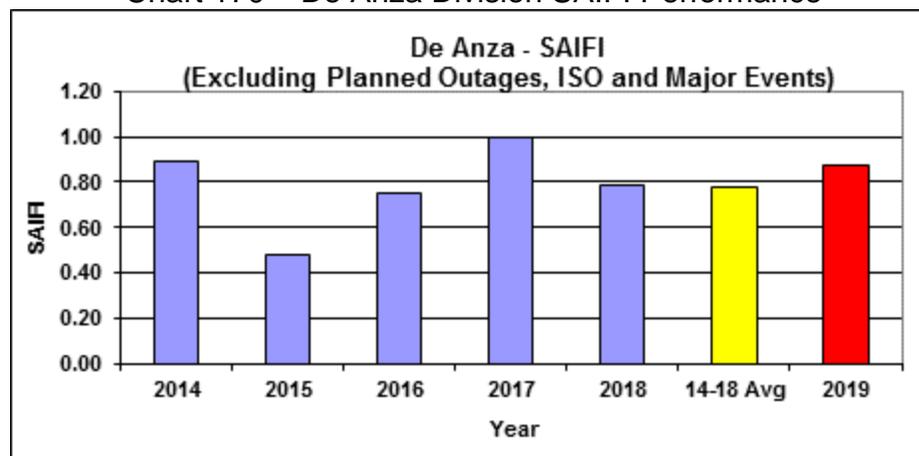
The higher than average 2019 De Anza Division SAIDI was attributed to the following:

1. January 3rd – an outage on the Stelling 1110 circuit of unknown cause contributed 1.5 customer-minutes to the division’s SAIDI.

De Anza Division SAIFI Performance

De Anza Division’s 2019 SAIFI performance of 0.873 was 0.092 (or 11.9%) customer-interruptions higher than the previous 5-year average of 0.781 as shown in the table above and illustrated in the figure below.

Chart 170 – De Anza Division SAIFI Performance



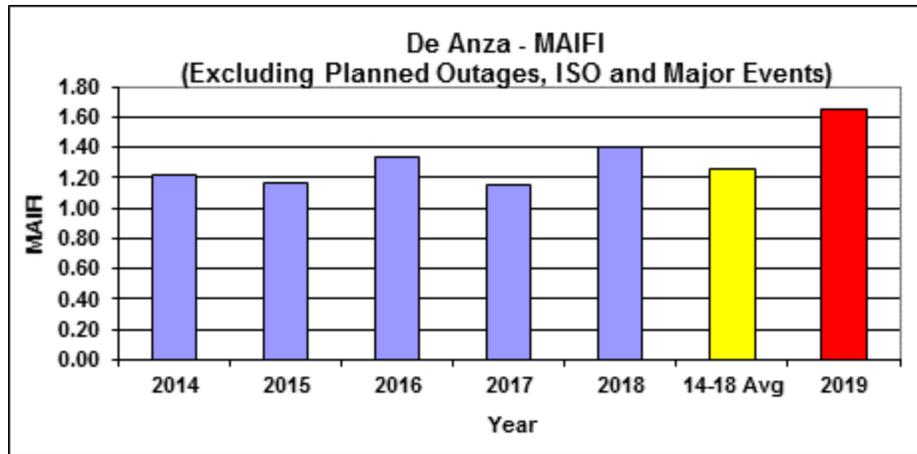
The higher than average 2019 De Anza Division SAIFI was attributed to the following:

1. January 3rd – an outage on the Stelling 1110 circuit of unknown cause contributed 0.023 customer-interruptions to the division’s SAIFI.

De Anza Division MAIFI Performance

De Anza Division’s 2019 MAIFI performance of 1.657 was 0.403 (or 32.1%) customer-interruptions higher than the previous 5-year average of 1.254 as shown in the table above and illustrated in the figure below.

Chart 171 – De Anza Division MAIFI Performance



The higher than average 2019 De Anza Division MAIFI was attributed to the following:

2. On January 3rd, momentary outages of unknown cause were experienced at Los Gatos Substation that contributed 0.083 customer-interruptions to the division's MAIFI.
3. On June 23rd, momentary events of unknown cause were experienced on the Vasona 1103 and Saratoga 1109 circuits. These events contributed 0.221 customer-interruptions to the division's MAIFI.

4. East Bay Division Performance Assessment

East Bay Division Performance

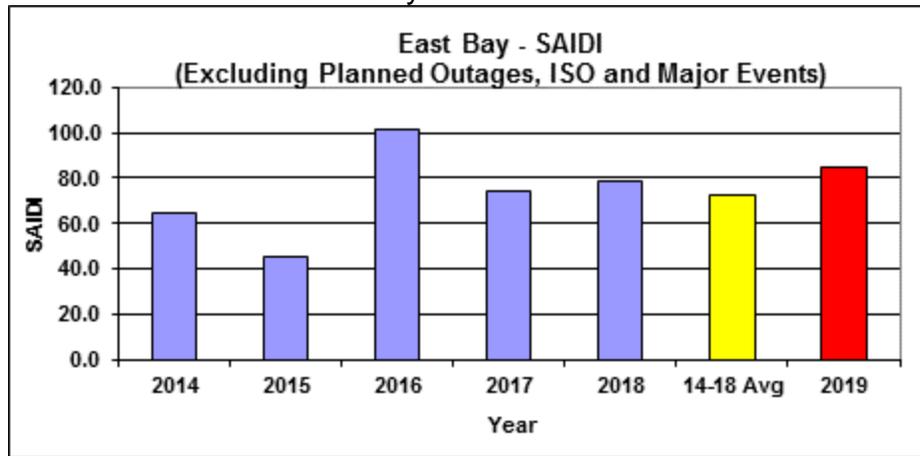
Table 12: East Bay Division Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
EAST BAY	2014	64.8	0.726	1.299	89.2
EAST BAY	2015	45.0	0.586	1.085	76.9
EAST BAY	2016	101.4	1.050	1.079	96.6
EAST BAY	2017	73.8	0.903	1.528	81.7
EAST BAY	2018	78.8	0.901	1.074	87.5
5-Year Average	14-18 Avg	72.8	0.833	1.213	87.3
EAST BAY	2019	84.5	0.854	0.956	99.0
	%Difference	16.1%	2.5%	-21.2%	13.3%

East Bay Division SAIDI Performance

East Bay Division's 2019 SAIDI performance of 84.5 was 11.7 customer-minutes (or 16.1%) higher than the previous 5-year average of 72.8 as shown in the table above and illustrated in the figure below.

Chart 172 – East Bay Division SAIDI Performance



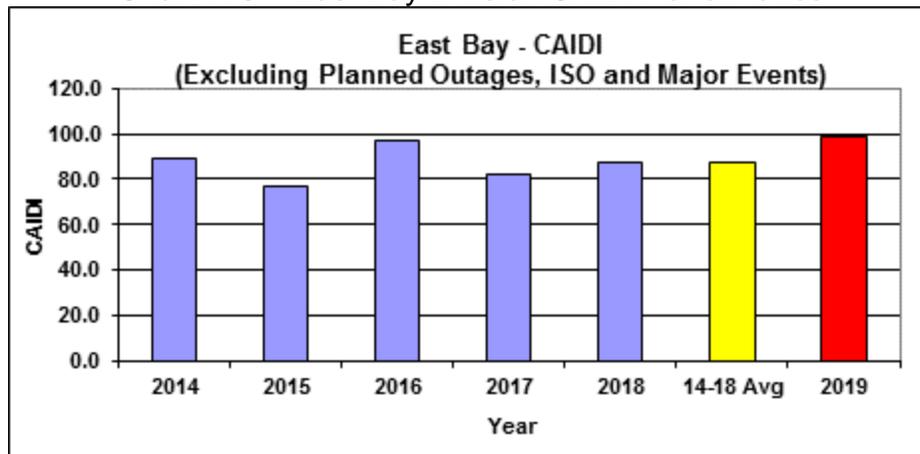
The higher than average 2019 East Bay Division SAIDI was attributed to the following:

1. On September 29th, a failed circuit breaker at El Cerrito G substation contributed 21.9 customer-minutes to the division’s SAIDI.

East Bay Division CAIDI Performance

East Bay Division’s 2019 CAIDI performance of 99.0 was 11.7 minutes (or 13.3%) higher than the previous 5-year average of 87.3 as shown in the table above and illustrated in the figure below.

Chart 173 – East Bay Division CAIDI Performance



The higher than average 2019 East Bay Division CAIDI was attributed to the following:

1. On September 29th, a failed circuit breaker at El Cerrito G substation contributed 12.0 minutes to the division’s CAIDI.

5. Fresno Division Performance Assessment

Fresno Division Performance

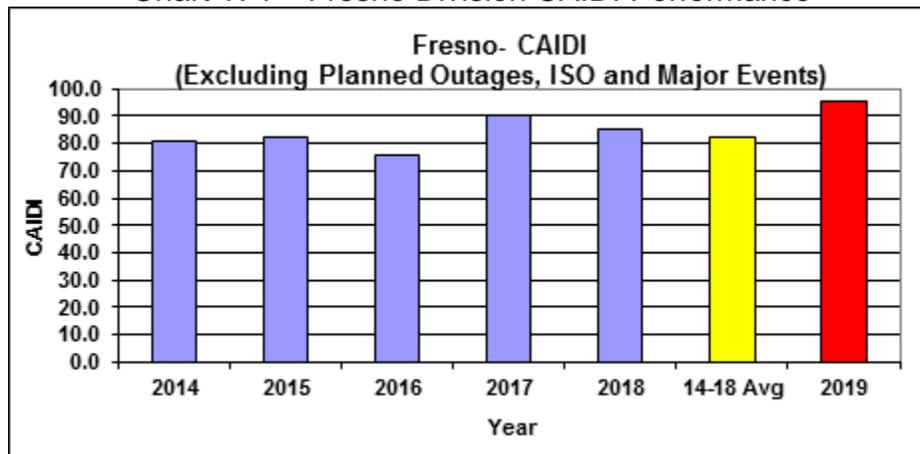
Table 13: Fresno Division Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
FRESNO	2014	79.4	0.983	1.709	80.7
FRESNO	2015	70.0	0.849	1.829	82.4
FRESNO	2016	83.4	1.105	1.951	75.4
FRESNO	2017	72.3	0.799	1.546	90.5
FRESNO	2018	73.5	0.861	1.368	85.4
5-Year Average	14-18 Avg	75.7	0.919	1.681	82.3
FRESNO	2019	78.8	0.828	1.477	95.2
	%Difference	4.1%	-9.9%	-12.1%	15.6%

Fresno Division CAIDI Performance

Fresno Division’s 2019 CAIDI performance of 95.2 was 12.9 minutes (or 15.6%) higher than the previous 5-year average of 82.3 as shown in the table above and illustrated in the figure below.

Chart 174 – Fresno Division CAIDI Performance



The higher than average 2019 CAIDI performance was due to the following:

1. May 9th – A tree fell into the Auberry 1101 circuit and a failed circuit breaker at Coppermine substation.
2. June 5th – a failed circuit breaker at Bullard substation.

These outages contributed 5.5 minutes to the division’s overall CAIDI.

6. Humboldt Division Performance Assessment

Humboldt Division Performance

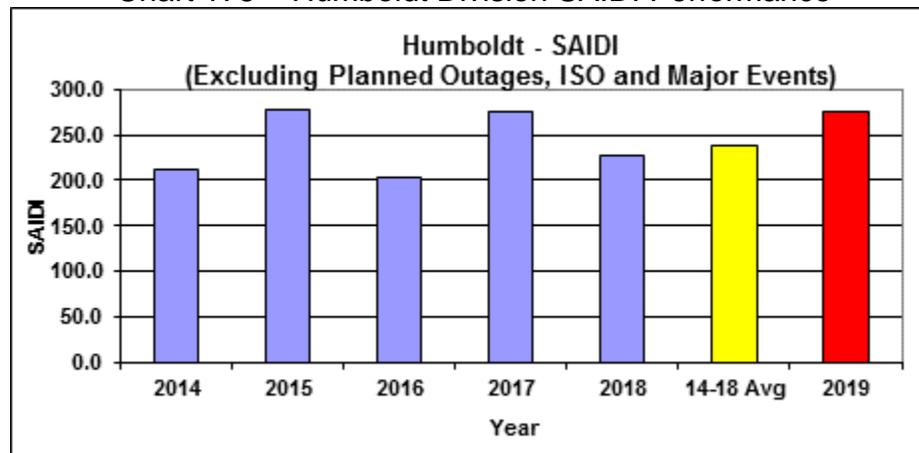
Table 14: Humboldt Division Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
HUMBOLDT	2014	212.4	1.217	1.809	174.5
HUMBOLDT	2015	276.3	1.621	2.423	170.5
HUMBOLDT	2016	203.0	1.537	1.995	132.1
HUMBOLDT	2017	275.1	1.306	2.280	210.6
HUMBOLDT	2018	226.8	1.825	1.502	124.3
5-Year Average	14-18 Avg	238.7	1.501	2.002	159.0
HUMBOLDT	2019	274.6	1.640	1.834	167.5
	%Difference	15.0%	9.2%	-8.4%	5.3%

Humboldt Division SAIDI Performance

Humboldt Division's 2019 SAIDI performance of 274.6 is 35.9 customer-minutes (or 15.0%) higher than the previous 5-year average of 238.7 as shown in the table above and illustrated below.

Chart 175 – Humboldt Division SAIDI Performance



The higher than average 2019 SAIDI performance is due to the following outage events:

1. On October 16th, a tree fell into the 60kV transmission line causing outages at Fort Seward, Fruitland, Garberville and Rio Dell Substations. This outage contributed 19.3 customer-minutes to the division's SAIDI.

7. Kern Division Performance Assessment

Kern Division Performance

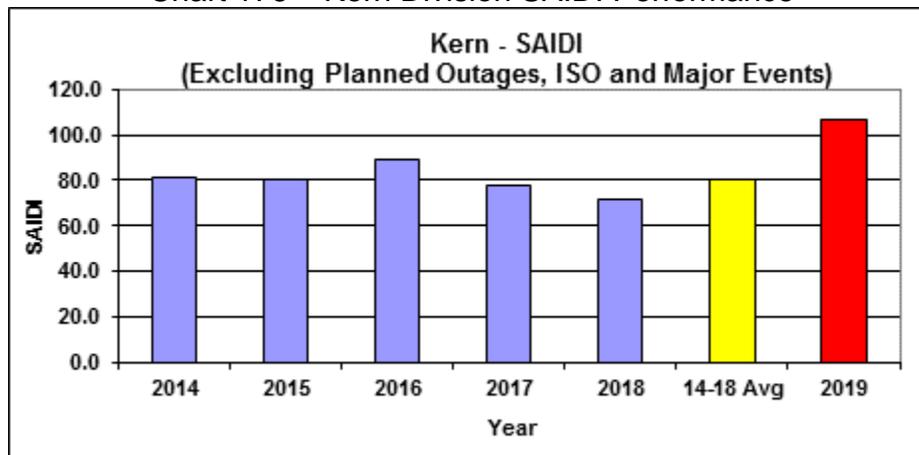
Table 15: Kern Division Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
KERN	2014	81.0	0.936	1.635	86.5
KERN	2015	80.4	0.862	1.850	93.2
KERN	2016	89.2	0.916	2.066	97.4
KERN	2017	78.1	0.733	1.403	106.5
KERN	2018	71.6	0.783	1.720	91.4
5-Year Average	14-18 Avg	80.1	0.846	1.735	94.6
KERN	2019	106.6	1.101	1.743	96.8
	%Difference	33.2%	30.1%	0.5%	2.3%

Kern Division SAIDI Performance

Kern Division's 2019 SAIDI performance of 106.6 is 26.5 customer-minutes (or 33.2%) higher than the previous 5-year average of 80.1 as shown in the table above and illustrated below.

Chart 176 – Kern Division SAIDI Performance



The higher than average 2019 SAIDI performance is due the following outage events:

1. On May 17th, a SCADA malfunction on the Stockdale 2111 circuit contributed 1.8 customer-minutes to the division's SAIDI.
2. On June 12th, an underground switch failure on the Stockdale 2115 circuit contributed 0.9 customer-minutes to the division's SAIDI.
3. On July 22nd, a failed underground elbow on the 7th Standard 2101 circuit contributed 2.4 customer-minutes to the division's SAIDI.
4. On October 30th, a tree branch fell on the Bakersfield 2103 circuit contributing 2.0 customer-minutes to the division's SAIDI.
5. December 22nd – (1) a broken crossarm on the Stockdale 2113 circuit

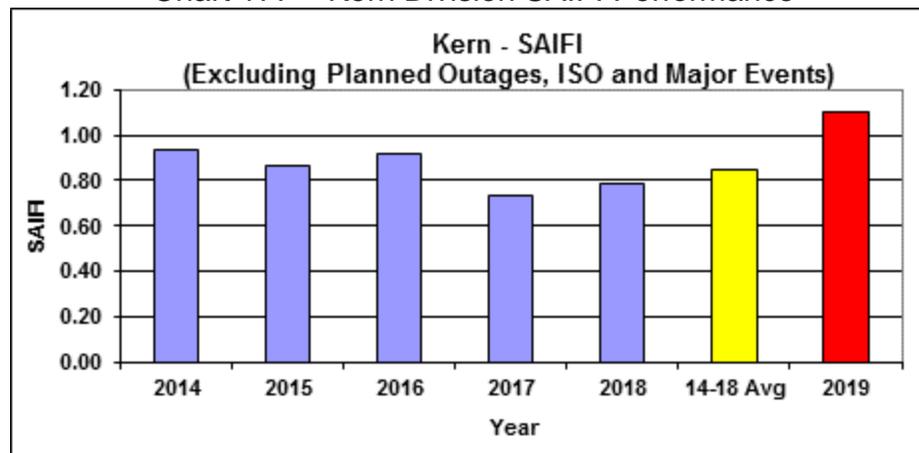
contributed 3.7 customer-minutes to the division's SAIDI; (2) a tree fell on the Panama 2102 circuit contributing 2.2 customer-minutes to the division's SAIDI; and (3) an outage of unknown cause on the Bakersfield 2109 circuit contributed 3.2 customer-minutes to the division's SAIDI (the line was patrolled, and the cause was not determined).

6. On December 26th, an outage of unknown cause on the Tejon 1102 circuit contributed 3.2 customer-minutes to the division's SAIDI.

Kern Division SAIFI Performance

Kern Division's 2019 SAIFI performance of 1.101 is 0.255 customer-interruptions (or 30.1%) higher than the previous 5-year average of 0.846 as shown in the table above and illustrated below.

Chart 177 – Kern Division SAIFI Performance



The higher than average 2019 SAIFI performance is due the following outage events:

1. On May 17th, a SCADA malfunction on the Stockdale 2111 circuit contributed 0.013 customer-interruptions to the division's SAIFI.
2. On June 12th, an underground switch failure on the Stockdale 2115 circuit contributed 0.010 customer-interruptions to the division's SAIFI.
3. July 14th, a car pole accident on the Fruitvale 1104 circuit and another car-pole on the Kern Power 2103 circuit contributed 0.028 customer-interruptions to the division's SAIFI.
4. On July 22nd, a failed underground elbow on the 7th Standard 2101 circuit contributed 0.013 customer-interruptions to the division's SAIFI.
5. November 13th – (1) an outage of unknown cause on the Stockdale 2113 circuit contributed 0.012 customer-interruptions to the division's SAIFI (the

line was patrolled but the cause was not determined); and (2) a bird cause outage on the Tevis 2104 circuit contributed 0.016 customer-interruptions to the division's SAIFI.

6. December 22nd – (1) a broken crossarm on the Stockdale 2113 circuit contributed 0.024 customer-interruptions to the division's SAIFI; (2) a tree fell on the Panama 2102 circuit contributing 0.014 customer-interruptions to the division's SAIFI; and (3) an outage of unknown cause on the Bakersfield 2109 circuit contributed 0.020 customer-interruptions to the division's SAIFI (the line was patrolled but the cause was not determined).
7. December 26th, an operating error at Bakersfield substation contributed 0.036 customer-interruptions to the division's SAIFI.

8. Los Padres Division Performance Assessment

Los Padres Division Performance

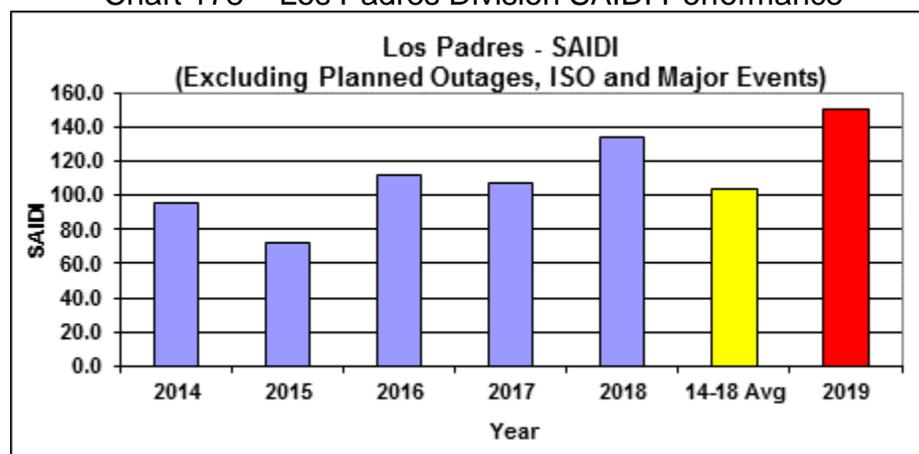
Table 16: Los Padres Division Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
LOS PADRES	2014	95.2	1.043	1.135	91.2
LOS PADRES	2015	72.2	0.687	1.408	105.1
LOS PADRES	2016	112.3	1.147	1.671	97.9
LOS PADRES	2017	106.7	0.944	1.442	113.0
LOS PADRES	2018	134.1	1.208	1.010	111.0
5-Year Average	14-18 Avg	104.1	1.006	1.333	103.5
LOS PADRES	2019	150.7	1.188	0.798	126.8
	%Difference	44.8%	18.2%	-40.1%	22.5%

Los Padres Division SAIDI Performance

Los Padres Division's 2019 SAIDI performance of 150.7 was 46.6 customer-minutes (or 44.8%) higher than the previous 5-year average of 104.1 as shown in the table above and illustrated in the figure below.

Chart 178 – Los Padres Division SAIDI Performance



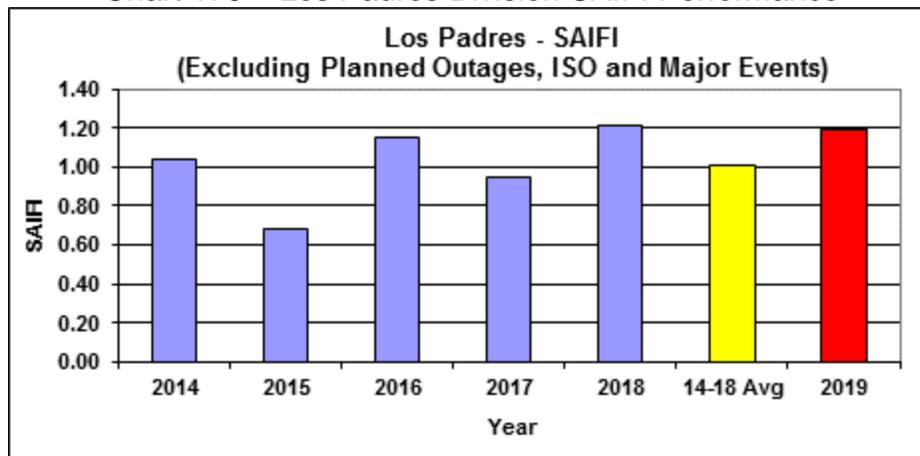
The higher than average 2019 Los Padres Division SAIDI was attributed to the following:

1. On February 23rd, the transmission line was forced out due to a tree in the line caused by a 3rd party tree-cutting. This outage contributed 19.2 customer-minutes to the division’s SAIDI performance.
2. On April 6th, a car-pole incident on the Santa Maria 1111 circuit contributed 4.2 customer-minutes to the division’s SAIDI performance.
3. On August 1st, a failed overhead connector / splice on the Morro Bay 1101 circuit contributed 3.7 customer-minutes to the division’s SAIDI performance.
4. On September 9th, a grass fire near a transmission line in Santa Maria interrupted service to the Buellton, Palmer, Santa Ynes, and Zaca substations. This outage contributed 8.1 customer-minutes to the division’s SAIDI performance.
5. On September 12th, a failed underground transformer on the Morro Bay 1102 circuit. This outage contributed 4.2 customer-minutes to the division’s SAIDI.

Los Padres Division SAIFI Performance

Los Padres Division’s 2019 SAIFI performance of 1.188 was 0.182 customer-interruptions (or 18.2%) higher than the previous 5-year average of 1.006 as shown in the table above and illustrated in the figure below.

Chart 179 – Los Padres Division SAIFI Performance



The higher than average 2019 Los Padres Division SAIFI was attributed to the following:

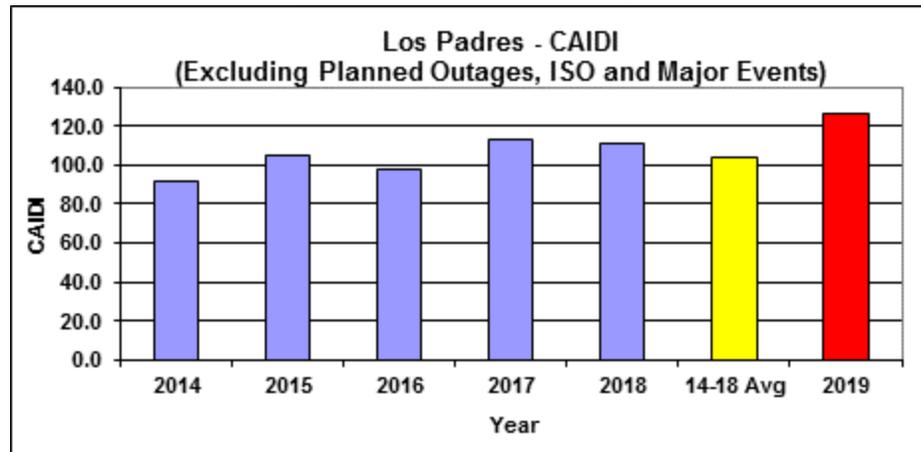
1. On February 23rd, a transmission line was forced out due to a tree in the line caused by a 3rd party tree-cutting. This outage contributed 0.130 customer-

interruptions to the division's SAIFI performance.

Los Padres Division CAIDI Performance

Los Padres Division's 2019 CAIDI performance of 126.8 was 23.3 minutes (or 22.5%) higher than the previous 5-year average of 103.5 as shown in the table above and illustrated in the figure below.

Chart 180 – Los Padres Division CAIDI Performance



The higher than average 2019 Los Padres Division CAIDI was attributed to the following:

1. On February 23rd, a transmission line was forced out due to a tree in the line caused by a 3rd party tree-cutting.
2. A failed overhead connector / splice on the Divide 1102 circuit and a tree fell into the Perry 1101 circuit.
3. A broken crossarm on the San Luis Obispo 1107 circuit.
4. A car-pole incident on the Santa Maria 1111 circuit on April 6th.
5. A failed overhead connector / splice on the Morro Bay 1101 circuit on August 1st.
6. A grass fire near a transmission line in Santa Maria interrupted service to the Buellton, Palmer, Santa Ynes, and Zaca substations on September 9th.
7. On September 12th, a failed underground transformer on the Morro Bay 1102 circuit on September 12th.

These outages contributed 13.3 minutes to the division's overall CAIDI.

9. North Bay Division Performance Assessment

North Bay Division Performance

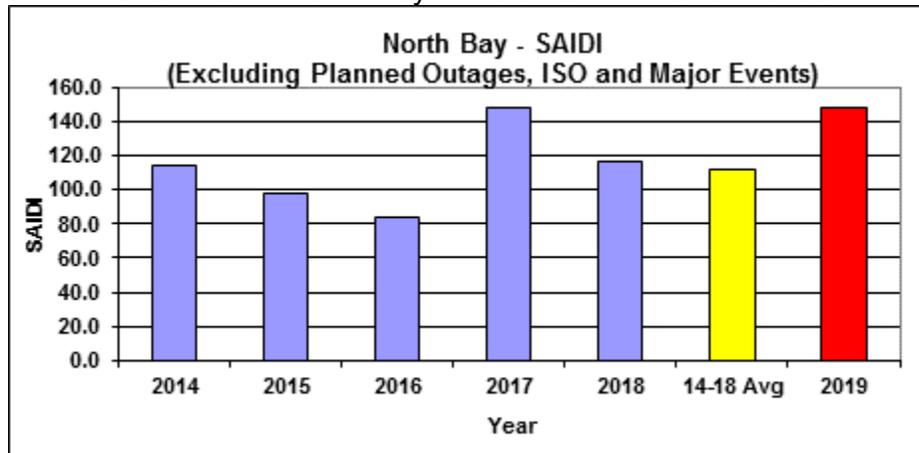
Table 17: North Bay Division Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
NORTH BAY	2014	114.6	0.875	2.505	131.0
NORTH BAY	2015	97.4	0.904	1.977	107.8
NORTH BAY	2016	83.9	0.767	1.209	109.4
NORTH BAY	2017	148.5	0.955	1.832	155.5
NORTH BAY	2018	116.3	0.921	1.771	126.3
5-Year Average	14-18 Avg	112.1	0.884	1.859	126.8
NORTH BAY	2019	148.2	1.312	1.647	112.9
	%Difference	32.1%	48.4%	-11.4%	-11.0%

North Bay Division SAIDI Performance

North Bay Division's 2019 SAIDI performance of 148.2 was 36.1 customer-minutes (or 32.1%) higher than the previous 5-year average of 112.1 as shown in the table above and illustrated in the figure below.

Chart 181 – North Bay Division SAIDI Performance



The higher than average 2019 North Bay Division SAIDI was attributed to the following outage events:

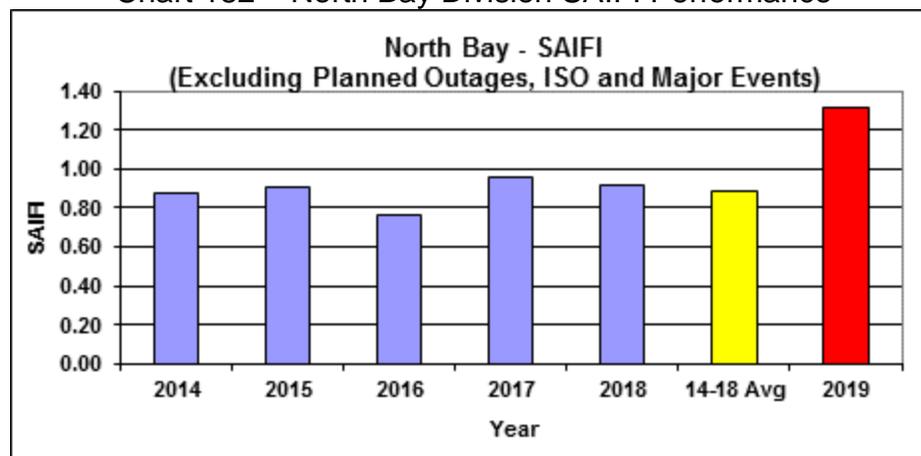
1. On February 6th, a failed overhead conductor on the Napa 1102 circuit contributed 3.0 customer-minutes to the division's SAIDI performance.
2. On March 12th, the following three outages contributed 9.2 customer-minutes to the division's SAIDI performance: (1) a tree fell into the Olema 1101 circuit, (2) a metallic balloon on the Carquinez 1103 circuit, and (3) a car-pole incident on the San Rafael 1105 circuit.
3. On June 9th, a failed overhead conductor on the North Tower 1108 circuit and a failed line recloser on the Alto 1125 circuit contributed 4.2 customer-minutes

- to the division's SAIDI performance.
4. The heat wave of June 11th contributed 5.8 customer-minutes to the division's SAIDI performance.
 5. The November 30th storm event brought heavy rain into the area and contributed 3.7 customer-minutes to the division's SAIDI performance.

North Bay Division SAIFI Performance

North Bay Division's 2019 SAIFI performance of 1.312 was 0.428 customer-interruptions (or 48.4%) higher than the previous 5-year average of 0.884 as shown in the table above and illustrated in the figure below.

Chart 182 – North Bay Division SAIFI Performance



The higher than average 2019 North Bay Division SAIFI was attributed to the following outage events:

1. On January 20th, a failed overhead conductor on the San Rafael 1107 circuit contributed 0.028 customer-interruptions to the division's SAIFI performance.
2. On February 6th, a failed overhead conductor on the Napa 1102 circuit contributed 0.008 customer-interruptions to the division's SAIFI performance.
3. On March 12th, the following three outages contributed 0.030 customer-interruptions to the division's SAIFI performance: (1) a tree fell into the Olema 1101 circuit, (2) a metallic balloon on the Carquinez 1103 circuit, and (3) a car-pole incident on the San Rafael 1105 circuit.
4. On June 9th, a failed overhead conductor on the North Tower 1108 circuit and a failed line recloser on the Alto 1125 circuit contributed 0.029 customer-interruptions to the division's SAIFI performance.
5. The heat wave of June 11th contributed 0.051 customer-interruptions to the division's SAIFI performance.

6. On June 27th, a failed connector / splice on the Alto 1121 and another failed connector / splice on the Alto 1123 contributed 0.024 customer-interruptions to the division's SAIFI performance.
7. October 3rd: (1) a trouble-man working on the San Rafael 1107 inadvertently caused an outage when the fuse contacted the line. This event contributed 0.025 customer-interruptions to the division SAIFI performance. (2) A failed overhead connector / splice on the Greenbrae 1102 circuit contributed 0.017 customer-interruptions to the division's SAIFI performance.
8. On November 7th, an outage of unknown cause on the Pueblo 2103 circuit contributed 0.019 customer-interruptions to the division's SAIFI performance. The line was patrolled but the cause was not determined.
9. On November 10th, two outages of unknown cause on the San Rafael 1104 circuit contributed 0.036 customer-interruptions to the division's SAIFI performance. The line was patrolled but the cause was not determined.
10. On November 16th, two outages of unknown cause on the San Rafael 1104 circuit contributed 0.036 customer-interruptions to the division's SAIFI performance. The line was patrolled but the cause was not determined.
11. On November 17th, a broken insulator on the Stafford 1101 circuit contributed 0.020 customer-interruptions to the division's SAIFI performance.
12. The November 30th storm event brought heavy rain into the area and contributed 0.027 customer-interruptions to the division's SAIFI performance.

10. North Valley Division Performance Assessment

North Valley Division Performance

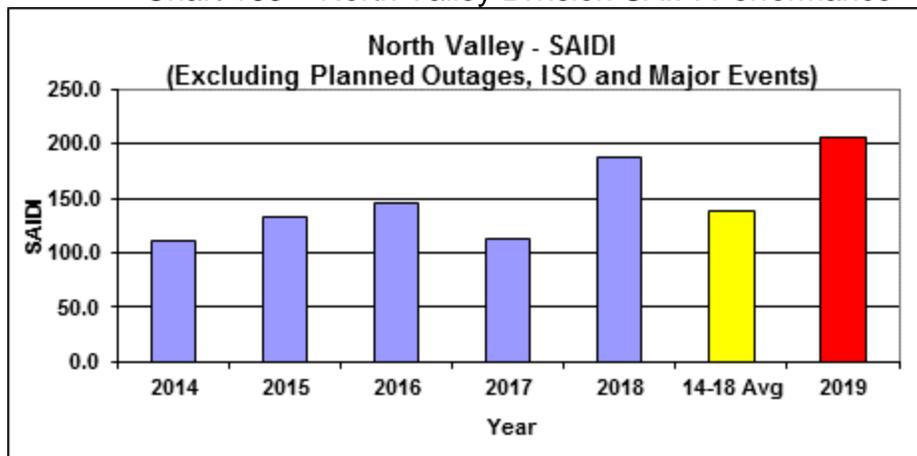
Table 18: North Valley Division Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
NORTH VALLEY	2014	111.1	0.968	1.521	114.8
NORTH VALLEY	2015	132.8	1.062	1.930	125.0
NORTH VALLEY	2016	146.4	1.128	1.937	129.8
NORTH VALLEY	2017	112.3	0.863	2.007	130.2
NORTH VALLEY	2018	187.3	1.367	1.325	137.0
5-Year Average	14-18 Avg	138.0	1.077	1.744	128.1
NORTH VALLEY	2019	205.0	1.506	1.458	136.1
	%Difference	48.6%	39.7%	-16.4%	6.3%

North Valley Division SAIDI Performance

North Valley Division's 2019 SAIDI performance of 205.0 was 67.0 customer-minutes (or 48.6%) higher than the previous 5-year average of 138.0 as shown in the table above and illustrated in the figure below.

Chart 183 – North Valley Division SAIFI Performance



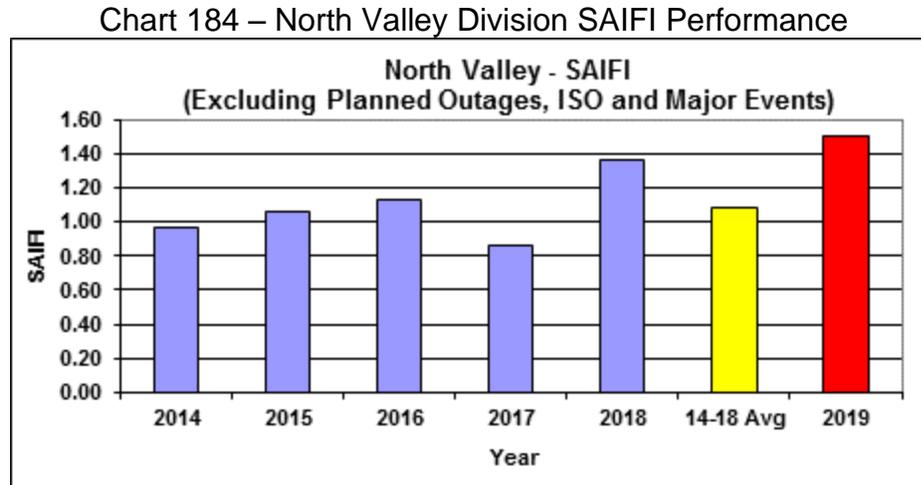
The higher than average 2019 North Valley Division SAIDI was attributed to the following outage events:

1. On February 25th, a storm event brought heavy rain and winds into the area and contributed 3.9 customer-minutes to the division's SAIDI performance.
2. On June 26th, an outage of unknown cause on the Cottonwood-Benton 60 kV line contributed 2.6 customer-minutes to the division's SAIDI performance. The line was patrolled but the cause was not determined.
3. On July 27th, a tree fell into the line causing an outage at Chester substation. This outage contributed 5.7 customer-minutes to the division's SAIDI performance.
4. On August 9th, a car-pole incident on the Jessup 1102 circuit contributed 6.4 customer-minutes to the division's SAIDI performance.
5. The lightning storm of August 10th contributed 23.1 customer-minutes to the division's SAIDI performance.
6. August 22nd: (1) a grass fire in the area of Stillwater substation caused the substation to be shut down contributing 6.1 customer-minutes to the division's SAIDI performance. (2) a car-pole incident on the Cottonwood 1103 circuit contributed 1.9 customer-minutes to the division's SAIDI performance.
7. On November 29th, a transmission outage, impacting Oro Fino substation due to a broken pole, contributed 5.9 customer-minutes to the division's SAIDI performance.

North Valley Division SAIFI Performance

North Valley Division's 2019 SAIFI performance of 1.506 was 0.429 customer-interruptions (or 39.7%) higher than the previous 5-year average of 1.077 as

shown in the table above and illustrated in the figure below.



The higher than average 2019 North Valley Division SAIFI was attributed to the following:

1. On January 5th, a storm event bringing heavy rain into the area contributed 0.011 customer-interruptions to the division's SAIFI performance.
2. On January 9th, a storm event bringing rain and lightning into the area contributed 0.027 customer-interruptions to the division's SAIFI performance.
3. Rain on February 1st contributed 0.024 customer-interruptions to the division's SAIFI performance.
4. February 20th brought rain and lightning into the area and contributed 0.026 customer-interruptions to the division's SAIFI performance.
5. On February 25th, a storm event brought heavy rain and winds into the area and contributed 0.037 customer-interruptions to the division's SAIFI performance.
6. On June 6th, (1) a tree branch fell into the Nord 1103 circuit contributing 0.016 customer-interruptions to the division's SAIFI performance and (2) a failed overhead conductor on the Chico B 1101 circuit contributed 0.006 customer-interruptions to the division's SAIFI performance.
7. On June 26th, an outage of unknown cause on the Cottonwood-Benton 60 kV line contributed 0.034 customer-interruptions to the division's SAIFI performance. The line was patrolled but the cause was not determined.
8. On July 27th, a tree fell into the line causing an outage at Chester substation. This outage contributed 0.008 customer-interruptions to the division's SAIFI performance.
9. On August 9th, a car-pole incident on the Jessup 1102 circuit contributed 0.012

customer-interruptions to the division's SAIFI performance.

10. The lightning storm of August 10th contributed 0.085 customer-interruptions to the division's SAIFI performance.
11. August 22nd: (1) a grass fire in the area of Stillwater substation caused the substation to be shut down contributing 0.006 customer-interruptions to the division's SAIFI performance and (2) a car-pole incident on the Cottonwood 1103 circuit contributed 0.014 customer-interruptions to the division's SAIFI performance.
12. On November 29th, a transmission outage, impacting Oro Fino substation due to a broken pole, contributed 0.022 customer-interruptions to the division's SAIFI performance.

11. Peninsula Division Performance Assessment

Peninsula Division Performance

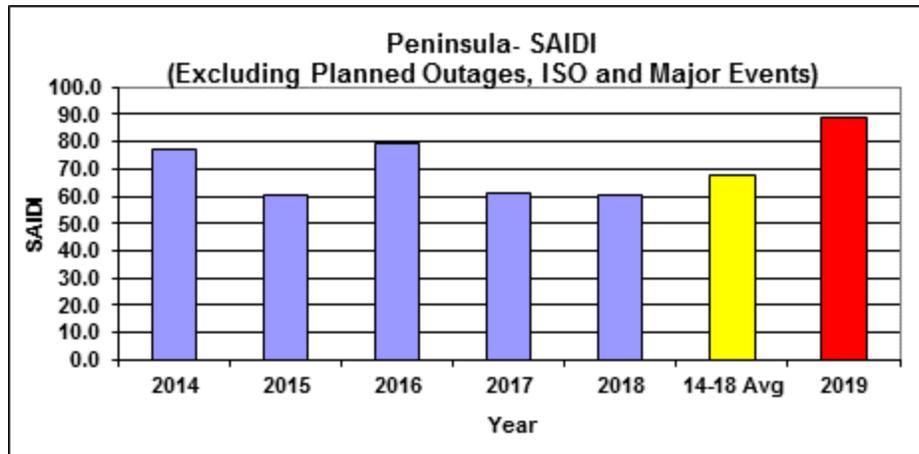
Table 19: Peninsula Division Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
PENINSULA	2014	77.1	0.898	1.164	85.9
PENINSULA	2015	60.5	0.752	1.601	80.4
PENINSULA	2016	79.2	0.908	1.195	87.2
PENINSULA	2017	61.5	0.640	1.176	96.0
PENINSULA	2018	60.5	0.806	1.204	75.0
5-Year Average	14-18 Avg	67.8	0.801	1.268	84.6
PENINSULA	2019	88.5	0.816	0.983	108.4
	%Difference	30.6%	1.9%	-22.5%	28.1%

Peninsula Division SAIDI Performance

Peninsula Division's 2019 SAIDI performance of 88.5 was 20.7 customer-minutes (or 30.6%) higher than the previous 5-year average of 67.8 as shown in the table above and illustrated in the figure below.

Chart 185 – Peninsula Division SAIDI Performance



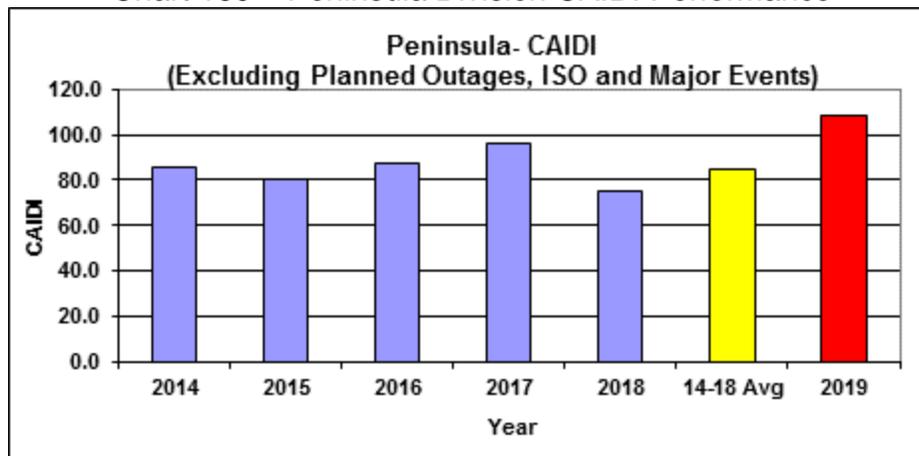
The higher than average 2019 Peninsula Division SAIDI was attributed to the following:

1. On March 9th, a tree fell into the Woodside 1103 circuit contributing 2.1 customer-minutes to the division's SAIDI performance.
2. On March 12th, two incidences for tree branches falling into the lines (Pacifica 1103 and 1104 circuits) contributed 3.8 customer-minutes to the division's SAIDI performance.
3. On March 26th, a failed line regulator on the Woodside 1102 circuit contributed 3.9 customer-minutes to the division's SAIDI performance.
4. On October 24th, a Public Safety Public Shut-off (PSPS) took place and contributed 2.7 customer-minutes to the division's SAIDI performance.
5. The December 7th storm event brought high winds and rain into the area and contributed 2.9 customer-minutes to the division's SAIDI performance.

Peninsula Division CAIDI Performance

Peninsula Division's 2019 CAIDI performance of 108.4 was 23.8 minutes (or 28.1%) higher than the previous 5-year average of 84.6 as shown in the table above and illustrated in the figure below.

Chart 186 – Peninsula Division CAIDI Performance



The higher than average 2019 Peninsula Division CAIDI was attributed to the following:

1. On January 18th, a failed underground connector on the Bay Meadows 1107 circuit.
2. On March 9th, a tree fell into the Woodside 1103 circuit
3. On March 12th, two incidences of tree branches falling into the lines (Pacifica 1103 and 1104 circuits).
4. On March 26th, a failed line regulator on the Woodside 1102 circuit.
5. On July 9th, a car-pole incident on the Redwood City 409 circuit.
6. On October 8th, outages related to failed wood poles occurred on the Bay Meadows 1105 and 1107 circuits, and on the Hillsdale 405 circuit.
7. On October 24th, a Public Safety Public Shut-off (PSPS) took place.
8. The December 7th storm event brought high winds and rain into the area.
9. December 22nd: (1) a failed overhead connector / splice on the Bellehaven 1105 circuit and (2) a failed regulator at Hillsdale substation.

These outages contributed 15.3 minutes to the division's CAIDI performance.

12. Sacramento Division Performance Assessment

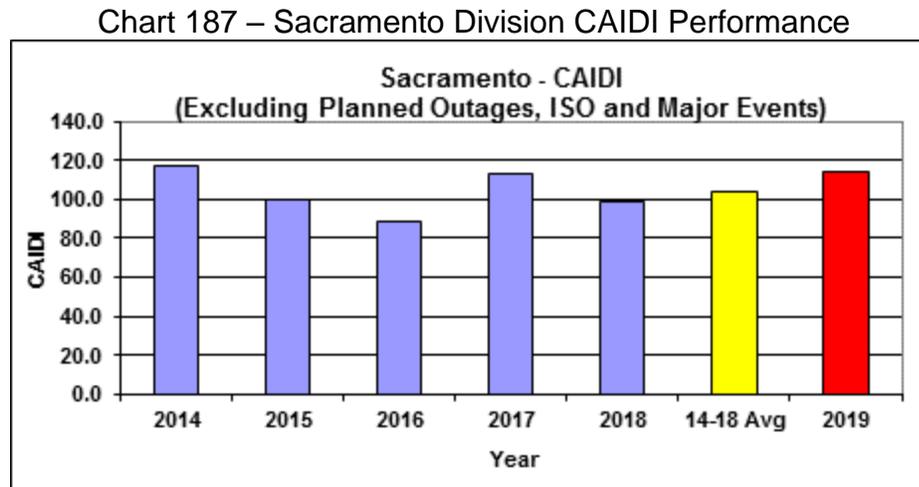
Sacramento Division Performance

Table 20: Sacramento Division Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SACRAMENTO	2014	94.4	0.807	1.258	117.0
SACRAMENTO	2015	80.1	0.799	1.556	100.3
SACRAMENTO	2016	83.6	0.944	1.539	88.5
SACRAMENTO	2017	121.2	1.070	1.708	113.2
SACRAMENTO	2018	101.9	1.031	1.825	98.9
5-Year Average	14-18 Avg	96.2	0.930	1.577	103.5
SACRAMENTO	2019	98.9	0.866	1.574	114.3
	%Difference	2.8%	-6.9%	-0.2%	10.5%

Sacramento Division CAIDI Performance

Sacramento Division's 2019 CAIDI performance of 114.3 was 10.8 minutes (or 10.5%) higher than the previous 5-year average of 103.5 as shown in the table above and illustrated in the figure below.



The higher than average 2019 Sacramento Division CAIDI was attributed to a failed bushing at Colusa substation on December 1st. This outage contributed 2.4 minutes to the division's CAIDI performance.

13. San Francisco Division Performance Assessment

San Francisco Division Performance

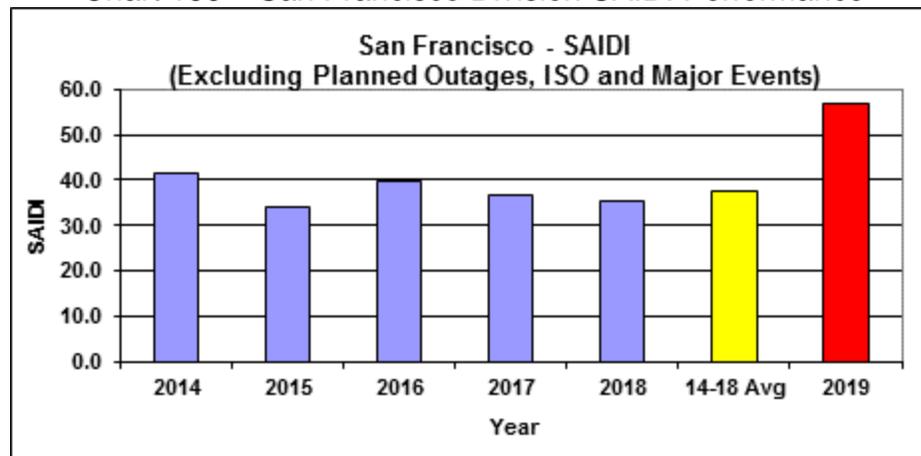
Table 21: San Francisco Division Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SAN FRANCISCO	2014	41.5	0.457	0.235	90.8
SAN FRANCISCO	2015	33.9	0.504	0.501	67.2
SAN FRANCISCO	2016	39.7	0.518	0.355	76.7
SAN FRANCISCO	2017	36.5	0.500	0.372	73.0
SAN FRANCISCO	2018	35.2	0.378	0.270	93.0
5-Year Average	14-18 Avg	37.4	0.472	0.347	79.2
SAN FRANCISCO	2019	56.8	0.614	0.258	92.4
	%Difference	52.0%	30.3%	-25.5%	16.6%

San Francisco Division SAIDI Performance

San Francisco Division's 2019 SAIDI performance of 56.8 was 19.4 customer-minutes (or 52.0%) higher than the previous 5-year average of 37.4 as shown in the table above and illustrated in the figure below.

Chart 188 – San Francisco Division SAIDI Performance



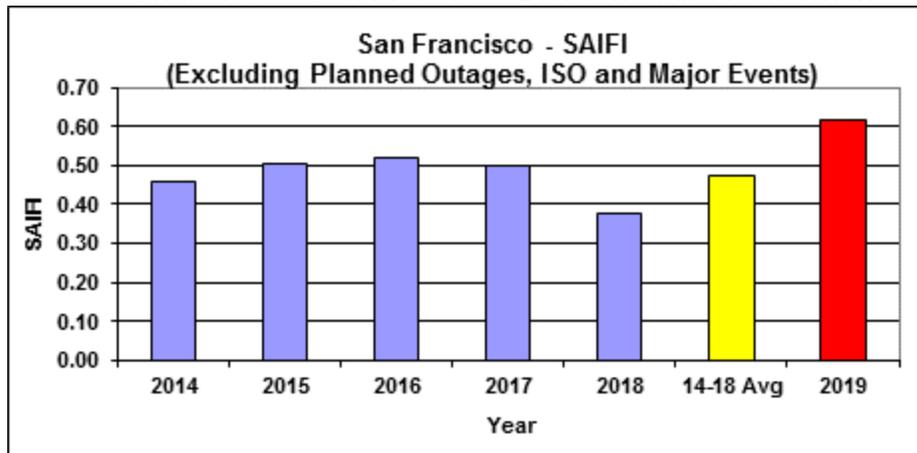
The higher than average 2019 San Francisco Division SAIDI was attributed to the following:

1. On March 3rd, a 3rd part dig-in on the Marina 1101 circuit and a failed pothead on the SF Y 1109 circuit contributed 1.6 customer-minutes to the division's SAIDI performance.
2. On May 31st, a failed underground cable on the SF Z 1116 circuit contributed 3.4 customer-minutes to the division's SAIDI performance.
3. On June 6th, a failed underground connector / splice on the SF Y 1111 circuit contributed 1.6 customer-minutes to the division's SAIDI performance.
4. On August 17th, two overhead conductor failures (Oceano 401 and Portola 402 circuits) contributed 2.4 customer-minutes to the division's SAIDI performance.
5. On September 20th, a 3rd party dig-in caused an outage at the SF Sta. A substation that contributed 6.4 customer-minutes to the division's SAIDI performance.
6. On September 29th, a failed relay at SF Sta. Y substation contributed 2.0 customer-minutes to the division's SAIDI performance.

San Francisco Division SAIFI Performance

San Francisco Division's 2019 SAIFI performance of 0.614 was 0.142 customer-interruptions (or 30.3%) higher than the previous 5-year average of 0.472 as shown in the table above and illustrated in the figure below.

Chart 189 – San Francisco Division SAIFI Performance



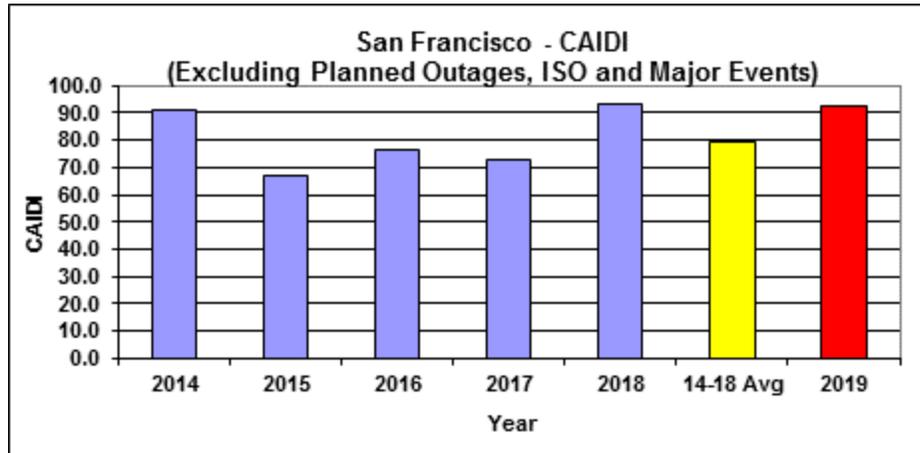
The higher than average 2019 San Francisco Division SAIFI was attributed to the following:

1. On March 3rd, a 3rd part dig-in on the Marina 1101 circuit and a failed pothead on the SF Y 1109 circuit contributed 0.021 customer-interruptions to the division's SAIFI performance.
2. On May 31st, a failed underground cable on the SF Z 1116 circuit contributed 0.010 customer-interruptions to the division's SAIFI performance.
3. On June 6th, a failed underground connector / splice on the SF Y 1111 circuit contributed 0.010 customer-interruptions to the division's SAIFI performance.
4. On August 17th, two overhead conductor failures (Oceano 401 and Portola 402 circuits) contributed 0.003 customer-interruptions to the division's SAIFI performance.
5. On September 20th, a 3rd party dig-in caused an outage at the SF Sta. A substation that contributed 0.055 customer-interruptions to the division's SAIFI performance.

San Francisco Division CAIDI Performance

San Francisco Division's 2019 CAIDI performance of 92.4 was 13.2 minutes (or 16.6%) higher than the previous 5-year average of 79.2 as shown in the table above and illustrated in the figure below.

Chart 190 – San Francisco Division CAIDI Performance



The higher than average 2019 San Francisco Division CAIDI is attributed to the following:

1. On March 3rd, a 3rd part dig-in on the Marina 1101 circuit and a failed pothead on the SF Y 1109 circuit.
 2. On May 31st, a failed underground cable on the SF Z 1116 circuit.
 3. On June 6th, a failed underground connector / splice on the SF Y 1111 circuit.
 4. On August 17th, two overhead conductor failures (Oceano 401 and Portola 402 circuits).
 5. On September 20th, a 3rd party dig-in caused an outage at the SF Sta. A
- These outages contributed 12.0 minutes to the division’s CAIDI performance.

14. San Jose Division Performance Assessment

San Jose Division Performance

Table 22: San Jose Division Performance

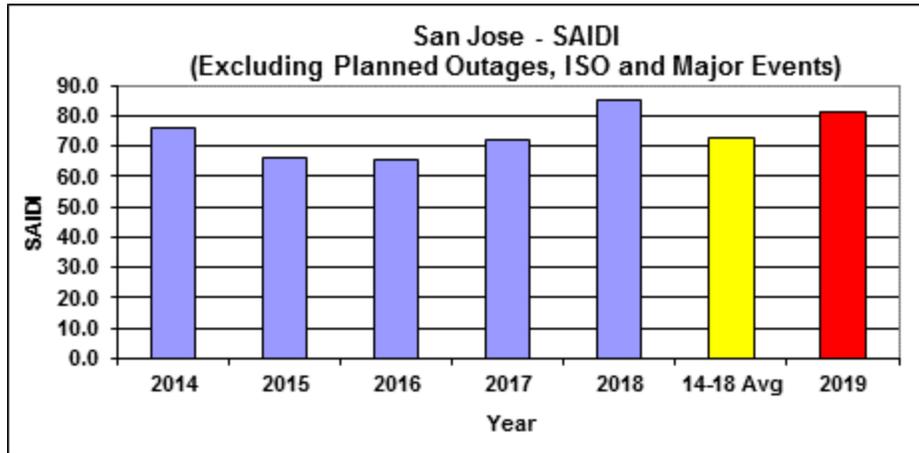
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SAN JOSE	2014	76.0	0.806	1.026	94.4
SAN JOSE	2015	65.9	0.678	1.008	97.2
SAN JOSE	2016	65.5	0.644	1.152	101.7
SAN JOSE	2017	72.3	0.739	1.171	97.8
SAN JOSE	2018	85.0	0.858	1.322	99.1
5-Year Average	14-18 Avg	73.0	0.745	1.136	97.9
SAN JOSE	2019	81.5	0.747	1.259	109.1
	%Difference	11.7%	0.2%	10.8%	11.4%

San Jose Division SAIDI Performance

San Jose Division’s 2019 SAIDI performance of 81.5 was 8.5 customer-minutes (or 11.7%) higher than the previous 5-year average of 73.0 as shown in the table

above and illustrated in the figure below.

Chart 191 – San Jose Division SAIDI Performance

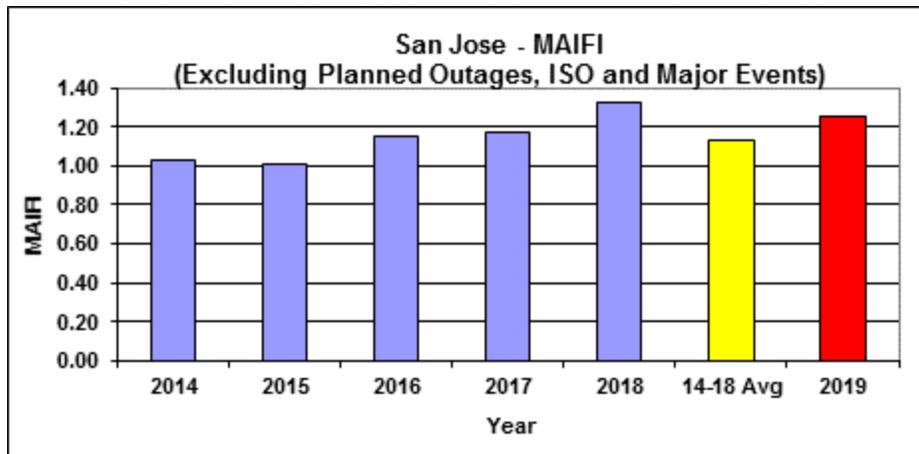


The higher than average 2019 San Jose Division SAIDI was attributed to the November 30th storm. This storm contributed 3.4 customer-minutes to the division’s SAIDI performance.

San Jose Division MAIFI Performance

San Jose Division’s 2019 MAIFI performance of 1.259 was 0.123 customer-interruptions (or 10.8%) higher than the previous 5-year average of 1.136 as shown in the table above and illustrated in the figure below.

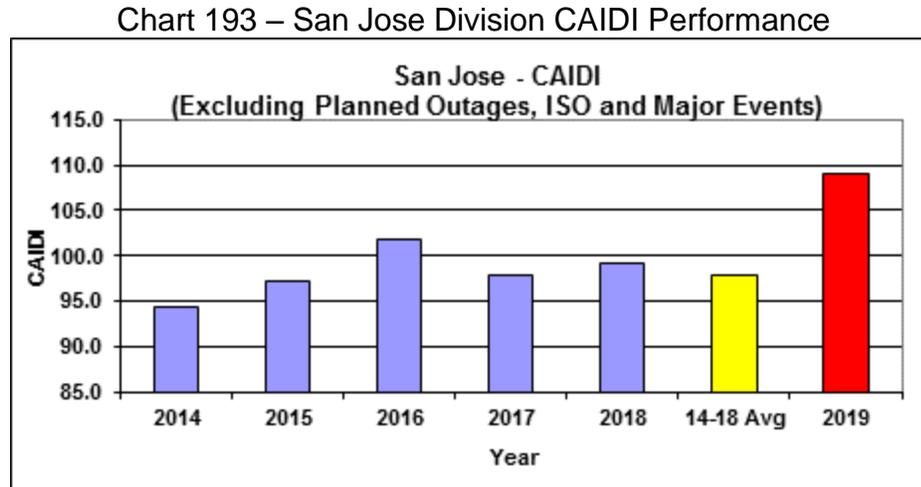
Chart 192 – San Jose Division MAIFI Performance



The higher than average 2019 San Jose Division MAIFI was attributed to the high winds on March 12th. These winds caused momentary outages to Stone substation, Llagas 2101, San Jose A 1112, and Evergreen 2104. These outages contributed 0.063 customer-interruptions to the division’s MAIFI performance.

San Jose Division CAIDI Performance

San Jose Division's 2019 CAIDI performance of 109.1 was 11.2 minutes (or 11.4%) higher than the previous 5-year average of 97.9 as shown in the table above and illustrated in the figure below.



The higher than average 2019 San Jose Division CAIDI is attributed to the following:

1. On July 24th, a failed underground conductor on the Swift 2109 circuit.
2. The November 30th storm event.

These outages contributed 2.8 minutes to the division's CAIDI performance.

15. Sierra Division Performance Assessment

Sierra Division Performance

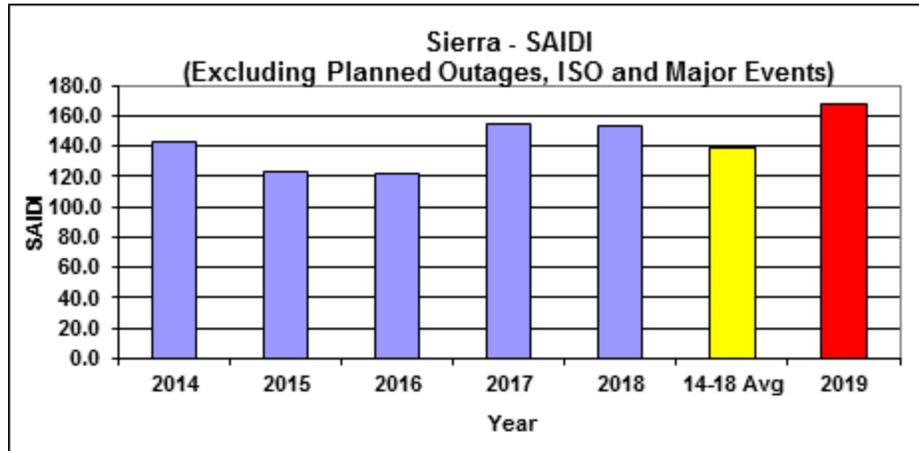
Table 23: Sierra Division Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SIERRA	2014	142.2	1.210	2.128	117.5
SIERRA	2015	123.2	1.115	2.816	110.5
SIERRA	2016	121.7	1.029	1.705	118.2
SIERRA	2017	155.0	1.191	1.856	130.2
SIERRA	2018	152.9	1.241	1.350	123.2
5-Year Average	14-18 Avg	139.0	1.157	1.971	120.1
SIERRA	2019	167.5	1.151	1.482	145.6
	%Difference	20.5%	-0.6%	-24.8%	21.2%

Sierra Division SAIDI Performance

Sierra Division's 2019 SAIDI performance of 167.5 was 28.5 customer-minutes (or 20.5%) higher than the previous 5-year average of 139.0 as shown in the table above and illustrated in the figure below.

Chart 194 – Sierra Division SAIDI Performance



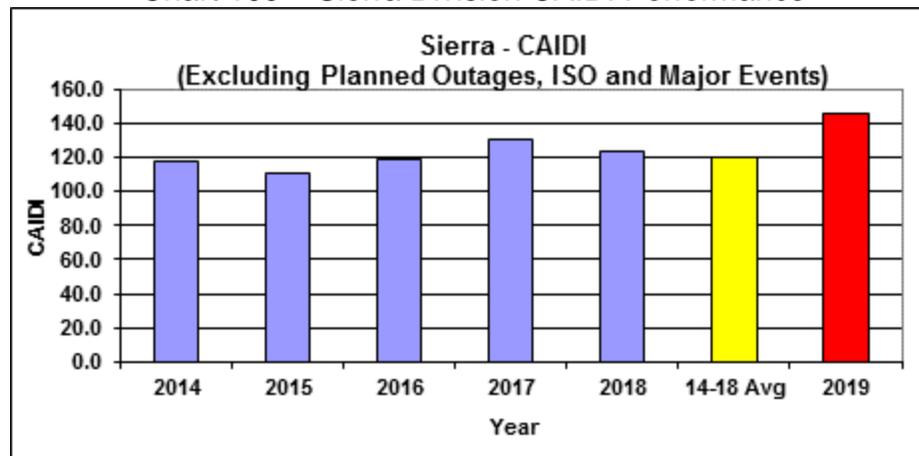
The higher than average 2019 Sierra Division SAIDI was attributed to the following:

1. The March 6th storm event brought heavy rain into the area and contributed 3.5 customer-minutes to the division's SAIDI performance.
2. On July 24th, an outage on the Alleghany 1101 circuit due to an unknown cause contributed 3.7 customer-minutes to the division's SAIDI performance.
3. On December 6th, a failed pole on the El Dorado PH 2101 circuit contributed 1.6 customer-minutes to the division's SAIDI performance.
4. The December 22nd storm event brought strong winds and rain into the area and contributed 6.1 customer-minutes to the division's SAIDI performance.

Sierra Division CAIDI Performance

Sierra Division's 2019 CAIDI performance of 145.6 was 25.5 minutes (or 21.2%) higher than the previous 5-year average of 120.1 as shown in the table above and illustrated in the figure below.

Chart 195 – Sierra Division CAIDI Performance



The higher than average 2019 Sierra Division CAIDI was attributed to the following:

1. On February 18th, a tree fell into the El Dorado PH 2102 circuit.
 2. The February 25th storm event brought heavy rain into the area.
 3. The March 6th storm event brought heavy rain into the area.
 4. On July 24th, an outage on the Alleghany 1101 circuit due to an unknown cause.
 5. On July 27th, a failed underground elbow on the Clarksville 2109 circuit.
 6. On September 4th, an outage of unknown cause on the Colgate-Alleghany 60 kV line (the line was patrolled but the cause was not determined).
 7. On November 6th, a broken pole due to a car-pole incident on the Colgate-Alleghany 60 kV line.
 8. On December 6th, a failed pole on the El Dorado PH 2101 circuit.
 9. The December 22nd storm event brought strong winds and rain into the area.
- These outages contributed 14.0 minutes to the division's overall CAIDI performance.

16. Sonoma Division Performance Assessment

Sonoma Division Performance

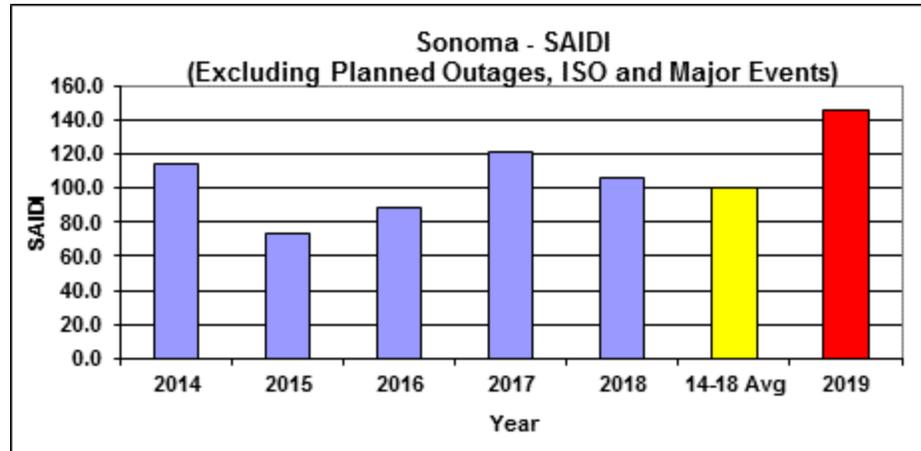
Table 24: Sonoma Division Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SONOMA	2014	113.7	0.899	1.587	126.6
SONOMA	2015	73.0	0.673	1.534	108.5
SONOMA	2016	88.6	0.792	1.508	111.8
SONOMA	2017	120.7	0.886	1.566	136.2
SONOMA	2018	105.5	0.956	1.201	110.3
5-Year Average	14-18 Avg	100.3	0.841	1.479	119.2
SONOMA	2019	145.8	1.071	1.233	136.2
	%Difference	45.3%	27.3%	-16.7%	14.2%

Sonoma Division SAIDI Performance

Sonoma Division's 2019 SAIDI performance of 145.8 was 45.5 customer-minutes (or 45.3%) higher than the previous 5-year average of 100.3 as shown in the table above and illustrated in the figure below.

Chart 196 – Sonoma Division SAIDI Performance



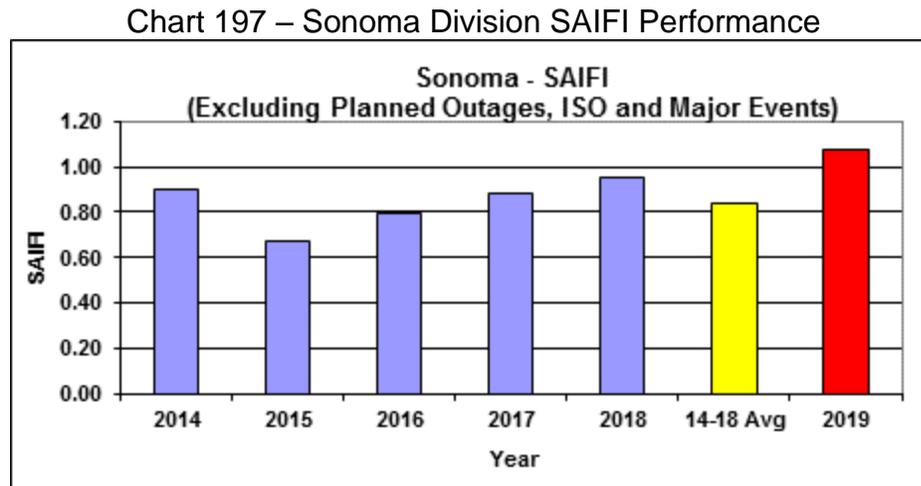
The higher than average 2019 Sonoma Division SAIDI was attributed to the following:

1. On March 3rd, a tree branch fell into the Monte Rio 1113 circuit and contributed 4.4 customer-minutes to the division's SAIDI performance.
2. On March 24th, failed wood pole on the Monte Rio 1113 circuit contributed 6.5 customer-minutes to the division's SAIDI performance.
3. On April 28th, a metallic balloon caused an outage on the Monroe 1106 circuit and contributed 5.2 customer-minutes to the division's SAIDI performance.
4. A late spring storm on May 15th brought rain into the area and contributed 3.2 customer-minutes to the division's SAIDI performance.
5. October 24th: (1) the Kincadee fire contributed 4.4 customer-minutes to the division's SAIDI performance; (2) a tree branch fell into the Dunbar 1103 circuit and contributed 1.2 customer-minutes to the division's SAIDI performance.
6. On October 28th, a pole fire on the Sonoma 1105 circuit contributed 8.4 customer-minutes to the division's SAIDI performance.
7. On December 6th, an outage of unknown cause on the Rincon 1104 circuit contributed 2.4 customer-minutes to the division's SAIDI performance. The circuit was patrolled but the cause was not determined.
8. On December 20th, the removal of a generator at Monte Rio substation

contributed 0.3 customer-minutes to the division's SAIFI performance.

Sonoma Division SAIFI Performance

Sonoma Division's 2019 SAIFI performance of 1.071 was 0.230 customer-interruptions (or 27.3%) higher than the previous 5-year average of 0.841 as shown in the table above and illustrated in the figure below.



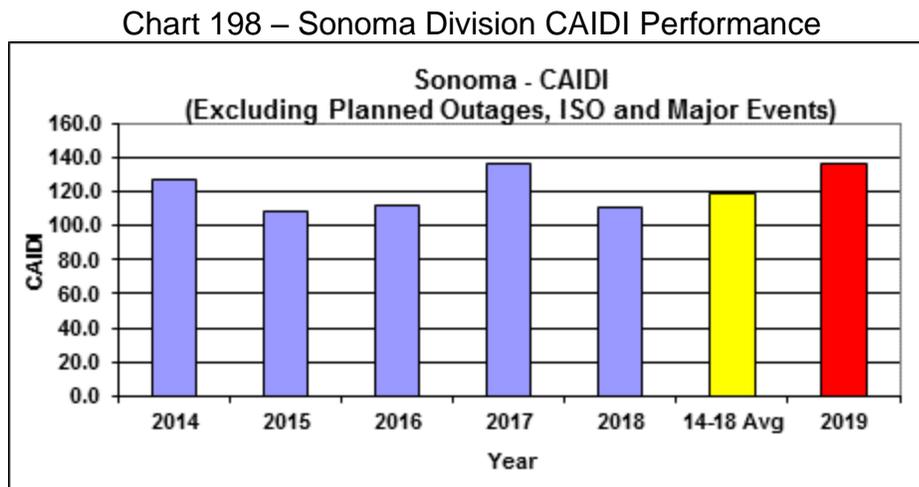
The higher than average 2019 Sonoma Division SAIFI was attributed to the following:

1. On March 3rd, a tree branch fell into the Monte Rio 1113 circuit and contributed 0.018 customer-interruptions to the division's SAIFI performance.
2. On March 24th, a failed wood pole on the Monte Rio 1113 circuit contributed 0.010 customer-interruptions to the division's SAIFI performance.
3. On April 28th, a metallic balloon caused an outage on the Monroe 1106 circuit and contributed 0.026 customer-interruptions to the division's SAIFI performance.
4. A late spring storm on May 15th brought rain into the area and contributed 0.010 customer-interruptions to the division's SAIFI performance.
5. On September 17th, a failed underground conductor on the Monroe 1106 circuit contributed 0.025 customer-interruptions to the division's SAIFI performance.
6. October 24th: (1) the Kincadee fire contributed 0.002 customer-interruptions to the division's SAIFI performance; (2) a tree branch fell into the Dunbar 1103 circuit and contributed 0.002 customer-interruptions to the division's SAIFI performance.

7. On October 28th, a pole fire on the Sonoma 1105 circuit contributed 0.008 customer-interruptions to the division's SAIFI performance.
8. On December 6th, an outage of unknown cause on the Rincon 1104 circuit contributed 0.018 customer-interruptions to the division's SAIFI performance. The circuit was patrolled but the cause was not determined.
9. On December 20th, the removal of a generator at Monte Rio substation contributed 0.026 customer-interruptions to the division's SAIFI performance.

Sonoma Division CAIDI Performance

Sonoma Division's 2019 CAIDI performance of 136.2 was 17.0 minutes (or 14.2%) higher than the previous 5-year average of 119.2 as shown in the table above and illustrated in the figure below.



The higher than average 2019 Sonoma Division CAIDI was attributed to the following:

1. A late spring storm on May 15th brought rain into the area.
2. October 24th: (1) the Kincadee fire and (2) a tree branch fell into the Dunbar 1103 circuit.

These outages contributed 6.5 minutes to the division's overall CAIDI performance.

17. Stockton Division Performance Assessment

Stockton Division Performance

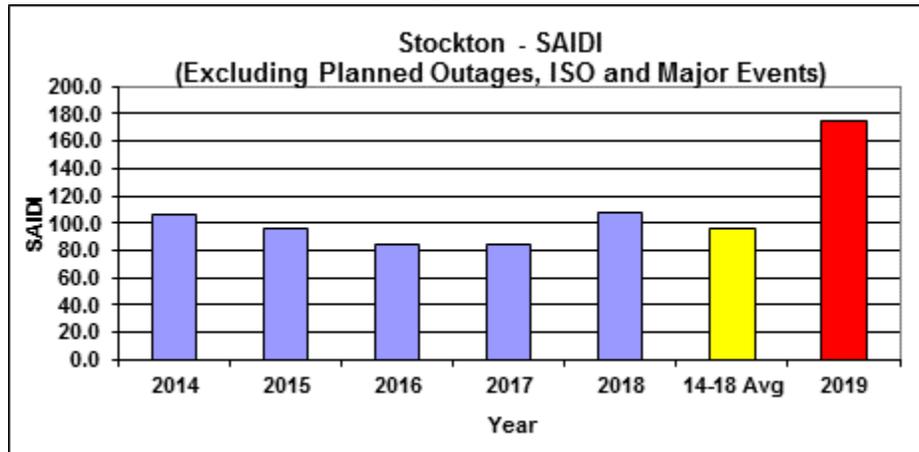
Table 25: Stockton Division Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
STOCKTON	2014	105.9	0.749	1.309	141.4
STOCKTON	2015	96.1	0.874	1.947	109.9
STOCKTON	2016	84.0	0.900	1.663	93.3
STOCKTON	2017	84.6	0.946	1.264	89.5
STOCKTON	2018	107.7	1.036	1.872	103.9
5-Year Average	14-18 Avg	95.7	0.901	1.611	106.2
STOCKTON	2019	175.4	1.276	1.130	137.4
	%Difference	83.3%	41.6%	-29.9%	29.4%

Stockton Division SAIDI Performance

Stockton Division's 2019 SAIDI performance of 175.4 was 79.7 customer-minutes (or 83.3%) higher than the previous 5-year average of 95.7 as shown in the table above and illustrated in the figure below.

Chart 199 – Stockton Division SAIDI Performance



The higher than average 2019 Stockton Division SAIDI was attributed to the following:

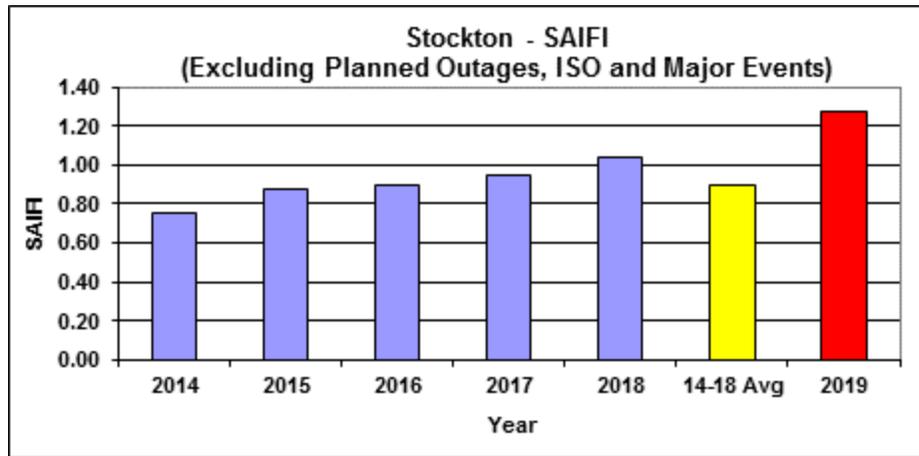
1. The January 5th storm event brought rain and wind into the area and contributed 1.8 customer-minutes to the division's SAIDI performance.
2. Rain continued on January 7th and contributed 1.8 customer-minutes to the division's SAIDI performance.
3. On January 20th: (1) a tree fell into the Pine Grove 1102 circuit and contributed 2.4 customer-minutes to the division's SAIDI performance; (2) a tree fell into the West Point 1101 circuit and contributed 1.2 customer-minutes to the division's SAIDI performance.
4. On January 25th, a transmission line was de-energized due to a pole fire on the Stockton A 1106 circuit and contributed 2.5 customer-minutes to the

- division's SAIDI performance.
5. On January 31st, an underground conductor failed on the Salt Springs 2101 circuit and contributed 2.6 customer-minutes to the division's SAIDI performance.
 6. The storm event of February 6th caused many tree related outages in the area and contributed 3.8 customer-minutes to the division's SAIDI performance.
 7. On February 23rd, a transmission outage of unknown cause to Carbona substation, contributed 1.7 customer-minutes to the division's SAIDI performance.
 8. On April 23rd, a warehouse fire adjacent to the transmission and distribution lines forced these lines to be de-energized and contributed 28.7 customer-minutes to the division's SAIDI performance.
 9. On June 12^h: (1) a tree fell into the Goldhill 60 kV transmission line contributing 2.2 customer-minutes to the division's SAIDI performance; (2) a PG&E crew contacted a high-voltage power line causing an outage to the Rough & Ready 1102 circuit contributing 0.6 customer-minutes to the division's SAIDI performance.
 10. On July 27th, a transmission line outage of unknown cause impacted Electra, Pine Grove, and West Point substations contributing 10.9 customer-minutes to the division's SAIDI performance. The line was patrolled but the cause was not determined.
 11. On August 16th, a car-pole incident on the Frogtown 1702 circuit contributed 3.4 customer-minutes to the division's SAIDI performance.
 12. The November 28th storm event brought snow to the foothills and contributed 4.7 customer-minutes to the division's SAIDI performance.
 13. The storm event of December 22nd brought rain into the area and contributed 2.6 customer-minutes to the division's SAIDI performance.

Stockton Division SAIFI Performance

Stockton Division's 2019 SAIFI performance of 1.276 was 0.375 customer-interruptions (or 41.6%) higher than the previous 5-year average of 0.901 as shown in the table above and illustrated in the figure below.

Chart 200 – Stockton Division SAIFI Performance



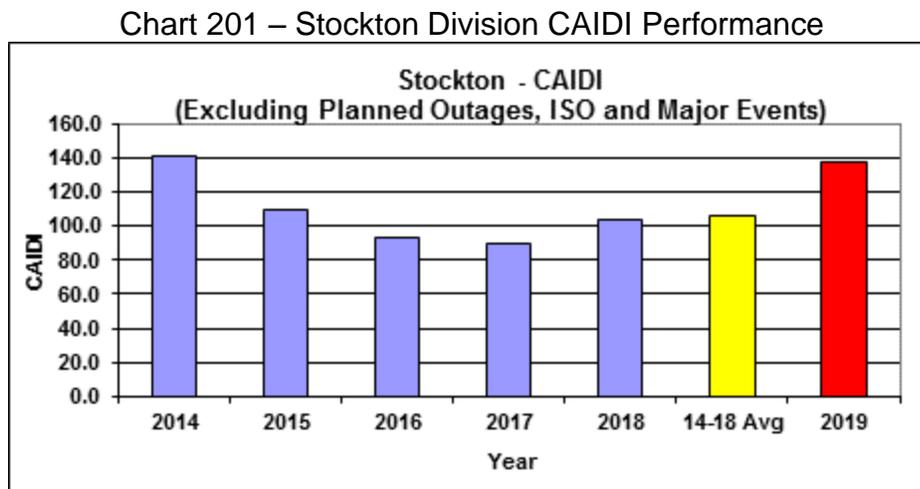
The higher than average 2019 Stockton Division SAIFI was attributed to the following:

1. The January 5th storm event brought rain and wind into the area and contributed 0.022 customer-interruptions to the division's SAIFI performance.
2. Rain continued January 7th and contributed 0.010 customer-interruptions to the division's SAIFI performance.
3. On January 20th: (1) a tree fell into the Pine Grove 1102 circuit and contributed 0.010 customer-interruptions to the division's SAIFI performance; (2) a tree fell into the West Point 1101 circuit and contributed 0.006 customer-interruptions to the division's SAIFI performance.
4. On January 25th, a transmission line was de-energized due to a pole fire on the Stockton A 1106 circuit and contributed 0.045 customer-interruptions to the division's SAIFI performance.
5. The storm event of February 6th caused many tree related outages in the area and contributed 0.004 customer-interruptions to the division's SAIFI performance.
6. On February 23rd, a transmission outage of unknown cause to Carbona substation, contributed 0.019 customer-interruptions to the division's SAIFI performance.
7. On April 23rd, a warehouse fire adjacent to the transmission and distribution lines forced these lines to be de-energized and contributed 0.077 customer-interruptions to the division's SAIFI performance.
8. On June 12^h: (1) a tree fell into the Goldhill 60 kV transmission line contributing 0.009 customer-interruptions to the division's SAIFI performance; (2) a PG&E crew contacted a high-voltage power line causing

- an outage to the Rough & Ready 1102 circuit contribution 0.008 customer-interruptions to the division’s SAIFI performance.
9. On July 27th, a transmission line outage of unknown cause impacted Electra, Pine Grove, and West Point substations contributing 0.044 customer-interruptions to the division’s SAIFI performance. The line was patrolled but the cause was not determined.
 10. On August 16th, a car-pole incident on the Frogtown 1702 circuit contributed 0.014 customer-interruptions to the division’s SAIFI performance.
 11. The November 28th storm event brought snow to the foothills and contributed 0.013 customer-interruptions to the division’s SAIFI performance.
 12. The storm event of December 22nd brought rain into the area and contributed 0.012 customer-interruptions to the division’s SAIFI performance.

Stockton Division CAIDI Performance

Stockton Division’s 2019 CAIDI performance of 137.4 was 31.2 minutes (or 29.4%) higher than the previous 5-year average of 106.2 as shown in the table above and illustrated in the figure below.



The higher than average 2019 Stockton Division CAIDI was attributed to the following:

1. On January 31st, an underground conductor failed on the Salt Springs 2101 circuit.
2. On April 23rd, a warehouse fire adjacent to the transmission and distribution lines forced these lines to be de-energized.

3. On July 27th, a transmission line outage of unknown cause impacted Electra, Pine Grove, and West Point substations.
 4. The November 28th storm event brought snow to the foothills.
- These outages contributed 25.0 minutes to the division’s overall CAIDI performance.

18. Yosemite Division Performance Assessment

Yosemite Division Performance

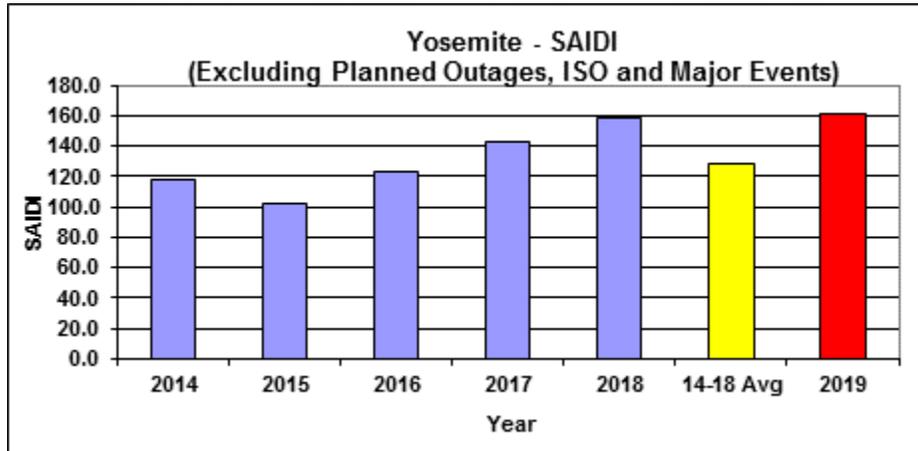
Table 26: Yosemite Division Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
YOSEMITE	2014	117.6	1.226	2.446	96.0
YOSEMITE	2015	102.3	0.984	2.638	103.9
YOSEMITE	2016	123.2	1.178	2.025	104.5
YOSEMITE	2017	143.0	1.170	2.150	122.2
YOSEMITE	2018	158.4	1.361	1.773	116.4
5-Year Average	14-18 Avg	128.9	1.184	2.206	108.9
YOSEMITE	2019	160.7	1.472	1.603	109.2
	%Difference	24.7%	24.3%	-27.3%	0.3%

Yosemite Division SAIDI Performance

Yosemite Division’s 2019 SAIDI performance of 160.7 was 31.8 customer-minutes (or 24.7%) higher than the previous 5-year average of 128.9 as shown in the table above and illustrated in the figure below.

Chart 202 – Yosemite Division SAIDI Performance



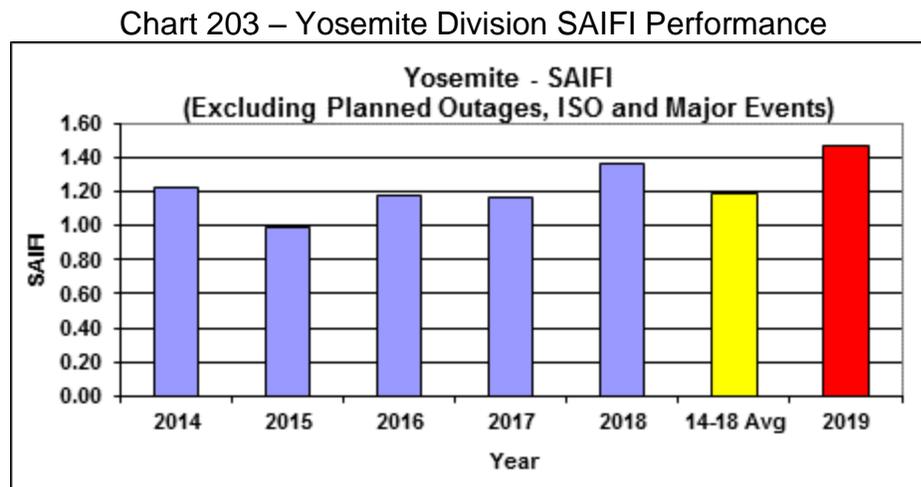
The higher than average 2019 Yosemite Division SAIDI was attributed to the following:

1. On April 4th, a bird caused outage on the Spring Gap 1702 circuit contributed 0.9 customer-minutes to the division’s SAIDI performance.
2. On May 7th, the Soledad #2 – Manteca 60 kV line relayed due to an owl and

- contributed 8.9 customer-minutes to the division's SAIDI performance.
3. On July 27th: (1) a transmission outage impacted Coarsegold and Oakhurst substations due to a car-pole incident contributed 4.1 customer-minutes to the division's SAIDI performance; (2) a failed overhead conductor (possible gunshot) on the San Joaquin Powerhouse #2 1103 circuit contributed 2.1 customer-minutes to the division's SAIDI performance.
 4. On August 19th, a car-pole incident on the Chowchilla-Kerchkoff 115 kV #2 line contributed 3.1 customer-minutes to the division's SAIDI performance.

Yosemite Division SAIFI Performance

Yosemite Division's 2019 SAIFI performance of 1.472 was 0.288 customer-interruptions (or 24.3%) higher than the previous 5-year average of 1.184 as shown in the table above and illustrated in the figure below.



The higher than average 2019 Yosemite Division SAIFI was attributed to the following:

1. On May 7th, the Soledad #2 – Manteca 60 kV line relayed due to an owl and contributed 0.045 customer-interruptions to the division's SAIFI performance.
2. On July 27th: (1) a transmission outage impacted Coarsegold and Oakhurst substations due to a car-pole incident contributed 0.067 customer-interruptions to the division's SAIFI performance; (2) a failed overhead conductor (possible gunshot) on the San Joaquin Powerhouse #2 1103 circuit contributed 0.005 customer-interruptions to the division's SAIFI performance.
3. On August 19th, a car-pole incident on the Chowchilla-Kerchkoff 115 kV #2

line contributed 0.060 customer-interruptions to the division's SAIFI performance.

ii. 2019 Excludable Major Event Day (MED) CAIDI Performance

Excludable Major Event Days (MED) In 2019

This section contains PG&E's report on weather related excludable major event days (MED) for each division in which CAIDI⁷ varied by 25 percent or more in the division benchmark, as required by Decision 04-10-034 and Decision 16-01-008, Appendix B, footnote 6. Per D.04-10-034, the division benchmark is calculated from the rolling average of the prior 10 weather-related excludable major events.⁸ PG&E is also required by D.04-10-034 to provide such a report for the system, where the system performance varies by more than 10 percent from the rolling average of the prior 10 weather-related system-wide excludable major event days, whichever yields more event days.

There were eighteen weather-related major events totaling 31 weather-related Major Event Days in 2019.

Table 27 – Summary MED days

2019 Weather-Related Major Event Days	# Weather-Related Events	MEDs
January 6, 2029	1	1
January 16- 17, 2019	2	2
February 2, 4 and 5 2019	3	3
February 9-10 2019	4	2
February 12-17 2019	5	6
February 26-27 2019	6	2
June 8 2019	7	1
June 10 2019	8	1
August 15 2019	9	1
September 23 2009	10	1
September 25 2019	11	1
October 5 2019	12	1
October 9-10 2019	13	2
October 23 2019	14	1
October 26-27 2019	15	2
October 29 2019	16	1
November 20 2019	17	1
November 26-27 2019	18	2
		31

⁷ Per Decision 16-01-008, Appendix B footnote 6, Decision 04-10-034 only applies to PG&E: Investigate and report on all weather-related excludable major events for each division in which CAIDI varies by 25 percent or more from the division benchmark. The division benchmarks are calculated from the rolling average of the prior 10 weather-related excludable events as defined by IEEE 1366.

⁸ A major event is defined in the IEEE Standard 1366. As in prior reports, PG&E is using the "prior ten weather related excludable major events" prior to the calendar year that is the subject of the report.

The first major event day of the year, January 6, 2019, involved a winter storm system that moved into PG&E's service territory producing heavy rain, gusty winds, and mountain snow.

Table 28 summarizes the system and division CAIDI performances during this event and the average of the prior ten weather related major events.

(January 6, 2019 vs. Prior 10 MED)

System / Division	Average CAIDI of Prior 10 System / Division Specific Excludable ME	January 6, 2019 / Division Specific CAIDI	Percent Difference From the Prior CAIDI Average	Exceeds the Investigation Threshold?
SYSTEM	1356.4	198.6	14.6%	NO
CENTRAL COAST	183.7	359.4	195.6%	Yes
DE ANZA	306.7	84.2	27.5%	NO
DIABLO	102.8	67.8	66.0%	NO
EAST BAY	91.8	109.2	119.0%	NO
FRESNO	211.5	97.4	46.0%	NO
HUMBOLDT	468.6	96.2	20.5%	NO
KERN	111.2	912.0	820.0%	Yes
LOS PADRES	119.9	170.7	142.4%	Yes
MISSION	161.0	127.4	79.1%	NO
NORTH BAY	449.5	140.0	31.1%	NO
NORTH VALLEY	13270.3	338.2	2.5%	NO
PENINSULA	142.3	113.4	79.7%	NO
SACRAMENTO	104.1	159.1	152.9%	Yes
SAN FRANCISCO	89.4	99.5	111.3%	NO
SAN JOSE	113.3	114.8	101.3%	NO
SIERRA	939.9	95.9	10.2%	NO
SONOMA	73.6	210.1	285.4%	Yes
STOCKTON	683.2	273.2	40.0%	NO
YOSEMITE	174.3	201.7	115.7%	NO

Table 28 – January 6, 2019 CAIDI Performance

1. January 6, 2019 Major Event Day

1.1 Central Coast CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
CENTRAL COAST	October 20, 2017	163.8	17
CENTRAL COAST	December 4, 2017	240.2	16
CENTRAL COAST	December 16, 2017	240.1	48
CENTRAL COAST	March 16, 2018	63.2	15
CENTRAL COAST	May 17, 2018	243.5	4
CENTRAL COAST	July 28, 2018	91.8	8
CENTRAL COAST	October 14, 2018	70.9	3
CENTRAL COAST	November 8, 2018	43.6	11
CENTRAL COAST	November 21, 2018	185.4	37
CENTRAL COAST	November 29, 2018	377.9	81
	Average of 10 excludable major events	183.7	24
CENTRAL COAST	January 6, 2019	359.4	91
	% Difference	95.6%	279%

Table 29 – Central Coast Historical Performance

As indicated in Table 29, the Central Coast Division CAIDI value of 359.4 minutes for the January 6th major event was 95.6% higher than the 183.7-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Green Valley 2103 circuit – tree fell into the line.
- Felton 401 circuit – tree branch fell into the line.
- Rob Roy 2105 circuit – due to: (1) tree branch fell into the line and (2) a broken wood pole.
- Carmel 402 circuit – due to a broken crossarm.
- Del Monte 2102 circuit – tree branch fell into the line.
- Big Basin 1102 circuit – tree fell into the line.
- Hatton 1101 circuit – tree fell into the line.
- Point Moretti 1101 circuit – tree branch fell into the line.
- Hatton 1102 circuit – due to a failed overhead connector / splice.
- Camp Evers 2105 circuit – due to a failed overhead connector / splice.
- Rob Roy 2104 circuit – tree fell into the line.

These outages contributed 121.9 minutes to the overall January 6th CAIDI performance.

1.2 Kern CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
KERN	October 14, 2017	95.6	4
KERN	October 20, 2017	152.8	12
KERN	December 4, 2017	80.8	5
KERN	December 16, 2017	285.3	2
KERN	March 16, 2018	56.8	2
KERN	May 17, 2018	487.8	3
KERN	October 14, 2018	91.9	2
KERN	November 8, 2018	291.1	4
KERN	November 21, 2018	112.8	4
KERN	November 29, 2018	162.4	7
	Average of 10 excludable major events	111.2	5
KERN	January 6, 2019	912.0	1
	% Difference	720.0%	-78%

Table 30 – Kern Historical Performance

As indicated in Table 30, the Kern Division CAIDI value of 912.0 minutes for the January 6th major event was 720.0% higher than the 11.2-minute average of the prior 10 weather-related excludable major events. This was due to a car pole incident on the Bakersfield 1115 circuit. This outage contributed 912.0 minutes to the overall January 6th CAIDI performance

1.3 Los Padres CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
LOS PADRES	October 20, 2017	139.6	11
LOS PADRES	December 4, 2017	52.0	8
LOS PADRES	December 16, 2017	21.2	3
LOS PADRES	March 16, 2018	815.1	3
LOS PADRES	May 17, 2018	118.2	3
LOS PADRES	July 28, 2018	324.0	1
LOS PADRES	October 14, 2018	126.0	1
LOS PADRES	November 8, 2018	166.3	3
LOS PADRES	November 21, 2018	193.2	14
LOS PADRES	November 29, 2018	107.7	29
	Average of 10 excludable major events	119.9	8
LOS PADRES	January 6, 2019	170.7	7
	% Difference	42.4%	-8%

Table 31 – Los Padres Jose Historical Performance

As indicated in Table 31, the Los Padres Division CAIDI value of 170.7 minutes for the January 6th major event was 42.4% higher than the 119.9-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Morro Bay 1101 circuit – unknown caused outage; the line was patrolled but the cause was not determined.
- Foothill 1101 circuit - unknown caused outage; the line was patrolled but the cause was not determined.
- Cabrillo 1104 circuit – two outages: (1) a failed overhead transformer and (2) an outage of unknown cause; line was patrolled but the cause was not determined.
- San Luis Obispo 1107 circuit - unknown caused outage but the cause was not determined.
- Perry 1101 circuit - unknown caused outage; the line was patrolled but the cause was not determined.
- Sisquoc 1103 circuit – due to a broken crossarm.

These outages contributed 170.7 minutes to the overall January 6th CAIDI performance.

1.4 Sacramento CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SACRAMENTO	October 20, 2017	109.0	23
SACRAMENTO	December 4, 2017	55.1	17
SACRAMENTO	December 16, 2017	85.1	68
SACRAMENTO	March 16, 2018	112.5	4
SACRAMENTO	May 17, 2018	166.7	8
SACRAMENTO	July 28, 2018	85.1	6
SACRAMENTO	October 14, 2018	87.8	2
SACRAMENTO	November 8, 2018	150.3	18
SACRAMENTO	November 21, 2018	202.2	22
SACRAMENTO	November 29, 2018	269.7	22
	Average of 10 excludable major events	104.1	19
SACRAMENTO	January 6, 2019	159.1	29
	% Difference	52.9%	53%

Table 32 – Sacramento Historical Performance

As indicated in Table 32, the Sacramento Division CAIDI value of 159.1 minutes for the January 6th major event was 52.9% higher than the 104.1-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the

following:

- Peabody 2106 circuit – due to a failed underground transformer.
- Deepwater 1107 circuit – due to a broken wood-pole.
- West Sacramento 1109 circuit – tree fell into the line.
- Dixon 1103 circuit – due to a failed underground elbow.
- Grand Island 2223 circuit – due to a failed overhead conductor.

These outages contributed 71.4 minutes to the overall January 6th CAIDI performance.

1.5 Sonoma CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SONOMA	October 20, 2017	262.1	16
SONOMA	December 4, 2017	39.2	13
SONOMA	December 16, 2017	147.1	7
SONOMA	March 16, 2018	258.7	3
SONOMA	May 17, 2018	184.2	3
SONOMA	July 28, 2018	564.0	1
SONOMA	October 14, 2018	122.0	1
SONOMA	November 8, 2018	102.5	8
SONOMA	November 21, 2018	66.1	11
SONOMA	November 29, 2018	282.3	9
	Average of 10 excludable major events	73.6	7
SONOMA	January 6, 2019	210.1	16
	% Difference	185.4%	122%

Table 33 – Sonoma Historical Performance

As indicated in Table 33, the Sonoma Division CAIDI value of 210.1 minutes for the January 6th major event was 185.4% higher than the 73.6-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Dunbar 1102 circuit – tree fell into the line.
- Dunbar 1103 circuit – tree fell into the line.
- Fort Ross 1121 circuit – tree branch fell into the line.
- Windsor 1101 circuit – due to a failed underground elbow.
- Monte Rio 1113 circuit – due to an outage of unknown cause; line was patrolled, but nothing found.

These outages contributed 124.0 minutes to the overall January 6th CAIDI performance.

2. January 16-17, 2019 Major Event Days

The second major event was on January 16-17, 2019, which was driven by a powerful Pacific storm that brought gusty winds, heavy rain, and mountain snow into the area.

Table 34 summarizes the system and division CAIDI performances during this event and the average of the prior ten weather related major events.

(January 16-17, 2019 vs. Prior 10 MED)

System / Division	Average CAIDI of Prior 10 System / Division Specific Excludable ME	January 16-17, 2019 / Division Specific CAIDI	Percent Difference From the Prior CAIDI Average	Exceeds the Investigation Threshold?
SYSTEM	1356.4	346.8	25.6%	NO
CENTRAL COAST	183.7	690.3	375.8%	Yes
DE ANZA	306.7	443.2	144.5%	Yes
DIABLO	102.8	219.9	214.0%	Yes
EAST BAY	91.8	81.0	88.3%	NO
FRESNO	211.5	186.6	88.2%	NO
HUMBOLDT	468.6	573.6	122.4%	NO
KERN	111.2	101.4	91.2%	NO
LOS PADRES	119.9	165.9	138.4%	Yes
MISSION	161.0	86.9	54.0%	NO
NORTH BAY	449.5	283.8	63.1%	NO
NORTH VALLEY	13270.3	362.3	2.7%	NO
PENINSULA	142.3	248.7	174.8%	Yes
SACRAMENTO	104.1	166.7	160.2%	Yes
SAN FRANCISCO	89.4	163.8	183.2%	Yes
SAN JOSE	113.3	191.0	168.5%	Yes
SIERRA	939.9	549.0	58.4%	NO
SONOMA	73.6	325.1	441.6%	Yes
STOCKTON	683.2	261.9	38.3%	NO
YOSEMITE	174.3	290.2	166.4%	Yes

Table 34 – January 16-17, 2019 CAIDI Performance

2.1 Central Coast CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
CENTRAL COAST	October 20, 2017	163.8	17
CENTRAL COAST	December 4, 2017	240.2	16
CENTRAL COAST	December 16, 2017	240.1	48
CENTRAL COAST	March 16, 2018	63.2	15
CENTRAL COAST	May 17, 2018	243.5	4
CENTRAL COAST	July 28, 2018	91.8	8
CENTRAL COAST	October 14, 2018	70.9	3
CENTRAL COAST	November 8, 2018	43.6	11
CENTRAL COAST	November 21, 2018	185.4	37
CENTRAL COAST	November 29, 2018	377.9	81
	Average of 10 excludable major events	183.7	24
CENTRAL COAST	January 16-17 2019	690.3	90
	% Difference	275.8%	275%

Table 35 – Central Coast Historical Performance

As indicated in Table 35, the Central Coast Division CAIDI value of 690.3 minutes for the January 16-17, 2019 major event days was 275.8% higher than the 183.7-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Del Monte 2103 circuit – tree branch fell into the line.
- Viejo 2203 circuit – tree branch fell into the line.
- Point Moretti 1101 circuit – due to a broken crossarm.
- Big Basin 1102 circuit – due to a broken crossarm.
- Camp Evers 2104 circuit – tree fell into the line.
- Camp Evers 402 circuit – tree branch fell into the line.
- Camp Evers 2106 circuit – tree fell into the line.

These outages contributed 149.6 minutes to the overall January 16-17 CAIDI performance.

2.2 De Anza Division CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
DE ANZA	October 8-9, 2017	147.2	2
DE ANZA	October 14, 2017	168.8	4
DE ANZA	October 20, 2017	115.5	6
DE ANZA	December 4, 2017	115.4	6
DE ANZA	December 16, 2017	1,097.7	12
DE ANZA	May 17, 2018	146.3	1
DE ANZA	July 28, 2018	331.6	1
DE ANZA	November 8, 2018	299.5	3
DE ANZA	November 21, 2018	168.6	9
DE ANZA	November 29, 2018	45.0	21
	Average of 10 excludable major events	306.7	6
DE ANZA	January 16-17 2019	443.2	38
	% Difference	44.5%	533%

Table 36 – De Anza Division Historical Performance

As indicated in Table 36, the De Anza Division CAIDI value of 443.2 minutes for the January 16-17, 2019 major event days was 44.5% higher than the 306.7-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Vasona 1103 circuit - due to a failed underground conductor.
- Los Gatos 1107 circuit – due to (1) a tree branch fell into the line, (2) a tree fell into the line, and (3) an outage of unknown cause; the line was patrolled but the cause was not determined.
- Los Gatos 1106 circuit – tree fell into the line.
- Saratoga 1103 – due to a broken crossarm.
- El Patio 1118 circuit – a tree fell into the line.

These outages contributed 148.4 minutes to the overall January 16-17, 2019 CAIDI performance.

2.3 Diablo Division CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
DIABLO	October 14, 2017	295.3	4
DIABLO	October 20, 2017	148.0	11
DIABLO	December 4, 2017	68.8	12
DIABLO	December 16, 2017	166.1	9
DIABLO	May 17, 2018	190.2	1
DIABLO	July 28, 2018	163.6	2
DIABLO	October 14, 2018	134.4	2
DIABLO	November 8, 2018	104.0	3
DIABLO	November 21, 2018	97.5	14
DIABLO	November 29, 2018	298.1	10
	Average of 10 excludable major events	102.8	7
DIABLO	January 16-17 2019	219.9	17
	% Difference	114.0%	150%

Table 37 – Diablo Division Historical Performance

As indicated in Table 37, the Diablo Division CAIDI value of 219.9 minutes for the January 16-17, 2019 major event days was 114.0% higher than the 102.8-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Rossmoor 1102 circuit - due to an outage of unknown cause; the line was patrolled but the cause was not determined.
- Sobrante 1102 circuit – a tree fell into the line.
- Lakewood 1104 circuit – due to a failed overhead jumper.
- Lakewood 2224 – a tree fell into the line.
- Orinda 401 circuit – a tree branch fell into the line.

These outages contributed 92.3 minutes to the overall January 16-17, 2019 CAIDI performance.

2.4 Los Padres Division CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
LOS PADRES	October 20, 2017	139.6	11
LOS PADRES	December 4, 2017	52.0	8
LOS PADRES	December 16, 2017	21.2	3
LOS PADRES	March 16, 2018	815.1	3
LOS PADRES	May 17, 2018	118.2	3
LOS PADRES	July 28, 2018	324.0	1
LOS PADRES	October 14, 2018	126.0	1
LOS PADRES	November 8, 2018	166.3	3
LOS PADRES	November 21, 2018	193.2	14
LOS PADRES	November 29, 2018	107.7	29
	Average of 10 excludable major events	119.9	8
LOS PADRES	January 16-17 2019	165.9	14
	% Difference	38.4%	84%

Table 38 – Los Padres Division Historical Performance

As indicated in Table 38, the Los Padres Division CAIDI value of 165.9 minutes for the January 16-17, 2019 major event days was 38.4% higher than the 119.9-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- San Luis Obispo 1107 circuit - due to a failed overhead connector / splice.
- Templeton 2110 circuit – due to an outage of unknown cause; the line was patrolled but the cause was not determined.
- Templeton 2113 circuit – due to a failed wood pole.

These outages contributed 80.6 minutes to the overall January 16-17, 2019 CAIDI performance.

2.5 Peninsula Division CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
PENINSULA	October 14, 2017	131.0	1
PENINSULA	October 20, 2017	185.2	9
PENINSULA	December 4, 2017	389.6	5
PENINSULA	December 16, 2017	158.1	18
PENINSULA	March 16, 2018	163.5	5
PENINSULA	May 17, 2018	73.1	1
PENINSULA	July 28, 2018	60.9	1
PENINSULA	November 8, 2018	163.8	4
PENINSULA	November 21, 2018	112.3	13
PENINSULA	November 29, 2018	118.1	22
	Average of 10 excludable major events	142.3	8
PENINSULA	January 16-17 2019	248.7	31
	% Difference	74.8%	292%

Table 39 – Peninsula Division Historical Performance

As indicated in Table 39, the Peninsula Division CAIDI value of 248.7 minutes for the January 16-17, 2019 major event days was 74.8% higher than the 142.3-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Menlo 1102 circuit - a tree fell into the line.
- Sneath Lane 1101 circuit – due to a failed overhead connector / splice.
- East Grand 1109 circuit – a tree fell into the line.
- Sneath Lane 1107 circuit – due to a failed overhead conductor.
- San Carlos 404 circuit – a tree into the line.

These outages contributed 64.6 minutes to the overall January 16-17, 2019 CAIDI performance.

2.6 Sacramento Division CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SACRAMENTO	October 20, 2017	109.0	23
SACRAMENTO	December 4, 2017	55.1	17
SACRAMENTO	December 16, 2017	85.1	68
SACRAMENTO	March 16, 2018	112.5	4
SACRAMENTO	May 17, 2018	166.7	8
SACRAMENTO	July 28, 2018	85.1	6
SACRAMENTO	October 14, 2018	87.8	2
SACRAMENTO	November 8, 2018	150.3	18
SACRAMENTO	November 21, 2018	202.2	22
SACRAMENTO	November 29, 2018	269.7	22
	Average of 10 excludable major events	104.1	19
SACRAMENTO	January 16-17 2019	166.7	33
	% Difference	60.2%	71%

Table 40 – Sacramento Division Historical Performance

As indicated in Table 40, the Sacramento Division CAIDI value of 166.7 minutes for the January 16-17, 2019 major event days was 60.2% higher than the 104.1-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- East Marysville 1108 circuit – due to a failed wood-pole.
- Wilkins Slough 1102 circuit – due to a failed overhead jumper.
- Colusa 1105 circuit – an outage of unknown cause; the line was patrolled but the cause was not determined.
- Vacaville 1105 circuit – due to a failed underground elbow.
- Marysville 1108 circuit – due to a failed wood pole.

These outages contributed 21.9 minutes to the overall January 16-17, 2019 CAIDI performance.

2.7 San Francisco Division CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SAN FRANCISCO	September 11, 2019	207.7	13
SAN FRANCISCO	October 9, 2017	279.0	1
SAN FRANCISCO	October 20, 2017	162.8	2
SAN FRANCISCO	December 4, 2017	53.1	1
SAN FRANCISCO	March 16, 2018	54.5	1
SAN FRANCISCO	July 28, 2018	11.0	1
SAN FRANCISCO	October 14, 2018	33.0	1
SAN FRANCISCO	November 8, 2018	361.0	2
SAN FRANCISCO	November 21, 2018	79.2	3
SAN FRANCISCO	November 29, 2018	74.4	3
	Average of 10 excludable major events	89.4	3
SAN FRANCISCO	January 16-17 2019	163.8	4
	% Difference	83.2%	43%

Table 41 – San Francisco Division Historical Performance

As indicated in Table 41, the San Francisco Division CAIDI value of 163.8 minutes for the January 16-17, 2019 major event days was 83.2% higher than the 89.4- minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- 18th Street 401 circuit – a company-initiated outage in order to repair a secondary mainline.
- Plymouth 401 circuit – due to a house fire.
- SF Z 1103 circuit – due to a failed underground elbow.

These outages contributed 21.8 minutes to the overall January 16-17, 2019 CAIDI performance.

2.8 San Jose Division CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SAN JOSE	October 20, 2017	175.6	10
SAN JOSE	December 4, 2017	75.2	12
SAN JOSE	December 16, 2017	110.9	14
SAN JOSE	March 16, 2018	680.0	1
SAN JOSE	May 17, 2018	185.7	2
SAN JOSE	July 28, 2018	534.8	2
SAN JOSE	October 14, 2018	249.6	3
SAN JOSE	November 8, 2018	128.8	4
SAN JOSE	November 21, 2018	326.0	3
SAN JOSE	November 29, 2018	108.8	10
	Average of 10 excludable major events	113.3	6
SAN JOSE	January 16-17 2019	191.0	15
	% Difference	68.5%	146%

Table 42 – San Jose Division Historical Performance

As indicated in Table 42, the San Jose Division CAIDI value of 191.0 minutes for the January 16-17, 2019 major event days was 68.5% higher than the 113.3-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Almaden 1101 circuit – due to a failed overhead jumper.
- Morgan Hill 2105 circuit – a tree branch fell into the line.
- Saratoga 1114 circuit – due to an outage of unknown cause; the line was patrolled but the cause was not determined.
- Almaden 1110 circuit - a tree branch fell into the line.
- Edenvale 2111 circuit – due to a failed underground transformer.

These outages contributed 47.5 minutes to the overall January 16-17, 2019 CAIDI performance.

2.9 Sonoma Division CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SONOMA	October 20, 2017	262.1	16
SONOMA	December 4, 2017	39.2	13
SONOMA	December 16, 2017	147.1	7
SONOMA	March 16, 2018	258.7	3
SONOMA	May 17, 2018	184.2	3
SONOMA	July 28, 2018	564.0	1
SONOMA	October 14, 2018	122.0	1
SONOMA	November 8, 2018	102.5	8
SONOMA	November 21, 2018	66.1	11
SONOMA	November 29, 2018	282.3	9
	Average of 10 excludable major events	73.6	7
SONOMA	January 16-17 2019	325.1	70
	% Difference	341.6%	872%

Table 43 – Sonoma Division Historical Performance

As indicated in Table 43, the Sonoma Division CAIDI value of 325.1 minutes for the January 16-17, 2019 major event days was 341.6% higher than the 73.6-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Bellevue 1102 circuit – tree fell into the line.
- Molino 1102 circuit – a tree branch fell into the line.
- Cotati 1105 circuit – due to (1) a failed secondary conductor and (2) a tree fell into the line.
- Monte Rio 1111 circuit - a tree branch fell into the line.
- Cotati 1103 circuit – a tree fell into the line.
- Petaluma C 1108 circuit – a tree fell into the line.
- Fort Ross 1121 circuit – a tree fell into the line.
- Fitch Mountain 1103 circuit – a tree branch fell into the line.

These outages contributed 76.9 minutes to the overall January 16-17, 2019 CAIDI performance.

2.10 Yosemite Division CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
YOSEMITE	October 20, 2017	178.6	33
YOSEMITE	December 4, 2017	186.8	9
YOSEMITE	December 16, 2017	137.7	28
YOSEMITE	March 16, 2018	267.9	30
YOSEMITE	May 17, 2018	130.9	4
YOSEMITE	July 28, 2018	691.8	5
YOSEMITE	October 14, 2018	33.6	2
YOSEMITE	November 8, 2018	111.6	5
YOSEMITE	November 21, 2018	101.4	36
YOSEMITE	November 29, 2018	157.4	29
	Average of 10 excludable major events	174.3	18
YOSEMITE	January 16-17 2019	290.2	23
	% Difference	66.4%	24%

Table 44 – Yosemite Division Historical Performance

As indicated in Table 44, the Yosemite Division CAIDI value of 290.2 minutes for the January 16-17, 2019 major event days was 66.4% higher than the 174.3-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Curtis 1703 circuit – tree fell into the line.
- Miwuk 1701 circuit – due to (1) an outage of unknown cause; the line was patrolled but the cause was not determined and (2) two tree related outages, in both events the tree fell into the line.
- El Capitan 2109 circuit – an outage of unknown cause; the line was patrolled but the cause was not determined.

These outages contributed 128.5 minutes to the overall January 16-17, 2019 CAIDI performance.

3. February 2, 4 and 5, 2019 Major Event Days

The third major event was for February 2, 4 and 5, 2019 caused by a series of winter storms resulting in periods of strong gusty south winds, heavy rain, thunderstorms and low elevation snowfall. Table 45 summarizes the system and division CAIDI performances during this event and the average of the prior ten weather related major events.

(February 2, 4 and 5, 2019 vs. Prior 10 MED)

System / Division	Average CAIDI of Prior 10 System / Division Specific Excludable ME	February 2, 4, & 5 2019 / Division Specific CAIDI	Percent Difference From the Prior CAIDI Average	Exceeds the Investigation Threshold?
SYSTEM	1356.4	429.2	31.6%	NO
CENTRAL COAST	183.7	339.1	184.6%	Yes
DE ANZA	306.7	127.3	41.5%	NO
DIABLO	102.8	65.7	63.9%	NO
EAST BAY	91.8	44.6	48.6%	NO
FRESNO	211.5	399.0	188.6%	Yes
HUMBOLDT	468.6	109.6	23.4%	NO
KERN	111.2	125.5	112.8%	NO
LOS PADRES	119.9	279.9	233.5%	Yes
MISSION	161.0	276.1	171.5%	Yes
NORTH BAY	449.5	176.7	39.3%	NO
NORTH VALLEY	13270.3	276.0	2.1%	NO
PENINSULA	142.3	144.8	101.8%	NO
SACRAMENTO	104.1	124.8	119.9%	NO
SAN FRANCISCO	89.4	79.5	88.9%	NO
SAN JOSE	113.3	67.5	59.6%	NO
SIERRA	939.9	799.6	85.1%	NO
SONOMA	73.6	203.9	277.0%	Yes
STOCKTON	683.2	834.0	122.1%	NO
YOSEMITE	174.3	538.9	309.1%	Yes

Table 45 – February 2, 4 and 5, 2019 CAIDI Performance

3.1 Central Coast CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
CENTRAL COAST	October 20, 2017	163.8	17
CENTRAL COAST	December 4, 2017	240.2	16
CENTRAL COAST	December 16, 2017	240.1	48
CENTRAL COAST	March 16, 2018	63.2	15
CENTRAL COAST	May 17, 2018	243.5	4
CENTRAL COAST	July 28, 2018	91.8	8
CENTRAL COAST	October 14, 2018	70.9	3
CENTRAL COAST	November 8, 2018	43.6	11
CENTRAL COAST	November 21, 2018	185.4	37
CENTRAL COAST	November 29, 2018	377.9	81
	Average of 10 excludable major events	183.7	24
CENTRAL COAST	February 2, 4,& 5 2019	339.1	49
	% Difference	84.6%	103%

Table 46 – Central Coast Historical Performance

As indicated in Table 46, the Central Coast Division CAIDI value of 339.1 minutes for the February 2, 4 and 5, 2019 major event days was 84.6% higher than the 183.7-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Hatton 1101 circuit – tree fell into the line.
- Otter 1102 circuit – due to a failed wood-pole.
- Carmel 402 circuit – a tree branch fell into the line.
- Viejo 2203 circuit – a tree branch fell into the line.
- Viejo 2201 circuit – there were two events of a tree falling into the line.

These outages contributed 151.0 minutes to the February 2, 4 and 5, 2019 overall CAIDI performance.

3.2 Fresno Division CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
FRESNO	October 20, 2017	173.1	60
FRESNO	December 4, 2017	40.5	3
FRESNO	December 16, 2017	109.4	8
FRESNO	March 16, 2018	308.1	9
FRESNO	May 17, 2018	237.0	7
FRESNO	July 28, 2018	10.0	2
FRESNO	October 14, 2018	471.8	4
FRESNO	November 8, 2018	126.9	7
FRESNO	November 21, 2018	95.1	33
FRESNO	November 29, 2018	107.7	23
	Average of 10 excludable major events	211.5	16
FRESNO	February 2, 4,& 5 2019	399.0	11
	% Difference	88.6%	-29%

Table 47 – Fresno Division Historical Performance

As indicated in Table 47, the Fresno Division CAIDI value of 399.0 minutes for the January 2, 4 and 5, 2019 major event days was 88.6% higher than the 211.5-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Dunlap 1102 circuit – due to a failed wood pole.
- Dunlap 1103 circuit – a tree fell into the line.

These outages contributed 250.1 minutes to the February 2, 4 and 5, 2019 overall CAIDI performance.

3.3 Los Padres Division CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
LOS PADRES	October 20, 2017	139.6	11
LOS PADRES	December 4, 2017	52.0	8
LOS PADRES	December 16, 2017	21.2	3
LOS PADRES	March 16, 2018	815.1	3
LOS PADRES	May 17, 2018	118.2	3
LOS PADRES	July 28, 2018	324.0	1
LOS PADRES	October 14, 2018	126.0	1
LOS PADRES	November 8, 2018	166.3	3
LOS PADRES	November 21, 2018	193.2	14
LOS PADRES	November 29, 2018	107.7	29
	Average of 10 excludable major events	119.9	8
LOS PADRES	February 2, 4,& 5 2019	279.9	26
	% Difference	133.5%	242%

Table 48 – Los Padres Division Historical Performance

As indicated in Table 48, the Los Padres Division CAIDI value of 279.9 minutes for the January 2, 4 and 5, 2019 major event days was 133.5% higher than the 119.9-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Templeton 2109 circuit – due to a car-pole incident.
- Santa Ynez 1104 circuit – due to a failed overhead connector / splice.
- Santa Ynez 1101 circuit – due to a failed overhead conductor.
- Buellton 1102 circuit – due to (1) a tree falling into the line and (2) a failed underground elbow.
- Zaca 1102 circuit – a tree fell into the line.

These outages contributed 69.7 minutes to the February 2, 4 and 5, 2019 overall CAIDI performance.

3.4 Mission Division CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
MISSION	October 14, 2017	324.9	3
MISSION	October 20, 2017	252.4	10
MISSION	December 4, 2017	130.5	4
MISSION	December 16, 2017	40.5	3
MISSION	March 16, 2018	130.5	7
MISSION	May 17, 2018	276.7	2
MISSION	July 28, 2018	81.1	1
MISSION	October 14, 2018	292.4	2
MISSION	November 21, 2018	158.7	22
MISSION	November 29, 2018	474.5	7
	Average of 10 excludable major events	161.0	6
MISSION	February 2, 4, & 5 2019	276.1	4
	% Difference	71.5%	-34%

Table 49 – Mission Division Historical Performance

As indicated in Table 49, the Mission Division CAIDI value of 276.1 minutes for the February 2, 4 and 5, 2019 major event days was 71.5% higher than the 161.0-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Jarvis 1112 circuit – due to a failed underground transformer.
- Castro Valley 1105 circuit – a tree fell into the line.
- Dixon Landing 2109 circuit – due to a failed overhead jumper.
- Castro Valley 1108 circuit – due to a failed overhead jumper.

These outages contributed 96.8 minutes to the February 2, 4 and 5, 2019 overall CAIDI performance.

3.5 Sonoma Division CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SONOMA	October 20, 2017	262.1	16
SONOMA	December 4, 2017	39.2	13
SONOMA	December 16, 2017	147.1	7
SONOMA	March 16, 2018	258.7	3
SONOMA	May 17, 2018	184.2	3
SONOMA	July 28, 2018	564.0	1
SONOMA	October 14, 2018	122.0	1
SONOMA	November 8, 2018	102.5	8
SONOMA	November 21, 2018	66.1	11
SONOMA	November 29, 2018	282.3	9
	Average of 10 excludable major events	73.6	7
SONOMA	February 2, 4,& 5 2019	203.9	7
	% Difference	177.0%	-7%

Table 50 – Sonoma Division Historical Performance

As indicated in Table 50, the Sonoma Division CAIDI value of 203.9 minutes for the February 2, 4 and 5, 2019 major event days was 177.0% higher than the 73.6-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Mirabel 1101 circuit – a tree fell into the line.
- Salmon Creek 1101 circuit – a tree branch fell into the line.
- Rincon 1103 circuit – due to a failed underground transformer.
- Fort Ross 1121 circuit – a tree branch fell into the line.
- Monte Rio 1112 circuit – a tree fell into the line.

These outages contributed 61.0 minutes to the February 2, 4 and 5, 2019 overall CAIDI performance.

3.6 Yosemite Division CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
YOSEMITE	October 20, 2017	178.6	33
YOSEMITE	December 4, 2017	186.8	9
YOSEMITE	December 16, 2017	137.7	28
YOSEMITE	March 16, 2018	267.9	30
YOSEMITE	May 17, 2018	130.9	4
YOSEMITE	July 28, 2018	691.8	5
YOSEMITE	October 14, 2018	33.6	2
YOSEMITE	November 8, 2018	111.6	5
YOSEMITE	November 21, 2018	101.4	36
YOSEMITE	November 29, 2018	157.4	29
	Average of 10 excludable major events	174.3	18
YOSEMITE	February 2, 4, & 5 2019	538.9	90
	% Difference	209.1%	395%

Table 51 – Yosemite Division Historical Performance

As indicated in Table 51, the Yosemite Division CAIDI value of 538.9 minutes for the February 2, 4 and 5, 2019 major event days was 209.1% higher than the 174.3-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Spring Gap 1702 circuit – a tree fell into the line.
- Racetrack 1703 circuit – a tree fell into the line.
- Curtis 1702 circuit – due to (1) a tree branch falling into the line and (2) two trees fell into the line causing separate outages.
- Curtis 1703 circuit – three trees fell into the line causing separate outages.
- Miwuk 1702 circuit – a tree fell into the line.
- Curtis 1705 – a tree fell into the line.
- Oakhurst 1103 – a tree fell into the line.

These outages contributed 152.7 minutes to the February 2, 4 and 5, 2019 overall CAIDI performance.

4. February 9-10, 2019 Major Event Days

The fourth major event was for February 9-10, 2019 caused by a cold winter storm resulting in significant low snow related outage activity across Humboldt and along the central Sierra. Table 52 summarizes the system and division CAIDI performances during this event and the average of the prior ten weather related major events.

(February 9-10, 2019 vs. Prior 10 MED)

System / Division	Average CAIDI of Prior 10 System / Division Specific Excludable ME	February 9-10, 2019 / Division Specific CAIDI	Percent Difference From the Prior CAIDI Average	Exceeds the Investigation Threshold?
SYSTEM	1356.4	518.1	38.2%	NO
CENTRAL COAST	183.7	188.8	102.8%	NO
DE ANZA	306.7	202.7	66.1%	NO
DIABLO	102.8	244.9	238.3%	Yes
EAST BAY	91.8	44.2	48.2%	NO
FRESNO	211.5	161.5	76.3%	NO
HUMBOLDT	468.6	2002.9	427.4%	Yes
KERN	111.2	214.5	192.9%	Yes
LOS PADRES	119.9	184.8	154.1%	Yes
MISSION	161.0	93.0	57.8%	NO
NORTH BAY	449.5	353.3	78.6%	NO
NORTH VALLEY	13270.3	116.9	0.9%	NO
PENINSULA	142.3	107.9	75.8%	NO
SACRAMENTO	104.1	125.8	120.9%	NO
SAN FRANCISCO	89.4	63.1	70.5%	NO
SAN JOSE	113.3	100.6	88.7%	NO
SIERRA	939.9	746.8	79.5%	NO
SONOMA	73.6	315.1	428.0%	Yes
STOCKTON	683.2	219.8	32.2%	NO
YOSEMITE	174.3	246.7	141.5%	Yes

Table 52 – February 9-10, 2019 CAIDI Performance

4.1 Diablo Division CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
DIABLO	October 14, 2017	295.3	4
DIABLO	October 20, 2017	148.0	11
DIABLO	December 4, 2017	68.8	12
DIABLO	December 16, 2017	166.1	9
DIABLO	May 17, 2018	190.2	1
DIABLO	July 28, 2018	163.6	2
DIABLO	October 14, 2018	134.4	2
DIABLO	November 8, 2018	104.0	3
DIABLO	November 21, 2018	97.5	14
DIABLO	November 29, 2018	298.1	10
	Average of 10 excludable major events	102.8	7
DIABLO	February 9-10 2019	244.9	2
	% Difference	138.3%	-78%

Table 53 – Diablo Division Historical Performance

As indicated in Table 53, the Diablo Division CAIDI value of 244.9 minutes for the February 9-10, 2019 major event days was 138.3% higher than the 102.8-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Rossmoor 1105 circuit – due to a failed underground transformer.
- Contra Costa 2109 circuit – due to a failed underground transformer.
- Brentwood 2112 circuit – due to a failed overhead switch.

These outages contributed 244.9 minutes to the February 9-10, 2019 overall CAIDI performance.

4.2 Humboldt Division CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
HUMBOLDT	October 20, 2017	132.2	7
HUMBOLDT	December 4, 2017	128.6	3
HUMBOLDT	December 16, 2017	351.9	5
HUMBOLDT	March 16, 2018	563.7	4
HUMBOLDT	May 17, 2018	84.0	4
HUMBOLDT	July 28, 2018	266.8	18
HUMBOLDT	October 14, 2018	1,341.4	8
HUMBOLDT	November 8, 2018	185.2	6
HUMBOLDT	November 21, 2018	60.8	8
HUMBOLDT	November 29, 2018	138.0	9
	Average of 10 excludable major events	468.6	7
HUMBOLDT	February 9-10 2019	2,002.9	74
	% Difference	327.4%	921%

Table 54 – Humboldt Division Historical Performance

As indicated in Table 54, the Humboldt Division CAIDI value of 2,002.9 minutes for the February 9-10, 2019 major event days was 327.4% higher than the 468.6-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Orick 60 kV transmission line – a 3rd party installed an unauthorized fiber wire on the 60 kV pole line.
- The 60 kV transmission line serving Hoopa Substation failed.
- A tree fell into the 60 kV line serving Willow Creek Substation.
- Arcata 1122 circuit – a tree fell into the line.
- Hoopa 1101 circuit – a tree fell into the line.
- Willow Creek 1101 circuit – a tree fell into the line.
- Garberville 1101 circuit – a tree fell into the line.
- Garberville 1102 – a tree fell into the line.

These outages contributed 599.5 minutes to the February 9-10, 2019 overall CAIDI performance.

4.3 Kern Division CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
KERN	October 14, 2017	95.6	4
KERN	October 20, 2017	152.8	12
KERN	December 4, 2017	80.8	5
KERN	December 16, 2017	285.3	2
KERN	March 16, 2018	56.8	2
KERN	May 17, 2018	487.8	3
KERN	October 14, 2018	91.9	2
KERN	November 8, 2018	291.1	4
KERN	November 21, 2018	112.8	4
KERN	November 29, 2018	162.4	7
	Average of 10 excludable major events	111.2	5
KERN	February 10 2019	214.5	8
	% Difference	92.9%	78%

Table 55 – Kern Division Historical Performance

As indicated in Table 55, the Kern Division CAIDI value of 214.5 minutes for the February 9-10, 2019 major event days was 92.9% higher than the 111.2-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Semitropic 1112 circuit – due to a car-pole incident.
- Kern Oil 1110 circuit – a tree fell grew into the line.
- Wheeler Ridge 1103 circuit – due to an outage of unknown cause; the line was patrolled, but nothing found.

These outages contributed 107.1 minutes to the February 9-10, 2019 overall CAIDI performance.

4.4 Los Padres Division CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
LOS PADRES	October 20, 2017	139.6	11
LOS PADRES	December 4, 2017	52.0	8
LOS PADRES	December 16, 2017	21.2	3
LOS PADRES	March 16, 2018	815.1	3
LOS PADRES	May 17, 2018	118.2	3
LOS PADRES	July 28, 2018	324.0	1
LOS PADRES	October 14, 2018	126.0	1
LOS PADRES	November 8, 2018	166.3	3
LOS PADRES	November 21, 2018	193.2	14
LOS PADRES	November 29, 2018	107.7	29
	Average of 10 excludable major events	119.9	8
LOS PADRES	February 9-10 2019	184.8	3
	% Difference	54.1%	-61%

Table 56 – Los Padres Division Historical Performance

As indicated in Table 56, the Los Padres Division CAIDI value of 184.8 minutes for the February 9-10, 2019 major event days was 54.1% higher than the 119.9-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Baywood 1101 circuit – due to an outage of unknown cause; the line was patrolled but nothing found.
- Templeton 2101 circuit – due to an outage of unknown cause; the line was patrolled but the cause was not determined.
- Atascadero 1103 circuit – due to a car-pole incident.

These outages contributed 131.2 minutes to the February 9-10, 2019 overall CAIDI performance.

4.5 Sonoma Division CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SONOMA	October 20, 2017	262.1	16
SONOMA	December 4, 2017	39.2	13
SONOMA	December 16, 2017	147.1	7
SONOMA	March 16, 2018	258.7	3
SONOMA	May 17, 2018	184.2	3
SONOMA	July 28, 2018	564.0	1
SONOMA	October 14, 2018	122.0	1
SONOMA	November 8, 2018	102.5	8
SONOMA	November 21, 2018	66.1	11
SONOMA	November 29, 2018	282.3	9
	Average of 10 excludable major events	73.6	7
SONOMA	February 9-10 2019	315.1	7
	% Difference	328.0%	-10%

Table 57 – Sonoma Division Historical Performance

As indicated in Table 57, the Sonoma Division CAIDI value of 315.1 minutes for the February 9-10, 2019 major event days was 328.0% higher than the 73.6-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Monroe 2101 circuit – due to a car-pole incident.
- Monroe 1104 circuit – due to a car-pole incident.
- Santa Rosa 1111 circuit – due to a failed overhead conductor.
- Cotati 1103 circuit – due to a failed overhead connector / splice.
- Geyserville 1101 circuit – an outage of unknown cause.

These outages contributed 239.3 minutes to the February 9-10, 2019 overall CAIDI performance.

4.6 Yosemite Division CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
YOSEMITE	October 20, 2017	178.6	33
YOSEMITE	December 4, 2017	186.8	9
YOSEMITE	December 16, 2017	137.7	28
YOSEMITE	March 16, 2018	267.9	30
YOSEMITE	May 17, 2018	130.9	4
YOSEMITE	July 28, 2018	691.8	5
YOSEMITE	October 14, 2018	33.6	2
YOSEMITE	November 8, 2018	111.6	5
YOSEMITE	November 21, 2018	101.4	36
YOSEMITE	November 29, 2018	157.4	29
	Average of 10 excludable major events	174.3	18
YOSEMITE	February 9-10 2019	246.7	31
	% Difference	41.5%	71%

Table 58 – Yosemite Division Historical Performance

As indicated in Table 58, the Yosemite Division CAIDI value of 246.7 minutes for the February 9-10, 2019 major event days was 41.5% higher than the 174.3-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Curtis 1704 circuit – a tree branch fell into the line.
- Oakhurst 1103 circuit – due to (1) a tree falling into the line and (2) an outage of unknown cause; the line was patrolled but the cause was not determined.

These outages contributed 78.0 minutes to the February 9-10, 2019 overall CAIDI performance.

5. February 12-17, 2019 Major Event Days

The fifth major event was for February 12-17, 2019 caused by a pair of potent storms that impacted the territory beginning with an “atmospheric river” event, which produced gusty winds, heavy rain and significant low snow in Redding, followed by a colder, dynamic storm that resulted in additional periods of rain and gusty south winds along with low snow and isolated thunderstorms. Table 59 summarizes the system and division CAIDI performances during this event and the average of the prior ten weather related major events.

(February 12-17, 2019 vs. Prior 10 MED)

System / Division	Average CAIDI of Prior 10 System / Division Specific Excludable ME	February 12-17, 2019 / Division Specific CAIDI	Percent Difference From the Prior CAIDI Average	Exceeds the Investigation Threshold?
SYSTEM	1356.4	582.8	43.0%	NO
CENTRAL COAST	183.7	621.9	338.5%	Yes
DE ANZA	306.7	162.6	53.0%	NO
DIABLO	102.8	211.7	206.0%	Yes
EAST BAY	91.8	64.3	70.1%	NO
FRESNO	211.5	142.9	67.6%	NO
HUMBOLDT	468.6	346.6	74.0%	NO
KERN	111.2	90.7	81.6%	NO
LOS PADRES	119.9	110.7	92.3%	NO
MISSION	161.0	184.2	114.4%	NO
NORTH BAY	449.5	412.2	91.7%	NO
NORTH VALLEY	13270.3	2313.3	17.4%	NO
PENINSULA	142.3	279.7	196.6%	Yes
SACRAMENTO	104.1	117.0	112.4%	NO
SAN FRANCISCO	89.4	304.2	340.1%	Yes
SAN JOSE	113.3	221.0	195.0%	Yes
SIERRA	939.9	536.4	57.1%	NO
SONOMA	73.6	224.9	305.5%	Yes
STOCKTON	683.2	220.3	32.3%	NO
YOSEMITE	174.3	263.8	151.3%	Yes

Table 59 – February 12-17, 2019 CAIDI Performance

5.1 Central Coast Division CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
CENTRAL COAST	October 20, 2017	163.8	17
CENTRAL COAST	December 4, 2017	240.2	16
CENTRAL COAST	December 16, 2017	240.1	48
CENTRAL COAST	March 16, 2018	63.2	15
CENTRAL COAST	May 17, 2018	243.5	4
CENTRAL COAST	July 28, 2018	91.8	8
CENTRAL COAST	October 14, 2018	70.9	3
CENTRAL COAST	November 8, 2018	43.6	11
CENTRAL COAST	November 21, 2018	185.4	37
CENTRAL COAST	November 29, 2018	377.9	81
	Average of 10 excludable major events	183.7	24
CENTRAL COAST	February 12-17 2019	621.9	49
	% Difference	238.5%	104%

Table 60 – Central Coast Division Historical Performance

As indicated in Table 60, the Central Coast Division CAIDI value of 621.9 minutes for the February 12-17, 2019 major event days was 238.5% higher than the 183.7-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Monte Vista 60 kV Line – a tree branch fell into the line.
- Viejo 2202 circuit – three trees fell into the line causing separate outages.
- Viejo 2101 circuit – a tree fell into the line.
- Hatton 1102 circuit – a tree fell into the line.
- Carmel 402 circuit – a tree fell into the line.
- Otter 1101 circuit – a tree fell into the line.
- Pacific Grove 422 circuit – a tree fell into the line.

These outages contributed 101.1 minutes to the February 12-17, 2019 overall CAIDI performance.

5.2 Diablo Division CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
DIABLO	October 14, 2017	295.3	4
DIABLO	October 20, 2017	148.0	11
DIABLO	December 4, 2017	68.8	12
DIABLO	December 16, 2017	166.1	9
DIABLO	May 17, 2018	190.2	1
DIABLO	July 28, 2018	163.6	2
DIABLO	October 14, 2018	134.4	2
DIABLO	November 8, 2018	104.0	3
DIABLO	November 21, 2018	97.5	14
DIABLO	November 29, 2018	298.1	10
	Average of 10 excludable major events	102.8	7
DIABLO	February 12-17 2019	211.7	8
	% Difference	106.0%	13%

Table 61 – Diablo Division Historical Performance

As indicated in Table 61, the Diablo Division CAIDI value of 211.7 minutes for the February 12-17, 2019 major event days was 106.0% higher than the 102.8-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Tidewater 2106 circuit – due to a failed overhead conductor.
- Lakewood 2223 circuit – due to a failed overhead conductor.
- Saranap 401 circuit - due to a failed overhead conductor.
- Clayton 2215 circuit – due to a failed wood-pole.

These outages contributed 83.8 minutes to the February 12-17, 2019 overall CAIDI performance.

5.3 Peninsula Division CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
PENINSULA	October 14, 2017	131.0	1
PENINSULA	October 20, 2017	185.2	9
PENINSULA	December 4, 2017	389.6	5
PENINSULA	December 16, 2017	158.1	18
PENINSULA	March 16, 2018	163.5	5
PENINSULA	May 17, 2018	73.1	1
PENINSULA	July 28, 2018	60.9	1
PENINSULA	November 8, 2018	163.8	4
PENINSULA	November 21, 2018	112.3	13
PENINSULA	November 29, 2018	118.1	22
	Average of 10 excludable major events	142.3	8
PENINSULA	February 12-17 2019	279.7	17
	% Difference	96.6%	115%

Table 62 – Peninsula Division Historical Performance

As indicated in Table 62, the Peninsula Division CAIDI value of 279.7 minutes for the February 12-17, 2019 major event days was 96.6% higher than the 142.3-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Sneath Lane 1106 circuit – a tree fell into the line.
- Half Moon Bay 1103 circuit – a tree fell into the line.
- Lawndale 402 circuit - due to a failed underground conductor.
- Serramonte 1104 circuit – due to a failed underground transformer.
- Daly City 1112 circuit – a tree fell into the line.
- SF H Martin 402 circuit – an outage of unknown cause; the line was patrolled but the cause was not determined.
- SF M 401 circuit – a tree fell into the line.
- Woodside 1101 – a tree fell into the line.

These outages contributed 150.9 minutes to the February 12-17, 2019 overall CAIDI performance.

5.4 San Francisco Division CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SAN FRANCISCO	September 11, 2019	207.7	13
SAN FRANCISCO	October 9, 2017	279.0	1
SAN FRANCISCO	October 20, 2017	162.8	2
SAN FRANCISCO	December 4, 2017	53.1	1
SAN FRANCISCO	March 16, 2018	54.5	1
SAN FRANCISCO	July 28, 2018	11.0	1
SAN FRANCISCO	October 14, 2018	33.0	1
SAN FRANCISCO	November 8, 2018	361.0	2
SAN FRANCISCO	November 21, 2018	79.2	3
SAN FRANCISCO	November 29, 2018	74.4	3
	Average of 10 excludable major events	89.4	3
SAN FRANCISCO	February 13-17 2019	304.2	4
	% Difference	240.1%	50%

Table 63 – San Francisco Division Historical Performance

As indicated in Table 63, the San Francisco Division CAIDI value of 304.2 minutes for the February 13-17, 2019 major event days was 240.1% higher than the 89.4-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- SF A 1104 circuit – due to a failed underground conductor.
- Castro 401 circuit – due to a failed overhead conductor.
- SF P 1108 circuit – an outage of unknown cause, the line was patrolled but the cause was not determined.
- 18th Street 408 circuit – a tree fell into the line.
- SF N 403 circuit – due to a failed overhead conductor.

These outages contributed 104.1 minutes to the February 13-17, 2019 overall CAIDI performance.

5.5 San Jose Division CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SAN JOSE	October 20, 2017	175.6	10
SAN JOSE	December 4, 2017	75.2	12
SAN JOSE	December 16, 2017	110.9	14
SAN JOSE	March 16, 2018	680.0	1
SAN JOSE	May 17, 2018	185.7	2
SAN JOSE	July 28, 2018	534.8	2
SAN JOSE	October 14, 2018	249.6	3
SAN JOSE	November 8, 2018	128.8	4
SAN JOSE	November 21, 2018	326.0	3
SAN JOSE	November 29, 2018	108.8	10
	Average of 10 excludable major events	113.3	6
SAN JOSE	February 12-17 2019	221.0	6
	% Difference	95.0%	1%

Table 64 – San Jose Division Historical Performance

As indicated in Table 64, the San Jose Division CAIDI value of 221.0 minutes for the February 13-17, 2019 major event days was 95.0% higher than the 113.3-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- El Patio 1105 circuit – a tree fell into the line.
- Edenvale 1102 circuit – due to a failed underground elbow.
- Mc Kee 1103 circuit – due to a car-pole incident.
- Almaden 1101 circuit – a tree fell into the line.
- Milpitas 1103 circuit – an outage of unknown cause; the line was patrolled but the cause was not determined.

These outages contributed 46.9 minutes to the February 13-17, 2019 overall CAIDI performance.

5.6 Sonoma Division CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SONOMA	October 20, 2017	262.1	16
SONOMA	December 4, 2017	39.2	13
SONOMA	December 16, 2017	147.1	7
SONOMA	March 16, 2018	258.7	3
SONOMA	May 17, 2018	184.2	3
SONOMA	July 28, 2018	564.0	1
SONOMA	October 14, 2018	122.0	1
SONOMA	November 8, 2018	102.5	8
SONOMA	November 21, 2018	66.1	11
SONOMA	November 29, 2018	282.3	9
	Average of 10 excludable major events	73.6	7
SONOMA	February 12-17 2019	224.9	21
	% Difference	205.5%	186%

Table 65 – Sonoma Division Historical Performance

As indicated in Table 65, the Sonoma Division CAIDI value of 224.9 minutes for the February 13-17, 2019 major event days was 205.5% higher than the 73.6-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Salmon Creek 1101 circuit – due to a failed overhead conductor.
- Mirabel 1102 circuit – a tree branch fell into the line.
- Molino 1101 circuit – a tree fell into the line.
- Fort Ross 1121 circuit – a tree branch fell into the line.
- Cotati 1105 circuit – a tree fell into the line.
- Bellevue 2103 circuit – a tree fell into the line.
- Monroe 1104 circuit – due to a failed underground transformer.

These outages contributed 49.2 minutes to the February 13-17, 2019 overall CAIDI performance.

5.7 Yosemite Division CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
YOSEMITE	October 20, 2017	178.6	33
YOSEMITE	December 4, 2017	186.8	9
YOSEMITE	December 16, 2017	137.7	28
YOSEMITE	March 16, 2018	267.9	30
YOSEMITE	May 17, 2018	130.9	4
YOSEMITE	July 28, 2018	691.8	5
YOSEMITE	October 14, 2018	33.6	2
YOSEMITE	November 8, 2018	111.6	5
YOSEMITE	November 21, 2018	101.4	36
YOSEMITE	November 29, 2018	157.4	29
	Average of 10 excludable major events	174.3	18
YOSEMITE	February 12-17 2019	263.8	34
	% Difference	51.3%	87%

Table 66 – Yosemite Division Historical Performance

As indicated in Table 66, the Yosemite Division CAIDI value of 263.8 minutes for the February 13-17, 2019 major event days was 51.3% higher than the 174.3-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Miwuk 1702 circuit – a tree fell into the line.
- Miwuk 1701 circuit – a tree fell into the line.
- Oakhurst 1103 circuit – a tree fell into the line.
- Curtis 1703 circuit – a tree fell into the line.
- Bear Valley 2105 circuit – a tree fell into the line.

These outages contributed 60.2 minutes to the February 13-17, 2019 overall CAIDI performance.

6. February 26-27, 2019 Major Event Days

The sixth major event was from February 26-27, 2019 caused by a strong high-pressure system that produced triple-digit temperatures away from the coast resulting in widespread heat-related outage activity. Table 67 summarizes the system and division CAIDI performances during this event and the average of the prior ten weather related major events.

(February 26-27, 2019 vs. Prior 10 MED)

System / Division	Average CAIDI of Prior 10 System / Division Specific Excludable ME	February 26-27, 2019 / Division Specific CAIDI	Percent Difference From the Prior CAIDI Average	Exceeds the Investigation Threshold?
SYSTEM	1356.4	355.2	26.2%	NO
CENTRAL COAST	183.7	114.7	62.4%	NO
DE ANZA	306.7	173.7	56.6%	NO
DIABLO	102.8	161.2	156.9%	Yes
EAST BAY	91.8	242.6	264.4%	Yes
FRESNO	211.5	113.5	53.7%	NO
HUMBOLDT	468.6	295.4	63.0%	NO
KERN	111.2	121.8	109.5%	NO
LOS PADRES	119.9	297.0	247.7%	Yes
MISSION	161.0	152.6	94.8%	NO
NORTH BAY	449.5	178.4	39.7%	NO
NORTH VALLEY	13270.3	402.3	3.0%	NO
PENINSULA	142.3	335.5	235.8%	Yes
SACRAMENTO	104.1	203.9	196.0%	Yes
SAN FRANCISCO	89.4	92.5	103.4%	NO
SAN JOSE	113.3	232.7	205.3%	Yes
SIERRA	939.9	379.7	40.4%	NO
SONOMA	73.6	643.3	873.9%	Yes
STOCKTON	683.2	130.9	19.2%	NO
YOSEMITE	174.3	161.8	92.8%	NO

Table 67 – February 26-27, 2019 CAIDI Performance

6.1 Diablo CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
DIABLO	October 14, 2017	295.3	4
DIABLO	October 20, 2017	148.0	11
DIABLO	December 4, 2017	68.8	12
DIABLO	December 16, 2017	166.1	9
DIABLO	May 17, 2018	190.2	1
DIABLO	July 28, 2018	163.6	2
DIABLO	October 14, 2018	134.4	2
DIABLO	November 8, 2018	104.0	3
DIABLO	November 21, 2018	97.5	14
DIABLO	November 29, 2018	298.1	10
	Average of 10 excludable major events	102.8	7
DIABLO	February 26-27 2019	161.2	6
	% Difference	56.9%	-12%

Table 68 – Diablo Division Historical Performance

As indicated in Table 68, the Diablo Division CAIDI value of 161.2 minutes for the February 26-27, 2019 major event days was 56.9% higher than the 102.8-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Walnut Creek 404 circuit – a tree fell into the line.
- Tassajara 2112 circuit – due to an outage of unknown cause; the line was patrolled but the cause was not determined.

These outages contributed 55.3 minutes to the February 26-27, 2019 overall CAIDI performance.

6.2 East Bay CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
EAST BAY	October 20, 2017	43.7	10
EAST BAY	December 4, 2017	114.9	10
EAST BAY	December 16, 2017	65.4	6
EAST BAY	March 16, 2018	87.9	3
EAST BAY	May 17, 2018	818.0	1
EAST BAY	July 28, 2018	13.6	2
EAST BAY	October 14, 2018	562.1	2
EAST BAY	November 8, 2018	51.9	2
EAST BAY	November 21, 2018	153.2	7
EAST BAY	November 29, 2018	75.8	7
	Average of 10 excludable major events	91.8	5
EAST BAY	February 26-27 2019	242.6	4
	% Difference	164.4%	-30%

Table 69 – East Bay Historical Performance

As indicated in Table 69, the East Bay Division CAIDI value of 242.6 minutes for the February 26-27, 2019 major event days was 164.4% higher than the 91.8-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Oakland C 1109 circuit – a palm frond fell into the line.
- Oakland D 1110 circuit – a tree fell into the line.
- Oakland X 1106 circuit – a tree fell into the line.

These outages contributed 76.7 minutes to the February 26-27, 2019 overall CAIDI performance.

6.3 Los Padres CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
LOS PADRES	October 20, 2017	139.6	11
LOS PADRES	December 4, 2017	52.0	8
LOS PADRES	December 16, 2017	21.2	3
LOS PADRES	March 16, 2018	815.1	3
LOS PADRES	May 17, 2018	118.2	3
LOS PADRES	July 28, 2018	324.0	1
LOS PADRES	October 14, 2018	126.0	1
LOS PADRES	November 8, 2018	166.3	3
LOS PADRES	November 21, 2018	193.2	14
LOS PADRES	November 29, 2018	107.7	29
	Average of 10 excludable major events	119.9	8
LOS PADRES	February 27 2019	297.0	3
	% Difference	147.7%	-61%

Table 70 – Los Padres Historical Performance

As indicated in Table 70, the Los Padres Division CAIDI value of 297.0 minutes for the February 27, 2019 major event day was 147.7% higher than the 119.9-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Templeton 2110 circuit – due to a failed wood pole.
- Oceano 1104 circuit – due to a failed underground transformer.
- Santa Maria 1110 circuit – due to a car-pole incident.

These outages contributed 297.0 minutes to the February 27, 2019 overall CAIDI performance.

6.4 Peninsula CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
PENINSULA	October 14, 2017	131.0	1
PENINSULA	October 20, 2017	185.2	9
PENINSULA	December 4, 2017	389.6	5
PENINSULA	December 16, 2017	158.1	18
PENINSULA	March 16, 2018	163.5	5
PENINSULA	May 17, 2018	73.1	1
PENINSULA	July 28, 2018	60.9	1
PENINSULA	November 8, 2018	163.8	4
PENINSULA	November 21, 2018	112.3	13
PENINSULA	November 29, 2018	118.1	22
	Average of 10 excludable major events	142.3	8
PENINSULA	February 26-27 2019	335.5	6
	% Difference	135.8%	-30%

Table 71 – Peninsula Historical Performance

As indicated in Table 71, the Peninsula Division CAIDI value of 335.5 minutes for the February 26-27, 2019 major event days was 135.8% higher than the 142.3-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was a failed insulator on the 60 kV transmission line serving Half Moon Bay Substation. This outage contributed 221.3 minutes to the February 26-27, 2019 overall CAIDI performance.

6.5 Sacramento CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SACRAMENTO	October 20, 2017	109.0	23
SACRAMENTO	December 4, 2017	55.1	17
SACRAMENTO	December 16, 2017	85.1	68
SACRAMENTO	March 16, 2018	112.5	4
SACRAMENTO	May 17, 2018	166.7	8
SACRAMENTO	July 28, 2018	85.1	6
SACRAMENTO	October 14, 2018	87.8	2
SACRAMENTO	November 8, 2018	150.3	18
SACRAMENTO	November 21, 2018	202.2	22
SACRAMENTO	November 29, 2018	269.7	22
	Average of 10 excludable major events	104.1	19
SACRAMENTO	February 26-27 2019	203.9	17
	% Difference	96.0%	-13%

Table 72 – Sacramento Historical Performance

As indicated in Table 72, the Sacramento Division CAIDI value of 203.9 minutes for the February 26-27, 2019 major event days was 96.0% higher than the 104.1-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Jameson 1105 circuit – due to a failed overhead conductor.
- Vacaville 1104 circuit – due to (1) a tree falling into the line and (2) a failed underground elbow.
- East Nicolaus 1101 circuit – a tree fell into the line.
- Vacaville 1109 circuit – due to a failed underground transformer.

These outages contributed 30.8 minutes to the February 26-27, 2019 overall CAIDI performance.

6.6 San Jose CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SAN JOSE	October 20, 2017	175.6	10
SAN JOSE	December 4, 2017	75.2	12
SAN JOSE	December 16, 2017	110.9	14
SAN JOSE	March 16, 2018	680.0	1
SAN JOSE	May 17, 2018	185.7	2
SAN JOSE	July 28, 2018	534.8	2
SAN JOSE	October 14, 2018	249.6	3
SAN JOSE	November 8, 2018	128.8	4
SAN JOSE	November 21, 2018	326.0	3
SAN JOSE	November 29, 2018	108.8	10
	Average of 10 excludable major events	113.3	6
SAN JOSE	February 26-27 2019	232.7	4
	% Difference	105.3%	-34%

Table 73 – San Jose Historical Performance

As indicated in Table 73, the San Jose Division CAIDI value of 232.7 minutes for the February 26-27, 2019 major event days was 105.3% higher than the 113.3-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- El Patio 1112 circuit – a palm frond fell into the line.
- Mc Kee 1107 circuit – due to a car-pole incident.

These outages contributed 103.8 minutes to the February 26-27, 2019 overall CAIDI performance.

6.7 Sonoma CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SONOMA	October 20, 2017	262.1	16
SONOMA	December 4, 2017	39.2	13
SONOMA	December 16, 2017	147.1	7
SONOMA	March 16, 2018	258.7	3
SONOMA	May 17, 2018	184.2	3
SONOMA	July 28, 2018	564.0	1
SONOMA	October 14, 2018	122.0	1
SONOMA	November 8, 2018	102.5	8
SONOMA	November 21, 2018	66.1	11
SONOMA	November 29, 2018	282.3	9
	Average of 10 excludable major events	73.6	7
SONOMA	February 26-27 2019	643.3	45
	% Difference	773.9%	525%

Table 74 – Sonoma Historical Performance

As indicated in Table 74, the Sonoma Division CAIDI value of 643.3 minutes for the February 26-27, 2019 major event days was 773.9% higher than the 73.6-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Mirabel 1102 circuit – a tree fell into the line.
- Monte Rio 1111 circuit – due to (1) a tree falling into the line and (2) a mudslide that brought down a wood pole.
- Molino 1104 circuit – due to a damaged cable-riser caused by flooding.
- Geyserville 1102 circuit – due to a broken pole brought about by flooding.
- Salmon Creek 1101 circuit – due to an outage of unknown cause; the line was patrolled but the cause was not determined.
- Monto Rio 1112 circuit – a tree fell into the line due to a mudslide.

These outages contributed 352.4 minutes to the February 26-27, 2019 overall CAIDI performance.

7. June 8, 2019 Major Event Day

The seventh major event was for June 8, 2019 caused by gusty offshore winds, hot temperatures and low humidity resulting in critical fire danger across the north and in the implementation of a Power Safety, Power Shut-Off (PSPS). Table 75 summarizes the system and division CAIDI performances during this event and the average of the prior ten weather related major events.

(June 8, 2019 vs. Prior 10 MED)

System / Division	Average CAIDI of Prior 10 System / Division Specific Excludable ME	June 8, 2019 / Division Specific CAIDI	Percent Difference From the Prior CAIDI Average	Exceeds the Investigation Threshold?
SYSTEM	1356.4	664.8	49.0%	NO
CENTRAL COAST	183.7	2854.3	1553.7%	Yes
DE ANZA	306.7	411.4	134.1%	Yes
DIABLO	102.8	70.0	68.1%	NO
EAST BAY	91.8	112.5	122.6%	NO
FRESNO	211.5	227.8	107.7%	NO
HUMBOLDT	468.6	127.5	27.2%	NO
KERN	111.2	98.4	88.5%	NO
LOS PADRES	119.9	159.0	132.6%	Yes
MISSION	161.0	351.0	218.0%	Yes
NORTH BAY	449.5	659.8	146.8%	Yes
NORTH VALLEY	13270.3	944.0	7.1%	NO
PENINSULA	142.3	0.0	0.0%	NO
SACRAMENTO	104.1	222.4	213.7%	Yes
SAN FRANCISCO	89.4	601.0	672.0%	Yes
SAN JOSE	113.3	39.9	35.2%	NO
SIERRA	939.9	97.2	10.3%	NO
SONOMA	73.6	274.2	372.5%	Yes
STOCKTON	683.2	214.5	31.4%	NO
YOSEMITE	174.3	97.4	55.9%	NO

Table 75 – June 8, 2019 CAIDI Performance

7.1 Central Coast CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
CENTRAL COAST	October 20, 2017	163.8	17
CENTRAL COAST	December 4, 2017	240.2	16
CENTRAL COAST	December 16, 2017	240.1	48
CENTRAL COAST	March 16, 2018	63.2	15
CENTRAL COAST	May 17, 2018	243.5	4
CENTRAL COAST	July 28, 2018	91.8	8
CENTRAL COAST	October 14, 2018	70.9	3
CENTRAL COAST	November 8, 2018	43.6	11
CENTRAL COAST	November 21, 2018	185.4	37
CENTRAL COAST	November 29, 2018	377.9	81
	Average of 10 excludable major events	183.7	24
CENTRAL COAST	June 8 2019	2,854.3	4
	% Difference	1453.7%	-83%

Table 76 – Central Coast Division Historical Performance

As indicated in Table 76, the Central Coast Division CAIDI value of 2,854.3 minutes for the June 8, 2019 major event day was 1,453.7% higher than the 183.7-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Spence 1105 circuit – due to a failed overhead transformer.
- Watsonville 2101 circuit – due to a failed overhead transformer.
- Paul Sweet 2107 circuit – a tree fell into the line.
- Soledad 2102 circuit – due to a failed overhead jumper.

These outages contributed 2,854.3 minutes to the June 8, 2019 overall CAIDI performance.

7.2 De Anza CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
DE ANZA	October 8-9, 2017	147.2	2
DE ANZA	October 14, 2017	168.8	4
DE ANZA	October 20, 2017	115.5	6
DE ANZA	December 4, 2017	115.4	6
DE ANZA	December 16, 2017	1,097.7	12
DE ANZA	May 17, 2018	146.3	1
DE ANZA	July 28, 2018	331.6	1
DE ANZA	November 8, 2018	299.5	3
DE ANZA	November 21, 2018	168.6	9
DE ANZA	November 29, 2018	45.0	21
	Average of 10 excludable major events	306.7	6
DE ANZA	June 8 2019	411.4	1
	% Difference	34.1%	-83%

Table 77 – De Anza Division Historical Performance

As indicated in Table 77, the De Anza Division CAIDI value of 411.4 minutes for the June 8, 2019 major event day was 34.1% higher than the 306.7-minute average of the prior 10 weather-related excludable major events.

This was the result of a tree falling into the Los Gatos 1106 circuit and accounted for the 411.4 CAIDI minutes.

7.3 Los Padres CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
LOS PADRES	October 20, 2017	139.6	11
LOS PADRES	December 4, 2017	52.0	8
LOS PADRES	December 16, 2017	21.2	3
LOS PADRES	March 16, 2018	815.1	3
LOS PADRES	May 17, 2018	118.2	3
LOS PADRES	July 28, 2018	324.0	1
LOS PADRES	October 14, 2018	126.0	1
LOS PADRES	November 8, 2018	166.3	3
LOS PADRES	November 21, 2018	193.2	14
LOS PADRES	November 29, 2018	107.7	29
	Average of 10 excludable major events	119.9	8
LOS PADRES	June 8 2019	159.0	3
	% Difference	32.6%	-61%

Table 78 – Los Padres Division Historical Performance

As indicated in Table 78, the Los Padres Division CAIDI value of 159.0 minutes for the June 8, 2019 major event day was 32.6% higher than the 119.9-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Zaca 1101 circuit – due to a deteriorated wood-pole.
- Templeton 2113 circuit – due to a deteriorated wood pole.
- Oceano 1104 circuit – due to a bird contacting the overhead line.

These outages contributed 159.0 minutes to the June 8, 2019 overall CAIDI performance.

7.4 Mission CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
MISSION	October 14, 2017	324.9	3
MISSION	October 20, 2017	252.4	10
MISSION	December 4, 2017	130.5	4
MISSION	December 16, 2017	40.5	3
MISSION	March 16, 2018	130.5	7
MISSION	May 17, 2018	276.7	2
MISSION	July 28, 2018	81.1	1
MISSION	October 14, 2018	292.4	2
MISSION	November 21, 2018	158.7	22
MISSION	November 29, 2018	474.5	7
	Average of 10 excludable major events	161.0	6
MISSION	June 8 2019	351.0	3
	% Difference	118.0%	-51%

Table 79 – Mission Division Historical Performance

As indicated in Table 79, the Mission Division CAIDI value of 351.0 minutes for the June 8, 2019 major event day was 118.0% higher than the 161.0-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Castro Valley 1106 circuit – due to an outage of unknown cause; the line was patrolled but the cause was not determined.
- Newark 1107 circuit – due to a broken secondary conductor.
- Vasco 1103 circuit – a tree branch fell into the line.

These outages contributed 351.0 minutes to the June 8, 2019 overall CAIDI performance.

7.5 North Bay CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
NORTH BAY	October 20, 2017	208.7	13
NORTH BAY	December 4, 2017	194.9	25
NORTH BAY	December 16, 2017	72.2	19
NORTH BAY	March 16, 2018	310.5	3
NORTH BAY	May 17, 2018	250.2	3
NORTH BAY	July 28, 2018	266.5	2
NORTH BAY	October 14, 2018	1,618.6	30
NORTH BAY	November 8, 2018	198.2	7
NORTH BAY	November 21, 2018	250.2	8
NORTH BAY	November 29, 2018	251.3	20
	Average of 10 excludable major events	449.5	13
NORTH BAY	June 8 2019	659.8	14
	% Difference	46.8%	8%

Table 80 – North Bay Division Historical Performance

As indicated in Table 80, the North Bay Division CAIDI value of 659.8 minutes for the June 8, 2019 major event day was 46.8% higher than the 449.5-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was the implementation of PSPS. This outage event contributed 523.5 minutes to the June 8, 2019 overall CAIDI performance.

7.5 Sacramento CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SACRAMENTO	October 20, 2017	109.0	23
SACRAMENTO	December 4, 2017	55.1	17
SACRAMENTO	December 16, 2017	85.1	68
SACRAMENTO	March 16, 2018	112.5	4
SACRAMENTO	May 17, 2018	166.7	8
SACRAMENTO	July 28, 2018	85.1	6
SACRAMENTO	October 14, 2018	87.8	2
SACRAMENTO	November 8, 2018	150.3	18
SACRAMENTO	November 21, 2018	202.2	22
SACRAMENTO	November 29, 2018	269.7	22
	Average of 10 excludable major events	104.1	19
SACRAMENTO	June 8 2019	222.4	26
	% Difference	113.7%	37%

Table 81 – Sacramento Division Historical Performance

As indicated in Table 81, the Sacramento Division CAIDI value of 222.4 minutes for the June 8, 2019 major event day was 113.7% higher than the 104.1-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was the implementation of PSPS. This outage event contributed 162.7 minutes to the June 8, 2019 overall CAIDI performance.

7.6 San Francisco CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SAN FRANCISCO	September 11, 2019	207.7	13
SAN FRANCISCO	October 9, 2017	279.0	1
SAN FRANCISCO	October 20, 2017	162.8	2
SAN FRANCISCO	December 4, 2017	53.1	1
SAN FRANCISCO	March 16, 2018	54.5	1
SAN FRANCISCO	July 28, 2018	11.0	1
SAN FRANCISCO	October 14, 2018	33.0	1
SAN FRANCISCO	November 8, 2018	361.0	2
SAN FRANCISCO	November 21, 2018	79.2	3
SAN FRANCISCO	November 29, 2018	74.4	3
	Average of 10 excludable major events	89.4	3
SAN FRANCISCO	June 8 2019	601.0	1
	% Difference	572.0%	-64%

Table 82 – San Francisco Division Historical Performance

As indicated in Table 82, the San Francisco Division CAIDI value of 601.0 minutes for the June 8, 2019 major event day was 572.0% higher than the 89.4-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was a failed overhead connector / splice on the Daly City 1109 circuit. This outage event contributed 601.0 minutes to the June 8, 2019 overall CAIDI performance.

7.7 Sonoma CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SONOMA	October 20, 2017	262.1	16
SONOMA	December 4, 2017	39.2	13
SONOMA	December 16, 2017	147.1	7
SONOMA	March 16, 2018	258.7	3
SONOMA	May 17, 2018	184.2	3
SONOMA	July 28, 2018	564.0	1
SONOMA	October 14, 2018	122.0	1
SONOMA	November 8, 2018	102.5	8
SONOMA	November 21, 2018	66.1	11
SONOMA	November 29, 2018	282.3	9
	Average of 10 excludable major events	73.6	7
SONOMA	June 8 2019	274.2	6
	% Difference	272.5%	-17%

Table 83 – Sonoma Division Historical Performance

As indicated in Table 83, the Sonoma Division CAIDI value of 274.2 minutes for the June 8, 2019 major event day was 272.5% higher than the 73.6-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Fitch Mountain 1113 circuit – a tree fell into the line.
- Rincon 1103 circuit – a tree fell into the line.
- Molino 1103 circuit – a tree branch fell into the line.

These outages contributed 139.1 minutes to the June 8, 2019 overall CAIDI performance.

8. June 10, 2019 Major Event Day

The eighth major event was for June 10, 2019 caused by a strong high-pressure system that resulted in hot and dry weather across the territory with daytime highs ranging from the 90s to around 105F across the territory. Table 84 summarizes the system and division CAIDI performances during this event and the average of the prior ten weather related major events.

(June 10, 2019 vs. Prior 10 MED)

System / Division	Average CAIDI of Prior 10 System / Division Specific Excludable ME	June 10, 2019 / Division Specific CAIDI	Percent Difference From the Prior CAIDI Average	Exceeds the Investigation Threshold?
SYSTEM	1356.4	122.8	9.1%	NO
CENTRAL COAST	183.7	67.8	36.9%	NO
DE ANZA	306.7	118.6	38.7%	NO
DIABLO	102.8	163.5	159.1%	Yes
EAST BAY	91.8	110.9	120.8%	NO
FRESNO	211.5	98.2	46.4%	NO
HUMBOLDT	468.6	99.3	21.2%	NO
KERN	111.2	73.1	65.7%	NO
LOS PADRES	119.9	47.3	39.5%	NO
MISSION	161.0	116.5	72.3%	NO
NORTH BAY	449.5	123.3	27.4%	NO
NORTH VALLEY	13270.3	116.9	0.9%	NO
PENINSULA	142.3	76.0	53.4%	NO
SACRAMENTO	104.1	133.0	127.8%	Yes
SAN FRANCISCO	89.4	110.9	124.0%	NO
SAN JOSE	113.3	139.9	123.4%	NO
SIERRA	939.9	101.8	10.8%	NO
SONOMA	73.6	202.9	275.6%	Yes
STOCKTON	683.2	193.6	28.3%	NO
YOSEMITE	174.3	213.2	122.3%	NO

Table 84 – June 10, 2019 CAIDI Performance

8.1 Diablo CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
DIABLO	October 14, 2017	295.3	4
DIABLO	October 20, 2017	148.0	11
DIABLO	December 4, 2017	68.8	12
DIABLO	December 16, 2017	166.1	9
DIABLO	May 17, 2018	190.2	1
DIABLO	July 28, 2018	163.6	2
DIABLO	October 14, 2018	134.4	2
DIABLO	November 8, 2018	104.0	3
DIABLO	November 21, 2018	97.5	14
DIABLO	November 29, 2018	298.1	10
	Average of 10 excludable major events	102.8	7
DIABLO	June 10 2019	163.5	13
	% Difference	59.1%	91%

Table 85 – Diablo Division Historical Performance

As indicated in Table 85, the Diablo Division CAIDI value of 163.5 minutes for the June 10, 2019 major event day was 59.1% higher than the 102.8-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Meadow Lane 2105 circuit – due to a failed underground connector / splice.
- Bryant 401 circuit – due to a loading problem on the circuit.
- Lakewood 2226 circuit – due to a failed underground switch.

These outages contributed 113.0 minutes to the June 10, 2019 overall CAIDI performance.

8.2 Sacramento CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SACRAMENTO	October 20, 2017	109.0	23
SACRAMENTO	December 4, 2017	55.1	17
SACRAMENTO	December 16, 2017	85.1	68
SACRAMENTO	March 16, 2018	112.5	4
SACRAMENTO	May 17, 2018	166.7	8
SACRAMENTO	July 28, 2018	85.1	6
SACRAMENTO	October 14, 2018	87.8	2
SACRAMENTO	November 8, 2018	150.3	18
SACRAMENTO	November 21, 2018	202.2	22
SACRAMENTO	November 29, 2018	269.7	22
	Average of 10 excludable major events	104.1	19
SACRAMENTO	June 10 2019	133.0	13
	% Difference	27.8%	-32%

Table 86 – Sacramento Division Historical Performance

As indicated in Table 86, the Sacramento Division CAIDI value of 133.0 minutes for the June 10, 2019 major event day was 27.8% higher than the 104.1-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- West Sacramento 1108 circuit – due to a third-party incident where someone threw a piece of cable onto the overhead conductor.
- Vaca Dixon 1105 circuit – due to a car-pole incident.

These outages contributed 63.6 minutes to the June 10, 2019 overall CAIDI performance.

8.3 Sonoma CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SONOMA	October 20, 2017	262.1	16
SONOMA	December 4, 2017	39.2	13
SONOMA	December 16, 2017	147.1	7
SONOMA	March 16, 2018	258.7	3
SONOMA	May 17, 2018	184.2	3
SONOMA	July 28, 2018	564.0	1
SONOMA	October 14, 2018	122.0	1
SONOMA	November 8, 2018	102.5	8
SONOMA	November 21, 2018	66.1	11
SONOMA	November 29, 2018	282.3	9
	Average of 10 excludable major events	73.6	7
SONOMA	June 10 2019	202.9	7
	% Difference	175.6%	-3%

Table 87 – Sonoma Division Historical Performance

As indicated in Table 87, the Sonoma Division CAIDI value of 202.9 minutes for the June 10, 2019 major event day was 175.6% higher than the 73.6-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Santa Rosa A 1110 circuit – due to a failed underground transformer.
- Bellevue 2103 circuit – due to a failed underground connector / splice.
- Bellevue 2105 circuit – due to a failed underground connector / splice

These outages contributed 100.9 minutes to the June 10, 2019 overall CAIDI performance.

9. August 15, 2019 Major Event Day

The ninth major event was for August 15, 2019 caused by a strong high-pressure system that resulted in triple-digit temperatures away from the coast. Table 88 summarizes the system and division CAIDI performances during this event and the average of the prior ten weather related major events.

(August 15, 2019 vs. Prior 10 MED)

System / Division	Average CAIDI of Prior 10 System / Division Specific Excludable ME	August 15, 2019 / Division Specific CAIDI	Percent Difference From the Prior CAIDI Average	Exceeds the Investigation Threshold?
SYSTEM	1356.4	121.2	8.9%	NO
CENTRAL COAST	183.7	124.4	67.7%	NO
DE ANZA	306.7	340.6	111.0%	NO
DIABLO	102.8	111.4	108.4%	NO
EAST BAY	91.8	157.1	171.2%	Yes
FRESNO	211.5	101.8	48.1%	NO
HUMBOLDT	468.6	96.2	20.5%	NO
KERN	111.2	148.5	133.5%	Yes
LOS PADRES	119.9	86.9	72.5%	NO
MISSION	161.0	93.2	57.9%	NO
NORTH BAY	449.5	96.3	21.4%	NO
NORTH VALLEY	13270.3	331.9	2.5%	NO
PENINSULA	142.3	1393.0	979.2%	Yes
SACRAMENTO	104.1	159.7	153.4%	Yes
SAN FRANCISCO	89.4	31.6	35.3%	NO
SAN JOSE	113.3	223.8	197.5%	Yes
SIERRA	939.9	61.5	6.5%	NO
SONOMA	73.6	151.1	205.3%	Yes
STOCKTON	683.2	85.8	12.6%	NO
YOSEMITE	174.3	110.3	63.3%	NO

Table 88 – August 15, 2019 CAIDI Performance

9.1 East Bay CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
EAST BAY	October 20, 2017	43.7	10
EAST BAY	December 4, 2017	114.9	10
EAST BAY	December 16, 2017	65.4	6
EAST BAY	March 16, 2018	87.9	3
EAST BAY	May 17, 2018	818.0	1
EAST BAY	July 28, 2018	13.6	2
EAST BAY	October 14, 2018	562.1	2
EAST BAY	November 8, 2018	51.9	2
EAST BAY	November 21, 2018	153.2	7
EAST BAY	November 29, 2018	75.8	7
	Average of 10 excludable major events	91.8	5
EAST BAY	August 15 2019	157.1	4
	% Difference	71.2%	-20%

Table 89 – East Bay Division Historical Performance

As indicated in Table 89, the East Bay Division CAIDI value of 157.1 minutes for the August 15, 2019 major event day was 71.2% higher than the 91.8-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Oakland J 1108 circuit – due to a metallic balloon getting into the lines.
- Oakland D 1130 circuit – due to failed overhead transformer.
- Oakland C 1118 circuit – due to a failed underground connector / splice.
- San Leandro 1109 circuit – due to tree bark getting into the line.

These outages contributed 157.1 minutes to the August 15, 2019 overall CAIDI performance.

9.2 Kern CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
KERN	October 14, 2017	95.6	4
KERN	October 20, 2017	152.8	12
KERN	December 4, 2017	80.8	5
KERN	December 16, 2017	285.3	2
KERN	March 16, 2018	56.8	2
KERN	May 17, 2018	487.8	3
KERN	October 14, 2018	91.9	2
KERN	November 8, 2018	291.1	4
KERN	November 21, 2018	112.8	4
KERN	November 29, 2018	162.4	7
	Average of 10 excludable major events	111.2	5
KERN	August 15 2019	148.5	2
	% Difference	33.5%	-56%

Table 90 – Kern Division Historical Performance

As indicated in Table 90, the Kern Division CAIDI value of 148.5 minutes for the August 15, 2019 major event day was 33.5% higher than the 111.2-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Lakeview 1102 circuit – due to an outage of unknown cause; the line was patrolled but the cause was not determined.
- Westpark 1105 circuit – due to a squirrel getting into the line.

These outages contributed 148.5 minutes to the August 15, 2019 overall CAIDI performance.

9.3 Peninsula CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
PENINSULA	October 14, 2017	131.0	1
PENINSULA	October 20, 2017	185.2	9
PENINSULA	December 4, 2017	389.6	5
PENINSULA	December 16, 2017	158.1	18
PENINSULA	March 16, 2018	163.5	5
PENINSULA	May 17, 2018	73.1	1
PENINSULA	July 28, 2018	60.9	1
PENINSULA	November 8, 2018	163.8	4
PENINSULA	November 21, 2018	112.3	13
PENINSULA	November 29, 2018	118.1	22
	Average of 10 excludable major events	142.3	8
PENINSULA	August 15 2019	1,393.0	2
	% Difference	879.2%	-75%

Table 91 – Peninsula Division Historical Performance

As indicated in Table 91, the Peninsula Division CAIDI value of 1,393.0 minutes for the August 15, 2019 major event day was 879.2% higher than the 142.3-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Glenwood 1101 circuit – a tree fell into the line.
- Daly City 1102 circuit – due to a failed overhead fuse holder.

These outages contributed 1,393.0 minutes to the August 15, 2019 overall CAIDI performance.

9.4 Sacramento CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SACRAMENTO	October 20, 2017	109.0	23
SACRAMENTO	December 4, 2017	55.1	17
SACRAMENTO	December 16, 2017	85.1	68
SACRAMENTO	March 16, 2018	112.5	4
SACRAMENTO	May 17, 2018	166.7	8
SACRAMENTO	July 28, 2018	85.1	6
SACRAMENTO	October 14, 2018	87.8	2
SACRAMENTO	November 8, 2018	150.3	18
SACRAMENTO	November 21, 2018	202.2	22
SACRAMENTO	November 29, 2018	269.7	22
	Average of 10 excludable major events	104.1	19
SACRAMENTO	August 15 2019	159.7	5
	% Difference	53.4%	-74%

Table 92 – Sacramento Division Historical Performance

As indicated in Table 92, the Sacramento Division CAIDI value of 159.7 minutes for the August 15, 2019 major event day was 53.4% higher than the 104.1-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Suisun 1106 circuit – due to a failed overhead connector / splice.
- Peabody 2104 circuit – due to an outage of unknown cause; the line was patrolled but the cause was not determined.
- Madison 2101 circuit – a tree grew into the line.
- Plainfield 1106 circuit – due to a failed underground transformer.
- East Nicolaus 1101 circuit – due to a blown fuse.

These outages contributed 159.7 minutes to the August 15, 2019 overall CAIDI performance.

9.5 San Jose CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SAN JOSE	October 20, 2017	175.6	10
SAN JOSE	December 4, 2017	75.2	12
SAN JOSE	December 16, 2017	110.9	14
SAN JOSE	March 16, 2018	680.0	1
SAN JOSE	May 17, 2018	185.7	2
SAN JOSE	July 28, 2018	534.8	2
SAN JOSE	October 14, 2018	249.6	3
SAN JOSE	November 8, 2018	128.8	4
SAN JOSE	November 21, 2018	326.0	3
SAN JOSE	November 29, 2018	108.8	10
	Average of 10 excludable major events	113.3	6
SAN JOSE	August 15 2019	223.8	22
	% Difference	97.5%	261%

Table 93 – San Jose Division Historical Performance

As indicated in Table 93, the San Jose Division CAIDI value of 223.8 minutes for the August 15, 2019 major event day was 97.5% higher than the 113.3-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Swift 2102 circuit – due to a failed underground transformer.
- Almaden 1111 circuit – due to a failed underground transformer.
- Swift 2107 circuit – due to an outage of unknown cause; the line was patrolled but the cause was not determined.
- Edenvale 1102 circuit – due to a failed underground transformer.
- Swift 2110 circuit – due to an outage of unknown cause; the line was patrolled but the cause was not determined.
- Hicks 1112 circuit – due to a failed underground switch.

These outages contributed 105.2 minutes to the August 15, 2019 overall CAIDI performance.

9.6 Sonoma CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SONOMA	October 20, 2017	262.1	16
SONOMA	December 4, 2017	39.2	13
SONOMA	December 16, 2017	147.1	7
SONOMA	March 16, 2018	258.7	3
SONOMA	May 17, 2018	184.2	3
SONOMA	July 28, 2018	564.0	1
SONOMA	October 14, 2018	122.0	1
SONOMA	November 8, 2018	102.5	8
SONOMA	November 21, 2018	66.1	11
SONOMA	November 29, 2018	282.3	9
	Average of 10 excludable major events	73.6	7
SONOMA	August 15 2019	151.1	8
	% Difference	105.3%	11%

Table 94 – Sonoma Division Historical Performance

As indicated in Table 94, the Sonoma Division CAIDI value of 151.1 minutes for the August 15, 2019 major event day was 105.3% higher than the 73.6-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Petaluma C 1102 circuit – due to a failed underground transformer.
- Sonoma 1102 circuit – a tree fell into the line.

These outages contributed 81.1 minutes to the August 15, 2019 overall CAIDI performance.

10. September 23, 2019 Major Event Day

The tenth major event was for September 23, 2019 caused by dry weather combined with breezy to gusty northeast winds that led to critical fire weather conditions across the North resulting in the implementation of PSPS. Table 95 summarizes the system and division CAIDI performances during this event and the average of the prior ten weather related major events.

(September 23, 2019 vs. Prior 10 MED)

System / Division	Average CAIDI of Prior 10 System / Division Specific Excludable ME	September 23, 2019 / Division Specific CAIDI	Percent Difference From the Prior CAIDI Average	Exceeds the Investigation Threshold?
SYSTEM	1356.4	867.3	63.9%	NO
CENTRAL COAST	183.7	212.6	115.7%	NO
DE ANZA	306.7	978.0	318.8%	Yes
DIABLO	102.8	62.9	61.2%	NO
EAST BAY	91.8	708.0	771.5%	Yes
FRESNO	211.5	172.5	81.6%	NO
HUMBOLDT	468.6	268.4	57.3%	NO
KERN	111.2	224.2	201.6%	Yes
LOS PADRES	119.9	249.7	208.3%	Yes
MISSION	161.0	43.0	26.7%	NO
NORTH BAY	449.5	34.0	7.6%	NO
NORTH VALLEY	13270.3	1157.3	8.7%	NO
PENINSULA	142.3	143.0	100.5%	NO
SACRAMENTO	104.1	1122.8	1078.8%	Yes
SAN FRANCISCO	89.4	0.0	0.0%	NO
SAN JOSE	113.3	128.8	113.6%	NO
SIERRA	939.9	1106.6	117.7%	NO
SONOMA	73.6	241.8	328.5%	Yes
STOCKTON	683.2	77.9	11.4%	NO
YOSEMITE	174.3	359.4	206.1%	Yes

Table 95 – September 23, 2019 CAIDI Performance

10.1 De Anza CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
DE ANZA	October 8-9, 2017	147.2	2
DE ANZA	October 14, 2017	168.8	4
DE ANZA	October 20, 2017	115.5	6
DE ANZA	December 4, 2017	115.4	6
DE ANZA	December 16, 2017	1,097.7	12
DE ANZA	May 17, 2018	146.3	1
DE ANZA	July 28, 2018	331.6	1
DE ANZA	November 8, 2018	299.5	3
DE ANZA	November 21, 2018	168.6	9
DE ANZA	November 29, 2018	45.0	21
	Average of 10 excludable major events	306.7	6
DE ANZA	September 23 2019	978.0	1
	% Difference	218.8%	-83%

Table 96 – De Anza Division Historical Performance

As indicated in Table 96, the De Anza Division CAIDI value of 978.0 minutes for the September 23, 2019 major event day was 218.8% higher than the 306.7-minute average of the prior 10 weather-related excludable major events.

This was attributed to a tree falling into the Hicks 1106 circuit.

10.2 East Bay CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
EAST BAY	October 20, 2017	43.7	10
EAST BAY	December 4, 2017	114.9	10
EAST BAY	December 16, 2017	65.4	6
EAST BAY	March 16, 2018	87.9	3
EAST BAY	May 17, 2018	818.0	1
EAST BAY	July 28, 2018	13.6	2
EAST BAY	October 14, 2018	562.1	2
EAST BAY	November 8, 2018	51.9	2
EAST BAY	November 21, 2018	153.2	7
EAST BAY	November 29, 2018	75.8	7
	Average of 10 excludable major events	91.8	5
EAST BAY	September 23 2019	708.0	1
	% Difference	671.5%	-80%

Table 97 – East Bay Division Historical Performance

As indicated in Table 97, the East Bay Division CAIDI value of 708.0 minutes for the September 23, 2019 major event day was 671.5% higher than the 91.8-minute average of the prior 10 weather-related excludable major events.

This was attributed to an outage of unknown cause on the Oakland J 1102 circuit.

10.3 Kern CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
KERN	October 14, 2017	95.6	4
KERN	October 20, 2017	152.8	12
KERN	December 4, 2017	80.8	5
KERN	December 16, 2017	285.3	2
KERN	March 16, 2018	56.8	2
KERN	May 17, 2018	487.8	3
KERN	October 14, 2018	91.9	2
KERN	November 8, 2018	291.1	4
KERN	November 21, 2018	112.8	4
KERN	November 29, 2018	162.4	7
	Average of 10 excludable major events	111.2	5
KERN	September 23 2019	224.2	6
	% Difference	101.6%	33%

Table 98 – Kern Division Historical Performance

As indicated in Table 98, the Kern Division CAIDI value of 224.2 minutes for the September 23, 2019 major event day was 101.6% higher than the 111.2-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Westpark 1107 circuit – due to a car-pole incident.
- Taft 1104 circuit – due to failed overhead transformer.
- Westpark 1109 circuit – due to a car-pole incident.
- Tevis 2103 circuit – due to a failed lightning arrestor.
- Rio Bravo 1102 circuit – due to an outage of unknown cause; the line was patrolled but the cause was not determined.
- Shafter 1102 circuit – due to a car-pole incident.

These outages contributed 224.2 minutes to the September 23, 2019 overall CAIDI performance.

10.4 Los Padres CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
LOS PADRES	October 20, 2017	139.6	11
LOS PADRES	December 4, 2017	52.0	8
LOS PADRES	December 16, 2017	21.2	3
LOS PADRES	March 16, 2018	815.1	3
LOS PADRES	May 17, 2018	118.2	3
LOS PADRES	July 28, 2018	324.0	1
LOS PADRES	October 14, 2018	126.0	1
LOS PADRES	November 8, 2018	166.3	3
LOS PADRES	November 21, 2018	193.2	14
LOS PADRES	November 29, 2018	107.7	29
	Average of 10 excludable major events	119.9	8
LOS PADRES	September 23 2019	249.7	3
	% Difference	108.3%	-61%

Table 99 – Los Padres Division Historical Performance

As indicated in Table 99, the Los Padres Division CAIDI value of 249.7 minutes for the September 23, 2019 major event day was 108.3% higher than the 119.9-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Sisquoc 1101 circuit – due to a car-pole incident.
- Santa Maria 1105 circuit – due to failed overhead jumper.
- Cabrillo 1104 circuit – due to a failed overhead connector / splice.

These outages contributed 249.7 minutes to the September 23, 2019 overall CAIDI performance.

10.5 Sacramento CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SACRAMENTO	October 20, 2017	109.0	23
SACRAMENTO	December 4, 2017	55.1	17
SACRAMENTO	December 16, 2017	85.1	68
SACRAMENTO	March 16, 2018	112.5	4
SACRAMENTO	May 17, 2018	166.7	8
SACRAMENTO	July 28, 2018	85.1	6
SACRAMENTO	October 14, 2018	87.8	2
SACRAMENTO	November 8, 2018	150.3	18
SACRAMENTO	November 21, 2018	202.2	22
SACRAMENTO	November 29, 2018	269.7	22
	Average of 10 excludable major events	104.1	19
SACRAMENTO	September 23 2019	1,122.8	27
	% Difference	978.8%	42%

Table 100 – Sacramento Division Historical Performance

As indicated in Table 100, the Sacramento Division CAIDI value of 1,122.5 minutes for the September 23, 2019 major event day was 978.8% higher than the 104.1-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was the implementation of PSPS. This outage event contributed 1,026.8 minutes to the September 23, 2019 overall CAIDI performance.

10.6 Sonoma CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SONOMA	October 20, 2017	262.1	16
SONOMA	December 4, 2017	39.2	13
SONOMA	December 16, 2017	147.1	7
SONOMA	March 16, 2018	258.7	3
SONOMA	May 17, 2018	184.2	3
SONOMA	July 28, 2018	564.0	1
SONOMA	October 14, 2018	122.0	1
SONOMA	November 8, 2018	102.5	8
SONOMA	November 21, 2018	66.1	11
SONOMA	November 29, 2018	282.3	9
	Average of 10 excludable major events	73.6	7
SONOMA	September 23 2019	241.8	3
	% Difference	228.5%	-58%

Table 101 – Sonoma Division Historical Performance

As indicated in Table 101, the Sonoma Division CAIDI value of 241.8 minutes for the September 23, 2019 major event day was 228.5% higher than the 73.6-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Bellevue 2103 circuit – due to a failed underground connector / splice.
- Mirabel 1102 circuit – due to a 3rd party tree trimming company.
- Dunbar 1101 circuit – due to an outage on unknown cause; the line was patrolled but the cause was not determined.

These outages contributed 241.8 minutes to the September 23, 2019 overall CAIDI performance.

10.7 Yosemite CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
YOSEMITE	October 20, 2017	178.6	33
YOSEMITE	December 4, 2017	186.8	9
YOSEMITE	December 16, 2017	137.7	28
YOSEMITE	March 16, 2018	267.9	30
YOSEMITE	May 17, 2018	130.9	4
YOSEMITE	July 28, 2018	691.8	5
YOSEMITE	October 14, 2018	33.6	2
YOSEMITE	November 8, 2018	111.6	5
YOSEMITE	November 21, 2018	101.4	36
YOSEMITE	November 29, 2018	157.4	29
	Average of 10 excludable major events	174.3	18
YOSEMITE	September 23 2019	359.4	8
	% Difference	106.1%	-56%

Table 102 – Yosemite Division Historical Performance

As indicated in Table 102, the Yosemite Division CAIDI value of 359.4 minutes for the September 23, 2019 major event day was 106.1% higher than the 174.3-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was a tree falling into the Curtis 1703 circuit. This outage contributed 242.5 minutes to the September 23, 2019 overall CAIDI performance.

11. September 25, 2019 Major Event Day

The eleventh major event was for September 25, 2019 caused by dry weather combined with breezy to gusty offshore winds that led to critical fire weather conditions across the Bay Area and the northern area resulting in the implementation of PSPS. Table 103 summarizes the system and division CAIDI performances during this event and the average of the prior ten weather related major events.

(September 25, 2019 vs. Prior 10 MED)

System / Division	Average CAIDI of Prior 10 System / Division Specific Excludable ME	September 25, 2019 / Division Specific CAIDI	Percent Difference From the Prior CAIDI Average	Exceeds the Investigation Threshold?
SYSTEM	1356.4	668.7	49.3%	NO
CENTRAL COAST	183.7	89.3	48.6%	NO
DE ANZA	306.7	388.4	126.6%	Yes
DIABLO	102.8	236.0	229.6%	Yes
EAST BAY	91.8	61.0	66.5%	NO
FRESNO	211.5	154.3	72.9%	NO
HUMBOLDT	468.6	368.3	78.6%	NO
KERN	111.2	226.2	203.4%	Yes
LOS PADRES	119.9	444.9	371.1%	Yes
MISSION	161.0	359.8	223.4%	Yes
NORTH BAY	449.5	697.1	155.1%	Yes
NORTH VALLEY	13270.3	964.9	7.3%	NO
PENINSULA	142.3	100.7	70.8%	NO
SACRAMENTO	104.1	830.1	797.6%	Yes
SAN FRANCISCO	89.4	379.0	423.8%	Yes
SAN JOSE	113.3	147.3	130.0%	Yes
SIERRA	939.9	790.9	84.1%	NO
SONOMA	73.6	116.9	158.8%	Yes
STOCKTON	683.2	204.0	29.9%	NO
YOSEMITE	174.3	174.8	100.3%	NO

Table 103 – September 25, 2019 CAIDI Performance

11.1 De Anza CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
DE ANZA	October 8-9, 2017	147.2	2
DE ANZA	October 14, 2017	168.8	4
DE ANZA	October 20, 2017	115.5	6
DE ANZA	December 4, 2017	115.4	6
DE ANZA	December 16, 2017	1,097.7	12
DE ANZA	May 17, 2018	146.3	1
DE ANZA	July 28, 2018	331.6	1
DE ANZA	November 8, 2018	299.5	3
DE ANZA	November 21, 2018	168.6	9
DE ANZA	November 29, 2018	45.0	21
	Average of 10 excludable major events	306.7	6
DE ANZA	September 25 2019	388.4	3
	% Difference	26.6%	-50%

Table 104 – De Anza Division Historical Performance

As indicated in Table 104, the De Anza Division CAIDI value of 388.4 minutes for the September 25, 2019 major event day was 26.6% higher than the 306.7-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Mountain View 1113 circuit – a tree fell into the line.
- Los Gatos 1106 circuit – due to a failed overhead conductor.
- Britton 1104 circuit – due to an animal-related outage (squirrel).

These outages contributed 388.4 minutes to the September 25, 2019 overall CAIDI performance.

11.2 Diablo CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
DIABLO	October 14, 2017	295.3	4
DIABLO	October 20, 2017	148.0	11
DIABLO	December 4, 2017	68.8	12
DIABLO	December 16, 2017	166.1	9
DIABLO	May 17, 2018	190.2	1
DIABLO	July 28, 2018	163.6	2
DIABLO	October 14, 2018	134.4	2
DIABLO	November 8, 2018	104.0	3
DIABLO	November 21, 2018	97.5	14
DIABLO	November 29, 2018	298.1	10
	Average of 10 excludable major events	102.8	7
DIABLO	September 25 2019	236.0	1
	% Difference	129.6%	-85%

Table 105 – Diablo Division Historical Performance

As indicated in Table 105, the Diablo Anza Division CAIDI value of 236.0 minutes for the September 25, 2019 major event day was 129.6% higher than the 102.8-minute average of the prior 10 weather-related excludable major events.

The high division CAIDI value was due to a tree falling into the Tidewater 2105 circuit.

11.3 Kern CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
KERN	October 14, 2017	95.6	4
KERN	October 20, 2017	152.8	12
KERN	December 4, 2017	80.8	5
KERN	December 16, 2017	285.3	2
KERN	March 16, 2018	56.8	2
KERN	May 17, 2018	487.8	3
KERN	October 14, 2018	91.9	2
KERN	November 8, 2018	291.1	4
KERN	November 21, 2018	112.8	4
KERN	November 29, 2018	162.4	7
	Average of 10 excludable major events	111.2	5
KERN	September 25 2019	226.2	5
	% Difference	103.4%	11%

Table 106 – Kern Division Historical Performance

As indicated in Table 106, the Kern Division CAIDI value of 226.2 minutes for the September 25, 2019 major event day was 103.4% higher than the 111.2-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Kern Power 2103 circuit – due to a failed underground transformer.
- Charca 1103 circuit – due to an outage of unknown cause; the line was patrolled but the cause was not determined.
- Tejon 1103 circuit – due to an underground conductor failure.
- Poso Mountain 2101 circuit – due to an outage of unknown cause; the line was patrolled but the cause was not determined.
- Weedpatch 1102 circuit – due to an animal-related outage (raccoon).

These outages contributed 226.2 minutes to the September 25, 2019 overall CAIDI performance.

11.4 Los Padres CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
LOS PADRES	October 20, 2017	139.6	11
LOS PADRES	December 4, 2017	52.0	8
LOS PADRES	December 16, 2017	21.2	3
LOS PADRES	March 16, 2018	815.1	3
LOS PADRES	May 17, 2018	118.2	3
LOS PADRES	July 28, 2018	324.0	1
LOS PADRES	October 14, 2018	126.0	1
LOS PADRES	November 8, 2018	166.3	3
LOS PADRES	November 21, 2018	193.2	14
LOS PADRES	November 29, 2018	107.7	29
	Average of 10 excludable major events	119.9	8
LOS PADRES	September 25 2019	444.9	5
	% Difference	271.1%	-34%

Table 107 – Los Padres Division Historical Performance

As indicated in Table 107, the Los Padres Division CAIDI value of 444.9 minutes for the September 25, 2019 major event day was 271.1% higher than the 119.9-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- San Luis Obispo 1104 circuit – due to a grassfire.
- Templeton 2109 circuit – due to an animal-related outage (bird).
- Paso Robles 1107 circuit – due to an underground transformer failure.
- Sisquoc 1101 circuit – due to a failed underground service conductor.
- Templeton 2110 circuit – due to an animal-related outage (bird).

These outages contributed 444.9 minutes to the September 25, 2019 overall CAIDI performance.

11.5 Mission CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
MISSION	October 14, 2017	324.9	3
MISSION	October 20, 2017	252.4	10
MISSION	December 4, 2017	130.5	4
MISSION	December 16, 2017	40.5	3
MISSION	March 16, 2018	130.5	7
MISSION	May 17, 2018	276.7	2
MISSION	July 28, 2018	81.1	1
MISSION	October 14, 2018	292.4	2
MISSION	November 21, 2018	158.7	22
MISSION	November 29, 2018	474.5	7
	Average of 10 excludable major events	161.0	6
MISSION	September 25 2019	359.8	3
	% Difference	123.4%	-51%

Table 108 – Mission Division Historical Performance

As indicated in Table 108, the Mission Division CAIDI value of 359.8 minutes for the September 25, 2019 major event day was 123.4% higher than the 161.0-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Las Positas 2106 circuit – due to a failed overhead transformer.
- Mount Eden 1104 circuit – due to a failed overhead jumper.
- Fremont 1109 circuit – due to a failed overhead transformer.

These outages contributed 359.8 minutes to the September 25, 2019 overall CAIDI performance.

11.6 North Bay CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
NORTH BAY	October 20, 2017	208.7	13
NORTH BAY	December 4, 2017	194.9	25
NORTH BAY	December 16, 2017	72.2	19
NORTH BAY	March 16, 2018	310.5	3
NORTH BAY	May 17, 2018	250.2	3
NORTH BAY	July 28, 2018	266.5	2
NORTH BAY	October 14, 2018	1,618.6	30
NORTH BAY	November 8, 2018	198.2	7
NORTH BAY	November 21, 2018	250.2	8
NORTH BAY	November 29, 2018	251.3	20
	Average of 10 excludable major events	449.5	13
NORTH BAY	September 25 2019	697.1	13
	% Difference	55.1%	0%

Table 109 – North Bay Division Historical Performance

As indicated in Table 109, the North Bay Division CAIDI value of 697.1 minutes for the September 25, 2019 major event day was 55.1% higher than the 449.5-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was the implementation of PSPS. This outage event contributed 436.0 minutes to the September 25, 2019 overall CAIDI performance.

11.7 Sacramento CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SACRAMENTO	October 20, 2017	109.0	23
SACRAMENTO	December 4, 2017	55.1	17
SACRAMENTO	December 16, 2017	85.1	68
SACRAMENTO	March 16, 2018	112.5	4
SACRAMENTO	May 17, 2018	166.7	8
SACRAMENTO	July 28, 2018	85.1	6
SACRAMENTO	October 14, 2018	87.8	2
SACRAMENTO	November 8, 2018	150.3	18
SACRAMENTO	November 21, 2018	202.2	22
SACRAMENTO	November 29, 2018	269.7	22
	Average of 10 excludable major events	104.1	19
SACRAMENTO	September 25 2019	830.1	26
	% Difference	697.6%	37%

Table 110 – Sacramento Division Historical Performance

As indicated in Table 110, the Sacramento Division CAIDI value of 830.1 minutes for the September 25, 2019 major event day was 697.6% higher than the 104.1-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was the implementation of PSPS. This outage event contributed 680.4 minutes to the September 25, 2019 overall CAIDI performance.

11.8 San Francisco CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SAN FRANCISCO	September 11, 2019	207.7	13
SAN FRANCISCO	October 9, 2017	279.0	1
SAN FRANCISCO	October 20, 2017	162.8	2
SAN FRANCISCO	December 4, 2017	53.1	1
SAN FRANCISCO	March 16, 2018	54.5	1
SAN FRANCISCO	July 28, 2018	11.0	1
SAN FRANCISCO	October 14, 2018	33.0	1
SAN FRANCISCO	November 8, 2018	361.0	2
SAN FRANCISCO	November 21, 2018	79.2	3
SAN FRANCISCO	November 29, 2018	74.4	3
	Average of 10 excludable major events	89.4	3
SAN FRANCISCO	September 25 2019	379.0	1
	% Difference	323.8%	-64%

Table 111 – San Francisco Division Historical Performance

As indicated in Table 111, the San Francisco Division CAIDI value of 379.0 minutes for the September 25, 2019 major event day was 323.8% higher than the 89.4-minute average of the prior 10 weather-related excludable major events.

The high division CAIDI value was due to a failed overhead transformer on the SF H Martin 1103 circuit.

11.9 San Jose CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SAN JOSE	October 20, 2017	175.6	10
SAN JOSE	December 4, 2017	75.2	12
SAN JOSE	December 16, 2017	110.9	14
SAN JOSE	March 16, 2018	680.0	1
SAN JOSE	May 17, 2018	185.7	2
SAN JOSE	July 28, 2018	534.8	2
SAN JOSE	October 14, 2018	249.6	3
SAN JOSE	November 8, 2018	128.8	4
SAN JOSE	November 21, 2018	326.0	3
SAN JOSE	November 29, 2018	108.8	10
	Average of 10 excludable major events	113.3	6
SAN JOSE	September 25 2019	147.3	5
	% Difference	30.0%	-18%

Table 112 – San Jose Division Historical Performance

As indicated in Table 112, the San Jose Division CAIDI value of 147.3 minutes for the September 25, 2019 major event day was 30.0% higher than the 113.3-minute average of the prior 10 weather-related excludable major events

The top contributing factors to the higher division CAIDI value were due to the following:

- San Jose B 1107 circuit – due to a failed overhead transformer.
- El Patio 1108 circuit – due to a failed overhead transformer.
- Hicks 2101 circuit – due to a failed overhead conductor.
- Llagas 2101 circuit – due to an outage of unknown cause; the line was patrolled but the cause was not determined.
- Dixon Landing 2103 circuit - due to an outage of unknown cause; the line was patrolled but the cause was not determined.

These outages contributed 147.3 minutes to the September 25, 2019 overall CAIDI performance.

11.10 Sonoma CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SONOMA	October 20, 2017	262.1	16
SONOMA	December 4, 2017	39.2	13
SONOMA	December 16, 2017	147.1	7
SONOMA	March 16, 2018	258.7	3
SONOMA	May 17, 2018	184.2	3
SONOMA	July 28, 2018	564.0	1
SONOMA	October 14, 2018	122.0	1
SONOMA	November 8, 2018	102.5	8
SONOMA	November 21, 2018	66.1	11
SONOMA	November 29, 2018	282.3	9
	Average of 10 excludable major events	73.6	7
SONOMA	September 25 2019	116.9	11
	% Difference	58.8%	53%

Table 113 – Sonoma Division Historical Performance

As indicated in Table 113, the Sonoma Division CAIDI value of 116.9 minutes for the September 25, 2019 major event day was 58.8% higher than the 73.9-minute average of the prior 10 weather-related excludable major events

The top contributing factor to the higher division CAIDI value was the implementation of PSPS. This outage event contributed 21.8 minutes to the September 25, 2019 overall CAIDI performance.

12. October 5, 2019 Major Event Day

The twelfth major event was for October 5, 2019 caused by gusty northeast winds, dry conditions and warm autumn temperatures resulting in critical fire weather and the implementation of PSPS across portions of the territory. Table 114 summarizes the system and division CAIDI performances during this event and the average of the prior ten weather related major events.

(October 5, 2019 vs. Prior 10 MED)

System / Division	Average CAIDI of Prior 10 System / Division Specific Excludable ME	October 5, 2019 / Division Specific CAIDI	Percent Difference From the Prior CAIDI Average	Exceeds the Investigation Threshold?
SYSTEM	1356.4	412.0	30.4%	NO
CENTRAL COAST	183.7	91.5	49.8%	NO
DE ANZA	306.7	37.7	12.3%	NO
DIABLO	102.8	11.5	11.2%	NO
EAST BAY	91.8	9.2	10.0%	NO
FRESNO	211.5	91.8	43.4%	NO
HUMBOLDT	468.6	64.0	13.7%	NO
KERN	111.2	67.6	60.8%	NO
LOS PADRES	119.9	504.2	420.5%	Yes
MISSION	161.0	529.5	328.8%	Yes
NORTH BAY	449.5	353.8	78.7%	NO
NORTH VALLEY	13270.3	749.0	5.6%	NO
PENINSULA	142.3	152.4	107.1%	NO
SACRAMENTO	104.1	175.9	169.0%	Yes
SAN FRANCISCO	89.4	567.0	634.0%	Yes
SAN JOSE	113.3	212.3	187.3%	Yes
SIERRA	939.9	221.8	23.6%	NO
SONOMA	73.6	265.9	361.2%	Yes
STOCKTON	683.2	244.0	35.7%	NO
YOSEMITE	174.3	193.1	110.8%	NO

Table 114 – October 5, 2019 CAIDI Performance

12.1 Los Padres CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
LOS PADRES	October 20, 2017	139.6	11
LOS PADRES	December 4, 2017	52.0	8
LOS PADRES	December 16, 2017	21.2	3
LOS PADRES	March 16, 2018	815.1	3
LOS PADRES	May 17, 2018	118.2	3
LOS PADRES	July 28, 2018	324.0	1
LOS PADRES	October 14, 2018	126.0	1
LOS PADRES	November 8, 2018	166.3	3
LOS PADRES	November 21, 2018	193.2	14
LOS PADRES	November 29, 2018	107.7	29
	Average of 10 excludable major events	119.9	8
LOS PADRES	October 5 2019	504.2	3
	% Difference	320.5%	-61%

Table 115 – Los Padres Division Historical Performance

As indicated in Table 115, the Los Padres Division CAIDI value of 504.2 minutes for the October 5, 2019 major event day was 320.5% higher than the 119.9-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Sisquoc 1103 circuit – a tree branch fell into the line.
- Oceano 1104 circuit – due to a metallic balloon on the line.
- Santa Maria 1109 circuit – due to a failed overhead conductor.

These outages contributed 504.2 minutes to the October 5, 2019 overall CAIDI performance.

12.2 Mission CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
MISSION	October 14, 2017	324.9	3
MISSION	October 20, 2017	252.4	10
MISSION	December 4, 2017	130.5	4
MISSION	December 16, 2017	40.5	3
MISSION	March 16, 2018	130.5	7
MISSION	May 17, 2018	276.7	2
MISSION	July 28, 2018	81.1	1
MISSION	October 14, 2018	292.4	2
MISSION	November 21, 2018	158.7	22
MISSION	November 29, 2018	474.5	7
	Average of 10 excludable major events	161.0	6
MISSION	October 5 2019	529.5	2
	% Difference	228.8%	-67%

Table 116 – Mission Division Historical Performance

As indicated in Table 116, the Mission Division CAIDI value of 529.5 minutes for the October 5, 2019 major event day was 228.8% higher than the 161.0-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Newark 1105 circuit – due to a car-pole incident.
- Dumbarton 2111 circuit – due to an outage of unknown cause; the line was patrolled but the cause was not determined.

These outages contributed 228.8 minutes to the October 5, 2019 overall CAIDI performance.

12.3 Sacramento CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SACRAMENTO	October 20, 2017	109.0	23
SACRAMENTO	December 4, 2017	55.1	17
SACRAMENTO	December 16, 2017	85.1	68
SACRAMENTO	March 16, 2018	112.5	4
SACRAMENTO	May 17, 2018	166.7	8
SACRAMENTO	July 28, 2018	85.1	6
SACRAMENTO	October 14, 2018	87.8	2
SACRAMENTO	November 8, 2018	150.3	18
SACRAMENTO	November 21, 2018	202.2	22
SACRAMENTO	November 29, 2018	269.7	22
	Average of 10 excludable major events	104.1	19
SACRAMENTO	October 5 2019	175.9	4
	% Difference	69.0%	-79%

Table 117 – Sacramento Division Historical Performance

As indicated in Table 117, the Sacramento Division CAIDI value of 175.9 minutes for the October 5, 2019 major event day was 69.0% higher than the 104.1-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Harter 1105 circuit – due to a bird-caused outage.
- East Marysville 1105 circuit – due to an outage of unknown cause; the line was patrolled but the cause was not determined.
- Colusa Junction 1101 circuit – due to a failed underground conductor.
- East Nicolaus 1101 circuit – due to a bird-caused outage.

These outages contributed 175.9 minutes to the October 5, 2019 overall CAIDI performance.

12.4 San Francisco CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SAN FRANCISCO	September 11, 2019	207.7	13
SAN FRANCISCO	October 9, 2017	279.0	1
SAN FRANCISCO	October 20, 2017	162.8	2
SAN FRANCISCO	December 4, 2017	53.1	1
SAN FRANCISCO	March 16, 2018	54.5	1
SAN FRANCISCO	July 28, 2018	11.0	1
SAN FRANCISCO	October 14, 2018	33.0	1
SAN FRANCISCO	November 8, 2018	361.0	2
SAN FRANCISCO	November 21, 2018	79.2	3
SAN FRANCISCO	November 29, 2018	74.4	3
	Average of 10 excludable major events	89.4	3
SAN FRANCISCO	October 5 2019	567.0	1
	% Difference	534.0%	-64%

Table 118 – San Francisco Division Historical Performance

As indicated in Table 118, the San Francisco Division CAIDI value of 567.0 minutes for the October 5, 2019 major event day was 534.0% higher than the 89.4-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to a failed customer-owned equipment. This outage event contributed 567.0 minutes to the October 5, 2019 overall CAIDI performance.

12.5 San Jose CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SAN JOSE	October 20, 2017	175.6	10
SAN JOSE	December 4, 2017	75.2	12
SAN JOSE	December 16, 2017	110.9	14
SAN JOSE	March 16, 2018	680.0	1
SAN JOSE	May 17, 2018	185.7	2
SAN JOSE	July 28, 2018	534.8	2
SAN JOSE	October 14, 2018	249.6	3
SAN JOSE	November 8, 2018	128.8	4
SAN JOSE	November 21, 2018	326.0	3
SAN JOSE	November 29, 2018	108.8	10
	Average of 10 excludable major events	113.3	6
SAN JOSE	October 5 2019	212.3	2
	% Difference	87.3%	-67%

Table 119 – San Jose Division Historical Performance

As indicated in Table 119, the San Jose Division CAIDI value of 212.3 minutes for the October 5, 2019 major event day was 87.3% higher than the 113.3-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Hicks 1111 circuit – due to a failed overhead conductor.
- Edenvale 1101 circuit – due to a failed underground conductor.

These outages contributed 212.3 minutes to the October 5, 2019 overall CAIDI performance.

12.6 Sonoma CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SONOMA	October 20, 2017	262.1	16
SONOMA	December 4, 2017	39.2	13
SONOMA	December 16, 2017	147.1	7
SONOMA	March 16, 2018	258.7	3
SONOMA	May 17, 2018	184.2	3
SONOMA	July 28, 2018	564.0	1
SONOMA	October 14, 2018	122.0	1
SONOMA	November 8, 2018	102.5	8
SONOMA	November 21, 2018	66.1	11
SONOMA	November 29, 2018	282.3	9
	Average of 10 excludable major events	73.6	7
SONOMA	October 5 2019	265.9	4
	% Difference	261.2%	-44%

Table 120 – Sonoma Division Historical Performance

As indicated in Table 120, the Sonoma Division CAIDI value of 265.9 minutes for the October 5, 2019 major event day was 261.2% higher than the 73.6-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Rincon 1103 circuit – due to a house fire.
- Molino 1102 circuit – due to a car-pole incident.
- Cotati 1103 circuit – due to an outage of unknown cause; the line was patrolled but the cause was not determined.
- Dunbar 1101 circuit – a tree fell into the line.

These outages contributed 265.9 minutes to the October 5, 2019 overall CAIDI performance.

13. October 9-10, 2019 Major Event Days

The thirteenth major event was from October 9-10, 2019 caused by a strong offshore wind event that developed across Northern CA resulting in critical fire potential and the implementation of PSPS. Table 121 summarizes the system and division CAIDI performances during this event and the average of the prior ten weather related major events.

(October 9-10, 2019 vs. Prior 10 MED)

System / Division	Average CAIDI of Prior 10 System / Division Specific Excludable ME	October 9-10, 2019 / Division Specific CAIDI	Percent Difference From the Prior CAIDI Average	Exceeds the Investigation Threshold?
SYSTEM	1356.4	2145.2	158.2%	Yes
CENTRAL COAST	183.7	1550.1	843.8%	Yes
DE ANZA	306.7	1176.9	383.7%	Yes
DIABLO	102.8	1262.8	1228.7%	Yes
EAST BAY	91.8	873.1	951.5%	Yes
FRESNO	211.5	82.8	39.2%	NO
HUMBOLDT	468.6	2163.8	461.8%	Yes
KERN	111.2	1713.8	1541.0%	Yes
LOS PADRES	119.9	122.8	102.4%	NO
MISSION	161.0	938.9	583.0%	Yes
NORTH BAY	449.5	2259.3	502.6%	Yes
NORTH VALLEY	13270.3	2810.3	21.2%	NO
PENINSULA	142.3	1010.1	710.1%	Yes
SACRAMENTO	104.1	1080.3	1038.0%	Yes
SAN FRANCISCO	89.4	359.5	401.9%	Yes
SAN JOSE	113.3	939.2	828.8%	Yes
SIERRA	939.9	2915.9	310.2%	Yes
SONOMA	73.6	2719.5	3694.6%	Yes
STOCKTON	683.2	2607.9	381.7%	Yes
YOSEMITE	174.3	2241.1	1285.5%	Yes

Table 121 – October 9-10, 2019 CAIDI Performance

13.1 T&D System CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SYSTEM	October 20, 2017	165.8	296
SYSTEM	December 4, 2017	151.1	209
SYSTEM	December 16, 2017	171.5	319
SYSTEM	March 16, 2018	358.3	204
SYSTEM	May 17, 2018	233.1	55
SYSTEM	July 28, 2018	217.3	84
SYSTEM	October 14, 2018	1,468.1	164
SYSTEM	November 8, 2018	12,288.9	618
SYSTEM	November 21, 2018	121.6	266
SYSTEM	November 29, 2018	168.2	365
	Average of 10 excludable major events	1,356.4	258
SYSTEM	October 9-10 2019	2,145.2	1,460
	% Difference	58.2%	466%

Table 122 – T&D System Historical Performance

As indicated in Table 122, the T&D System CAIDI value of 2,145.2 minutes for the October 9-10, 2019 major event days was 58.2% higher than the 1,356.4-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher CAIDI value was the implementation of PSPS. This outage event contributed 2,045.3 minutes to the October 9-10, 2019 overall CAIDI performance.

13.2 Central Coast CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
CENTRAL COAST	October 20, 2017	163.8	17
CENTRAL COAST	December 4, 2017	240.2	16
CENTRAL COAST	December 16, 2017	240.1	48
CENTRAL COAST	March 16, 2018	63.2	15
CENTRAL COAST	May 17, 2018	243.5	4
CENTRAL COAST	July 28, 2018	91.8	8
CENTRAL COAST	October 14, 2018	70.9	3
CENTRAL COAST	November 8, 2018	43.6	11
CENTRAL COAST	November 21, 2018	185.4	37
CENTRAL COAST	November 29, 2018	377.9	81
	Average of 10 excludable major events	183.7	24
CENTRAL COAST	October 9-10 2019	1,550.1	161
	% Difference	743.8%	571%

Table 123 – Central Coast Division Historical Performance

As indicated in Table 123, the Central Coast Division CAIDI value of 1,550.1 minutes for the October 9-10, 2019 major event days was 743.8% higher than the 183.7-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was the implementation of PSPS. This outage event contributed 1,344.1 minutes to the October 9-10, 2019 overall CAIDI performance.

13.3 De Anza CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
DE ANZA	October 8-9, 2017	147.2	2
DE ANZA	October 14, 2017	168.8	4
DE ANZA	October 20, 2017	115.5	6
DE ANZA	December 4, 2017	115.4	6
DE ANZA	December 16, 2017	1,097.7	12
DE ANZA	May 17, 2018	146.3	1
DE ANZA	July 28, 2018	331.6	1
DE ANZA	November 8, 2018	299.5	3
DE ANZA	November 21, 2018	168.6	9
DE ANZA	November 29, 2018	45.0	21
	Average of 10 excludable major events	306.7	6
DE ANZA	October 9-10 2019	1,176.9	22
	% Difference	283.7%	267%

Table 124 – De Anza Division Historical Performance

As indicated in Table 124, the De Anza Division CAIDI value of 1,176.9 minutes for the October 9-10, 2019 major event days was 283.7% higher than the 306.7-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was the implementation of PSPS. This outage event contributed 1,166.9 minutes to the October 9-10, 2019 overall CAIDI performance.

13.4 Diablo CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
DIABLO	October 14, 2017	295.3	4
DIABLO	October 20, 2017	148.0	11
DIABLO	December 4, 2017	68.8	12
DIABLO	December 16, 2017	166.1	9
DIABLO	May 17, 2018	190.2	1
DIABLO	July 28, 2018	163.6	2
DIABLO	October 14, 2018	134.4	2
DIABLO	November 8, 2018	104.0	3
DIABLO	November 21, 2018	97.5	14
DIABLO	November 29, 2018	298.1	10
	Average of 10 excludable major events	102.8	7
DIABLO	October 9-10 2019	1,262.8	35
	% Difference	1128.7%	415%

Table 125 – Diablo Division Historical Performance

As indicated in Table 125, the Diablo Division CAIDI value of 1,262.8 minutes for the October 9-10, 2019 major event days was 1,128.7% higher than the 102.8-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Implementation of PSPS.
- Tassajara 2103 circuit – a tree fell into the line.

These outages contributed 859.8 minutes to the October 9-10, 2019 overall CAIDI performance.

13.5 East Bay CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
EAST BAY	October 20, 2017	43.7	10
EAST BAY	December 4, 2017	114.9	10
EAST BAY	December 16, 2017	65.4	6
EAST BAY	March 16, 2018	87.9	3
EAST BAY	May 17, 2018	818.0	1
EAST BAY	July 28, 2018	13.6	2
EAST BAY	October 14, 2018	562.1	2
EAST BAY	November 8, 2018	51.9	2
EAST BAY	November 21, 2018	153.2	7
EAST BAY	November 29, 2018	75.8	7
	Average of 10 excludable major events	91.8	5
EAST BAY	October 9-10 2019	873.1	29
	% Difference	851.5%	480%

Table 126 – East Bay Division Historical Performance

As indicated in Table 126, the East Bay Division CAIDI value of 873.1 minutes for the October 9-10, 2019 major event days was 851.5% higher than the 91.8-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was the implementation of PSPS. This outage event contributed 828.2 minutes to the October 9-10, 2019 overall CAIDI performance.

13.6 Humboldt CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
HUMBOLDT	October 20, 2017	132.2	7
HUMBOLDT	December 4, 2017	128.6	3
HUMBOLDT	December 16, 2017	351.9	5
HUMBOLDT	March 16, 2018	563.7	4
HUMBOLDT	May 17, 2018	84.0	4
HUMBOLDT	July 28, 2018	266.8	18
HUMBOLDT	October 14, 2018	1,341.4	8
HUMBOLDT	November 8, 2018	185.2	6
HUMBOLDT	November 21, 2018	60.8	8
HUMBOLDT	November 29, 2018	138.0	9
	Average of 10 excludable major events	468.6	7
HUMBOLDT	October 9-10 2019	2,163.8	205
	% Difference	361.8%	2747%

Table 127 – Humboldt Division Historical Performance

As indicated in Table 127, the Humboldt Division CAIDI value of 2,163.8 minutes for the October 9-10, 2019 major event days was 361.8% higher than the 468.6-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was the implementation of PSPS. This outage event contributed 2,013.7 minutes to the October 9-10, 2019 overall CAIDI performance.

13.7 Kern CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
KERN	October 14, 2017	95.6	4
KERN	October 20, 2017	152.8	12
KERN	December 4, 2017	80.8	5
KERN	December 16, 2017	285.3	2
KERN	March 16, 2018	56.8	2
KERN	May 17, 2018	487.8	3
KERN	October 14, 2018	91.9	2
KERN	November 8, 2018	291.1	4
KERN	November 21, 2018	112.8	4
KERN	November 29, 2018	162.4	7
	Average of 10 excludable major events	111.2	5
KERN	October 9-10 2019	1,713.8	21
	% Difference	1441.0%	356%

Table 128 – Kern Division Historical Performance

As indicated in Table 128, the Kern Division CAIDI value of 1,713.8 minutes for the October 9-10, 2019 major event days was 1,441.0% higher than the 111.2-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was the implementation of PSPS. This outage event contributed 1,572.8 minutes to the October 9-10, 2019 overall CAIDI performance.

13.8 Mission CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
MISSION	October 14, 2017	324.9	3
MISSION	October 20, 2017	252.4	10
MISSION	December 4, 2017	130.5	4
MISSION	December 16, 2017	40.5	3
MISSION	March 16, 2018	130.5	7
MISSION	May 17, 2018	276.7	2
MISSION	July 28, 2018	81.1	1
MISSION	October 14, 2018	292.4	2
MISSION	November 21, 2018	158.7	22
MISSION	November 29, 2018	474.5	7
	Average of 10 excludable major events	161.0	6
MISSION	October 9-10 2019	938.9	31
	% Difference	483.0%	408%

Table 129 – Mission Division Historical Performance

As indicated in Table 129, the Mission Division CAIDI value of 938.9 minutes for the October 9-10, 2019 major event days was 483.0% higher than the 161.0-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Implementation of PSPS.
- Cayetano 2109 circuit – due to a failed overhead conductor.

These outages contributed 938.9 minutes to the October 9-10, 2019 overall CAIDI performance.

13.9 North Bay CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
NORTH BAY	October 20, 2017	208.7	13
NORTH BAY	December 4, 2017	194.9	25
NORTH BAY	December 16, 2017	72.2	19
NORTH BAY	March 16, 2018	310.5	3
NORTH BAY	May 17, 2018	250.2	3
NORTH BAY	July 28, 2018	266.5	2
NORTH BAY	October 14, 2018	1,618.6	30
NORTH BAY	November 8, 2018	198.2	7
NORTH BAY	November 21, 2018	250.2	8
NORTH BAY	November 29, 2018	251.3	20
	Average of 10 excludable major events	449.5	13
NORTH BAY	October 9-10 2019	2,259.3	117
	% Difference	402.6%	800%

Table 130– North Bay Division Historical Performance

As indicated in Table 130, the North Bay Division CAIDI value of 2,259.3 minutes for the October 9-10, 2019 major event days was 402.6% higher than the 449.5-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was the implementation of PSPS. This outage event contributed 2,122.3 minutes to the October 9-10, 2019 overall CAIDI performance.

13.10 Peninsula CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
PENINSULA	October 14, 2017	131.0	1
PENINSULA	October 20, 2017	185.2	9
PENINSULA	December 4, 2017	389.6	5
PENINSULA	December 16, 2017	158.1	18
PENINSULA	March 16, 2018	163.5	5
PENINSULA	May 17, 2018	73.1	1
PENINSULA	July 28, 2018	60.9	1
PENINSULA	November 8, 2018	163.8	4
PENINSULA	November 21, 2018	112.3	13
PENINSULA	November 29, 2018	118.1	22
	Average of 10 excludable major events	142.3	8
PENINSULA	October 9-10 2019	1,010.1	25
	% Difference	610.1%	210%

Table 131– Peninsula Division Historical Performance

As indicated in Table 131, the Peninsula Division CAIDI value of 1,010.1 minutes for the October 9-10, 2019 major event days was 610.1% higher than the 142.3-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was the implementation of PSPS. This outage event contributed 877.4 minutes to the October 9-10, 2019 overall CAIDI performance.

13.11 Sacramento CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SACRAMENTO	October 20, 2017	109.0	23
SACRAMENTO	December 4, 2017	55.1	17
SACRAMENTO	December 16, 2017	85.1	68
SACRAMENTO	March 16, 2018	112.5	4
SACRAMENTO	May 17, 2018	166.7	8
SACRAMENTO	July 28, 2018	85.1	6
SACRAMENTO	October 14, 2018	87.8	2
SACRAMENTO	November 8, 2018	150.3	18
SACRAMENTO	November 21, 2018	202.2	22
SACRAMENTO	November 29, 2018	269.7	22
	Average of 10 excludable major events	104.1	19
SACRAMENTO	October 9-10 2019	1,080.3	76
	% Difference	938.0%	300%

Table 132– Sacramento Division Historical Performance

As indicated in Table 132, the Sacramento Division CAIDI value of 1,080.3 minutes for the October 9-10, 2019 major event days was 938.0% higher than the 104.1-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was the implementation of PSPS. This outage event contributed 1,049.6 minutes to the October 9-10, 2019 overall CAIDI performance.

13.12 San Francisco CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SAN FRANCISCO	September 11, 2019	207.7	13
SAN FRANCISCO	October 9, 2017	279.0	1
SAN FRANCISCO	October 20, 2017	162.8	2
SAN FRANCISCO	December 4, 2017	53.1	1
SAN FRANCISCO	March 16, 2018	54.5	1
SAN FRANCISCO	July 28, 2018	11.0	1
SAN FRANCISCO	October 14, 2018	33.0	1
SAN FRANCISCO	November 8, 2018	361.0	2
SAN FRANCISCO	November 21, 2018	79.2	3
SAN FRANCISCO	November 29, 2018	74.4	3
	Average of 10 excludable major events	89.4	3
SAN FRANCISCO	October 9-10 2019	359.5	1
	% Difference	301.9%	-64%

Table 133– San Francisco Division Historical Performance

As indicated in Table 133, the San Francisco Division CAIDI value of 359.5 minutes for the October 9-10, 2019 major event days was 301.9% higher than the 89.4-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- SF K 402 circuit – due to a failed overhead conductor.
- SF X 1110 circuit – due to an outage of unknown cause; the line was patrolled but the cause was not determined.

These outages contributed 359.5 minutes to the October 9-10, 2019 overall CAIDI performance.

13.13 San Jose CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SAN JOSE	October 20, 2017	175.6	10
SAN JOSE	December 4, 2017	75.2	12
SAN JOSE	December 16, 2017	110.9	14
SAN JOSE	March 16, 2018	680.0	1
SAN JOSE	May 17, 2018	185.7	2
SAN JOSE	July 28, 2018	534.8	2
SAN JOSE	October 14, 2018	249.6	3
SAN JOSE	November 8, 2018	128.8	4
SAN JOSE	November 21, 2018	326.0	3
SAN JOSE	November 29, 2018	108.8	10
	Average of 10 excludable major events	113.3	6
SAN JOSE	October 9-10 2019	939.2	51
	% Difference	728.8%	728%

Table 134– San Jose Division Historical Performance

As indicated in Table 134, the San Jose Division CAIDI value of 939.2 minutes for the October 9-10, 2019 major event days was 728.8% higher than the 113.3-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- The implementation of PSPS.
- Mc Kee 1103 circuit – due to a failed overhead conductor.

These outages contributed 808.8 minutes to the October 9-10, 2019 overall CAIDI performance.

13.14 Sierra CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SIERRA	October 20, 2017	328.8	20
SIERRA	December 4, 2017	300.1	25
SIERRA	December 16, 2017	214.4	12
SIERRA	March 16, 2018	604.9	45
SIERRA	May 17, 2018	410.0	1
SIERRA	July 28, 2018	308.3	5
SIERRA	October 14, 2018	1,450.8	30
SIERRA	November 8, 2018	357.2	4
SIERRA	November 21, 2018	89.0	5
SIERRA	November 29, 2018	293.6	17
	Average of 10 excludable major events	939.9	16
SIERRA	October 9 2019	2,915.9	419
	% Difference	210.2%	2455%

Table 135– Sierra Division Historical Performance

As indicated in Table 135, the Sierra Division CAIDI value of 2,915.9 minutes for the October 9-10, 2019 major event days was 210.2% higher than the 939.9-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was the implementation of PSPS. This outage event contributed 2,915.9 minutes to the October 9-10, 2019 overall CAIDI performance.

13.15 Sonoma CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SONOMA	October 20, 2017	262.1	16
SONOMA	December 4, 2017	39.2	13
SONOMA	December 16, 2017	147.1	7
SONOMA	March 16, 2018	258.7	3
SONOMA	May 17, 2018	184.2	3
SONOMA	July 28, 2018	564.0	1
SONOMA	October 14, 2018	122.0	1
SONOMA	November 8, 2018	102.5	8
SONOMA	November 21, 2018	66.1	11
SONOMA	November 29, 2018	282.3	9
	Average of 10 excludable major events	73.6	7
SONOMA	October 9-10 2019	2,719.5	99
	% Difference	3594.6%	1275%

Table 136– Sonoma Division Historical Performance

As indicated in Table 136, the Sonoma Division CAIDI value of 2,719.5 minutes for the October 9-10, 2019 major event days was 3,594.6% higher than the 73.6-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- The implementation of PSPS.
- Petaluma C 1108 circuit – due to an outage of unknown cause; line was patrolled, but nothing found.
- Sonoma 1107 circuit – due to a failed wood-pole.

These outages contributed 2,554.9 minutes to the October 9-10, 2019 overall CAIDI performance.

13.16 Stockton CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
STOCKTON	October 20, 2017	112.2	13
STOCKTON	December 4, 2017	261.8	30
STOCKTON	December 16, 2017	112.8	40
STOCKTON	March 16, 2018	556.6	54
STOCKTON	May 17, 2018	97.9	2
STOCKTON	July 28, 2018	838.9	3
STOCKTON	October 14, 2018	2,178.8	61
STOCKTON	November 8, 2018	161.9	5
STOCKTON	November 21, 2018	234.6	7
STOCKTON	November 29, 2018	137.5	18
	Average of 10 excludable major events	683.2	23
STOCKTON	October 9-10 2019	2,607.9	111
	% Difference	281.7%	374%

Table 137– Stockton Division Historical Performance

As indicated in Table 137, the Stockton Division CAIDI value of 2,607.9 minutes for the October 9-10, 2019 major event days was 281.7% higher than the 683.2-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was the implementation of PSPS. This outage event contributed 2,447.3 minutes to the October 9-10, 2019 overall CAIDI performance.

13.17 Yosemite CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
YOSEMITE	October 20, 2017	178.6	33
YOSEMITE	December 4, 2017	186.8	9
YOSEMITE	December 16, 2017	137.7	28
YOSEMITE	March 16, 2018	267.9	30
YOSEMITE	May 17, 2018	130.9	4
YOSEMITE	July 28, 2018	691.8	5
YOSEMITE	October 14, 2018	33.6	2
YOSEMITE	November 8, 2018	111.6	5
YOSEMITE	November 21, 2018	101.4	36
YOSEMITE	November 29, 2018	157.4	29
	Average of 10 excludable major events	174.3	18
YOSEMITE	October 9-10 2019	2,241.1	89
	% Difference	1185.5%	389%

Table 138– Yosemite Division Historical Performance

As indicated in Table 138, the Yosemite Division CAIDI value of 2,241.1 minutes for the October 9-10, 2019 major event days was 1,185.5% higher than the 174.3-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- The implementation of PSPS.
- Tar Flat 402 circuit – due to a failed overhead transformer.

These outages contributed 2,060.6 minutes to the October 9-10, 2019 overall CAIDI performance.

14. October 23, 2019 Major Event Day

The fourteenth major event was from October 23, 2019 caused by a gusty offshore wind event resulting in critical fire potential and the implementation of PSPS. Table 139 summarizes the system and division CAIDI performances during this event and the average of the prior ten weather related major events.

(October 23, 2019 vs. Prior 10 MED)

System / Division	Average CAIDI of Prior 10 System / Division Specific Excludable ME	October 23, 2019 / Division Specific CAIDI	Percent Difference From the Prior CAIDI Average	Exceeds the Investigation Threshold?
SYSTEM	1356.4	1399.9	103.2%	NO
CENTRAL COAST	183.7	109.2	59.4%	NO
DE ANZA	306.7	188.0	61.3%	NO
DIABLO	102.8	60.2	58.6%	NO
EAST BAY	91.8	54.4	59.3%	NO
FRESNO	211.5	140.0	66.2%	NO
HUMBOLDT	468.6	334.9	71.5%	NO
KERN	111.2	263.7	237.1%	Yes
LOS PADRES	119.9	124.0	103.4%	NO
MISSION	161.0	115.0	71.4%	NO
NORTH BAY	449.5	1379.2	306.8%	Yes
NORTH VALLEY	13270.3	1442.1	10.9%	NO
PENINSULA	142.3	66.2	46.5%	NO
SACRAMENTO	104.1	896.5	861.3%	Yes
SAN FRANCISCO	89.4	37.9	42.4%	NO
SAN JOSE	113.3	218.2	192.5%	Yes
SIERRA	939.9	1468.0	156.2%	Yes
SONOMA	73.6	1965.0	2669.5%	Yes
STOCKTON	683.2	1322.5	193.6%	Yes
YOSEMITE	174.3	331.0	189.9%	Yes

Table 139 – October 23, 2019 CAIDI Performance

14.1 Kern CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
KERN	October 14, 2017	95.6	4
KERN	October 20, 2017	152.8	12
KERN	December 4, 2017	80.8	5
KERN	December 16, 2017	285.3	2
KERN	March 16, 2018	56.8	2
KERN	May 17, 2018	487.8	3
KERN	October 14, 2018	91.9	2
KERN	November 8, 2018	291.1	4
KERN	November 21, 2018	112.8	4
KERN	November 29, 2018	162.4	7
	Average of 10 excludable major events	111.2	5
KERN	October 23 2019	263.7	8
	% Difference	137.1%	78%

Table 140 – Kern Division Historical Performance

As indicated in Table 140, the Kern Division CAIDI value of 263.7 minutes for the October 23, 2019 major event day was 137.1% higher than the 111.2-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Poso Mountain 2101 circuit – due to an animal-related (bird) outage.
- Stockdale 2107 circuit – due to a failed underground switch.

These outages contributed 126.6 minutes to the October 23, 2019 overall CAIDI performance.

14.2 North Bay CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
NORTH BAY	October 20, 2017	208.7	13
NORTH BAY	December 4, 2017	194.9	25
NORTH BAY	December 16, 2017	72.2	19
NORTH BAY	March 16, 2018	310.5	3
NORTH BAY	May 17, 2018	250.2	3
NORTH BAY	July 28, 2018	266.5	2
NORTH BAY	October 14, 2018	1,618.6	30
NORTH BAY	November 8, 2018	198.2	7
NORTH BAY	November 21, 2018	250.2	8
NORTH BAY	November 29, 2018	251.3	20
	Average of 10 excludable major events	449.5	13
NORTH BAY	October 23 2019	1,379.2	54
	% Difference	206.8%	315%

Table 141 – North Bay Division Historical Performance

As indicated in Table 141, the North Bay Division CAIDI value of 1,379.2 minutes for the October 23, 2019 major event day was 206.8% higher than the 449.5-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- The implementation of PSPS.
- Silverado 2104 circuit – due to an outage of unknown cause; the line was patrolled, but nothing found.

These outages contributed 1,342.4 minutes to the October 23, 2019 overall CAIDI performance.

14.3 Sacramento CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SACRAMENTO	October 20, 2017	109.0	23
SACRAMENTO	December 4, 2017	55.1	17
SACRAMENTO	December 16, 2017	85.1	68
SACRAMENTO	March 16, 2018	112.5	4
SACRAMENTO	May 17, 2018	166.7	8
SACRAMENTO	July 28, 2018	85.1	6
SACRAMENTO	October 14, 2018	87.8	2
SACRAMENTO	November 8, 2018	150.3	18
SACRAMENTO	November 21, 2018	202.2	22
SACRAMENTO	November 29, 2018	269.7	22
	Average of 10 excludable major events	104.1	19
SACRAMENTO	October 23 2019	896.5	29
	% Difference	761.3%	53%

Table 142 – Sacramento Division Historical Performance

As indicated in Table 142, the Sacramento Division CAIDI value of 896.5 minutes for the October 23, 2019 major event day was 761.3% higher than the 104.1-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was the implementation of PSPS. This outage event contributed 865.0 minutes to the October 23, 2019 overall CAIDI performance.

14.4 San Jose CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SAN JOSE	October 20, 2017	175.6	10
SAN JOSE	December 4, 2017	75.2	12
SAN JOSE	December 16, 2017	110.9	14
SAN JOSE	March 16, 2018	680.0	1
SAN JOSE	May 17, 2018	185.7	2
SAN JOSE	July 28, 2018	534.8	2
SAN JOSE	October 14, 2018	249.6	3
SAN JOSE	November 8, 2018	128.8	4
SAN JOSE	November 21, 2018	326.0	3
SAN JOSE	November 29, 2018	108.8	10
	Average of 10 excludable major events	113.3	6
SAN JOSE	October 23 2019	218.2	3
	% Difference	92.5%	-51%

Table 143 – San Jose Division Historical Performance

As indicated in Table 143, the San Jose Division CAIDI value of 218.2 minutes for the October 23, 2019 major event day was 92.5% higher than the 113.3-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Swift 2110 circuit – due to a failed wood-pole.
- Mc Kee 1112 circuit – due to a failed overhead transformer.
- Evergreen 2105 circuit – due to a failed underground transformer.

These outages contributed 218.2 minutes to the October 23, 2019 overall CAIDI performance.

14.5 Sierra CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SIERRA	October 20, 2017	328.8	20
SIERRA	December 4, 2017	300.1	25
SIERRA	December 16, 2017	214.4	12
SIERRA	March 16, 2018	604.9	45
SIERRA	May 17, 2018	410.0	1
SIERRA	July 28, 2018	308.3	5
SIERRA	October 14, 2018	1,450.8	30
SIERRA	November 8, 2018	357.2	4
SIERRA	November 21, 2018	89.0	5
SIERRA	November 29, 2018	293.6	17
	Average of 10 excludable major events	939.9	16
SIERRA	October 23 2019	1,468.0	241
	% Difference	56.2%	1370%

Table 144 – Sierra Division Historical Performance

As indicated in Table 144, the Sierra Division CAIDI value of 1,468.0 minutes for the October 23, 2019 major event day was 56.2% higher than the 939.9-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was the implementation of PSPS. This outage event contributed 931.7 minutes to the October 23, 2019 overall CAIDI performance.

14.6 Sonoma CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SONOMA	October 20, 2017	262.1	16
SONOMA	December 4, 2017	39.2	13
SONOMA	December 16, 2017	147.1	7
SONOMA	March 16, 2018	258.7	3
SONOMA	May 17, 2018	184.2	3
SONOMA	July 28, 2018	564.0	1
SONOMA	October 14, 2018	122.0	1
SONOMA	November 8, 2018	102.5	8
SONOMA	November 21, 2018	66.1	11
SONOMA	November 29, 2018	282.3	9
	Average of 10 excludable major events	73.6	7
SONOMA	October 23 2019	1,965.0	156
	% Difference	2569.5%	2067%

Table 145 – Sonoma Division Historical Performance

As indicated in Table 145, the Sonoma Division CAIDI value of 1,965.0 minutes for the October 23, 2019 major event day was 2,569.5% higher than the 73.6-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Implementation of PSPS.
- The Kincade fire.

These outages contributed 1,922.3 minutes to the October 23, 2019 overall CAIDI performance.

14.7 Stockton CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
STOCKTON	October 20, 2017	112.2	13
STOCKTON	December 4, 2017	261.8	30
STOCKTON	December 16, 2017	112.8	40
STOCKTON	March 16, 2018	556.6	54
STOCKTON	May 17, 2018	97.9	2
STOCKTON	July 28, 2018	838.9	3
STOCKTON	October 14, 2018	2,178.8	61
STOCKTON	November 8, 2018	161.9	5
STOCKTON	November 21, 2018	234.6	7
STOCKTON	November 29, 2018	137.5	18
	Average of 10 excludable major events	683.2	23
STOCKTON	October 23 2019	1,322.5	112
	% Difference	93.6%	381%

Table 146 – Stockton Division Historical Performance

As indicated in Table 146, the Stockton Division CAIDI value of 1,322.5 minutes for the October 23, 2019 major event day was 93.6% higher than the 683.2-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was the implementation of PSPS. This outage event contributed 1,301.8 minutes to the October 23, 2019 overall CAIDI performance.

14.8 Yosemite CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
YOSEMITE	October 20, 2017	178.6	33
YOSEMITE	December 4, 2017	186.8	9
YOSEMITE	December 16, 2017	137.7	28
YOSEMITE	March 16, 2018	267.9	30
YOSEMITE	May 17, 2018	130.9	4
YOSEMITE	July 28, 2018	691.8	5
YOSEMITE	October 14, 2018	33.6	2
YOSEMITE	November 8, 2018	111.6	5
YOSEMITE	November 21, 2018	101.4	36
YOSEMITE	November 29, 2018	157.4	29
	Average of 10 excludable major events	174.3	18
YOSEMITE	October 23 2019	331.0	8
	% Difference	89.9%	-56%

Table 147 – Yosemite Division Historical Performance

As indicated in Table 147, the Yosemite Division CAIDI value of 331.0 minutes for the October 23, 2019 major event day was 89.9% higher than the 174.3-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was the implementation of PSPS. This outage event contributed 300.8 minutes to the October 23, 2019 overall CAIDI performance.

15. October 26-27, 2019 Major Event Days

The fifteenth major event was from October 26-27, 2019 caused by strong winds and associated critical fire danger resulting in Extreme-Plus fire potential and the most widespread implementation of PSPS. Table 148 summarizes the system and division CAIDI performances during this event and the average of the prior ten weather related major events.

(October 26-27, 2019 vs. Prior 10 MED)

System / Division	Average CAIDI of Prior 10 System / Division Specific Excludable ME	October 26-27, 2019 / Division Specific CAIDI	Percent Difference From the Prior CAIDI Average	Exceeds the Investigation Threshold?
SYSTEM	1356.4	2932.7	216.2%	Yes
CENTRAL COAST	183.7	2575.9	1402.2%	Yes
DE ANZA	306.7	2600.5	847.8%	Yes
DIABLO	102.8	1434.6	1395.9%	Yes
EAST BAY	91.8	1869.5	2037.2%	Yes
FRESNO	211.5	1111.9	525.7%	Yes
HUMBOLDT	468.6	4109.8	877.1%	Yes
KERN	111.2	74.4	66.9%	NO
LOS PADRES	119.9	193.0	161.0%	Yes
MISSION	161.0	1245.1	773.2%	Yes
NORTH BAY	449.5	3283.8	730.5%	Yes
NORTH VALLEY	13270.3	3229.1	24.3%	NO
PENINSULA	142.3	2490.4	1750.7%	Yes
SACRAMENTO	104.1	938.0	901.3%	Yes
SAN FRANCISCO	89.4	204.9	229.1%	Yes
SAN JOSE	113.3	1643.4	1450.1%	Yes
SIERRA	939.9	3399.6	361.7%	Yes
SONOMA	73.6	5055.8	6868.5%	Yes
STOCKTON	683.2	3239.5	474.1%	Yes
YOSEMITE	174.3	2430.3	1394.0%	Yes

Table 148 – October 26-27, 2019 CAIDI Performance

15.1 T&D System CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SYSTEM	October 20, 2017	165.8	296
SYSTEM	December 4, 2017	151.1	209
SYSTEM	December 16, 2017	171.5	319
SYSTEM	March 16, 2018	358.3	204
SYSTEM	May 17, 2018	233.1	55
SYSTEM	July 28, 2018	217.3	84
SYSTEM	October 14, 2018	1,468.1	164
SYSTEM	November 8, 2018	12,288.9	618
SYSTEM	November 21, 2018	121.6	266
SYSTEM	November 29, 2018	168.2	365
	Average of 10 excludable major events	1,356.4	258
SYSTEM	October 26-27 2019	2,932.7	1,460
	% Difference	116.2%	466%

Table 149 – T&D System Historical Performance

As indicated in Table 149, the T&D System CAIDI value of 2,932.7 minutes for the October 26-27, 2019 major event days was 116.2% higher than the 1,356.4-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was the implementation of PSPS. This outage event contributed 2,465.8 minutes to the October 26-27, 2019 overall CAIDI performance.

15.2 Central Coast CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
CENTRAL COAST	October 20, 2017	163.8	17
CENTRAL COAST	December 4, 2017	240.2	16
CENTRAL COAST	December 16, 2017	240.1	48
CENTRAL COAST	March 16, 2018	63.2	15
CENTRAL COAST	May 17, 2018	243.5	4
CENTRAL COAST	July 28, 2018	91.8	8
CENTRAL COAST	October 14, 2018	70.9	3
CENTRAL COAST	November 8, 2018	43.6	11
CENTRAL COAST	November 21, 2018	185.4	37
CENTRAL COAST	November 29, 2018	377.9	81
	Average of 10 excludable major events	183.7	24
CENTRAL COAST	October 26-27 2019	2,575.9	152
	% Difference	1302.2%	531%

Table 150 – Central Coast Historical Performance

As indicated in Table 150, the Central Coast Division CAIDI value of 2,575.9 minutes for the October 26-27, 2019 major event days was 1,302.2% higher than the 183.7-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was the implementation of PSPS. This outage event contributed 2,458.2 minutes to the October 26-27, 2019 overall CAIDI performance.

15.3 De Anza CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
DE ANZA	October 8-9, 2017	147.2	2
DE ANZA	October 14, 2017	168.8	4
DE ANZA	October 20, 2017	115.5	6
DE ANZA	December 4, 2017	115.4	6
DE ANZA	December 16, 2017	1,097.7	12
DE ANZA	May 17, 2018	146.3	1
DE ANZA	July 28, 2018	331.6	1
DE ANZA	November 8, 2018	299.5	3
DE ANZA	November 21, 2018	168.6	9
DE ANZA	November 29, 2018	45.0	21
	Average of 10 excludable major events	306.7	6
DE ANZA	October 26-27 2019	2,600.5	71
	% Difference	747.8%	1075%

Table 151 – De Anza Historical Performance

As indicated in Table 151, the De Anza Division CAIDI value of 2,600.5 minutes for the October 26-27, 2019 major event days was 747.8% higher than the 306.7-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was the implementation of PSPS. This outage event contributed 2,481.3 minutes to the October 26-27, 2019 overall CAIDI performance.

15.4 Diablo CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
DIABLO	October 14, 2017	295.3	4
DIABLO	October 20, 2017	148.0	11
DIABLO	December 4, 2017	68.8	12
DIABLO	December 16, 2017	166.1	9
DIABLO	May 17, 2018	190.2	1
DIABLO	July 28, 2018	163.6	2
DIABLO	October 14, 2018	134.4	2
DIABLO	November 8, 2018	104.0	3
DIABLO	November 21, 2018	97.5	14
DIABLO	November 29, 2018	298.1	10
	Average of 10 excludable major events	102.8	7
DIABLO	October 26-27 2019	1,434.6	76
	% Difference	1295.9%	1010%

Table 152 – Diablo Historical Performance

As indicated in Table 152, the Diablo Division CAIDI value of 1,434.6 minutes for the October 26-27, 2019 major event days was 1,295.9% higher than the 102.8-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Due to the implementation of PSPS.
- Due to a grassfire.
- Moraga 1105 circuit – a tree branch fell into the line.
- Rossmoor 1104 circuit – due to a failed wood pole.
- Tassajara 2108 circuit – a tree branch fell into the line.
- Tassajara 2103 circuit – due to an outage of unknown cause; the line was patrolled but the cause was not determined.
- Lakewood 2110 circuit – a tree branch fell into the line.
- Meadow Lane 2106 circuit – due to a failed overhead transformer.
- Brentwood 2112 circuit – due to a failed overhead jumper.

These outages contributed 1,141.9 minutes to the October 26-27, 2019 overall CAIDI performance.

15.5 East Bay CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
EAST BAY	October 20, 2017	43.7	10
EAST BAY	December 4, 2017	114.9	10
EAST BAY	December 16, 2017	65.4	6
EAST BAY	March 16, 2018	87.9	3
EAST BAY	May 17, 2018	818.0	1
EAST BAY	July 28, 2018	13.6	2
EAST BAY	October 14, 2018	562.1	2
EAST BAY	November 8, 2018	51.9	2
EAST BAY	November 21, 2018	153.2	7
EAST BAY	November 29, 2018	75.8	7
	Average of 10 excludable major events	91.8	5
EAST BAY	October 26-27 2019	1,869.5	70
	% Difference	1937.2%	1290%

Table 153 – East Bay Historical Performance

As indicated in Table 153, the East Bay Division CAIDI value of 1,869.5 minutes for the October 26-27, 2019 major event days was 1,937.2% higher than the 91.8-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Due to the implementation of PSPS.
- Richmond R 1121 circuit – a tree branch fell into the line.
- Oakland K 1102 circuit – due to a failed underground switch.

These outages contributed 1,732.3 minutes to the October 26-27, 2019 overall CAIDI performance.

15.6 Fresno CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
FRESNO	October 20, 2017	173.1	60
FRESNO	December 4, 2017	40.5	3
FRESNO	December 16, 2017	109.4	8
FRESNO	March 16, 2018	308.1	9
FRESNO	May 17, 2018	237.0	7
FRESNO	July 28, 2018	10.0	2
FRESNO	October 14, 2018	471.8	4
FRESNO	November 8, 2018	126.9	7
FRESNO	November 21, 2018	95.1	33
FRESNO	November 29, 2018	107.7	23
	Average of 10 excludable major events	211.5	16
FRESNO	October 26-27 2019	1,111.9	16
	% Difference	425.7%	3%

Table 154 – Fresno Historical Performance

As indicated in Table 154, the Fresno Division CAIDI value of 1,111.9 minutes for the October 26-27, 2019 major event days was 425.7% higher than the 211.5-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was the implementation of PSPS. This outage event contributed 1,031.3 minutes to the October 26-27, 2019 overall CAIDI performance.

15.7 Humboldt CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
HUMBOLDT	October 20, 2017	132.2	7
HUMBOLDT	December 4, 2017	128.6	3
HUMBOLDT	December 16, 2017	351.9	5
HUMBOLDT	March 16, 2018	563.7	4
HUMBOLDT	May 17, 2018	84.0	4
HUMBOLDT	July 28, 2018	266.8	18
HUMBOLDT	October 14, 2018	1,341.4	8
HUMBOLDT	November 8, 2018	185.2	6
HUMBOLDT	November 21, 2018	60.8	8
HUMBOLDT	November 29, 2018	138.0	9
	Average of 10 excludable major events	468.6	7
HUMBOLDT	October 26-27 2019	4,109.8	201
	% Difference	777.1%	2692%

Table 155 – Humboldt Historical Performance

As indicated in Table 155, the Humboldt Division CAIDI value of 4,109.8 minutes for the October 26-27, 2019 major event days was 777.1% higher than the 468.6-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Due to the implementation of PSPS.
- Fort Seward 1121 circuit – a tree fell into the line.
- Trinidad 1101 circuit – due to an outage of unknown cause; the line was patrolled but the cause was not determined.

These outages contributed 4,109.8 minutes to the October 26-27, 2019 overall CAIDI performance.

15.8 Los Padres CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
LOS PADRES	October 20, 2017	139.6	11
LOS PADRES	December 4, 2017	52.0	8
LOS PADRES	December 16, 2017	21.2	3
LOS PADRES	March 16, 2018	815.1	3
LOS PADRES	May 17, 2018	118.2	3
LOS PADRES	July 28, 2018	324.0	1
LOS PADRES	October 14, 2018	126.0	1
LOS PADRES	November 8, 2018	166.3	3
LOS PADRES	November 21, 2018	193.2	14
LOS PADRES	November 29, 2018	107.7	29
	Average of 10 excludable major events	119.9	8
LOS PADRES	October 27 2019	193.0	1
	% Difference	61.0%	-87%

Table 156 – Los Padres Historical Performance

As indicated in Table 156, the Los Padres Division CAIDI value of 193.0 minutes for the October 26-27, 2019 major event days was 61.0% higher than the 119.9-minute average of the prior 10 weather-related excludable major events.

The high CAIDI value was due to a tree falling into the Zaca 1102 circuit. The CAIDI for this outage was 193.0 minutes.

15.9 Mission CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
MISSION	October 14, 2017	324.9	3
MISSION	October 20, 2017	252.4	10
MISSION	December 4, 2017	130.5	4
MISSION	December 16, 2017	40.5	3
MISSION	March 16, 2018	130.5	7
MISSION	May 17, 2018	276.7	2
MISSION	July 28, 2018	81.1	1
MISSION	October 14, 2018	292.4	2
MISSION	November 21, 2018	158.7	22
MISSION	November 29, 2018	474.5	7
	Average of 10 excludable major events	161.0	6
MISSION	October 26-27 2019	1,245.1	29
	% Difference	673.2%	367%

Table 157 – Mission Historical Performance

As indicated in Table 157, the Mission Division CAIDI value of 1,245.1 minutes for the October 26-27, 2019 major event days was 673.2% higher than the 161.0-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was the implementation of PSPS. This outage event contributed 1,129.5 minutes to the October 26-27, 2019 overall CAIDI performance.

15.10 North Bay CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
NORTH BAY	October 20, 2017	208.7	13
NORTH BAY	December 4, 2017	194.9	25
NORTH BAY	December 16, 2017	72.2	19
NORTH BAY	March 16, 2018	310.5	3
NORTH BAY	May 17, 2018	250.2	3
NORTH BAY	July 28, 2018	266.5	2
NORTH BAY	October 14, 2018	1,618.6	30
NORTH BAY	November 8, 2018	198.2	7
NORTH BAY	November 21, 2018	250.2	8
NORTH BAY	November 29, 2018	251.3	20
	Average of 10 excludable major events	449.5	13
NORTH BAY	October 26-27 2019	3,283.8	131
	% Difference	630.5%	904%

Table 158 – North Bay Historical Performance

As indicated in Table 158, the North Bay Division CAIDI value of 3,283.8 minutes for the October 26-27, 2019 major event days was 630.5% higher than the 449.5-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Due to the implementation of PSPS.
- A tree fell into the 115 kV transmission line serving Pueblo Substation.
- North Tower 1104 circuit – due to a failed overhead conductor.
- Vallejo B 1101 circuit – due to a failed overhead conductor.
- Pueblo 2103 circuit – due to a failed overhead conductor.

These outages contributed 2,807.8 minutes to the October 26-27, 2019 overall CAIDI performance.

15.11 Peninsula CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
PENINSULA	October 14, 2017	131.0	1
PENINSULA	October 20, 2017	185.2	9
PENINSULA	December 4, 2017	389.6	5
PENINSULA	December 16, 2017	158.1	18
PENINSULA	March 16, 2018	163.5	5
PENINSULA	May 17, 2018	73.1	1
PENINSULA	July 28, 2018	60.9	1
PENINSULA	November 8, 2018	163.8	4
PENINSULA	November 21, 2018	112.3	13
PENINSULA	November 29, 2018	118.1	22
	Average of 10 excludable major events	142.3	8
PENINSULA	October 26-27 2019	2,490.4	56
	% Difference	1650.7%	603%

Table 159 – Peninsula Historical Performance

As indicated in Table 159, the Peninsula Division CAIDI value of 2,490.4 minutes for the October 26-27, 2019 major event days was 1,650.7% higher than the 142.3-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was the implementation of PSPS. This outage event contributed 2,409.9 minutes to the October 26-27, 2019 overall CAIDI performance.

15.12 Sacramento CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SACRAMENTO	October 20, 2017	109.0	23
SACRAMENTO	December 4, 2017	55.1	17
SACRAMENTO	December 16, 2017	85.1	68
SACRAMENTO	March 16, 2018	112.5	4
SACRAMENTO	May 17, 2018	166.7	8
SACRAMENTO	July 28, 2018	85.1	6
SACRAMENTO	October 14, 2018	87.8	2
SACRAMENTO	November 8, 2018	150.3	18
SACRAMENTO	November 21, 2018	202.2	22
SACRAMENTO	November 29, 2018	269.7	22
	Average of 10 excludable major events	104.1	19
SACRAMENTO	October 26-27 2019	938.0	102
	% Difference	801.3%	434%

Table 160 – Sacramento Historical Performance

As indicated in Table 160, the Sacramento Division CAIDI value of 938.0 minutes for the October 26-27, 2019 major event days was 801.3% higher than the 104.1-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Due to the implementation of PSPS.
- Zamora 1107 circuit – a tree branch fell into the line.
- Davis 1105 circuit – due to a failed overhead conductor.
- Suisun 1101 circuit – due to an outage of unknown cause; the line was patrolled, but nothing found.
- Vacaville 1104 circuit – a tree branch fell into the line.
- West Sacramento 1108 circuit – a tree fell into the line.
- Woodland 1102 circuit – due to an outage of unknown cause; the line was patrolled but the cause was not determined.
- Davis 1104 circuit – a tree branch fell into the line.
- Rice 1100 circuit – due to a failed overhead conductor.
- Madison 2101 circuit - due to a failed overhead conductor.

These outages contributed 597.5 minutes to the October 26-27, 2019 overall CAIDI performance.

15.13 San Francisco CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SAN FRANCISCO	September 11, 2019	207.7	13
SAN FRANCISCO	October 9, 2017	279.0	1
SAN FRANCISCO	October 20, 2017	162.8	2
SAN FRANCISCO	December 4, 2017	53.1	1
SAN FRANCISCO	March 16, 2018	54.5	1
SAN FRANCISCO	July 28, 2018	11.0	1
SAN FRANCISCO	October 14, 2018	33.0	1
SAN FRANCISCO	November 8, 2018	361.0	2
SAN FRANCISCO	November 21, 2018	79.2	3
SAN FRANCISCO	November 29, 2018	74.4	3
	Average of 10 excludable major events	89.4	3
SAN FRANCISCO	October 27 2019	204.9	6
	% Difference	129.1%	114%

Table 161 – San Francisco Historical Performance

As indicated in Table 161, the San Francisco Division CAIDI value of 204.9 minutes for the October 26-27, 2019 major event days was 129.1% higher than the 89.4-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- SF N 408 circuit – due to: (1) a failed overhead transformer and (2) a tree branch falling into the line.
- SF E 1103 circuit – due to a failed underground conductor.
- Daly City 1106 circuit – due to a failed overhead transformer.
- Daly City 1109 circuit – due to an outage of unknown cause; the line was patrolled but the cause was not determined.
- Castro 402 circuit – due to an outage of unknown cause; the line was patrolled but the cause was not determined.

These outages contributed 204.9 minutes to the October 26-27, 2019 overall CAIDI performance.

15.14 San Jose CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SAN JOSE	October 20, 2017	175.6	10
SAN JOSE	December 4, 2017	75.2	12
SAN JOSE	December 16, 2017	110.9	14
SAN JOSE	March 16, 2018	680.0	1
SAN JOSE	May 17, 2018	185.7	2
SAN JOSE	July 28, 2018	534.8	2
SAN JOSE	October 14, 2018	249.6	3
SAN JOSE	November 8, 2018	128.8	4
SAN JOSE	November 21, 2018	326.0	3
SAN JOSE	November 29, 2018	108.8	10
	Average of 10 excludable major events	113.3	6
SAN JOSE	October 26-27 2019	1,643.4	42
	% Difference	1350.1%	589%

Table 162 – San Jose Historical Performance

As indicated in Table 162, the San Jose Division CAIDI value of 1,643.4 minutes for the October 26-27, 2019 major event days was 1,350.1% higher than the 113.3-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- The implementation of PSPS.
- Dixon Landing 2102 circuit – due to a failed overhead conductor.

These outages contributed 1,432.6 minutes to the October 26-27, 2019 overall CAIDI performance.

15.15 Sierra CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SIERRA	October 20, 2017	328.8	20
SIERRA	December 4, 2017	300.1	25
SIERRA	December 16, 2017	214.4	12
SIERRA	March 16, 2018	604.9	45
SIERRA	May 17, 2018	410.0	1
SIERRA	July 28, 2018	308.3	5
SIERRA	October 14, 2018	1,450.8	30
SIERRA	November 8, 2018	357.2	4
SIERRA	November 21, 2018	89.0	5
SIERRA	November 29, 2018	293.6	17
	Average of 10 excludable major events	939.9	16
SIERRA	October 26-27 2019	3,399.6	204
	% Difference	261.7%	1141%

Table 163 – Sierra Historical Performance

As indicated in Table 163, the Sierra Division CAIDI value of 3,399.6 minutes for the October 26-27, 2019 major event days was 261.7% higher than the 939.9-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- The implementation of PSPS.
- Mountain Quarry 2101 circuit – due to a failed wooden crossarm.
- Columbia Hill 1101 circuit – a tree branch fell into the line.

These outages contributed 3,103.3 minutes to the October 26-27, 2019 overall CAIDI performance.

15.16 Sonoma CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SONOMA	October 20, 2017	262.1	16
SONOMA	December 4, 2017	39.2	13
SONOMA	December 16, 2017	147.1	7
SONOMA	March 16, 2018	258.7	3
SONOMA	May 17, 2018	184.2	3
SONOMA	July 28, 2018	564.0	1
SONOMA	October 14, 2018	122.0	1
SONOMA	November 8, 2018	102.5	8
SONOMA	November 21, 2018	66.1	11
SONOMA	November 29, 2018	282.3	9
	Average of 10 excludable major events	73.6	7
SONOMA	October 26-27 2019	5,055.8	263
	% Difference	6768.5%	3546%

Table 164 – Sonoma Historical Performance

As indicated in Table 164, the Sonoma Division CAIDI value of 5,055.8 minutes for the October 26-27, 2019 major event days was 6,768.5% higher than the 73.6-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- The implementation of PSPS.
- Grass fire (Kincade fire).
- Santa Rosa A1110 circuit – a tree branch fell into the line.
- Sonoma 1105 circuit – due to an outage of unknown cause; the line was patrolled but the cause was not determined.
- Fulton 1105 circuit – due to an outage of unknown cause; the line was patrolled but the cause was not determined.
- Sonoma 1103 circuit – due to two tree-related outages (trees fell into the line).

These outages contributed 4,742.6 minutes to the October 26-27, 2019 overall CAIDI performance.

15.17 Stockton CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
STOCKTON	October 20, 2017	112.2	13
STOCKTON	December 4, 2017	261.8	30
STOCKTON	December 16, 2017	112.8	40
STOCKTON	March 16, 2018	556.6	54
STOCKTON	May 17, 2018	97.9	2
STOCKTON	July 28, 2018	838.9	3
STOCKTON	October 14, 2018	2,178.8	61
STOCKTON	November 8, 2018	161.9	5
STOCKTON	November 21, 2018	234.6	7
STOCKTON	November 29, 2018	137.5	18
	Average of 10 excludable major events	683.2	23
STOCKTON	October 26-27 2019	3,239.5	140
	% Difference	374.1%	499%

Table 165 – Stockton Historical Performance

As indicated in Table 165, the Stockton Division CAIDI value of 3,239.5 minutes for the October 26-27, 2019 major event days was 374.1% higher than the 683.2-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was the implementation of PSPS. This outage event contributed 3,009.5 minutes to the October 26-27, 2019 overall CAIDI performance.

15.18 Yosemite CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
YOSEMITE	October 20, 2017	178.6	33
YOSEMITE	December 4, 2017	186.8	9
YOSEMITE	December 16, 2017	137.7	28
YOSEMITE	March 16, 2018	267.9	30
YOSEMITE	May 17, 2018	130.9	4
YOSEMITE	July 28, 2018	691.8	5
YOSEMITE	October 14, 2018	33.6	2
YOSEMITE	November 8, 2018	111.6	5
YOSEMITE	November 21, 2018	101.4	36
YOSEMITE	November 29, 2018	157.4	29
	Average of 10 excludable major events	174.3	18
YOSEMITE	October 26-27 2019	2,430.3	120
	% Difference	1294.0%	563%

Table 166 – Yosemite Historical Performance

As indicated in Table 166, the Yosemite Division CAIDI value of 2,430.3 minutes for the October 26-27, 2019 major event days was 1,294.0% higher than the 174.3-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was the implementation of PSPS. This outage event contributed 2,176.0 minutes to the October 26-27, 2019 overall CAIDI performance.

16. October 29, 2019 Major Event Day

The sixteenth major event was for October 29, 2019 caused by gusty north-northeast winds that produced critical conditions resulting in the implementation of PSPS. Table 167 summarizes the system and division CAIDI performances during this event and the average of the prior ten weather related major events.

(October 29, 2019 vs. Prior 10 MED)

System / Division	Average CAIDI of Prior 10 System / Division Specific Excludable ME	October 29, 2019 / Division Specific CAIDI	Percent Difference From the Prior CAIDI Average	Exceeds the Investigation Threshold?
SYSTEM	1356.4	1527.0	112.6%	Yes
CENTRAL COAST	183.7	208.4	113.4%	NO
DE ANZA	306.7	138.7	45.2%	NO
DIABLO	102.8	489.0	475.8%	Yes
EAST BAY	91.8	516.0	562.3%	Yes
FRESNO	211.5	234.5	110.9%	NO
HUMBOLDT	468.6	1963.3	419.0%	Yes
KERN	111.2	2206.2	1983.8%	Yes
LOS PADRES	119.9	316.0	263.6%	Yes
MISSION	161.0	107.2	66.6%	NO
NORTH BAY	449.5	1667.6	371.0%	Yes
NORTH VALLEY	13270.3	1753.8	13.2%	NO
PENINSULA	142.3	395.9	278.3%	Yes
SACRAMENTO	104.1	517.6	497.3%	Yes
SAN FRANCISCO	89.4	57.8	64.6%	NO
SAN JOSE	113.3	115.7	102.1%	NO
SIERRA	939.9	1615.9	171.9%	Yes
SONOMA	73.6	1644.5	2234.1%	Yes
STOCKTON	683.2	883.4	129.3%	Yes
YOSEMITE	174.3	1154.2	662.0%	Yes

Table 167 – October 29, 2019 CAIDI Performance

16.1 T&D System CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SYSTEM	October 20, 2017	165.8	296
SYSTEM	December 4, 2017	151.1	209
SYSTEM	December 16, 2017	171.5	319
SYSTEM	March 16, 2018	358.3	204
SYSTEM	May 17, 2018	233.1	55
SYSTEM	July 28, 2018	217.3	84
SYSTEM	October 14, 2018	1,468.1	164
SYSTEM	November 8, 2018	12,288.9	618
SYSTEM	November 21, 2018	121.6	266
SYSTEM	November 29, 2018	168.2	365
	Average of 10 excludable major events	1,356.4	258
SYSTEM	October 29 2019	1,527.0	444
	% Difference	12.6%	72%

Table 168 – T&D System Historical Performance

As indicated in Table 168, the T&D System CAIDI value of 1,527.0 minutes for the October 29, 2019 major event day was 12.6% higher than the 1,356.4-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was the implementation of PSPS. This outage event contributed 1,274.0 minutes to the October 29, 2019 overall CAIDI performance.

16.1 Diablo CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
DIABLO	October 14, 2017	295.3	4
DIABLO	October 20, 2017	148.0	11
DIABLO	December 4, 2017	68.8	12
DIABLO	December 16, 2017	166.1	9
DIABLO	May 17, 2018	190.2	1
DIABLO	July 28, 2018	163.6	2
DIABLO	October 14, 2018	134.4	2
DIABLO	November 8, 2018	104.0	3
DIABLO	November 21, 2018	97.5	14
DIABLO	November 29, 2018	298.1	10
	Average of 10 excludable major events	102.8	7
DIABLO	October 29 2019	489.0	9
	% Difference	375.8%	32%

Table 169 – Diablo Historical Performance

As indicated in Table 169, the Diablo Division CAIDI value of 489.0 minutes for the October 29, 2019 major event day was 375.8% higher than the 102.8-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the

following:

- Rossmoor 1104 circuit – due to (1) two tree related outages (tree branches fell into the line) and (2) an outage of unknown cause; the line was patrolled but the cause was not determined.

These outages contributed 365.3 minutes to the October 29, 2019 overall CAIDI performance.

16.2 East Bay CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
EAST BAY	October 20, 2017	43.7	10
EAST BAY	December 4, 2017	114.9	10
EAST BAY	December 16, 2017	65.4	6
EAST BAY	March 16, 2018	87.9	3
EAST BAY	May 17, 2018	818.0	1
EAST BAY	July 28, 2018	13.6	2
EAST BAY	October 14, 2018	562.1	2
EAST BAY	November 8, 2018	51.9	2
EAST BAY	November 21, 2018	153.2	7
EAST BAY	November 29, 2018	75.8	7
	Average of 10 excludable major events	91.8	5
EAST BAY	October 29 2019	516.0	2
	% Difference	462.3%	-60%

Table 170 – East Bay Historical Performance

As indicated in Table 170, the East Bay Division CAIDI value of 516.0 minutes for the October 29, 2019 major event day was 462.3% higher than the 91.8-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Edes 1103 circuit – due to a car-pole incident.
- Franklin 1104 circuit – due to a broken wood pole.

These outages contributed 516.0 minutes to the October 29, 2019 overall CAIDI performance.

16.3 Humboldt CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
HUMBOLDT	October 20, 2017	132.2	7
HUMBOLDT	December 4, 2017	128.6	3
HUMBOLDT	December 16, 2017	351.9	5
HUMBOLDT	March 16, 2018	563.7	4
HUMBOLDT	May 17, 2018	84.0	4
HUMBOLDT	July 28, 2018	266.8	18
HUMBOLDT	October 14, 2018	1,341.4	8
HUMBOLDT	November 8, 2018	185.2	6
HUMBOLDT	November 21, 2018	60.8	8
HUMBOLDT	November 29, 2018	138.0	9
	Average of 10 excludable major events	468.6	7
HUMBOLDT	October 29 2019	1,963.3	5
	% Difference	319.0%	-31%

Table 171 – Humboldt Historical Performance

As indicated in Table 171, the Humboldt Division CAIDI value of 1,963.3 minutes for the October 29, 2019 major event day was 319.0% higher than the 468.6-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was the implementation of PSPS. This outage event contributed 1,724.3 minutes to the October 29, 2019 overall CAIDI performance.

16.4 Kern CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
KERN	October 14, 2017	95.6	4
KERN	October 20, 2017	152.8	12
KERN	December 4, 2017	80.8	5
KERN	December 16, 2017	285.3	2
KERN	March 16, 2018	56.8	2
KERN	May 17, 2018	487.8	3
KERN	October 14, 2018	91.9	2
KERN	November 8, 2018	291.1	4
KERN	November 21, 2018	112.8	4
KERN	November 29, 2018	162.4	7
	Average of 10 excludable major events	111.2	5
KERN	October 29 2019	2,206.2	11
	% Difference	1883.8%	144%

Table 172 – Kern Historical Performance

As indicated in Table 172, the Kern Division CAIDI value of 2,206.2 minutes for the October 29, 2019 major event day was 1,883.8% higher than the 111.2-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was the

implementation of PSPS. This outage event contributed 2,084.7 minutes to the October 29, 2019 overall CAIDI performance.

16.5 Los Padres CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
LOS PADRES	October 20, 2017	139.6	11
LOS PADRES	December 4, 2017	52.0	8
LOS PADRES	December 16, 2017	21.2	3
LOS PADRES	March 16, 2018	815.1	3
LOS PADRES	May 17, 2018	118.2	3
LOS PADRES	July 28, 2018	324.0	1
LOS PADRES	October 14, 2018	126.0	1
LOS PADRES	November 8, 2018	166.3	3
LOS PADRES	November 21, 2018	193.2	14
LOS PADRES	November 29, 2018	107.7	29
	Average of 10 excludable major events	119.9	8
LOS PADRES	October 29 2019	316.0	2
	% Difference	163.6%	-74%

Table 173 – Los Padres Historical Performance

As indicated in Table 173, the Los Padres Division CAIDI value of 316.0 minutes for the October 29, 2019 major event day was 163.6% higher than the 119.9-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Santa Ynez 1101 circuit – due to an animal (squirrel) related outage.
- Templeton 2113 circuit – due to an outage of unknown cause; the line was patrolled but the cause was not determined.

These outages contributed 316.0 minutes to the October 29, 2019 overall CAIDI performance.

16.6 North Bay CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
NORTH BAY	October 20, 2017	208.7	13
NORTH BAY	December 4, 2017	194.9	25
NORTH BAY	December 16, 2017	72.2	19
NORTH BAY	March 16, 2018	310.5	3
NORTH BAY	May 17, 2018	250.2	3
NORTH BAY	July 28, 2018	266.5	2
NORTH BAY	October 14, 2018	1,618.6	30
NORTH BAY	November 8, 2018	198.2	7
NORTH BAY	November 21, 2018	250.2	8
NORTH BAY	November 29, 2018	251.3	20
	Average of 10 excludable major events	449.5	13
NORTH BAY	October 29 2019	1,667.6	33
	% Difference	271.0%	154%

Table 174 – North Bay Historical Performance

As indicated in Table 174, the North Bay Division CAIDI value of 1,667.6 minutes for the October 29, 2019 major event day was 271.0% higher than the 449.5-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was the implementation of PSPS. This outage event contributed 1,333.0 minutes to the October 29, 2019 overall CAIDI performance.

16.7 Peninsula CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
PENINSULA	October 14, 2017	131.0	1
PENINSULA	October 20, 2017	185.2	9
PENINSULA	December 4, 2017	389.6	5
PENINSULA	December 16, 2017	158.1	18
PENINSULA	March 16, 2018	163.5	5
PENINSULA	May 17, 2018	73.1	1
PENINSULA	July 28, 2018	60.9	1
PENINSULA	November 8, 2018	163.8	4
PENINSULA	November 21, 2018	112.3	13
PENINSULA	November 29, 2018	118.1	22
	Average of 10 excludable major events	142.3	8
PENINSULA	October 29 2019	395.9	2
	% Difference	178.3%	-75%

Table 175 – Peninsula Historical Performance

As indicated in Table 175, the Peninsula Division CAIDI value of 395.9 minutes for the October 29, 2019 major event day was 178.3% higher than the 142.3-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the

following:

- Menlo 1102 circuit – due to tree falling into the line.
- Belmont 1103 circuit – due to a malfunctioning line recloser.

These outages contributed 395.9 minutes to the October 29, 2019 overall CAIDI performance.

16.8 Sacramento CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SACRAMENTO	October 20, 2017	109.0	23
SACRAMENTO	December 4, 2017	55.1	17
SACRAMENTO	December 16, 2017	85.1	68
SACRAMENTO	March 16, 2018	112.5	4
SACRAMENTO	May 17, 2018	166.7	8
SACRAMENTO	July 28, 2018	85.1	6
SACRAMENTO	October 14, 2018	87.8	2
SACRAMENTO	November 8, 2018	150.3	18
SACRAMENTO	November 21, 2018	202.2	22
SACRAMENTO	November 29, 2018	269.7	22
	Average of 10 excludable major events	104.1	19
SACRAMENTO	October 29 2019	517.6	22
	% Difference	397.3%	16%

Table 176 – Sacramento Historical Performance

As indicated in Table 176, the Sacramento Division CAIDI value of 517.6 minutes for the October 29, 2019 major event day was 397.3% higher than the 104.1-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- The implementation of PSPS.
- Cordelia 1104 circuit – due to a broken wood pole.

These outages contributed 364.2 minutes to the October 29, 2019 overall CAIDI performance.

16.9 Sierra CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SIERRA	October 20, 2017	328.8	20
SIERRA	December 4, 2017	300.1	25
SIERRA	December 16, 2017	214.4	12
SIERRA	March 16, 2018	604.9	45
SIERRA	May 17, 2018	410.0	1
SIERRA	July 28, 2018	308.3	5
SIERRA	October 14, 2018	1,450.8	30
SIERRA	November 8, 2018	357.2	4
SIERRA	November 21, 2018	89.0	5
SIERRA	November 29, 2018	293.6	17
	Average of 10 excludable major events	939.9	16
SIERRA	October 29 2019	1,615.9	148
	% Difference	71.9%	802%

Table 177 – Sierra Historical Performance

As indicated in Table 177, the Sierra Division CAIDI value of 1,615.9 minutes for the October 29, 2019 major event day was 71.9% higher than the 939.9-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was the implementation of PSPS. This outage event contributed 1,343.4 minutes to the October 29, 2019 overall CAIDI performance.

16.10 Sonoma CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SONOMA	October 20, 2017	262.1	16
SONOMA	December 4, 2017	39.2	13
SONOMA	December 16, 2017	147.1	7
SONOMA	March 16, 2018	258.7	3
SONOMA	May 17, 2018	184.2	3
SONOMA	July 28, 2018	564.0	1
SONOMA	October 14, 2018	122.0	1
SONOMA	November 8, 2018	102.5	8
SONOMA	November 21, 2018	66.1	11
SONOMA	November 29, 2018	282.3	9
	Average of 10 excludable major events	73.6	7
SONOMA	October 29 2019	1,644.5	21
	% Difference	2134.1%	192%

Table 178 – Sonoma Historical Performance

As indicated in Table 178, the Sonoma Division CAIDI value of 1,644.5 minutes for the October 29, 2019 major event day was 2,134.1% higher than the 73.6-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was the

implementation of PSPS. This outage event contributed 1,484.4 minutes to the October 29, 2019 overall CAIDI performance.

16.11 Stockton CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
STOCKTON	October 20, 2017	112.2	13
STOCKTON	December 4, 2017	261.8	30
STOCKTON	December 16, 2017	112.8	40
STOCKTON	March 16, 2018	556.6	54
STOCKTON	May 17, 2018	97.9	2
STOCKTON	July 28, 2018	838.9	3
STOCKTON	October 14, 2018	2,178.8	61
STOCKTON	November 8, 2018	161.9	5
STOCKTON	November 21, 2018	234.6	7
STOCKTON	November 29, 2018	137.5	18
	Average of 10 excludable major events	683.2	23
STOCKTON	October 29 2019	883.4	20
	% Difference	29.3%	-14%

Table 179 – Stockton Historical Performance

As indicated in Table 179, the Stockton Division CAIDI value of 883.4 minutes for the October 29, 2019 major event day was 29.3% higher than the 683.2-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was the implementation of PSPS. This outage event contributed 679.3 minutes to the October 29, 2019 overall CAIDI performance.

16.12 Yosemite CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
YOSEMITE	October 20, 2017	178.6	33
YOSEMITE	December 4, 2017	186.8	9
YOSEMITE	December 16, 2017	137.7	28
YOSEMITE	March 16, 2018	267.9	30
YOSEMITE	May 17, 2018	130.9	4
YOSEMITE	July 28, 2018	691.8	5
YOSEMITE	October 14, 2018	33.6	2
YOSEMITE	November 8, 2018	111.6	5
YOSEMITE	November 21, 2018	101.4	36
YOSEMITE	November 29, 2018	157.4	29
	Average of 10 excludable major events	174.3	18
YOSEMITE	October 29 2019	1,154.2	39
	% Difference	562.0%	115%

Table 180 – Yosemite Historical Performance

As indicated in Table 180, the Yosemite Division CAIDI value of 1,154.2 minutes for the October 29, 2019 major event day was 562.0% higher than the 174.3-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was the implementation of PSPS. This outage event contributed 1,000.9 minutes to the October 29, 2019 overall CAIDI performance.

17. November 20, 2019 Major Event Day

The seventeenth major event was for November 20, 2019 caused by a strong offshore flow and associated critical fire weather conditions leading to the implementation of PSPS. Table 181 summarizes the system and division CAIDI performances during this event and the average of the prior ten weather related major events.

(November 20, 2019 vs. Prior 10 MED)

System / Division	Average CAIDI of Prior 10 System / Division Specific Excludable ME	November 20, 2019 / Division Specific CAIDI	Percent Difference From the Prior CAIDI Average	Exceeds the Investigation Threshold?
SYSTEM	1356.4	1018.2	75.1%	NO
CENTRAL COAST	183.7	164.8	89.7%	NO
DE ANZA	306.7	0.0	0.0%	NO
DIABLO	102.8	155.5	151.3%	Yes
EAST BAY	91.8	24.0	26.2%	NO
FRESNO	211.5	52.8	25.0%	NO
HUMBOLDT	468.6	1105.9	236.0%	Yes
KERN	111.2	51.2	46.0%	NO
LOS PADRES	119.9	570.6	475.9%	Yes
MISSION	161.0	452.8	281.2%	Yes
NORTH BAY	449.5	1383.6	307.8%	Yes
NORTH VALLEY	13270.3	1482.5	11.2%	NO
PENINSULA	142.3	0.0	0.0%	NO
SACRAMENTO	104.1	372.7	358.1%	Yes
SAN FRANCISCO	89.4	0.0	0.0%	NO
SAN JOSE	113.3	312.1	275.4%	Yes
SIERRA	939.9	80.8	8.6%	NO
SONOMA	73.6	1330.6	1807.7%	Yes
STOCKTON	683.2	77.5	11.3%	NO
YOSEMITE	174.3	179.3	102.8%	NO

Table 181 – November 20, 2019 CAIDI Performance

17.1 Diablo CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
DIABLO	October 14, 2017	295.3	4
DIABLO	October 20, 2017	148.0	11
DIABLO	December 4, 2017	68.8	12
DIABLO	December 16, 2017	166.1	9
DIABLO	May 17, 2018	190.2	1
DIABLO	July 28, 2018	163.6	2
DIABLO	October 14, 2018	134.4	2
DIABLO	November 8, 2018	104.0	3
DIABLO	November 21, 2018	97.5	14
DIABLO	November 29, 2018	298.1	10
	Average of 10 excludable major events	102.8	7
DIABLO	November 20 2019	155.5	5
	% Difference	51.3%	-26%

Table 182 – Diablo Historical Performance

As indicated in Table 182, the Diablo Division CAIDI value of 155.5 minutes for the November 20, 2019 major event day was 51.3% higher than the 102.8-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Tassajara 2103 circuit – due to a failed underground secondary conductor.
- Sobrante 1101 circuit – due to an animal (squirrel) related outage.
- Tidewater 2109 circuit – due to an outage of unknown cause; the line was patrolled but the cause was not determined.
- Brentwood 2112 circuit – due to a failed overhead conductor.
- Rossmoor 1106 circuit – due to an animal (squirrel) related outage.

These outages contributed 155.5 minutes to the November 20, 2019 overall CAIDI performance.

17.2 Humboldt CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
HUMBOLDT	October 20, 2017	132.2	7
HUMBOLDT	December 4, 2017	128.6	3
HUMBOLDT	December 16, 2017	351.9	5
HUMBOLDT	March 16, 2018	563.7	4
HUMBOLDT	May 17, 2018	84.0	4
HUMBOLDT	July 28, 2018	266.8	18
HUMBOLDT	October 14, 2018	1,341.4	8
HUMBOLDT	November 8, 2018	185.2	6
HUMBOLDT	November 21, 2018	60.8	8
HUMBOLDT	November 29, 2018	138.0	9
	Average of 10 excludable major events	468.6	7
HUMBOLDT	November 20 2019	1,105.9	41
	% Difference	136.0%	469%

Table 183 – Humboldt Historical Performance

As indicated in Table 183, the Humboldt Division CAIDI value of 1,105.9 minutes for the November 20, 2019 major event day was 136.0% higher than the 468.6-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- The implementation of PSPS.
- Middletown 1102 circuit – due to a failed anchor / guy.

These outages contributed 898.4 minutes to the November 20, 2019 overall CAIDI performance.

17.3 Los Padres CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
LOS PADRES	October 20, 2017	139.6	11
LOS PADRES	December 4, 2017	52.0	8
LOS PADRES	December 16, 2017	21.2	3
LOS PADRES	March 16, 2018	815.1	3
LOS PADRES	May 17, 2018	118.2	3
LOS PADRES	July 28, 2018	324.0	1
LOS PADRES	October 14, 2018	126.0	1
LOS PADRES	November 8, 2018	166.3	3
LOS PADRES	November 21, 2018	193.2	14
LOS PADRES	November 29, 2018	107.7	29
	Average of 10 excludable major events	119.9	8
LOS PADRES	November 20 2019	570.6	3
	% Difference	375.9%	-61%

Table 184 – Los Padres Historical Performance

As indicated in Table 184, the Los Padres Division CAIDI value of 570.6 minutes for the November 20, 2019 major event day was 375.9% higher than the 119.9-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Cholame 2102 circuit – due to (1) a broken wood pole and (2) an outage of unknown cause; the line was patrolled but the cause was not determined.
- Templeton 2109 circuit – due to a failed overhead transformer.

These outages contributed 570.6 minutes to the November 20, 2019 overall CAIDI performance.

17.4 Mission CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
MISSION	October 14, 2017	324.9	3
MISSION	October 20, 2017	252.4	10
MISSION	December 4, 2017	130.5	4
MISSION	December 16, 2017	40.5	3
MISSION	March 16, 2018	130.5	7
MISSION	May 17, 2018	276.7	2
MISSION	July 28, 2018	81.1	1
MISSION	October 14, 2018	292.4	2
MISSION	November 21, 2018	158.7	22
MISSION	November 29, 2018	474.5	7
	Average of 10 excludable major events	161.0	6
MISSION	November 20 2019	452.8	4
	% Difference	181.2%	-34%

Table 185 – Mission Historical Performance

As indicated in Table 185, the Mission Division CAIDI value of 452.8 minutes for the November 20, 2019 major event day was 181.2% higher than the 161.0-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- North Dublin 2109 circuit – due to a failed underground transformer.
- Fremont 1104 circuit – due to a failed overhead secondary conductor.
- Cayetano 2109 circuit – due to (1) a failed overhead conductor and (2) a failed overhead transformer.

These outages contributed 452.8 minutes to the November 20, 2019 overall CAIDI performance.

17.5 North Bay CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
NORTH BAY	October 20, 2017	208.7	13
NORTH BAY	December 4, 2017	194.9	25
NORTH BAY	December 16, 2017	72.2	19
NORTH BAY	March 16, 2018	310.5	3
NORTH BAY	May 17, 2018	250.2	3
NORTH BAY	July 28, 2018	266.5	2
NORTH BAY	October 14, 2018	1,618.6	30
NORTH BAY	November 8, 2018	198.2	7
NORTH BAY	November 21, 2018	250.2	8
NORTH BAY	November 29, 2018	251.3	20
	Average of 10 excludable major events	449.5	13
NORTH BAY	November 20 2019	1,383.6	67
	% Difference	207.8%	415%

Table 186 – North Bay Historical Performance

As indicated in Table 186, the North Bay Division CAIDI value of 1,383.6 minutes for the November 20, 2019 major event day was 207.8% higher than the 449.5-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was the implementation of PSPS. This outage event contributed 1,261.4 minutes to the November 20, 2019 overall CAIDI performance.

17.6 Sacramento CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SACRAMENTO	October 20, 2017	109.0	23
SACRAMENTO	December 4, 2017	55.1	17
SACRAMENTO	December 16, 2017	85.1	68
SACRAMENTO	March 16, 2018	112.5	4
SACRAMENTO	May 17, 2018	166.7	8
SACRAMENTO	July 28, 2018	85.1	6
SACRAMENTO	October 14, 2018	87.8	2
SACRAMENTO	November 8, 2018	150.3	18
SACRAMENTO	November 21, 2018	202.2	22
SACRAMENTO	November 29, 2018	269.7	22
	Average of 10 excludable major events	104.1	19
SACRAMENTO	November 20 2019	372.7	21
	% Difference	258.1%	11%

Table 187 – Sacramento Historical Performance

As indicated in Table 187, the Sacramento Division CAIDI value of 372.7 minutes for the November 20, 2019 major event day was 258.1% higher than the 104.1-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was the

implementation of PSPS. This outage event contributed 304.1 minutes to the November 20, 2019 overall CAIDI performance.

17.7 San Jose CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SAN JOSE	October 20, 2017	175.6	10
SAN JOSE	December 4, 2017	75.2	12
SAN JOSE	December 16, 2017	110.9	14
SAN JOSE	March 16, 2018	680.0	1
SAN JOSE	May 17, 2018	185.7	2
SAN JOSE	July 28, 2018	534.8	2
SAN JOSE	October 14, 2018	249.6	3
SAN JOSE	November 8, 2018	128.8	4
SAN JOSE	November 21, 2018	326.0	3
SAN JOSE	November 29, 2018	108.8	10
	Average of 10 excludable major events	113.3	6
SAN JOSE	November 20 2019	312.1	2
	% Difference	175.4%	-67%

Table 188 – San Jose Historical Performance

As indicated in Table 188, the San Jose Division CAIDI value of 312.1 minutes for the November 20, 2019 major event day was 175.4% higher than the 113.3-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- El Patio 112 circuit – due to a tree growing into the line.
- Swift 2110 circuit – due to an outage of unknown cause; the line was patrolled but the cause was not determined.

These outages contributed 312.1 minutes to the November 20, 2019 overall CAIDI performance.

17.8 Sonoma CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SONOMA	October 20, 2017	262.1	16
SONOMA	December 4, 2017	39.2	13
SONOMA	December 16, 2017	147.1	7
SONOMA	March 16, 2018	258.7	3
SONOMA	May 17, 2018	184.2	3
SONOMA	July 28, 2018	564.0	1
SONOMA	October 14, 2018	122.0	1
SONOMA	November 8, 2018	102.5	8
SONOMA	November 21, 2018	66.1	11
SONOMA	November 29, 2018	282.3	9
	Average of 10 excludable major events	73.6	7
SONOMA	November 20 2019	1,330.6	49
	% Difference	1707.7%	581%

Table 189 – Sonoma Historical Performance

As indicated in Table 189, the Sonoma Division CAIDI value of 1,330.6 minutes for the November 20, 2019 major event day was 1,707.7% higher than the 73.6-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- The implementation of PSPS.
- Monroe 1104 circuit – due to a car-pole incident.
- Molino 1103 circuit – due to a failed overhead conductor.

These outages contributed 1,214.1 minutes to the November 20, 2019 overall CAIDI performance.

18. November 26-27, 2019 Major Event Days

The eighteenth major event was from November 26-27, 2019 caused by a strong winter storm impacting the territory with strong south-southeast winds, isolated thunderstorms and heavy rain and mountain snow. Table 190 summarizes the system and division CAIDI performances during this event and the average of the prior ten weather related major events.

(November 26-27, 2019 vs. Prior 10 MED)

System / Division	Average CAIDI of Prior 10 System / Division Specific Excludable ME	November 26-27, 2019 / Division Specific CAIDI	Percent Difference From the Prior CAIDI Average	Exceeds the Investigation Threshold?
SYSTEM	1356.4	360.9	26.6%	NO
CENTRAL COAST	183.7	331.2	180.3%	Yes
DE ANZA	306.7	57.3	18.7%	NO
DIABLO	102.8	113.8	110.7%	NO
EAST BAY	91.8	170.2	185.4%	Yes
FRESNO	211.5	169.7	80.2%	NO
HUMBOLDT	468.6	1033.8	220.6%	Yes
KERN	111.2	79.5	71.5%	NO
LOS PADRES	119.9	156.4	130.4%	Yes
MISSION	161.0	134.9	83.8%	NO
NORTH BAY	449.5	107.6	23.9%	NO
NORTH VALLEY	13270.3	557.7	4.2%	NO
PENINSULA	142.3	161.5	113.5%	NO
SACRAMENTO	104.1	182.9	175.7%	Yes
SAN FRANCISCO	89.4	49.8	55.7%	NO
SAN JOSE	113.3	80.6	71.1%	NO
SIERRA	939.9	450.3	47.9%	NO
SONOMA	73.6	201.2	273.3%	Yes
STOCKTON	683.2	402.0	58.8%	NO
YOSEMITE	174.3	286.1	164.1%	Yes

Table 190 – November 26-27, 2019 CAIDI Performance

18.1 Central Coast CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
CENTRAL COAST	October 20, 2017	163.8	17
CENTRAL COAST	December 4, 2017	240.2	16
CENTRAL COAST	December 16, 2017	240.1	48
CENTRAL COAST	March 16, 2018	63.2	15
CENTRAL COAST	May 17, 2018	243.5	4
CENTRAL COAST	July 28, 2018	91.8	8
CENTRAL COAST	October 14, 2018	70.9	3
CENTRAL COAST	November 8, 2018	43.6	11
CENTRAL COAST	November 21, 2018	185.4	37
CENTRAL COAST	November 29, 2018	377.9	81
	Average of 10 excludable major events	183.7	24
CENTRAL COAST	November 26-27 2019	331.2	51
	% Difference	80.3%	113%

Table 191 – Central Coast Historical Performance

As indicated in Table 191, the Central Coast Division CAIDI value of 331.2 minutes for the November 26-27, 2019 major event days was 80.3% higher than the 183.7-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Green Valley 2102 circuit – due to a failed underground elbow.
- Dolan Road 1101 circuit – due to a failed overhead jumper.
- Paul Sweet 2104 circuit – due to a failed overhead conductor.
- Del Monte 2105 circuit – due to a failed overhead conductor.
- Green Valley 2103 circuit – due to a failed overhead conductor.
- Rob Roy 2105 circuit – due to a tree falling into the line.

These outages contributed 69.2 minutes to the November 26-27, 2019 overall CAIDI performance.

18.2 East Bay CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
EAST BAY	October 20, 2017	43.7	10
EAST BAY	December 4, 2017	114.9	10
EAST BAY	December 16, 2017	65.4	6
EAST BAY	March 16, 2018	87.9	3
EAST BAY	May 17, 2018	818.0	1
EAST BAY	July 28, 2018	13.6	2
EAST BAY	October 14, 2018	562.1	2
EAST BAY	November 8, 2018	51.9	2
EAST BAY	November 21, 2018	153.2	7
EAST BAY	November 29, 2018	75.8	7
	Average of 10 excludable major events	91.8	5
EAST BAY	November 26-27 2019	170.2	14
	% Difference	85.4%	170%

Table 192 – East Bay Historical Performance

As indicated in Table 192, the East Bay Division CAIDI value of 170.2 minutes for the November 26-27, 2019 major event days was 85.4% higher than the 91.8-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Richmond R 1121 circuit – due to a failed underground conductor.
- Fairview 2207 circuit – due to an outage of unknown cause; the line was patrolled but the cause was not determined.
- Richmond R 1127 circuit – due to a lightning strike to an overhead transformer.

These outages contributed 61.7 minutes to the November 26-27, 2019 overall CAIDI performance.

18.3 Humboldt CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
HUMBOLDT	October 20, 2017	132.2	7
HUMBOLDT	December 4, 2017	128.6	3
HUMBOLDT	December 16, 2017	351.9	5
HUMBOLDT	March 16, 2018	563.7	4
HUMBOLDT	May 17, 2018	84.0	4
HUMBOLDT	July 28, 2018	266.8	18
HUMBOLDT	October 14, 2018	1,341.4	8
HUMBOLDT	November 8, 2018	185.2	6
HUMBOLDT	November 21, 2018	60.8	8
HUMBOLDT	November 29, 2018	138.0	9
	Average of 10 excludable major events	468.6	7
HUMBOLDT	November 26-27 2019	1,033.8	101
	% Difference	120.6%	1296%

Table 193 – Humboldt Historical Performance

As indicated in Table 193, the Humboldt Division CAIDI value of 1,033.8 minutes for the November 26-27, 2019 major event days was 120.6% higher than the 468.6-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Blue Lake 1102 circuit – due to an outage of unknown cause; the line was patrolled but the cause was not determined.
- Trinidad 1101 circuit – due to a tree falling into the line.
- Trinidad 1102 circuit – due to a tree falling into the line.
- Harris 1109 circuit – due to a tree falling into the line.
- Hoopa 1101 circuit – due to a tree falling into the line.
- Willow Creek 1103 circuit – due to a failed overhead conductor.
- Janes Creek 1103 circuit – due to an outage of unknown cause; the line was patrolled but the cause was not determined.
- Fort Bragg A 1101 circuit – due to a tree falling into the line.
- Willow Creek 1101 – due to a failed overhead conductor.
- Eel River 1102 circuit – due to a tree branch falling into the line.

These outages contributed 325.0 minutes to the November 26-27, 2019 overall CAIDI performance.

18.4 Los Padres CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
LOS PADRES	October 20, 2017	139.6	11
LOS PADRES	December 4, 2017	52.0	8
LOS PADRES	December 16, 2017	21.2	3
LOS PADRES	March 16, 2018	815.1	3
LOS PADRES	May 17, 2018	118.2	3
LOS PADRES	July 28, 2018	324.0	1
LOS PADRES	October 14, 2018	126.0	1
LOS PADRES	November 8, 2018	166.3	3
LOS PADRES	November 21, 2018	193.2	14
LOS PADRES	November 29, 2018	107.7	29
	Average of 10 excludable major events	119.9	8
LOS PADRES	November 26-27 2019	156.4	15
	% Difference	30.4%	97%

Table 194 – Los Padres Historical Performance

As indicated in Table 194, the Los Padres Division CAIDI value of 156.4 minutes for the November 26-27, 2019 major event days was 30.4% higher than the 119.9-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was a failed wood pole on the Santa Maria 1107 circuit. This outage event contributed 37.7 minutes to the November 20, 2019 overall CAIDI performance.

18.5 Sacramento CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SACRAMENTO	October 20, 2017	109.0	23
SACRAMENTO	December 4, 2017	55.1	17
SACRAMENTO	December 16, 2017	85.1	68
SACRAMENTO	March 16, 2018	112.5	4
SACRAMENTO	May 17, 2018	166.7	8
SACRAMENTO	July 28, 2018	85.1	6
SACRAMENTO	October 14, 2018	87.8	2
SACRAMENTO	November 8, 2018	150.3	18
SACRAMENTO	November 21, 2018	202.2	22
SACRAMENTO	November 29, 2018	269.7	22
	Average of 10 excludable major events	104.1	19
SACRAMENTO	November 26-27 2019	182.9	27
	% Difference	75.7%	42%

Table 195 – Sacramento Historical Performance

As indicated in Table 195, the Sacramento Division CAIDI value of 182.9 minutes for the November 26-27, 2019 major event days was 75.7% higher than the 104.1-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the

following:

- Bogue 1102 circuit – due to a failed underground transformer.
- Maxwell 1105 circuit – due to a failed overhead jumper.
- East Marysville 1108 circuit – due to a tree branch falling into the line.
- Winters 1102 circuit – due to a tree branch falling into the line.
- Peabody 2105 circuit – due to a failed wood-pole.
- Live Oak 1101 circuit – due to a failed overhead conductor.
- Dunnigan 1101 circuit – due to a car-pole incident.

These outages contributed 41.0 minutes to the November 26-27, 2019 overall CAIDI performance.

18.6 Sonoma CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SONOMA	October 20, 2017	262.1	16
SONOMA	December 4, 2017	39.2	13
SONOMA	December 16, 2017	147.1	7
SONOMA	March 16, 2018	258.7	3
SONOMA	May 17, 2018	184.2	3
SONOMA	July 28, 2018	564.0	1
SONOMA	October 14, 2018	122.0	1
SONOMA	November 8, 2018	102.5	8
SONOMA	November 21, 2018	66.1	11
SONOMA	November 29, 2018	282.3	9
	Average of 10 excludable major events	73.6	7
SONOMA	November 26-27 2019	201.2	29
	% Difference	173.3%	296%

Table 196 – Sonoma Historical Performance

As indicated in Table 196, the Sonoma Division CAIDI value of 201.2 minutes for the November 26-27, 2019 major event days was 173.3% higher than the 73.6-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Salmon Creek 1101 circuit – due to (1) an outage of unknown cause; the line was patrolled, but nothing found, (2) a failed overhead insulator and (3) a tree falling into the line.
- Molino 1103 circuit – due to a failed overhead jumper.
- Santa Rosa A 1102 circuit – due to a failed overhead insulator.
- Monroe 1105 circuit – due to a failed underground elbow.

These outages contributed 68.1 minutes to the November 26-27, 2019 overall CAIDI performance.

18.7 Yosemite CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
YOSEMITE	October 20, 2017	178.6	33
YOSEMITE	December 4, 2017	186.8	9
YOSEMITE	December 16, 2017	137.7	28
YOSEMITE	March 16, 2018	267.9	30
YOSEMITE	May 17, 2018	130.9	4
YOSEMITE	July 28, 2018	691.8	5
YOSEMITE	October 14, 2018	33.6	2
YOSEMITE	November 8, 2018	111.6	5
YOSEMITE	November 21, 2018	101.4	36
YOSEMITE	November 29, 2018	157.4	29
	Average of 10 excludable major events	174.3	18
YOSEMITE	November 26-27 2019	286.1	55
	% Difference	64.1%	201%

Table 197 – Yosemite Historical Performance

As indicated in Table 197, the Yosemite Division CAIDI value of 286.1 minutes for the November 26-27, 2019 major event days was 64.1% higher than the 174.3-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following:

- Oakhurst 1103 circuit – due to an outage of unknown cause; the line was patrolled, but nothing found.
- Bear Valley 2105 circuit – due to a broken wood pole.
- Oro Loma 1115 circuit – due to a broken wood pole.
- Miwuk 1702 circuit – due to a tree branch falling into the line.
- Curtis 1705 circuit – due to a tree falling into the line.
- Stoney 1106 circuit – due to a broken wood pole.

These outages contributed 90.9 minutes to the November 26-27, 2019 overall CAIDI performance.

3. System and Division Indices Based on IEEE 1366 for the past 10 years including Planned Outages and including and excluding MED

As shown in Table 198 below, 2019 SAIDI performance figures have increased for the fourth consecutive year.

Table 198: Combined Transmission and Distribution System Indices with Planned Outages

Year	Major Events Included				Major Events Excluded			
	SAIDI	SAIFI	MAIFI	CAIDI	SAIDI	SAIFI	MAIFI	CAIDI
2010	277.7	1.496	1.489	185.6	157.2	1.207	1.254	130.3
2011	312.5	1.402	1.478	222.9	141.7	1.097	1.170	129.3
2012	161.4	1.224	1.921	131.9	131.0	1.130	1.800	115.9
2013	137.3	1.171	1.637	117.3	116.1	1.070	1.527	108.5
2014	149.4	1.133	1.567	131.9	108.4	0.966	1.396	112.2
2015	147.2	1.052	1.820	139.9	95.9	0.871	1.594	110.1
2016	121.9	1.103	1.603	110.6	108.9	1.021	1.494	106.7
2017	374.2	1.549	2.406	241.6	113.4	0.958	1.568	118.3
2018	306.1	1.175	1.551	260.4	126.3	1.079	1.479	117.0
2019	1,397.3	1.997	1.794	699.5	148.8	1.129	1.282	131.9

a. System and Division Indices Based on IEEE 1366 for the past ten years including Planned Outages and including MED, and excluding ISO Outages

Table 199:

Division	Year	SAIDI	SAIFI	MAIFI	CAIDI
CENTRAL COAST	2010	430.0	2.151	3.945	200.0
CENTRAL COAST	2011	539.9	2.154	2.074	250.7
CENTRAL COAST	2012	174.4	1.420	2.376	122.8
CENTRAL COAST	2013	151.8	1.469	2.054	103.3
CENTRAL COAST	2014	214.1	1.432	2.134	149.5
CENTRAL COAST	2015	269.6	1.376	2.176	195.9
CENTRAL COAST	2016	202.8	1.714	2.739	118.3
CENTRAL COAST	2017	819.7	2.522	4.885	325.0
CENTRAL COAST	2018	217.7	1.733	2.807	125.6
CENTRAL COAST	2019	1,330.1	2.707	3.155	491.3
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
DE ANZA	2010	192.1	1.249	1.420	153.8
DE ANZA	2011	101.3	0.798	1.495	126.9
DE ANZA	2012	100.2	0.793	1.223	126.4
DE ANZA	2013	100.8	0.935	1.175	107.8
DE ANZA	2014	134.2	1.113	1.319	120.6
DE ANZA	2015	80.7	0.680	1.291	118.7
DE ANZA	2016	119.4	0.977	1.415	122.1
DE ANZA	2017	332.0	1.583	2.034	209.7
DE ANZA	2018	121.2	0.967	1.603	125.4
DE ANZA	2019	439.4	1.498	2.011	293.4
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
DIABLO	2010	142.8	1.477	1.310	96.7
DIABLO	2011	110.1	1.071	1.396	102.8
DIABLO	2012	127.4	1.339	1.403	95.2
DIABLO	2013	99.9	1.112	1.299	89.9
DIABLO	2014	97.0	1.060	1.375	91.5
DIABLO	2015	97.6	1.066	1.878	91.6
DIABLO	2016	97.8	1.121	1.736	87.3
DIABLO	2017	161.0	1.327	2.376	121.3
DIABLO	2018	122.1	1.278	1.906	95.6
DIABLO	2019	640.8	1.728	1.857	370.9
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
EAST BAY	2010	134.6	1.123	0.754	119.9
EAST BAY	2011	123.3	1.039	1.060	118.7
EAST BAY	2012	119.0	1.405	1.347	84.7
EAST BAY	2013	130.4	1.059	1.267	123.1
EAST BAY	2014	89.1	0.883	1.520	100.9
EAST BAY	2015	65.9	0.749	1.179	87.9
EAST BAY	2016	137.1	1.246	1.243	110.0
EAST BAY	2017	162.1	1.271	2.080	127.6
EAST BAY	2018	120.9	1.089	1.229	111.1
EAST BAY	2019	487.9	1.420	1.217	343.7

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
FRESNO	2010	204.2	1.379	1.955	148.1
FRESNO	2011	186.0	1.220	2.013	152.5
FRESNO	2012	121.4	1.159	2.360	104.7
FRESNO	2013	119.5	1.227	2.108	97.4
FRESNO	2014	101.0	1.088	1.782	92.8
FRESNO	2015	115.2	1.238	2.060	93.1
FRESNO	2016	99.4	1.206	1.978	82.4
FRESNO	2017	116.6	1.064	1.915	109.6
FRESNO	2018	128.0	1.142	1.557	112.1
FRESNO	2019	139.2	1.090	1.697	127.8
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
HUMBOLDT	2010	745.1	2.892	1.687	257.6
HUMBOLDT	2011	762.1	2.437	2.282	312.8
HUMBOLDT	2012	387.3	1.918	4.660	201.9
HUMBOLDT	2013	344.6	1.552	2.627	222.0
HUMBOLDT	2014	350.5	1.528	1.941	229.4
HUMBOLDT	2015	738.9	2.388	2.739	309.4
HUMBOLDT	2016	251.0	1.757	2.100	142.9
HUMBOLDT	2017	955.5	2.526	3.513	378.2
HUMBOLDT	2018	445.7	2.278	1.590	195.7
HUMBOLDT	2019	7,020.0	4.756	2.474	1,476.1
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
KERN	2010	152.4	1.265	1.582	120.5
KERN	2011	190.1	1.356	1.617	140.2
KERN	2012	105.9	1.071	1.225	98.9
KERN	2013	101.7	1.138	1.232	89.4
KERN	2014	127.0	1.198	1.853	106.0
KERN	2015	104.5	1.022	1.929	102.2
KERN	2016	101.9	0.998	2.078	102.1
KERN	2017	149.9	1.132	2.118	132.4
KERN	2018	83.3	0.859	1.930	97.0
KERN	2019	172.4	1.392	2.080	123.9
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
LOS PADRES	2010	293.2	1.826	2.048	160.6
LOS PADRES	2011	159.1	1.333	2.195	119.3
LOS PADRES	2012	121.2	1.116	1.659	108.6
LOS PADRES	2013	239.3	1.607	1.105	148.9
LOS PADRES	2014	201.8	1.322	1.354	152.6
LOS PADRES	2015	148.2	0.931	1.814	159.1
LOS PADRES	2016	130.2	1.255	1.674	103.7
LOS PADRES	2017	335.7	1.688	2.204	198.9
LOS PADRES	2018	166.1	1.459	1.173	113.8
LOS PADRES	2019	261.0	1.670	1.134	156.4

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
MISSION	2010	123.0	1.043	0.794	117.9
MISSION	2011	88.5	0.937	0.656	94.4
MISSION	2012	106.1	0.991	0.862	107.2
MISSION	2013	89.4	0.878	0.837	101.9
MISSION	2014	82.7	0.812	0.820	101.9
MISSION	2015	71.7	0.654	1.152	109.6
MISSION	2016	95.2	0.828	0.972	114.9
MISSION	2017	149.1	1.074	1.574	138.8
MISSION	2018	79.5	0.738	0.984	107.6
MISSION	2019	307.2	1.013	0.940	303.2
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
NORTH BAY	2010	182.4	1.321	1.401	138.0
NORTH BAY	2011	243.9	1.501	1.231	162.4
NORTH BAY	2012	164.4	1.046	1.950	157.2
NORTH BAY	2013	146.4	1.144	1.731	127.9
NORTH BAY	2014	253.7	1.352	2.724	187.7
NORTH BAY	2015	156.3	1.171	2.162	133.5
NORTH BAY	2016	133.5	1.040	1.436	128.3
NORTH BAY	2017	752.8	1.840	2.929	409.0
NORTH BAY	2018	204.7	1.145	2.014	178.9
NORTH BAY	2019	3,551.4	3.321	2.276	1,069.4
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
NORTH VALLEY	2010	609.0	2.007	2.001	303.4
NORTH VALLEY	2011	703.7	2.334	2.138	301.5
NORTH VALLEY	2012	543.0	2.004	2.951	271.0
NORTH VALLEY	2013	178.4	1.250	1.975	142.7
NORTH VALLEY	2014	212.2	1.302	1.816	163.0
NORTH VALLEY	2015	505.6	1.920	2.536	263.4
NORTH VALLEY	2016	194.4	1.357	2.195	143.3
NORTH VALLEY	2017	417.4	1.760	3.208	237.1
NORTH VALLEY	2018	4,231.1	1.774	1.498	2,385.7
NORTH VALLEY	2019	4,987.7	4.224	2.515	1,180.7
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
PENINSULA	2010	184.7	1.635	1.475	112.9
PENINSULA	2011	131.7	1.279	0.939	102.9
PENINSULA	2012	114.8	1.200	1.710	95.7
PENINSULA	2013	106.8	0.946	1.322	112.9
PENINSULA	2014	110.7	1.129	1.363	98.1
PENINSULA	2015	90.5	0.941	1.798	96.2
PENINSULA	2016	102.6	1.065	1.383	96.3
PENINSULA	2017	181.4	1.394	2.546	130.1
PENINSULA	2018	106.1	0.991	1.382	107.0
PENINSULA	2019	772.3	1.667	1.646	463.3

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SACRAMENTO	2010	215.9	1.222	1.427	176.6
SACRAMENTO	2011	209.6	1.327	1.900	157.9
SACRAMENTO	2012	181.0	1.484	2.146	121.9
SACRAMENTO	2013	122.6	1.121	1.699	109.4
SACRAMENTO	2014	126.2	1.020	1.437	123.7
SACRAMENTO	2015	113.0	1.009	1.776	112.0
SACRAMENTO	2016	118.5	1.133	1.810	104.6
SACRAMENTO	2017	300.0	1.970	3.292	152.3
SACRAMENTO	2018	134.3	1.190	1.999	112.8
SACRAMENTO	2019	686.8	1.761	2.349	390.1
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SAN FRANCISCO	2010	67.8	0.771	0.086	88.0
SAN FRANCISCO	2011	58.8	0.621	0.217	94.6
SAN FRANCISCO	2012	61.6	0.673	1.051	91.5
SAN FRANCISCO	2013	64.8	0.708	0.332	91.6
SAN FRANCISCO	2014	141.7	0.858	0.353	165.1
SAN FRANCISCO	2015	44.2	0.569	0.553	77.7
SAN FRANCISCO	2016	49.7	0.597	0.398	83.3
SAN FRANCISCO	2017	127.0	0.906	0.553	140.3
SAN FRANCISCO	2018	62.2	0.506	0.334	123.0
SAN FRANCISCO	2019	104.8	0.817	0.363	128.3
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SAN JOSE	2010	125.2	1.035	0.595	120.9
SAN JOSE	2011	131.6	1.080	0.794	121.9
SAN JOSE	2012	102.9	0.946	0.980	108.8
SAN JOSE	2013	121.4	1.087	1.039	111.6
SAN JOSE	2014	120.0	1.107	1.071	108.4
SAN JOSE	2015	90.2	0.873	1.164	103.4
SAN JOSE	2016	80.8	0.753	1.203	107.2
SAN JOSE	2017	201.1	1.342	1.945	149.8
SAN JOSE	2018	112.1	0.986	1.524	113.7
SAN JOSE	2019	290.8	1.154	1.431	252.0
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SIERRA	2010	808.8	2.416	1.607	334.8
SIERRA	2011	1,088.2	2.414	2.891	450.8
SIERRA	2012	268.7	1.586	3.226	169.4
SIERRA	2013	173.0	1.503	3.257	115.1
SIERRA	2014	208.2	1.478	2.419	140.9
SIERRA	2015	197.3	1.378	3.224	143.2
SIERRA	2016	188.4	1.341	1.887	140.4
SIERRA	2017	641.5	2.193	3.188	292.4
SIERRA	2018	445.6	1.692	1.515	263.3
SIERRA	2019	5,903.5	4.366	2.630	1,352.1

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SONOMA	2010	244.0	1.523	1.017	160.2
SONOMA	2011	286.4	1.435	1.532	199.6
SONOMA	2012	234.5	1.238	2.030	189.5
SONOMA	2013	208.9	1.253	2.537	166.7
SONOMA	2014	239.4	1.395	2.050	171.6
SONOMA	2015	140.7	0.985	1.993	142.8
SONOMA	2016	114.5	0.931	1.605	123.0
SONOMA	2017	1,868.6	2.064	2.950	905.3
SONOMA	2018	150.5	1.153	1.279	130.5
SONOMA	2019	3,932.6	2.802	1.786	1,403.7
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
STOCKTON	2010	408.9	1.806	1.603	226.4
STOCKTON	2011	502.3	1.882	1.182	266.9
STOCKTON	2012	193.6	1.290	2.101	150.1
STOCKTON	2013	134.6	1.558	2.138	86.4
STOCKTON	2014	136.3	0.918	1.446	148.6
STOCKTON	2015	135.0	1.105	2.249	122.1
STOCKTON	2016	118.1	1.087	1.778	108.7
STOCKTON	2017	289.5	1.718	1.952	168.5
STOCKTON	2018	239.2	1.232	2.017	194.1
STOCKTON	2019	1,602.7	2.465	1.920	650.1
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
YOSEMITE	2010	737.9	2.112	3.164	349.4
YOSEMITE	2011	1,201.6	2.107	2.632	570.3
YOSEMITE	2012	166.1	1.400	4.173	118.6
YOSEMITE	2013	204.0	1.436	3.432	142.1
YOSEMITE	2014	147.6	1.350	2.675	109.3
YOSEMITE	2015	130.6	1.162	3.098	112.4
YOSEMITE	2016	147.9	1.333	2.164	111.0
YOSEMITE	2017	323.8	1.796	3.083	180.2
YOSEMITE	2018	190.6	1.544	1.871	123.5
YOSEMITE	2019	1,427.0	2.770	2.689	515.1
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SYSTEM	2010	277.7	1.496	1.489	185.6
SYSTEM	2011	312.5	1.402	1.478	222.9
SYSTEM	2012	161.4	1.224	1.921	131.9
SYSTEM	2013	137.3	1.171	1.637	117.3
SYSTEM	2014	149.4	1.133	1.567	131.9
SYSTEM	2015	147.2	1.052	1.820	139.9
SYSTEM	2016	121.9	1.103	1.603	110.6
SYSTEM	2017	374.2	1.549	2.406	241.6
SYSTEM	2018	306.1	1.175	1.551	260.4
SYSTEM	2019	1,397.3	1.997	1.794	699.5

b. System and Division Indices Based on IEEE 1366 for the past 10 years including Planned Outages and excluding ISO, and MED

Table 200:

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
CENTRAL COAST	2010	210.4	1.677	2.932	125.4
CENTRAL COAST	2011	198.9	1.670	1.590	119.1
CENTRAL COAST	2012	159.7	1.348	2.197	118.5
CENTRAL COAST	2013	145.9	1.445	1.971	101.0
CENTRAL COAST	2014	136.9	1.168	1.835	117.2
CENTRAL COAST	2015	118.6	0.934	1.847	126.9
CENTRAL COAST	2016	180.2	1.548	2.485	116.4
CENTRAL COAST	2017	157.8	1.352	2.828	116.7
CENTRAL COAST	2018	193.0	1.582	2.485	122.0
CENTRAL COAST	2019	235.7	1.588	2.233	148.5
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
DE ANZA	2010	135.6	1.036	1.151	130.9
DE ANZA	2011	81.5	0.711	1.187	114.6
DE ANZA	2012	92.1	0.743	1.109	124.0
DE ANZA	2013	98.8	0.924	1.140	107.0
DE ANZA	2014	110.4	0.985	1.214	112.1
DE ANZA	2015	68.2	0.561	1.182	121.7
DE ANZA	2016	96.8	0.806	1.337	120.2
DE ANZA	2017	114.3	1.063	1.348	107.5
DE ANZA	2018	117.8	0.918	1.533	128.3
DE ANZA	2019	124.0	0.982	1.660	126.4
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
DIABLO	2010	127.2	1.326	1.217	95.9
DIABLO	2011	98.0	0.942	1.237	104.0
DIABLO	2012	120.9	1.295	1.365	93.4
DIABLO	2013	96.9	1.089	1.238	89.0
DIABLO	2014	80.9	0.973	1.220	83.1
DIABLO	2015	87.5	0.939	1.671	93.2
DIABLO	2016	95.2	1.107	1.701	86.0
DIABLO	2017	97.9	0.982	1.758	99.8
DIABLO	2018	110.7	1.168	1.852	94.7
DIABLO	2019	105.9	1.057	1.215	100.1
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
EAST BAY	2010	98.7	0.905	0.678	109.0
EAST BAY	2011	106.5	0.925	0.830	115.1
EAST BAY	2012	108.8	1.323	1.278	82.2
EAST BAY	2013	76.0	0.881	1.155	86.2
EAST BAY	2014	72.7	0.762	1.303	95.5
EAST BAY	2015	51.1	0.611	1.085	83.6
EAST BAY	2016	110.2	1.091	1.080	101.0
EAST BAY	2017	88.3	0.956	1.604	92.4
EAST BAY	2018	111.9	0.999	1.175	112.0
EAST BAY	2019	109.1	0.924	0.957	118.1

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
FRESNO	2010	143.6	1.158	1.847	124.0
FRESNO	2011	97.3	0.893	1.686	109.0
FRESNO	2012	119.8	1.136	2.323	105.5
FRESNO	2013	116.8	1.195	2.067	97.8
FRESNO	2014	98.6	1.069	1.710	92.3
FRESNO	2015	84.8	0.935	1.832	90.7
FRESNO	2016	97.5	1.184	1.955	82.4
FRESNO	2017	85.9	0.874	1.590	98.2
FRESNO	2018	87.3	0.955	1.509	91.4
FRESNO	2019	96.6	0.920	1.478	105.0
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
HUMBOLDT	2010	564.5	2.504	1.506	225.4
HUMBOLDT	2011	439.7	1.912	1.888	230.0
HUMBOLDT	2012	325.7	1.730	4.335	188.2
HUMBOLDT	2013	250.5	1.305	2.437	191.9
HUMBOLDT	2014	274.3	1.377	1.810	199.3
HUMBOLDT	2015	319.8	1.774	2.426	180.2
HUMBOLDT	2016	234.5	1.657	2.040	141.6
HUMBOLDT	2017	310.5	1.469	2.283	211.4
HUMBOLDT	2018	268.7	1.921	1.522	139.9
HUMBOLDT	2019	392.2	1.989	1.884	197.2
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
KERN	2010	135.1	1.143	1.423	118.2
KERN	2011	132.7	1.062	1.340	125.0
KERN	2012	104.7	1.053	1.224	99.5
KERN	2013	97.9	1.092	1.138	89.6
KERN	2014	99.1	1.024	1.640	96.7
KERN	2015	92.8	0.938	1.855	99.0
KERN	2016	101.3	0.982	2.071	103.1
KERN	2017	88.5	0.790	1.549	112.0
KERN	2018	82.4	0.852	1.902	96.7
KERN	2019	116.1	1.163	1.744	99.8
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
LOS PADRES	2010	126.6	1.239	1.725	102.2
LOS PADRES	2011	113.5	1.073	1.667	105.8
LOS PADRES	2012	120.5	1.113	1.652	108.3
LOS PADRES	2013	113.3	0.837	0.961	135.3
LOS PADRES	2014	110.1	1.125	1.135	97.8
LOS PADRES	2015	88.1	0.773	1.438	113.9
LOS PADRES	2016	128.4	1.230	1.672	104.4
LOS PADRES	2017	126.3	1.054	1.511	119.8
LOS PADRES	2018	154.5	1.325	1.080	116.6
LOS PADRES	2019	184.0	1.319	0.798	139.5

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
MISSION	2010	113.2	0.965	0.723	117.3
MISSION	2011	76.9	0.847	0.586	90.8
MISSION	2012	103.4	0.965	0.861	107.2
MISSION	2013	83.7	0.809	0.776	103.6
MISSION	2014	71.8	0.732	0.771	98.2
MISSION	2015	65.6	0.601	1.055	109.3
MISSION	2016	85.1	0.766	0.927	111.1
MISSION	2017	71.1	0.664	1.082	107.1
MISSION	2018	74.3	0.710	0.952	104.7
MISSION	2019	77.0	0.732	0.694	105.2
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
NORTH BAY	2010	154.5	1.123	1.294	137.5
NORTH BAY	2011	150.6	1.239	1.094	121.5
NORTH BAY	2012	133.7	0.916	1.647	146.0
NORTH BAY	2013	133.8	1.057	1.456	126.5
NORTH BAY	2014	132.9	0.974	2.509	136.4
NORTH BAY	2015	117.9	1.014	1.978	116.2
NORTH BAY	2016	107.2	0.887	1.210	120.8
NORTH BAY	2017	167.7	1.033	1.864	162.3
NORTH BAY	2018	156.0	1.082	1.948	144.2
NORTH BAY	2019	180.8	1.449	1.652	124.8
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
NORTH VALLEY	2010	213.6	1.384	1.836	154.3
NORTH VALLEY	2011	239.3	1.517	1.562	157.7
NORTH VALLEY	2012	251.8	1.622	2.581	155.3
NORTH VALLEY	2013	157.8	1.192	1.917	132.4
NORTH VALLEY	2014	150.0	1.092	1.559	137.3
NORTH VALLEY	2015	158.7	1.195	1.938	132.9
NORTH VALLEY	2016	165.7	1.220	1.959	135.9
NORTH VALLEY	2017	130.9	0.949	2.053	138.0
NORTH VALLEY	2018	218.6	1.510	1.430	144.8
NORTH VALLEY	2019	277.6	1.752	1.473	158.5
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
PENINSULA	2010	138.9	1.395	1.060	99.6
PENINSULA	2011	102.7	1.131	0.782	90.8
PENINSULA	2012	100.4	1.054	1.529	95.3
PENINSULA	2013	82.5	0.845	1.114	97.6
PENINSULA	2014	89.4	0.965	1.164	92.7
PENINSULA	2015	74.8	0.826	1.602	90.6
PENINSULA	2016	94.4	0.984	1.197	96.0
PENINSULA	2017	75.6	0.704	1.307	107.3
PENINSULA	2018	99.7	0.940	1.328	106.0
PENINSULA	2019	124.2	0.920	0.983	135.0

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SACRAMENTO	2010	141.3	0.982	1.086	143.9
SACRAMENTO	2011	135.2	1.114	1.696	121.4
SACRAMENTO	2012	158.4	1.344	1.973	117.9
SACRAMENTO	2013	117.2	1.075	1.568	109.1
SACRAMENTO	2014	112.4	0.913	1.258	123.1
SACRAMENTO	2015	100.7	0.913	1.561	110.3
SACRAMENTO	2016	102.6	1.042	1.545	98.5
SACRAMENTO	2017	137.9	1.168	1.777	118.1
SACRAMENTO	2018	126.6	1.152	1.889	110.0
SACRAMENTO	2019	114.3	0.939	1.575	121.8
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SAN FRANCISCO	2010	60.7	0.713	0.067	85.1
SAN FRANCISCO	2011	55.0	0.590	0.211	93.1
SAN FRANCISCO	2012	57.0	0.632	1.009	90.1
SAN FRANCISCO	2013	58.8	0.655	0.303	89.8
SAN FRANCISCO	2014	52.2	0.535	0.236	97.5
SAN FRANCISCO	2015	41.8	0.551	0.516	75.8
SAN FRANCISCO	2016	48.7	0.577	0.356	84.4
SAN FRANCISCO	2017	46.5	0.543	0.402	85.6
SAN FRANCISCO	2018	58.9	0.466	0.305	126.5
SAN FRANCISCO	2019	88.4	0.707	0.259	125.0
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SAN JOSE	2010	91.0	0.873	0.525	104.2
SAN JOSE	2011	119.2	0.990	0.686	120.4
SAN JOSE	2012	98.3	0.895	0.953	109.8
SAN JOSE	2013	118.2	1.039	0.979	113.7
SAN JOSE	2014	96.8	0.935	1.031	103.6
SAN JOSE	2015	80.4	0.787	1.020	102.3
SAN JOSE	2016	77.4	0.719	1.155	107.6
SAN JOSE	2017	92.9	0.837	1.276	111.0
SAN JOSE	2018	110.1	0.972	1.497	113.3
SAN JOSE	2019	96.1	0.815	1.262	117.8
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SIERRA	2010	227.9	1.461	1.163	156.0
SIERRA	2011	232.8	1.387	1.528	167.8
SIERRA	2012	207.8	1.427	2.908	145.7
SIERRA	2013	125.9	1.370	3.120	91.9
SIERRA	2014	155.5	1.277	2.198	121.8
SIERRA	2015	138.4	1.218	2.887	113.6
SIERRA	2016	135.8	1.118	1.728	121.4
SIERRA	2017	176.3	1.308	1.903	134.8
SIERRA	2018	198.9	1.482	1.413	134.3
SIERRA	2019	239.3	1.408	1.555	170.0

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SONOMA	2010	190.2	1.270	0.818	149.8
SONOMA	2011	143.2	1.045	1.341	137.0
SONOMA	2012	143.5	1.024	1.730	140.1
SONOMA	2013	140.4	0.979	2.257	143.5
SONOMA	2014	138.2	1.024	1.588	135.0
SONOMA	2015	94.3	0.790	1.535	119.5
SONOMA	2016	107.7	0.887	1.508	121.3
SONOMA	2017	139.0	0.998	1.592	139.3
SONOMA	2018	148.0	1.134	1.239	130.5
SONOMA	2019	202.3	1.325	1.358	152.7
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
STOCKTON	2010	188.8	1.406	1.402	134.3
STOCKTON	2011	209.0	1.350	0.898	154.9
STOCKTON	2012	118.3	1.113	1.978	106.3
STOCKTON	2013	125.3	1.522	2.026	82.3
STOCKTON	2014	118.3	0.823	1.311	143.7
STOCKTON	2015	106.5	0.944	1.952	112.8
STOCKTON	2016	102.1	0.994	1.664	102.7
STOCKTON	2017	102.3	1.033	1.282	99.1
STOCKTON	2018	121.8	1.115	1.896	109.3
STOCKTON	2019	196.8	1.372	1.146	143.5
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
YOSEMITE	2010	252.8	1.570	2.598	161.0
YOSEMITE	2011	237.2	1.401	1.811	169.4
YOSEMITE	2012	159.2	1.361	4.093	117.0
YOSEMITE	2013	202.6	1.418	3.262	142.8
YOSEMITE	2014	129.6	1.286	2.452	100.8
YOSEMITE	2015	120.4	1.073	2.641	112.2
YOSEMITE	2016	141.3	1.277	2.032	110.6
YOSEMITE	2017	155.5	1.242	2.168	125.2
YOSEMITE	2018	171.4	1.433	1.808	119.6
YOSEMITE	2019	186.4	1.584	1.607	117.7
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SYSTEM	2010	157.2	1.207	1.254	130.3
SYSTEM	2011	141.7	1.097	1.170	129.3
SYSTEM	2012	131.0	1.130	1.800	115.9
SYSTEM	2013	116.1	1.070	1.527	108.5
SYSTEM	2014	108.4	0.966	1.396	112.2
SYSTEM	2015	95.9	0.871	1.594	110.1
SYSTEM	2016	108.9	1.021	1.494	106.7
SYSTEM	2017	113.4	0.958	1.568	118.3
SYSTEM	2018	126.3	1.079	1.479	117.0
SYSTEM	2019	148.8	1.129	1.282	131.9

c. Charts for System and Division Indices Based on IEEE 1366 for the past 10 years including Planned Outages and including and excluding MED

i. Charts for System and Division Reliability Indices based on IEEE 1366 for the past 10 years with linear trend line, and including planned outages and excluding ISO, and MED

1. SAIDI Performance Results (MED Excluded)

Chart 204: Division Reliability – AIDI Indices

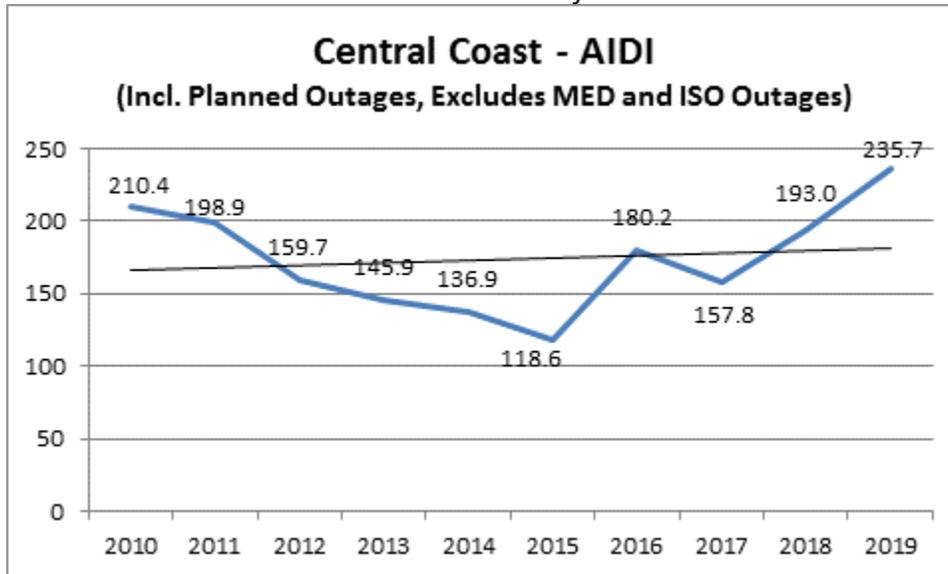


Chart 205: Division Reliability – AIDI Indices

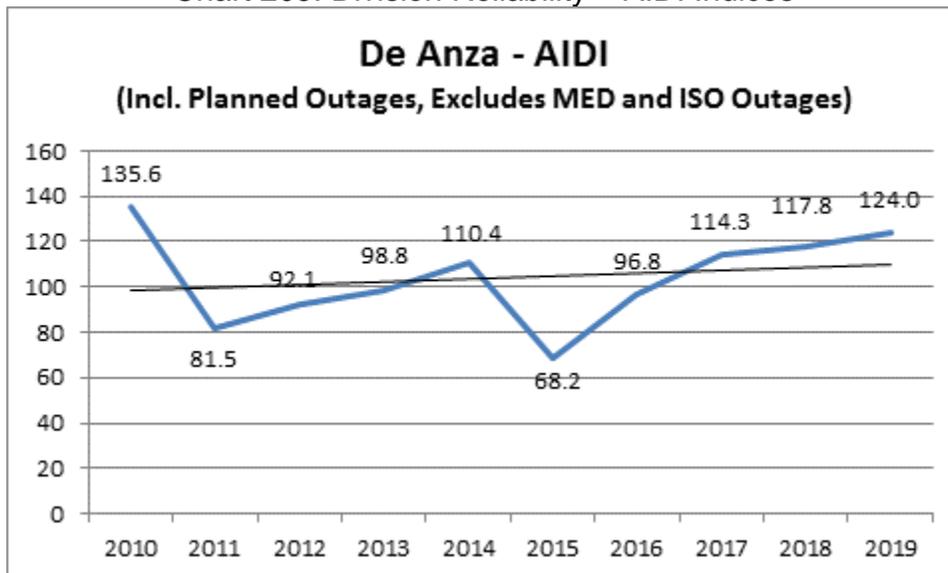


Chart 206: Division Reliability – AIDI Indices

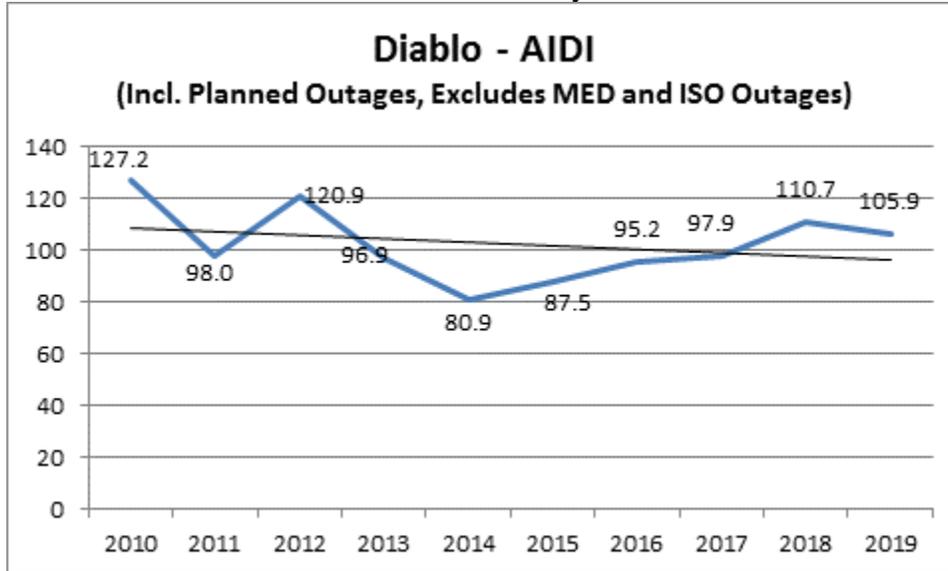


Chart 207: Division Reliability – AIDI Indices

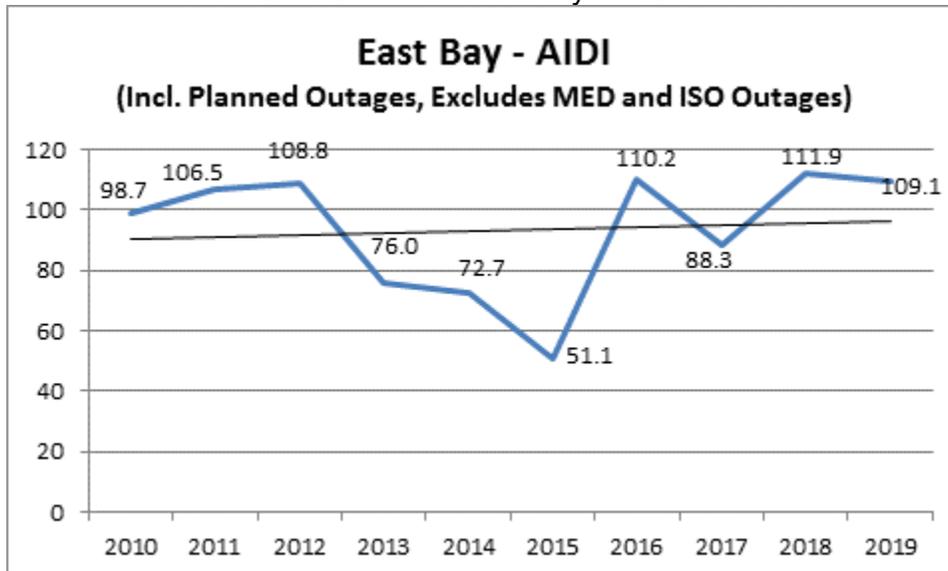


Chart 208: Division Reliability – AIDI Indices

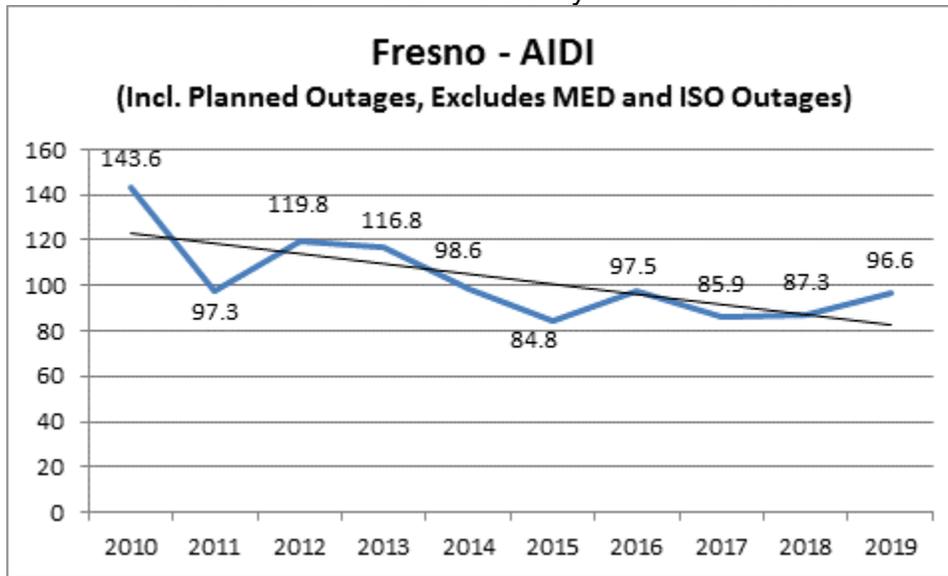


Chart 209: Division Reliability – AIDI Indices

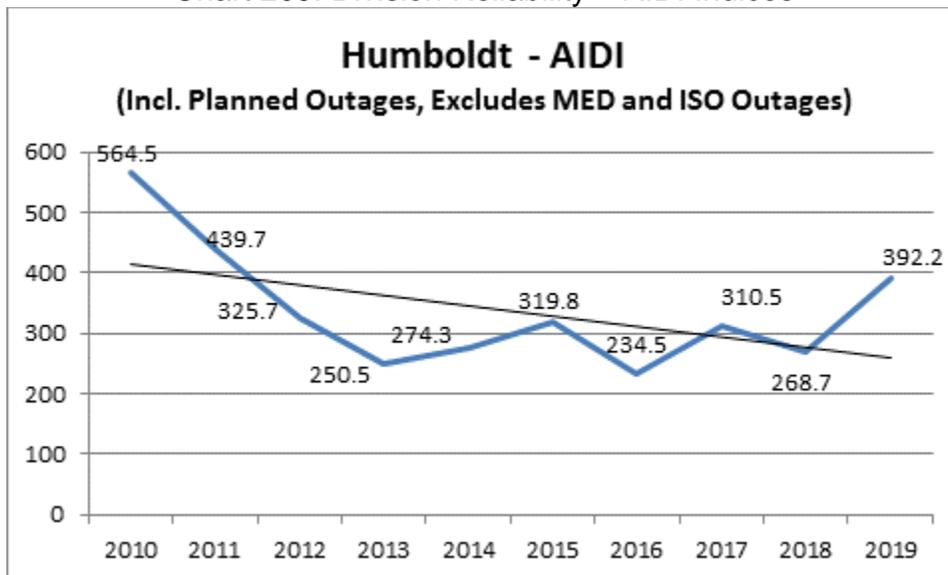


Chart 210: Division Reliability – AIDI Indices

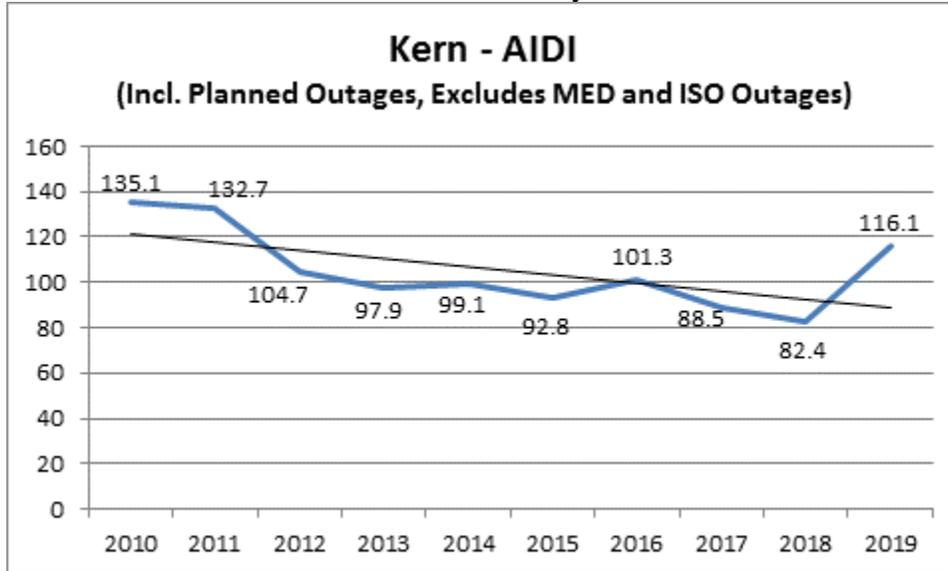


Chart 211: Division Reliability – AIDI Indices

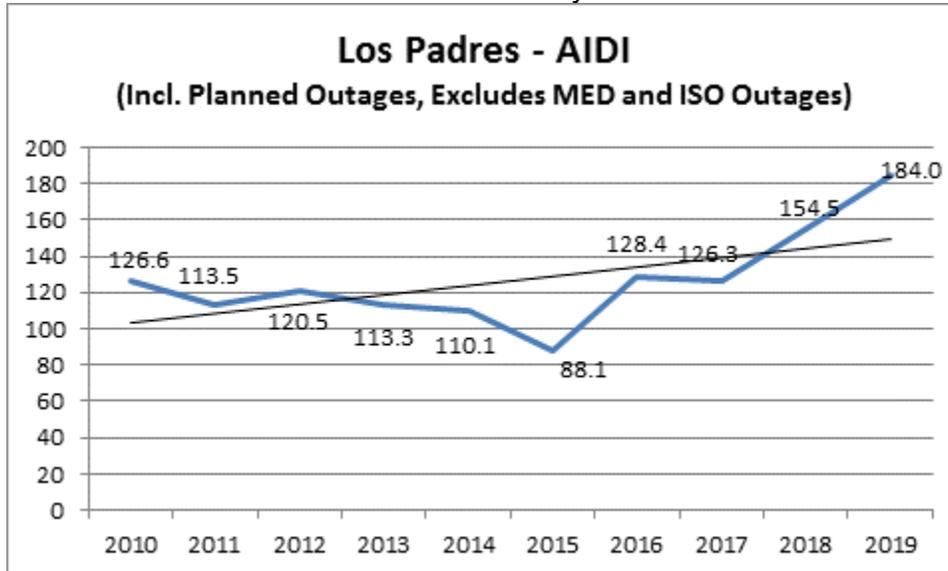


Chart 212: Division Reliability – AIDI Indices

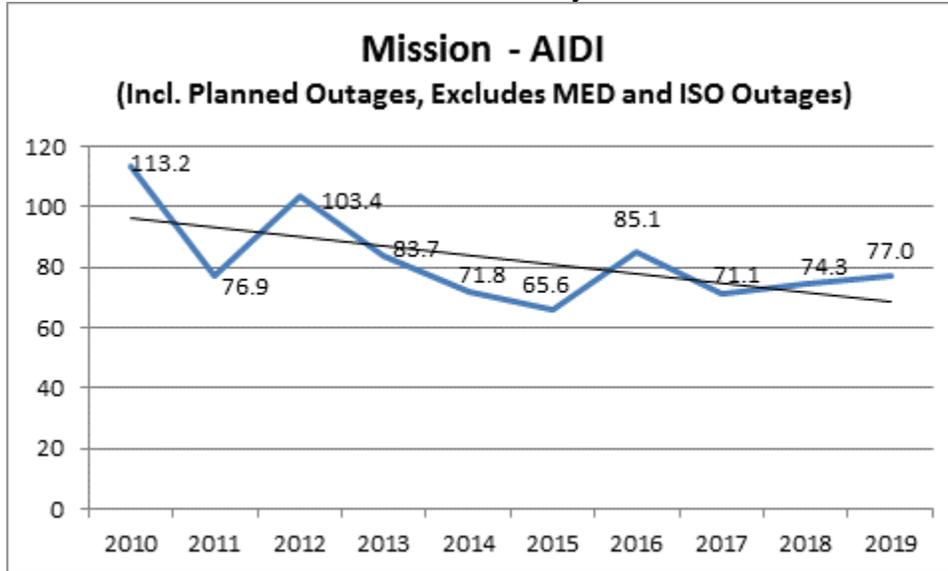


Chart 213: Division Reliability – AIDI Indices

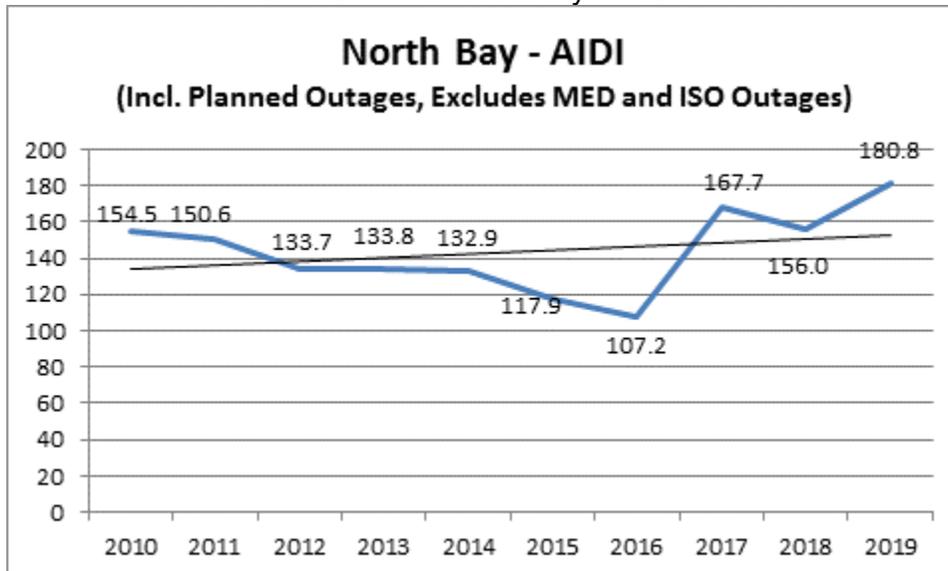


Chart 214: Division Reliability – AIDI Indices

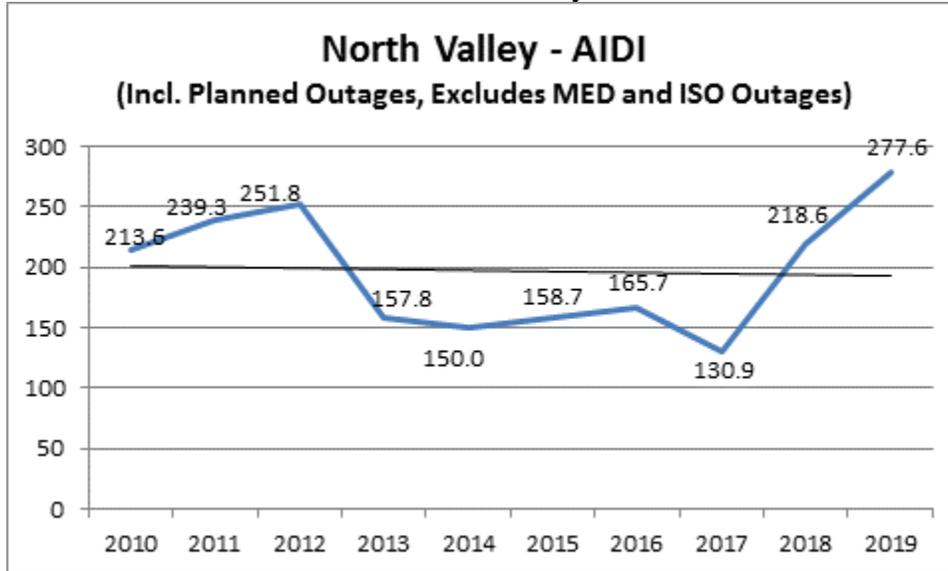


Chart 215: Division Reliability – AIDI Indices

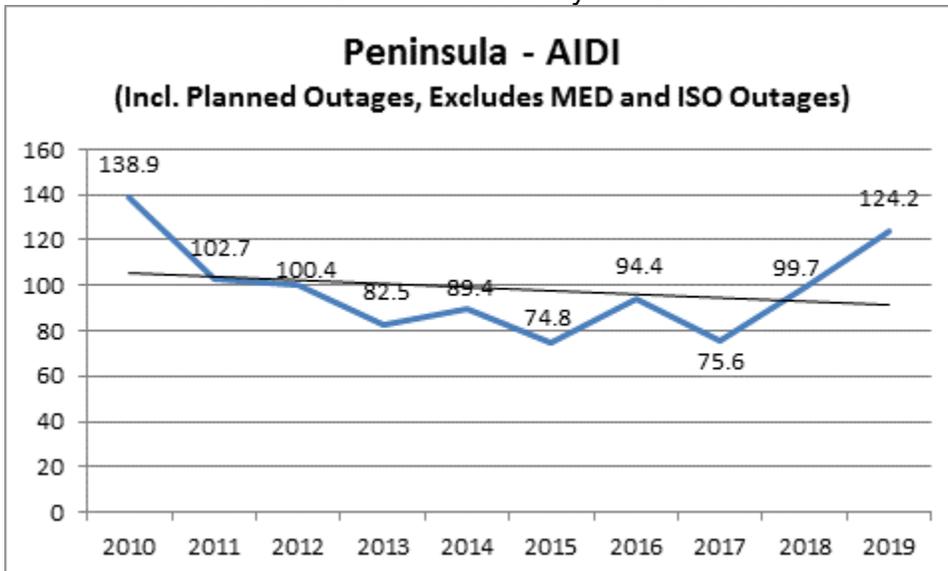


Chart 216: Division Reliability – AIDI Indices

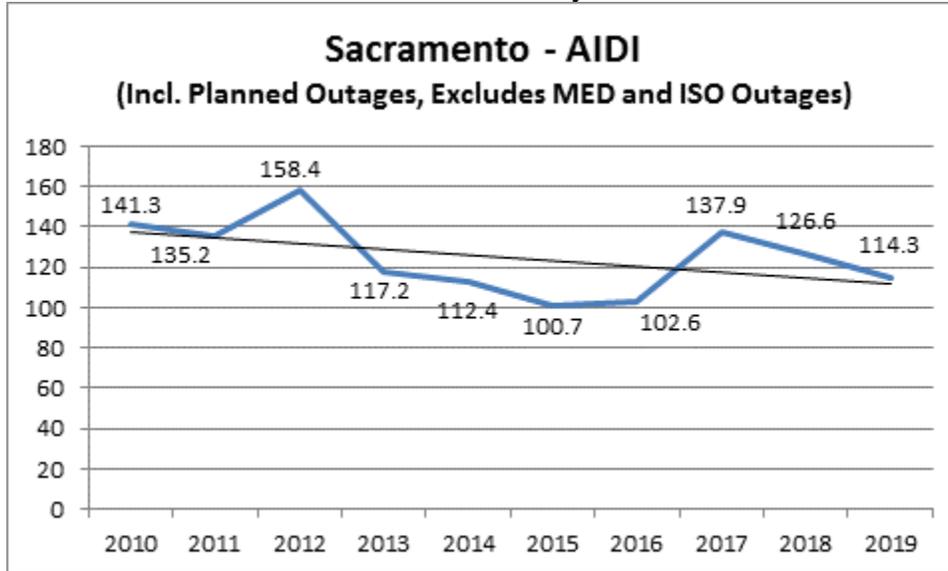


Chart 217: Division Reliability – AIDI Indices

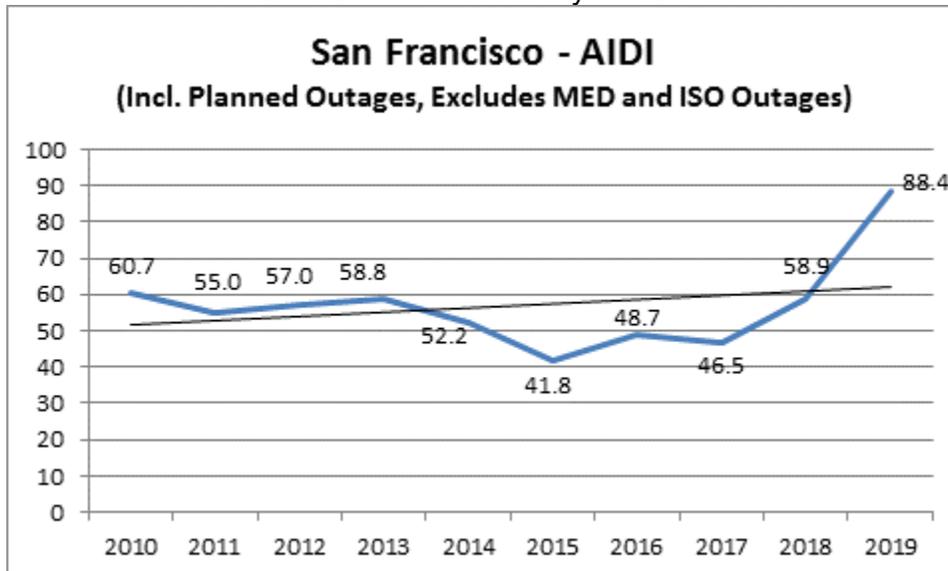


Chart 218: Division Reliability – AIDI Indices

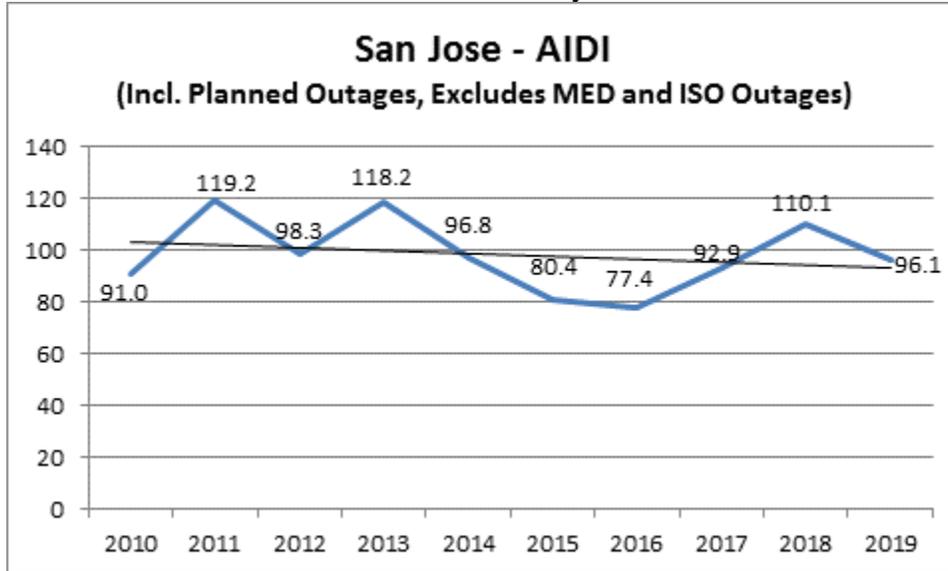


Chart 219: Division Reliability – AIDI Indices

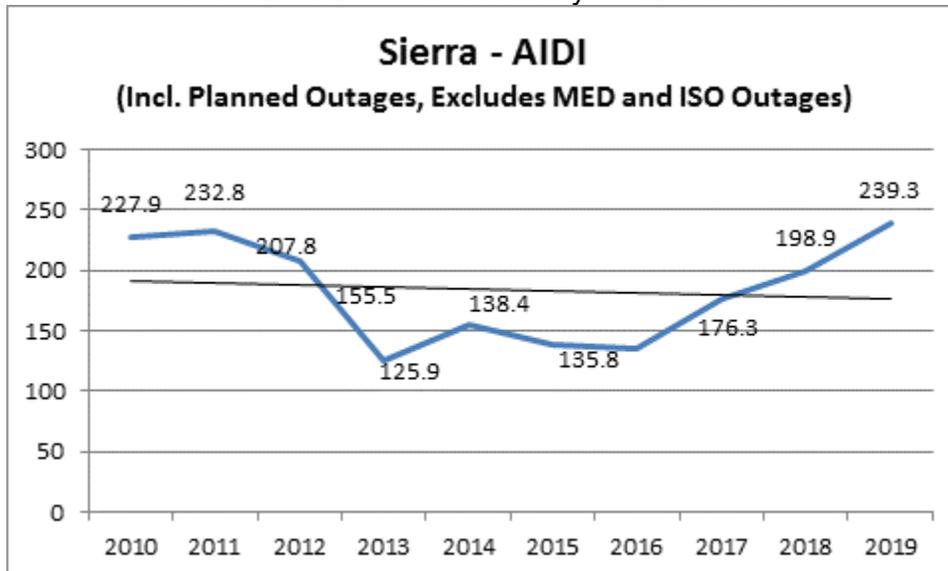


Chart 220: Division Reliability – AIDI Indices

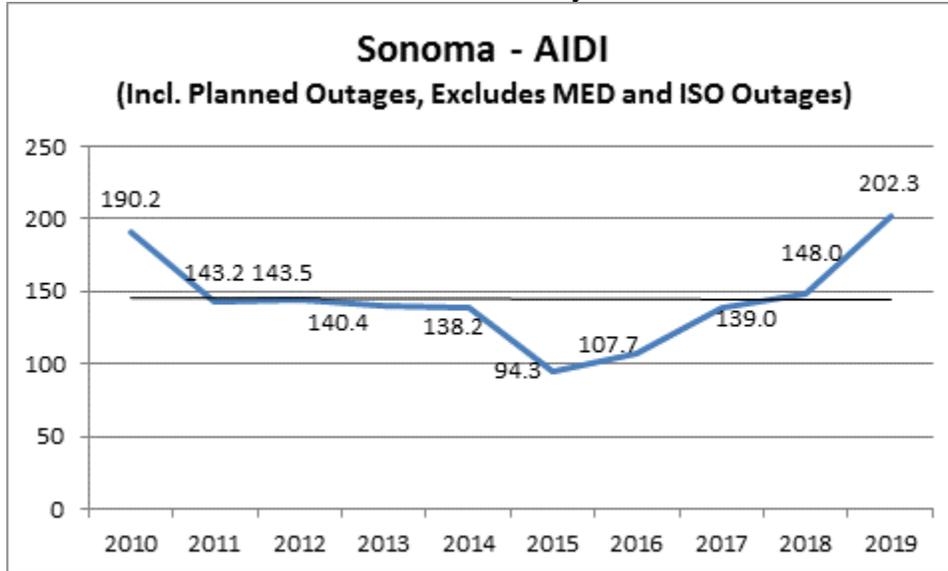


Chart 221: Division Reliability – AIDI Indices

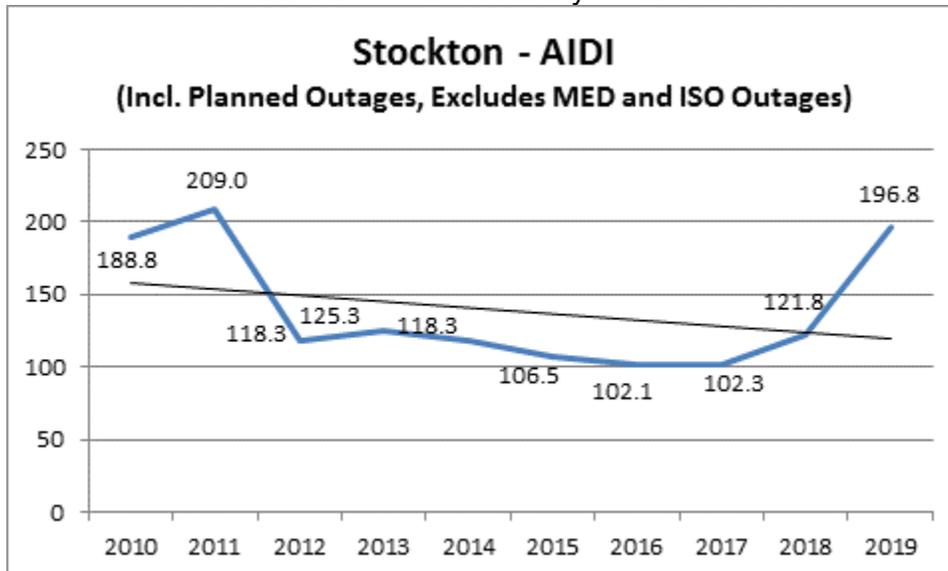


Chart 222: Division Reliability – AIDI Indices

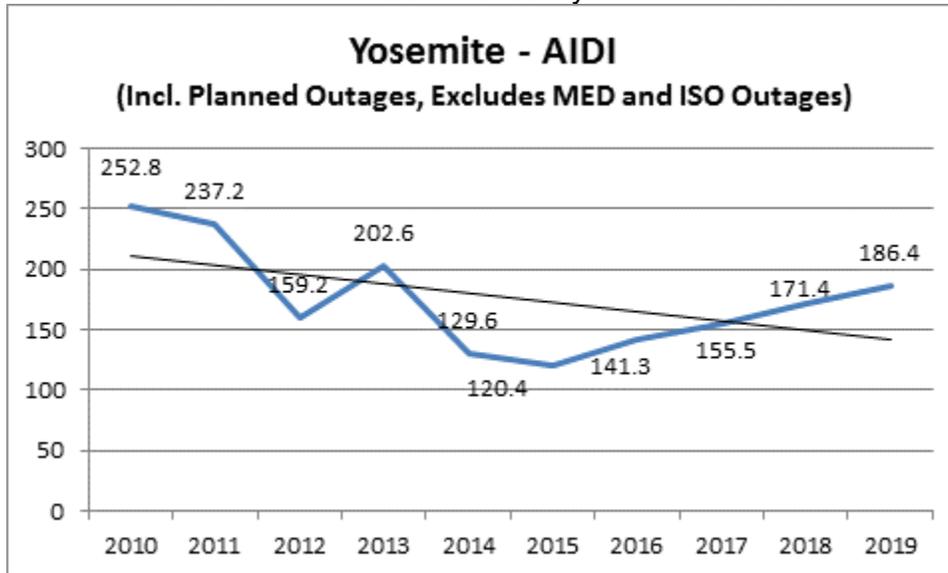
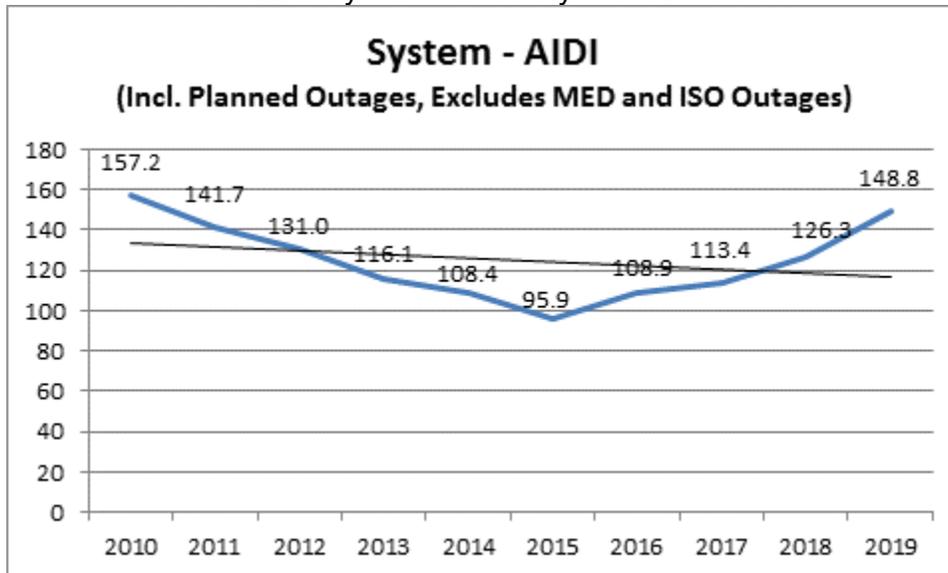


Chart 223: System Reliability – SAIDI Indices



2. SAIFI Performance Results (MED Excluded)

Chart 224: Division Reliability – AIFI Indices

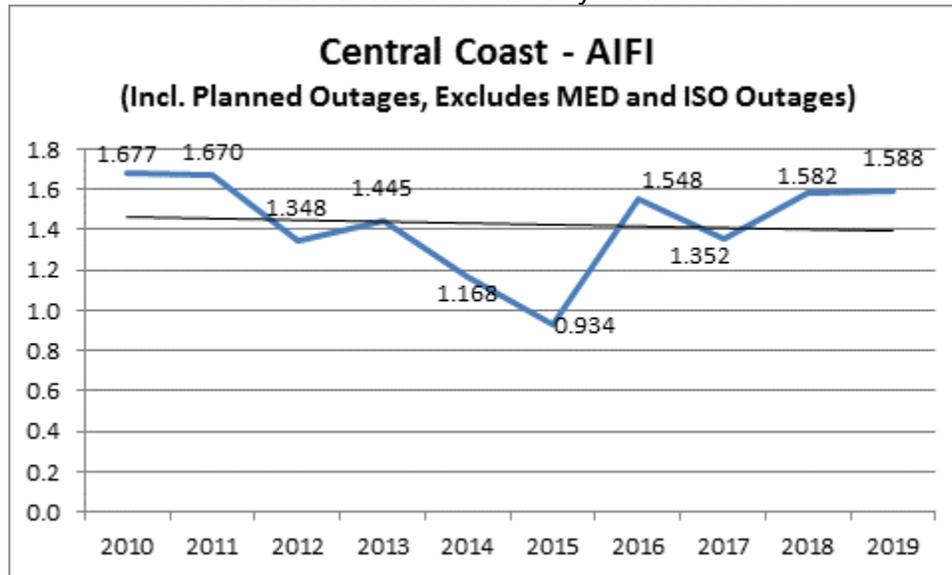


Chart 225: Division Reliability – AIFI Indices

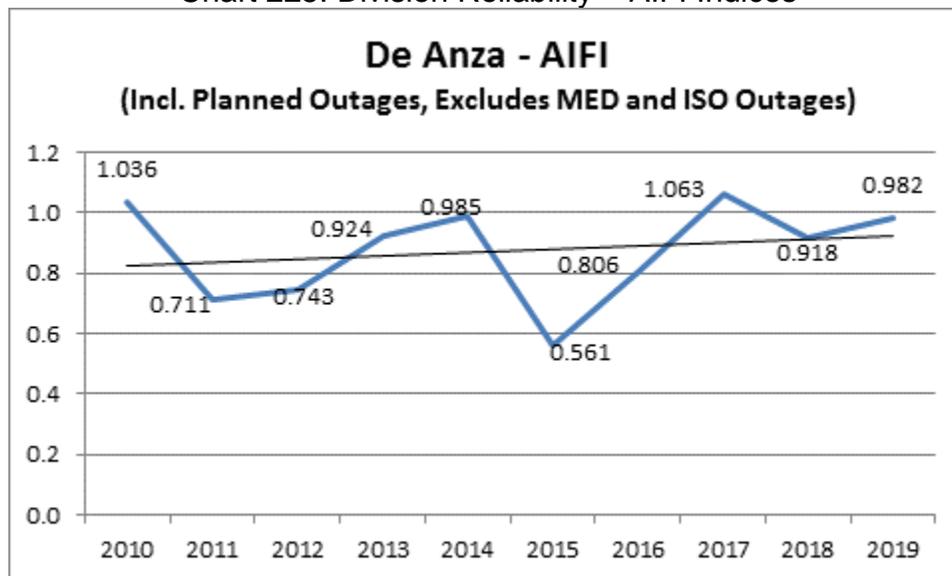


Chart 226: Division Reliability – AIFI Indices

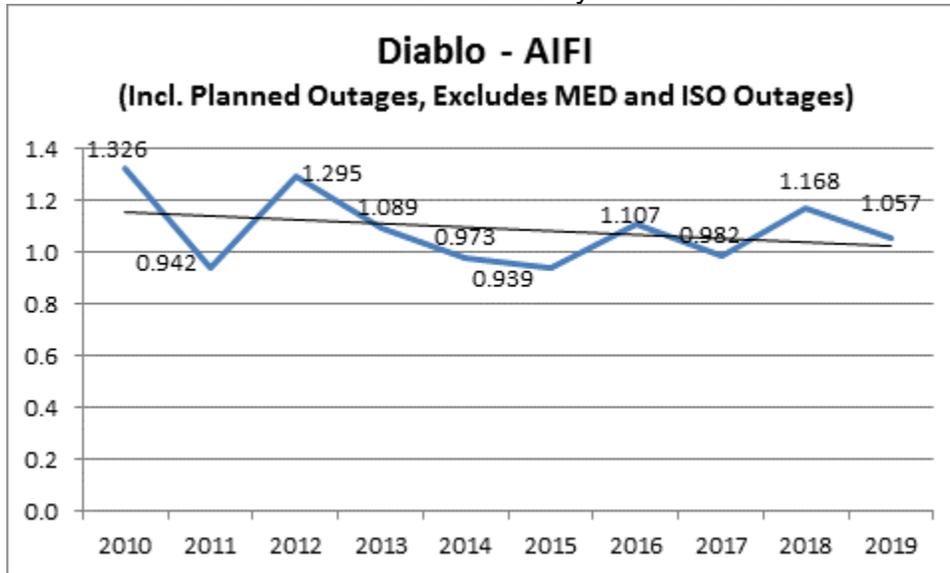


Chart 227: Division Reliability – AIFI Indices

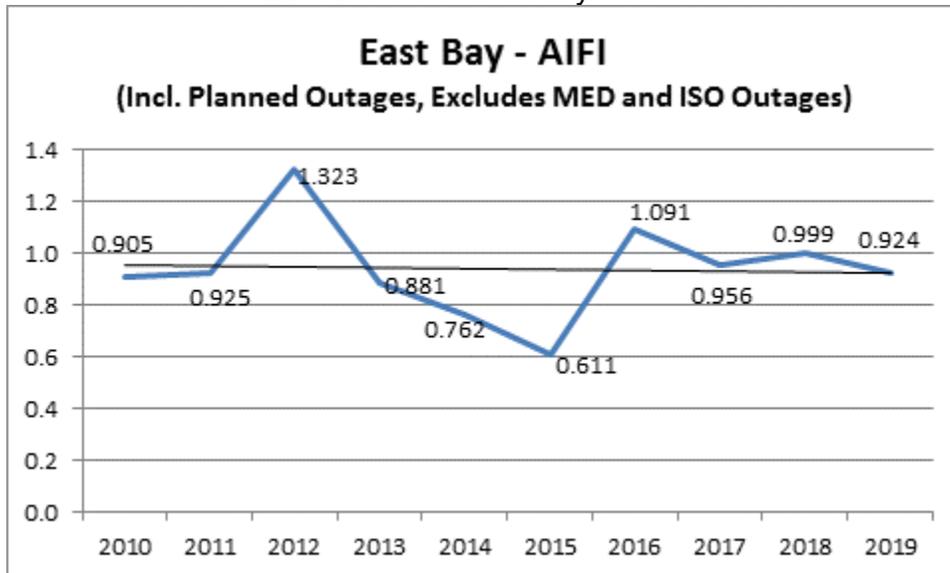


Chart 228: Division Reliability – AIFI Indices

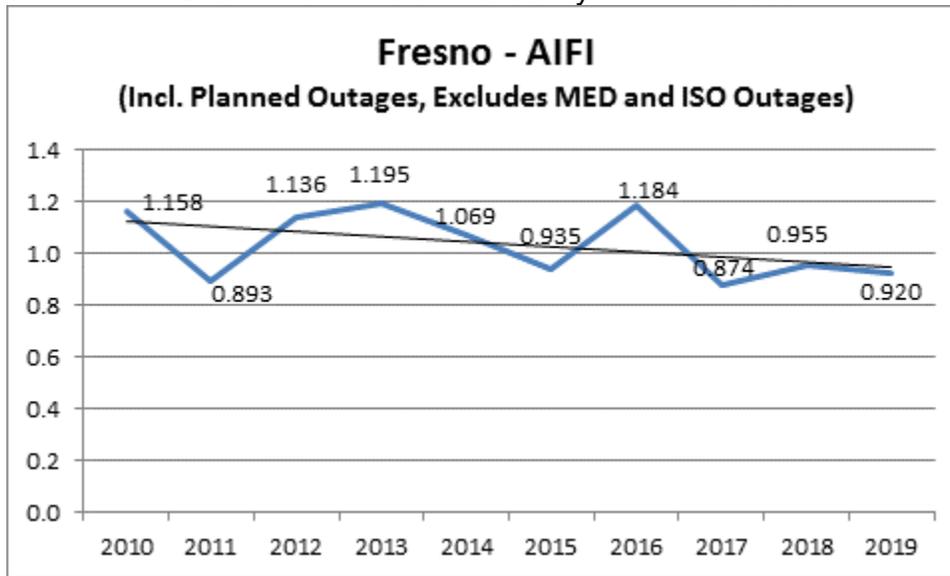


Chart 229: Division Reliability – AIFI Indices

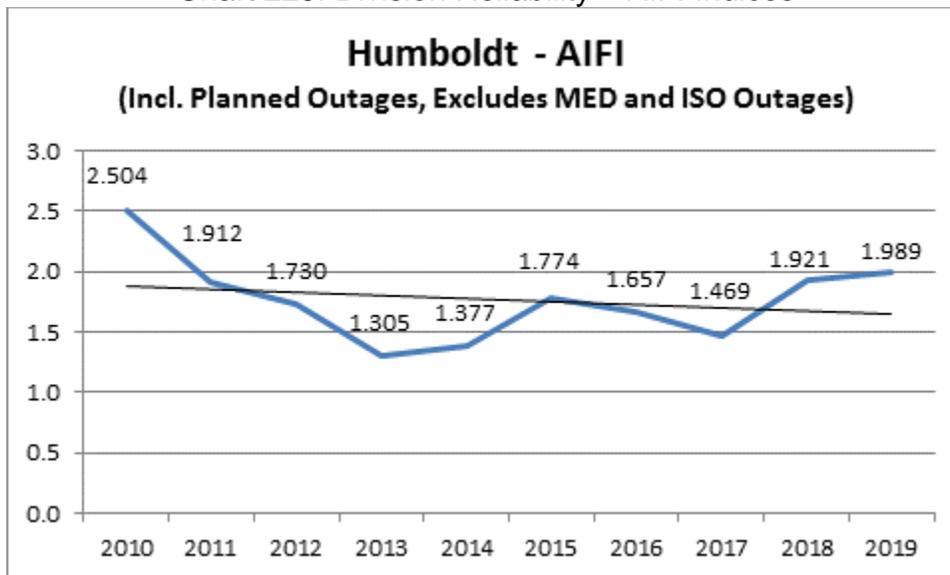


Chart 230: Division Reliability – AIFI Indices

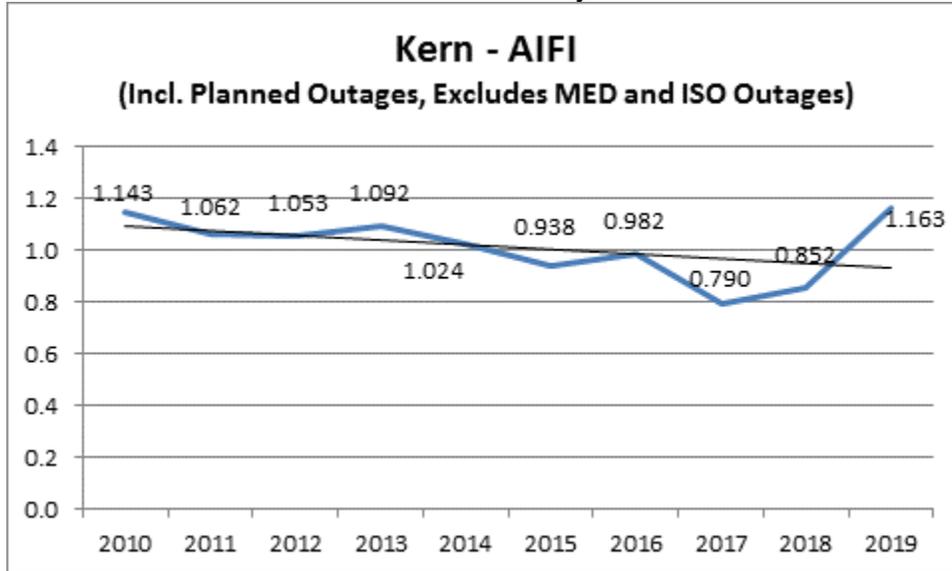


Chart 231: Division Reliability – AIFI Indices

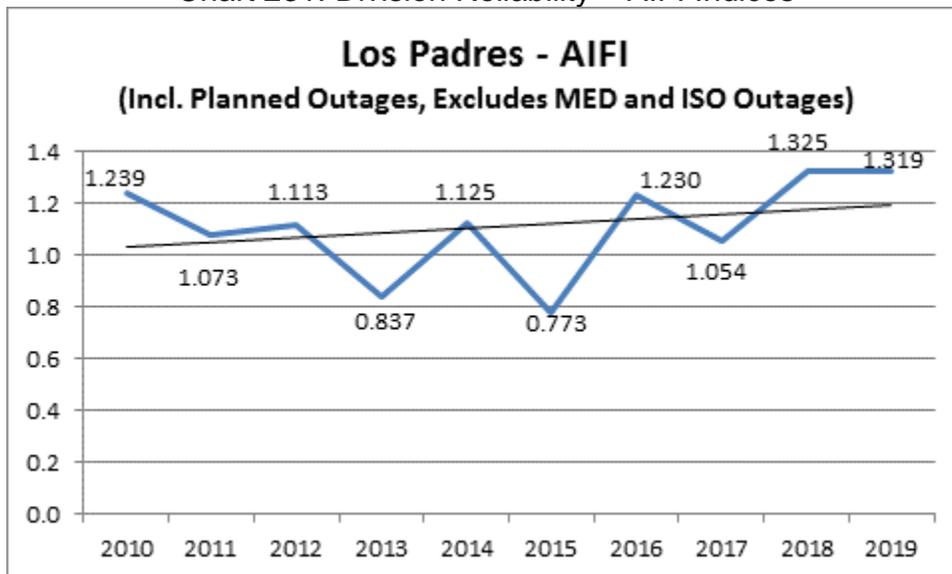


Chart 232: Division Reliability – AIFI Indices

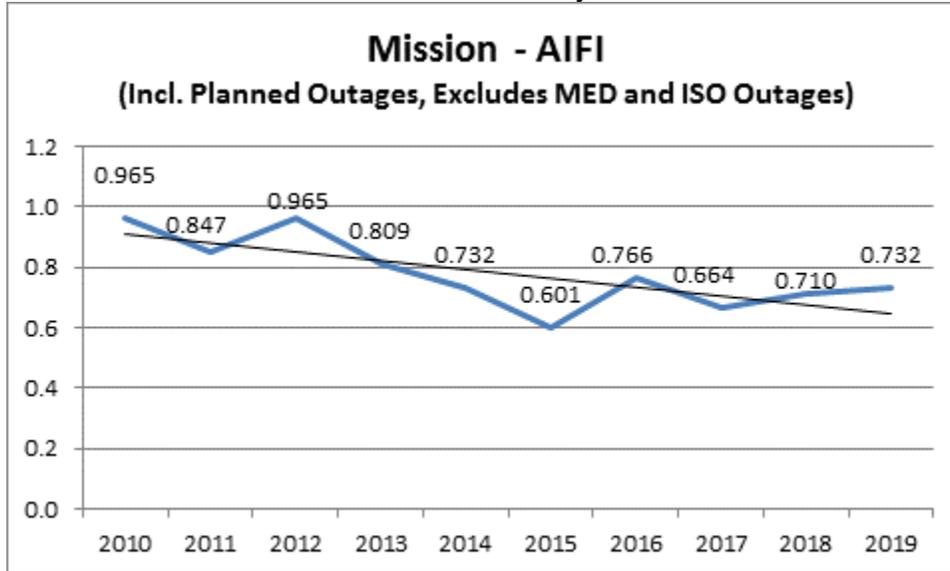


Chart 233: Division Reliability – AIFI Indices

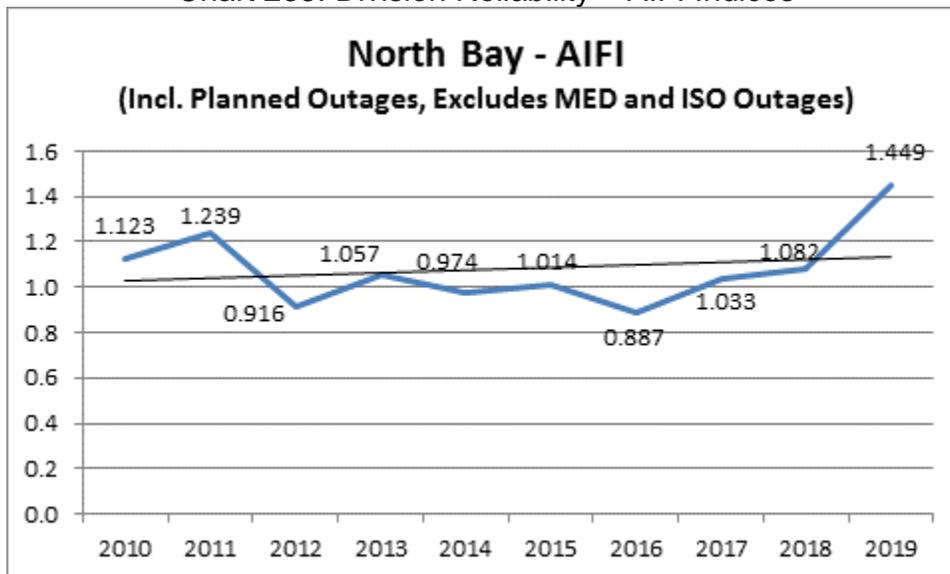


Chart 234: Division Reliability – AIFI Indices

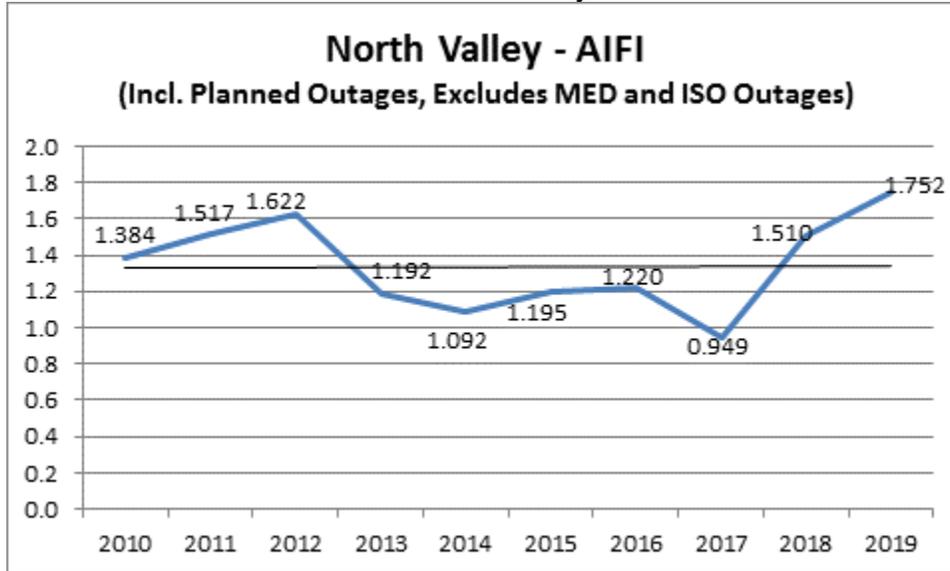


Chart 235: Division Reliability – AIFI Indices

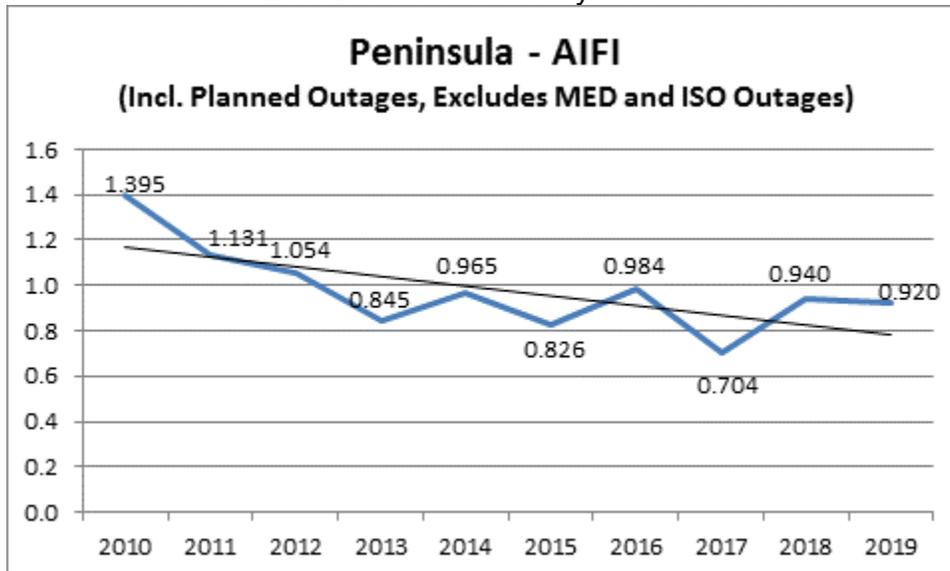


Chart 236: Division Reliability – AIFI Indices

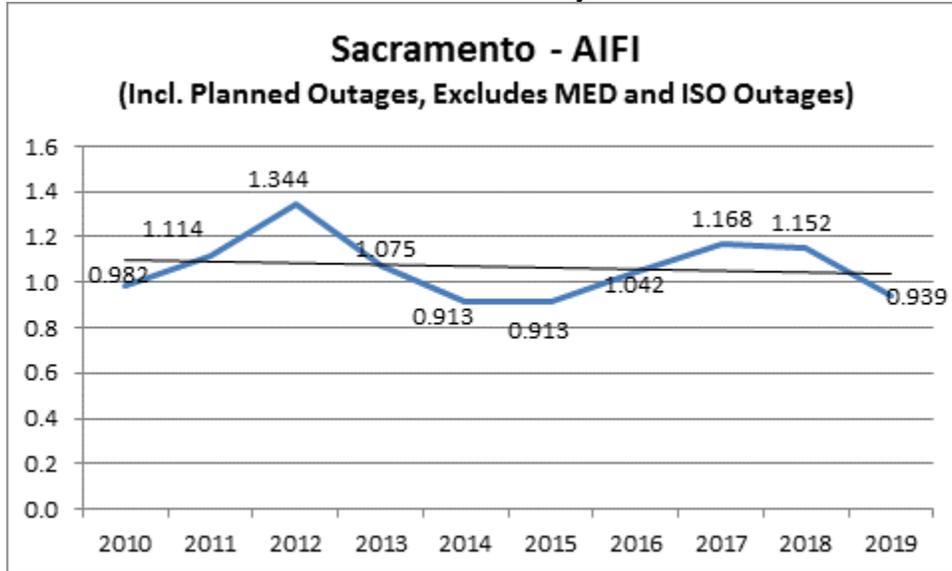


Chart 237: Division Reliability – AIFI Indices

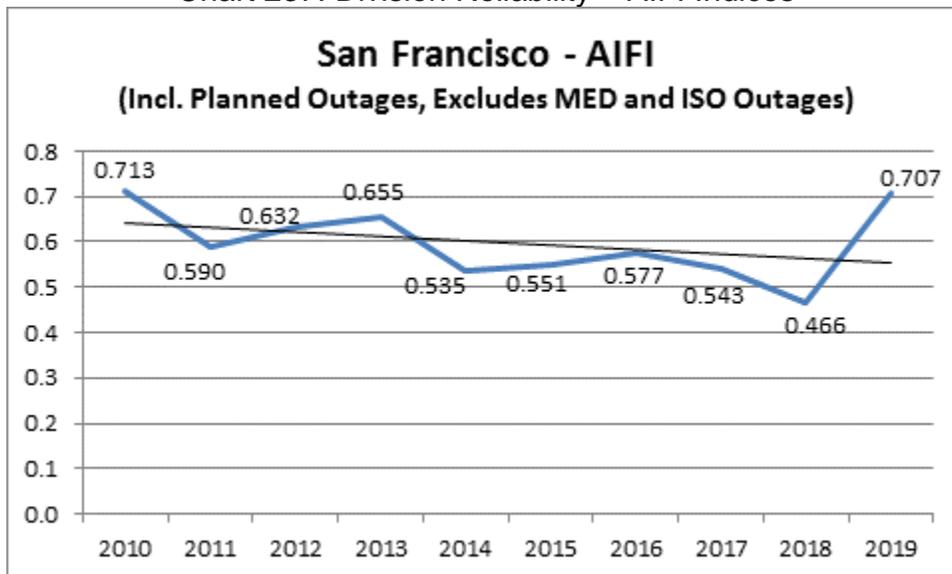


Chart 238: Division Reliability – AIFI Indices

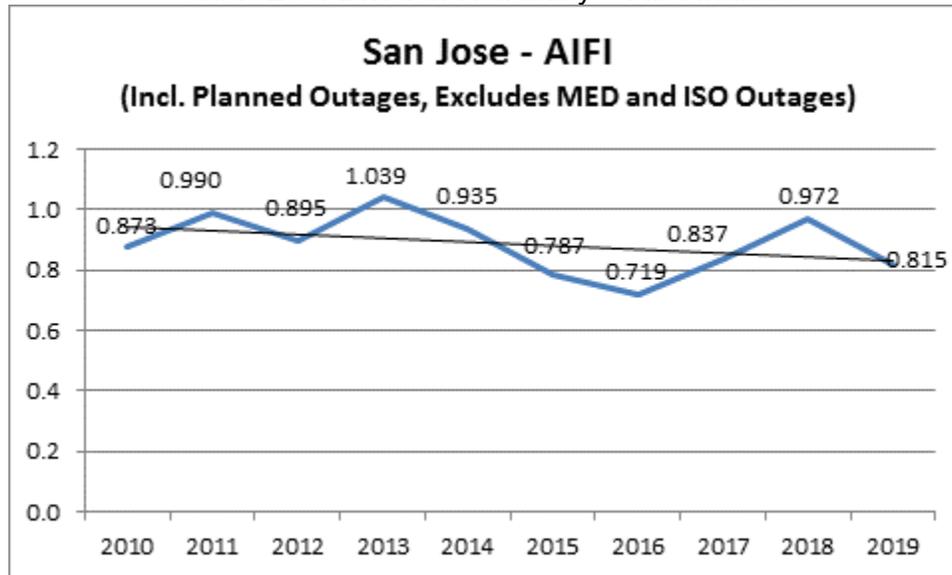


Chart 238: Division Reliability – AIFI Indices

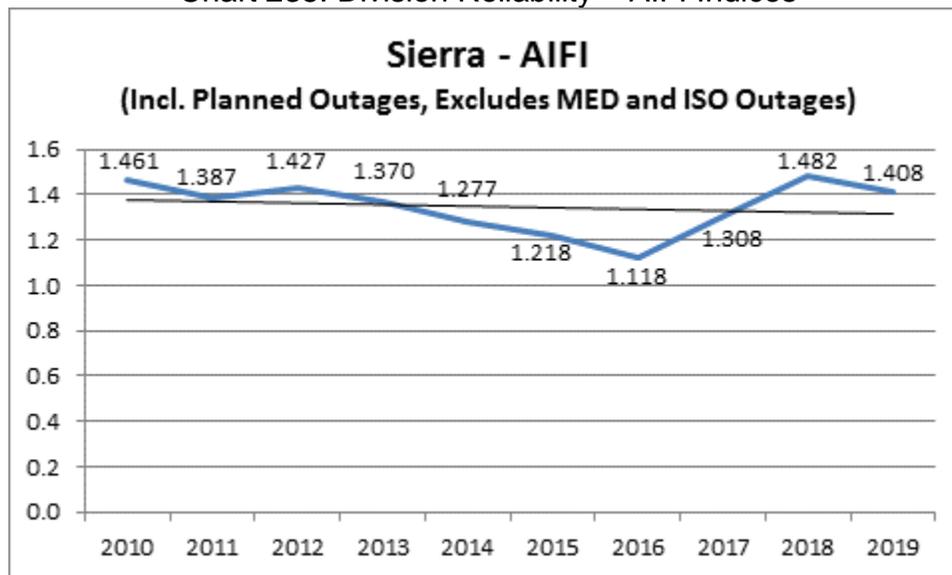


Chart 240: Division Reliability – AIFI Indices

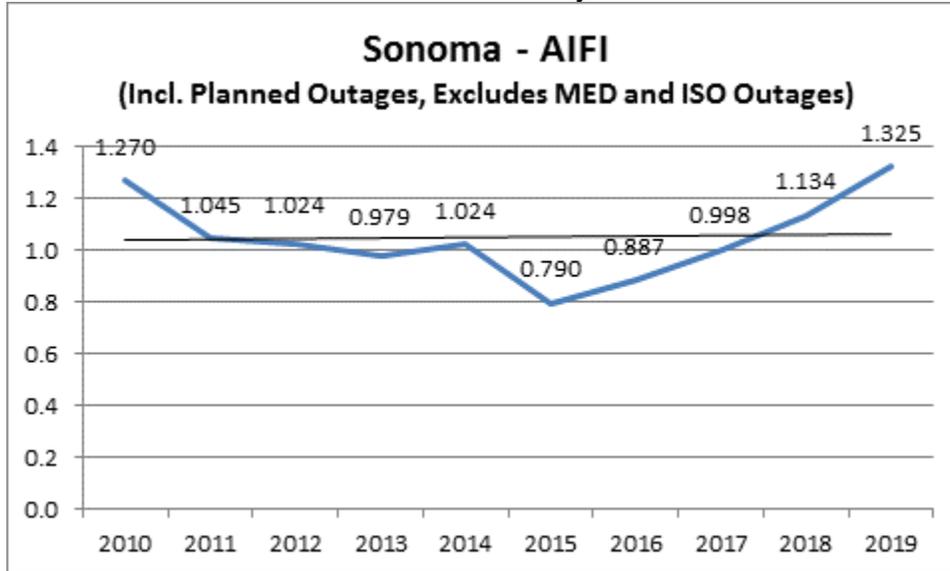


Chart 241: Division Reliability – AIFI Indices

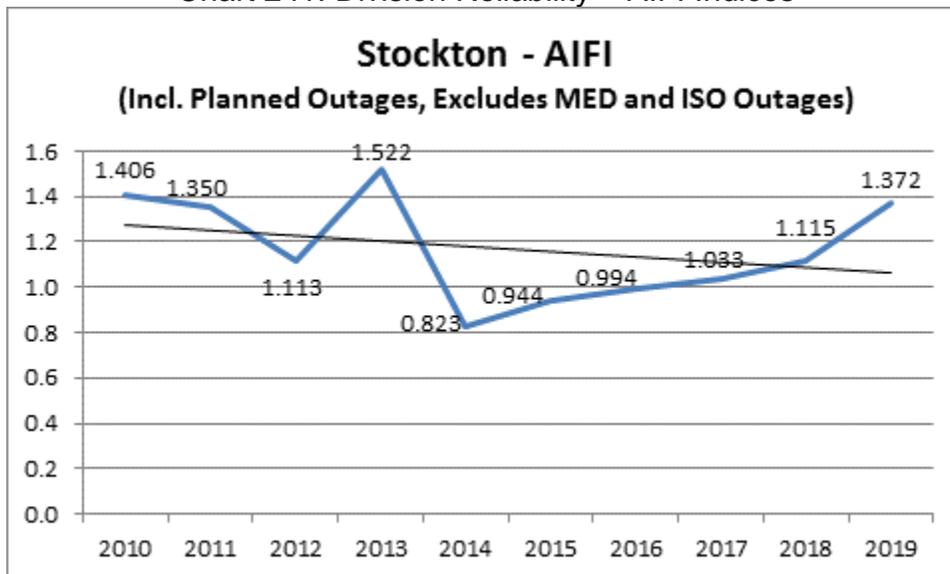


Chart 242: Division Reliability – AIFI Indices

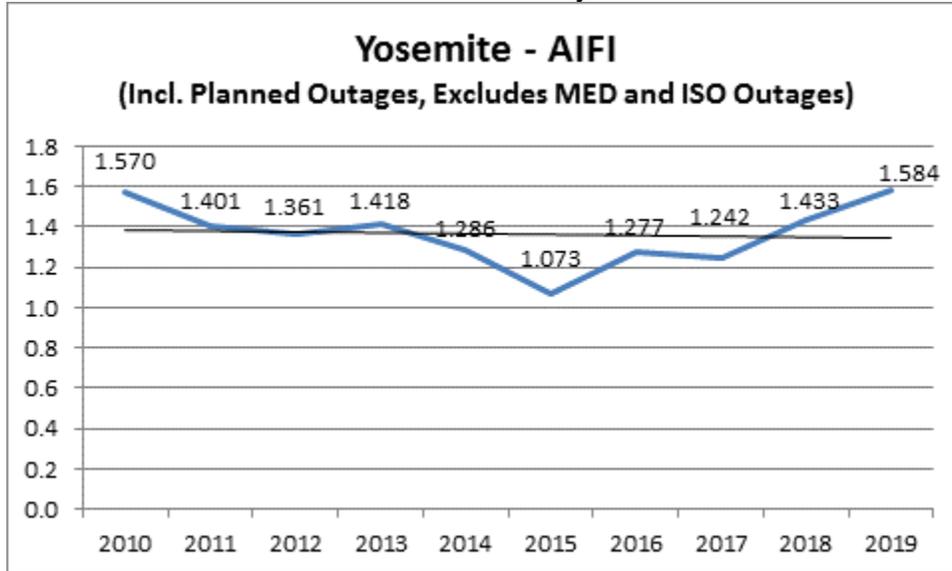
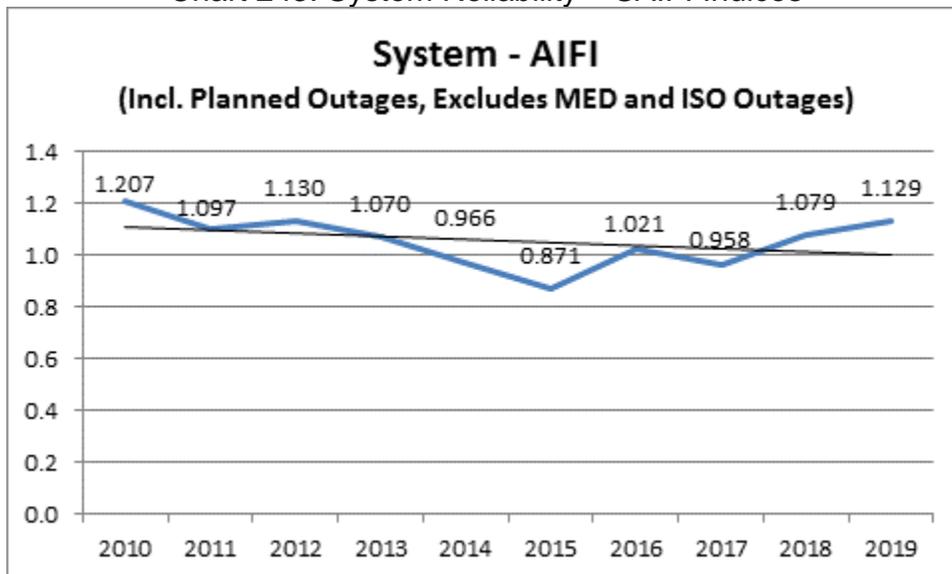


Chart 243: System Reliability – SAIFI Indices



3. MAIFI⁹ Performance Results (MED Excluded)

Chart 244: Division Reliability – MAIFI Indices

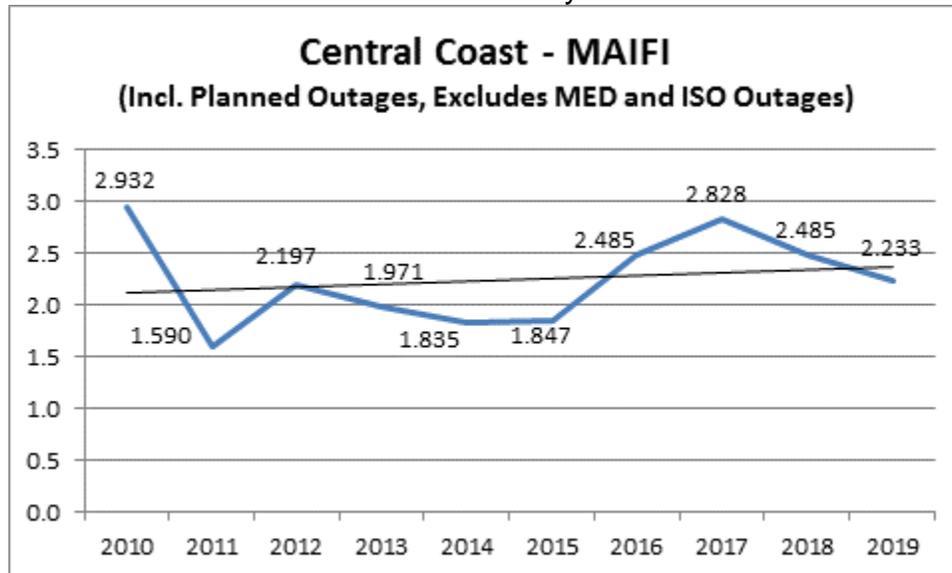
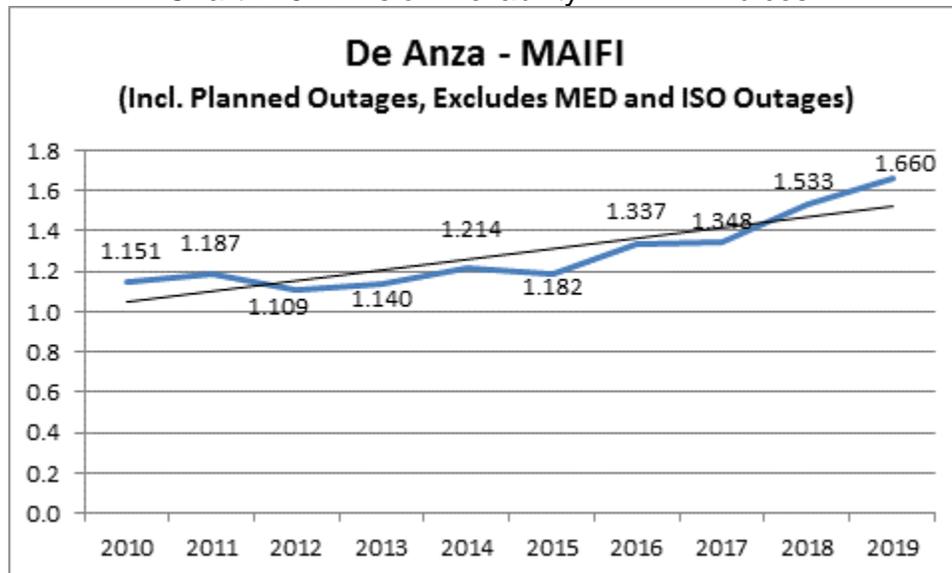


Chart 245: Division Reliability – MAIFI Indices



⁹ See footnote 4.

Chart 246: Division Reliability – MAIFI Indices

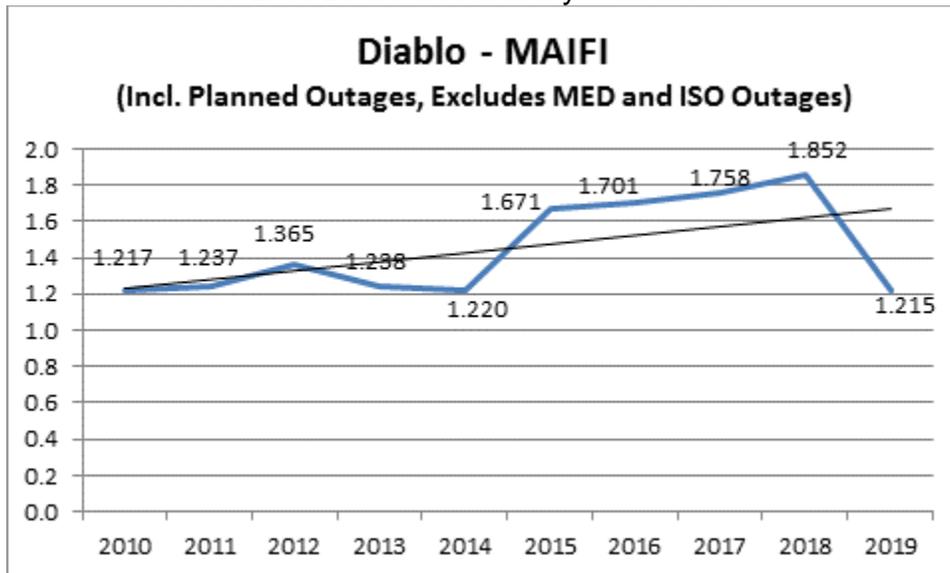


Chart 247: Division Reliability – MAIFI Indices

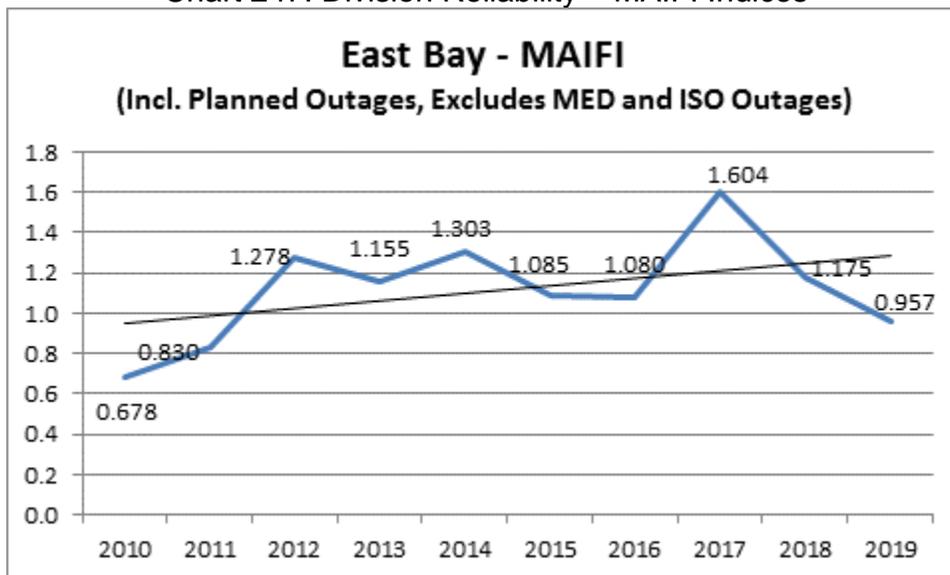


Chart 248: Division Reliability – MAIFI Indices

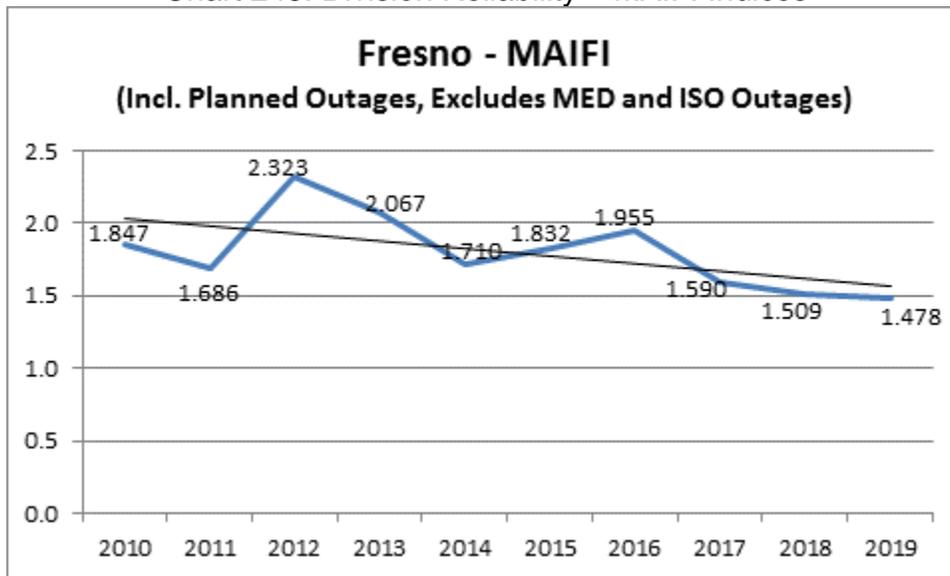


Chart 249: Division Reliability – MAIFI Indices

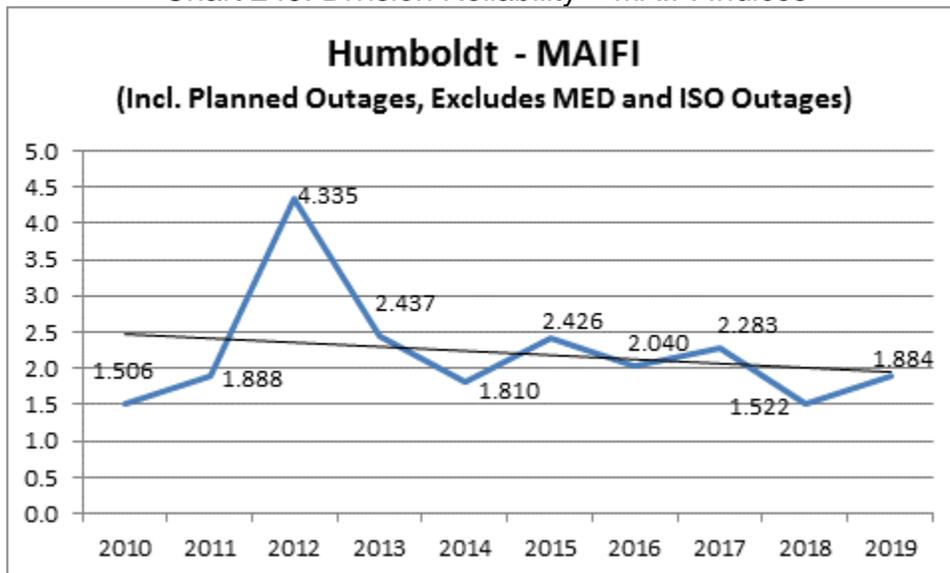


Chart 250: Division Reliability – MAIFI Indices

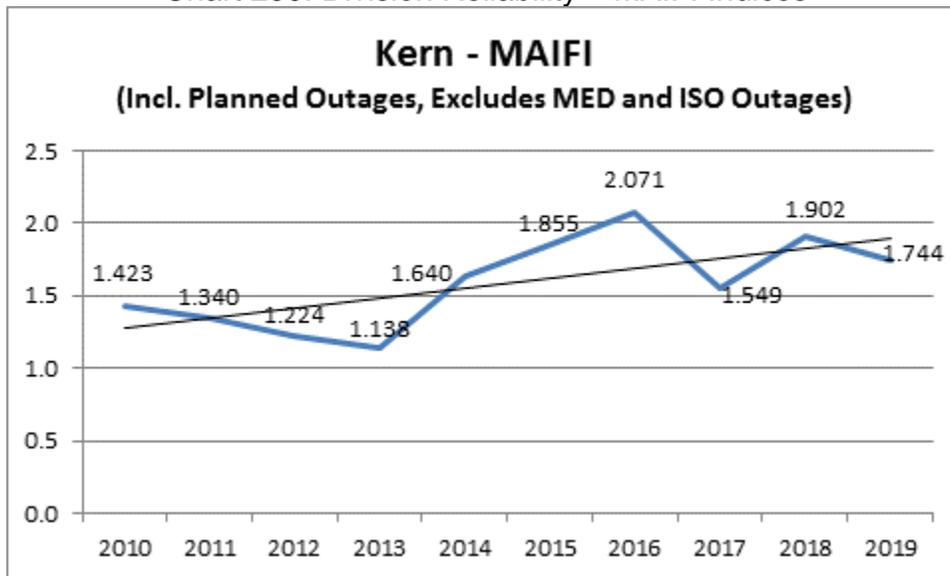


Chart 251: Division Reliability – MAIFI Indices

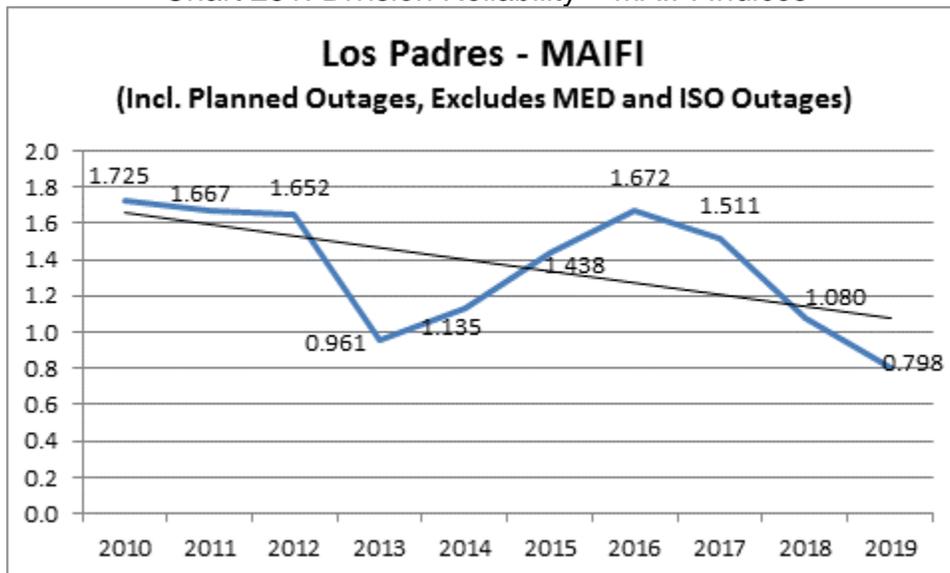


Chart 252: Division Reliability – MAIFI Indices

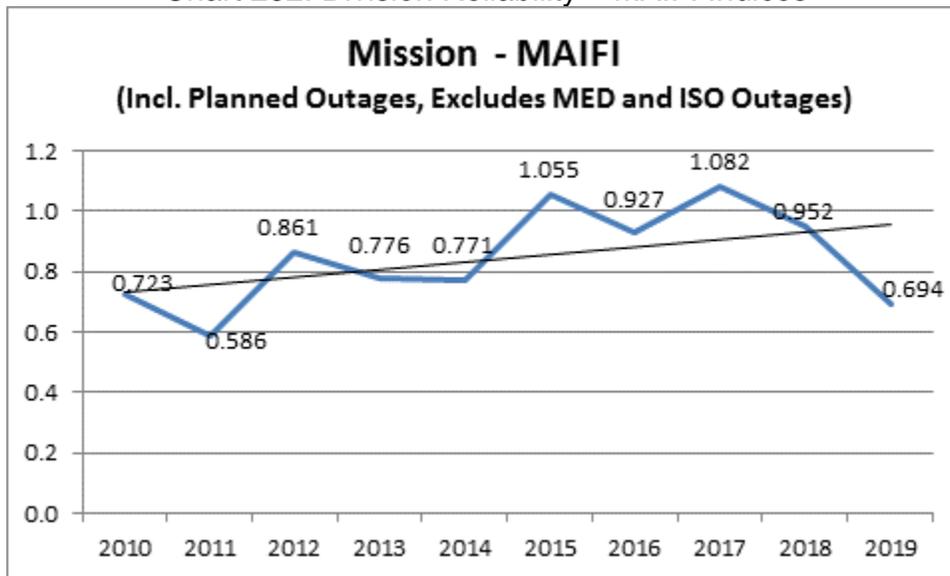


Chart 253: Division Reliability – MAIFI Indices

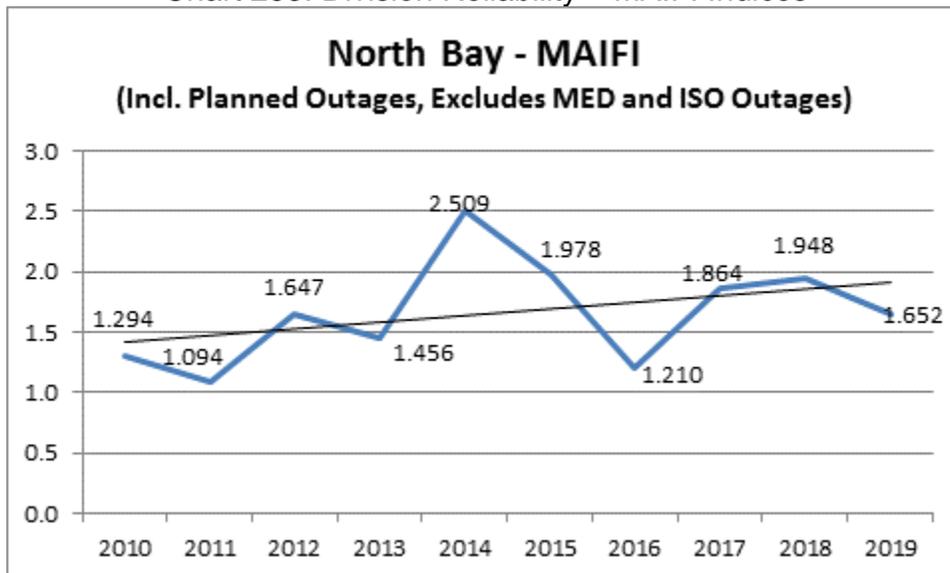


Chart 254: Division Reliability – MAIFI Indices

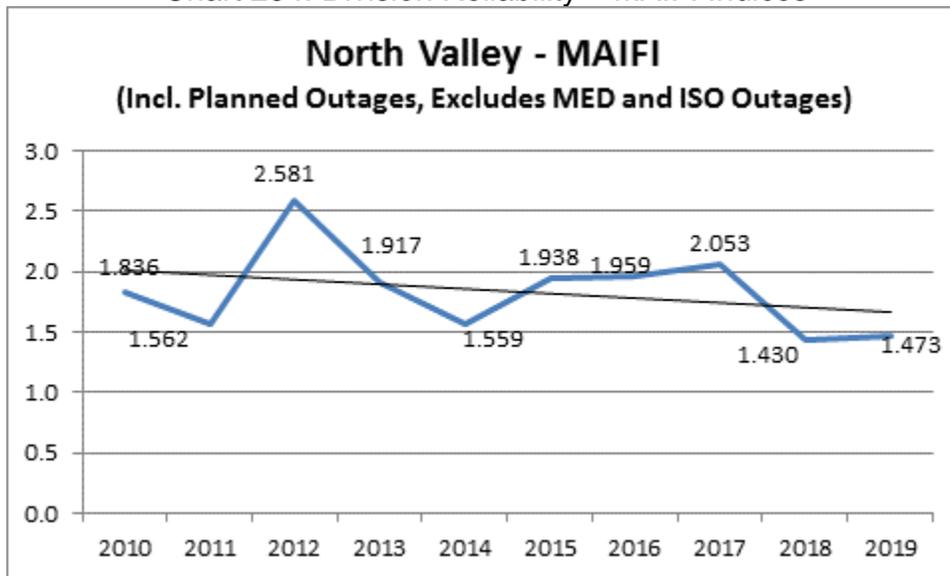


Chart 255: Division Reliability – MAIFI Indices

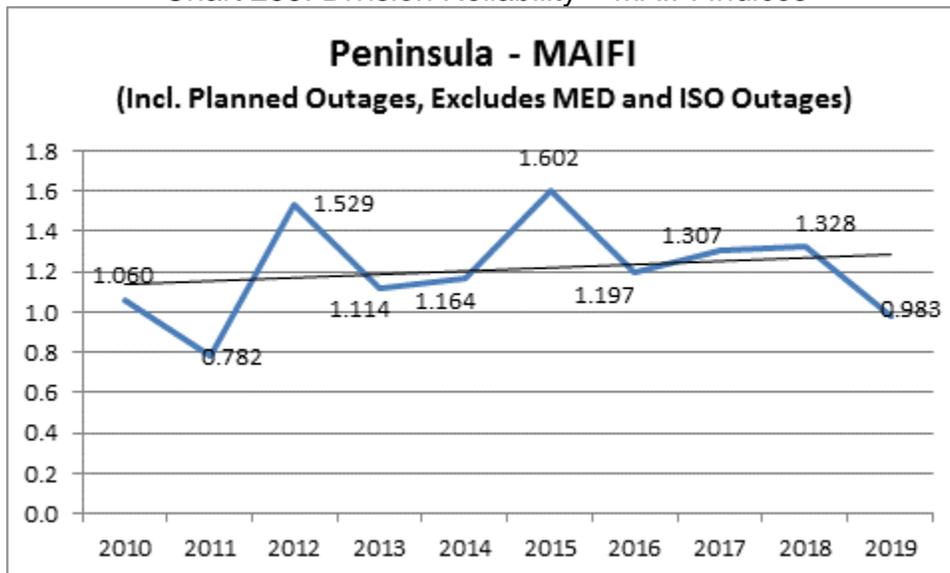


Chart 256: Division Reliability – MAIFI Indices

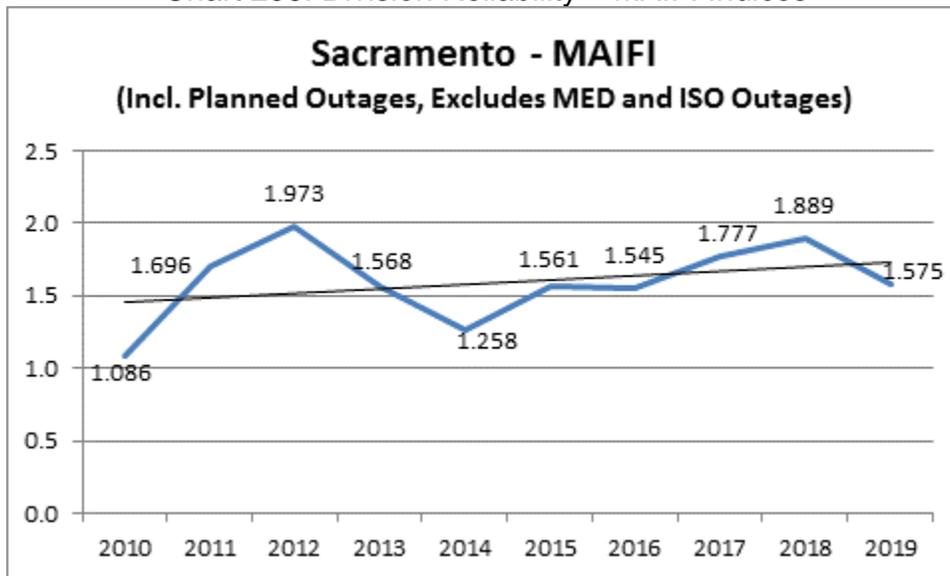


Chart 257: Division Reliability – MAIFI Indices

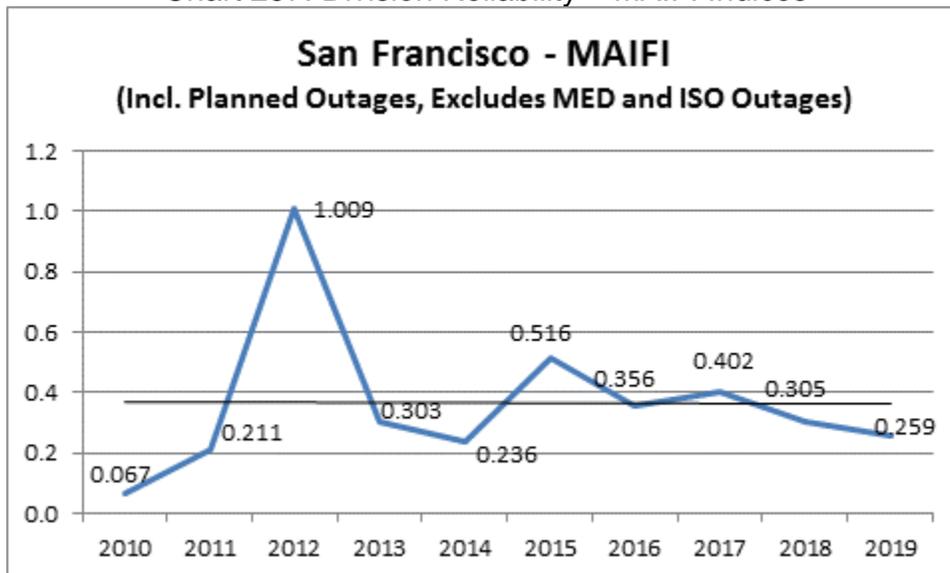


Chart 258: Division Reliability – MAIFI Indices

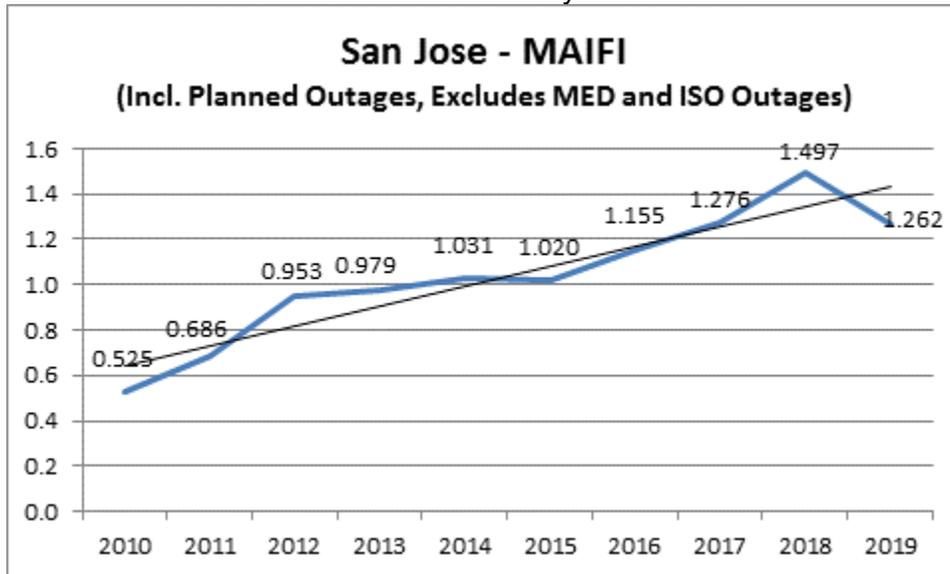


Chart 259: Division Reliability – MAIFI Indices

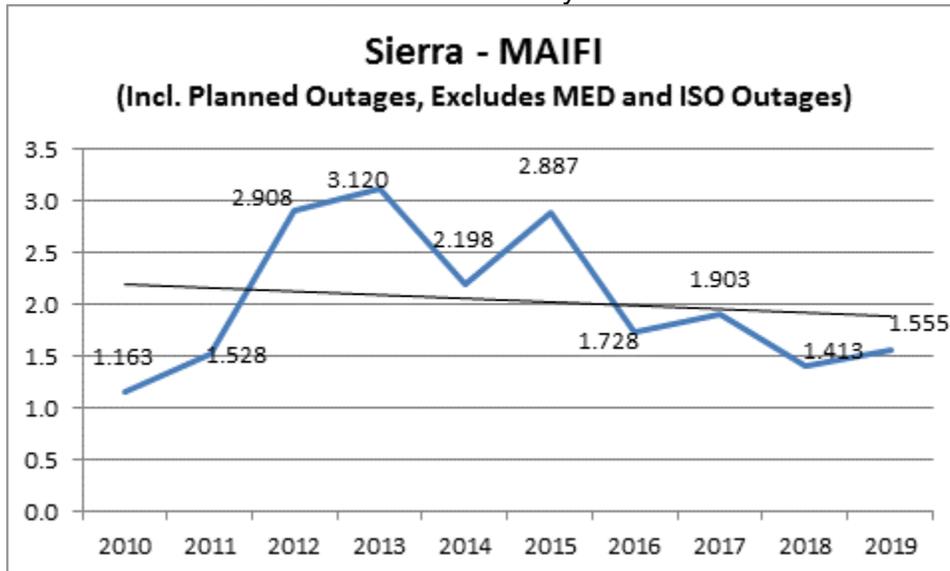


Chart 260: Division Reliability – MAIFI Indices

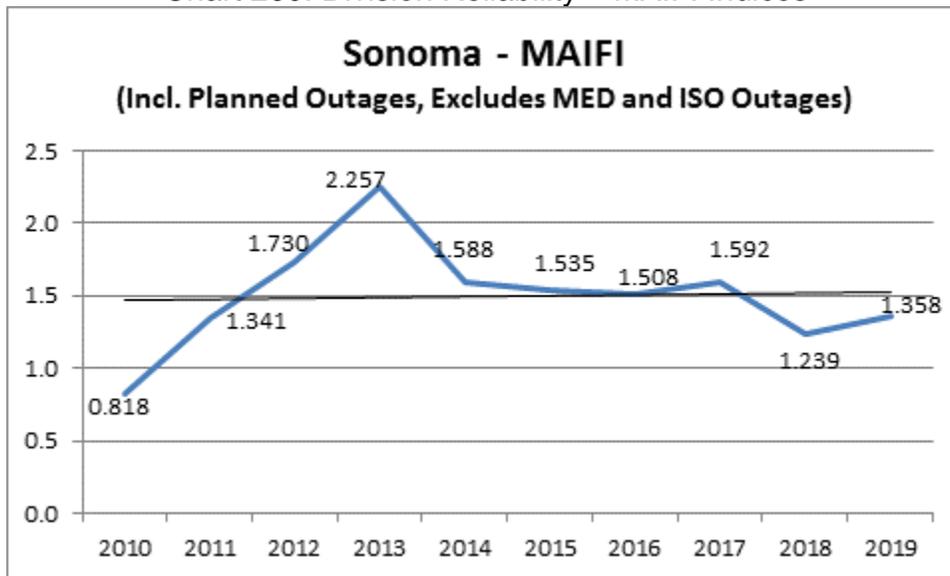


Chart 261: Division Reliability – MAIFI Indices

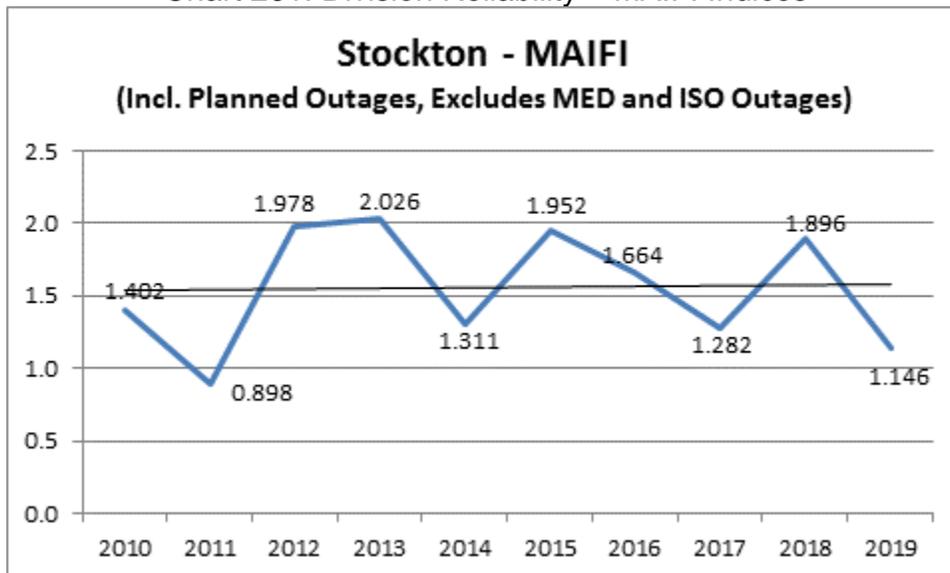


Chart 262: Division Reliability – MAIFI Indices

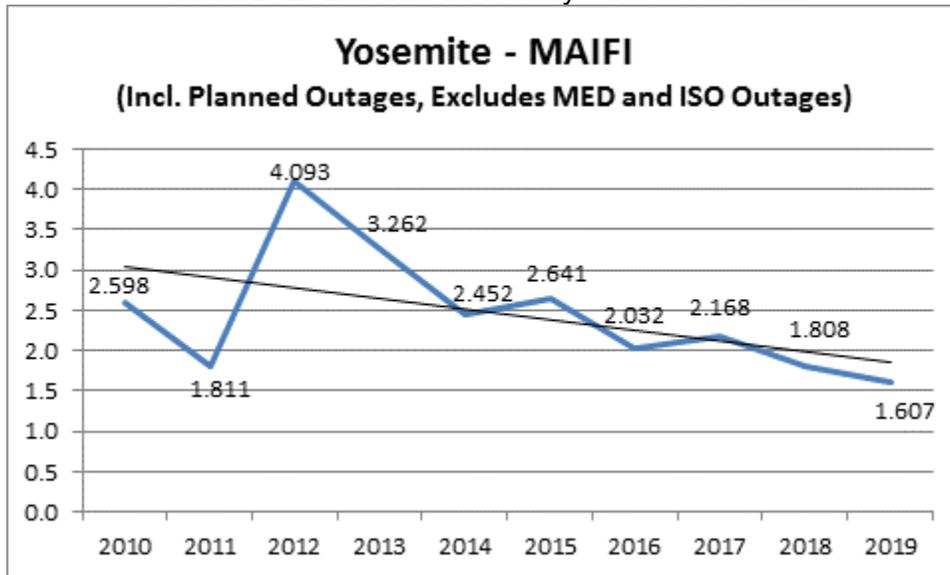
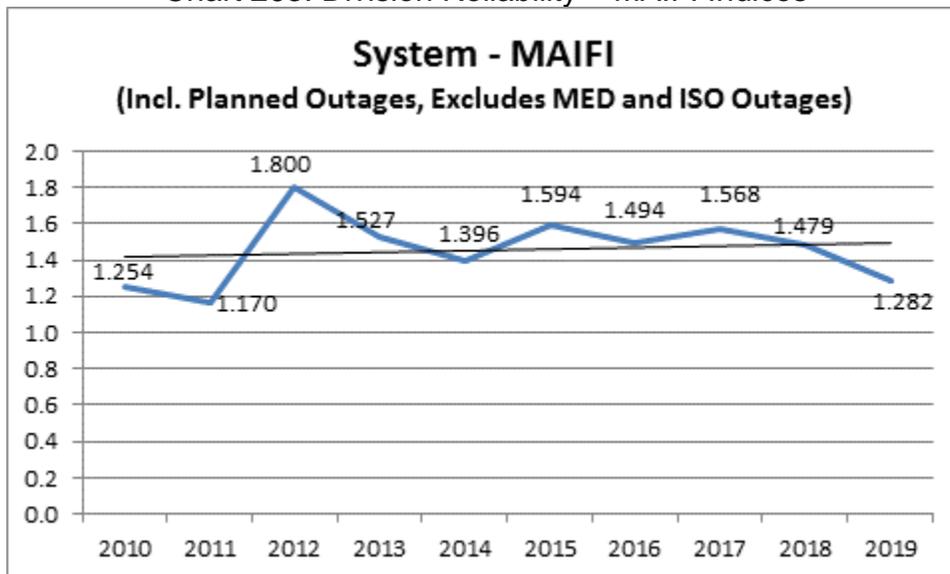


Chart 263: Division Reliability – MAIFI Indices



4. CAIDI Performance Results (MED Excluded)

Chart 264: Division Reliability – CAIDI Indices

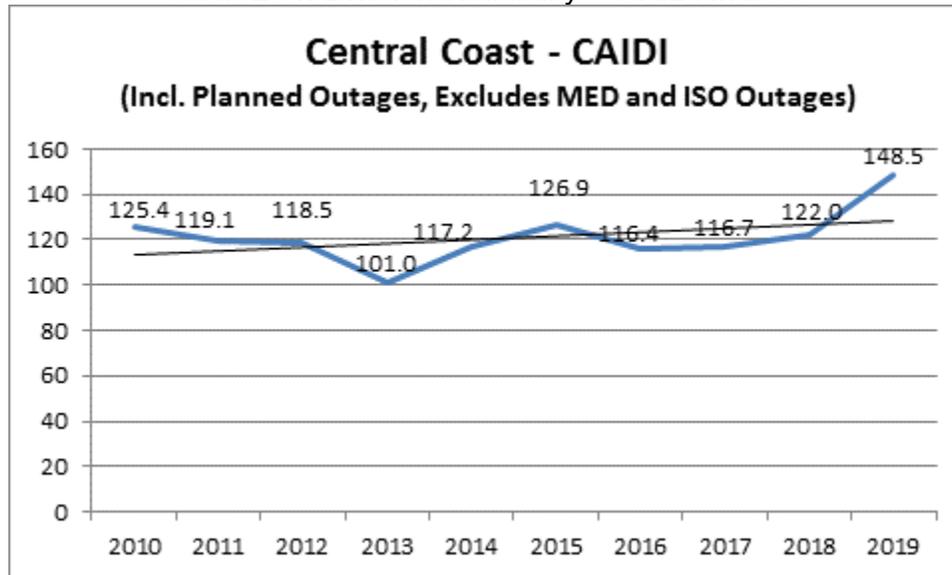


Chart 265: Division Reliability – CAIDI Indices

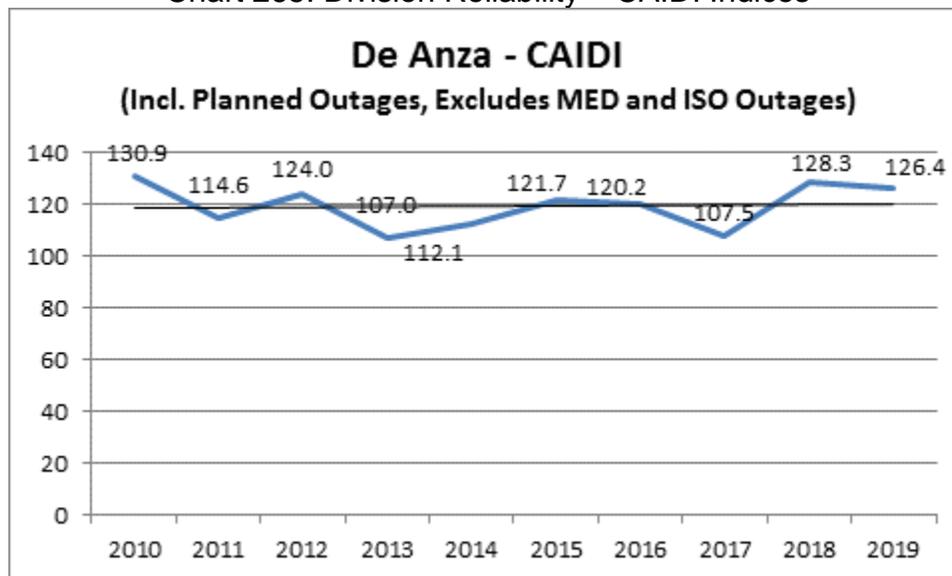


Chart 266: Division Reliability – CAIDI Indices

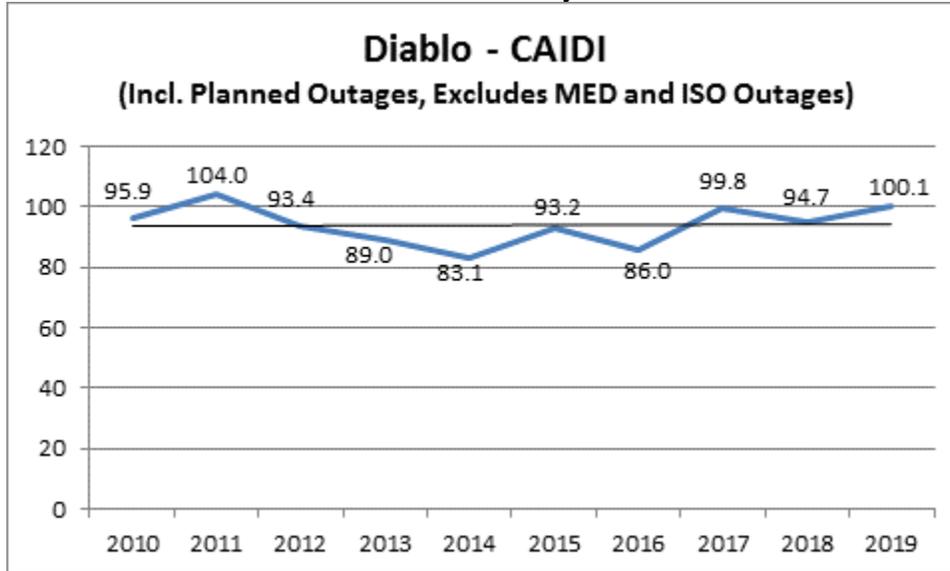


Chart 267: Division Reliability – CAIDI Indices

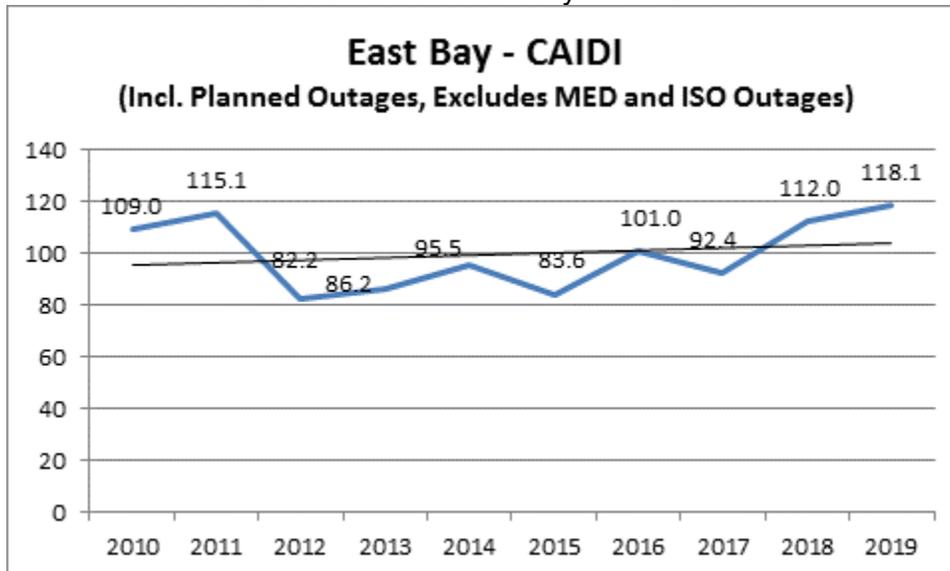


Chart 268: Division Reliability – CAIDI Indices

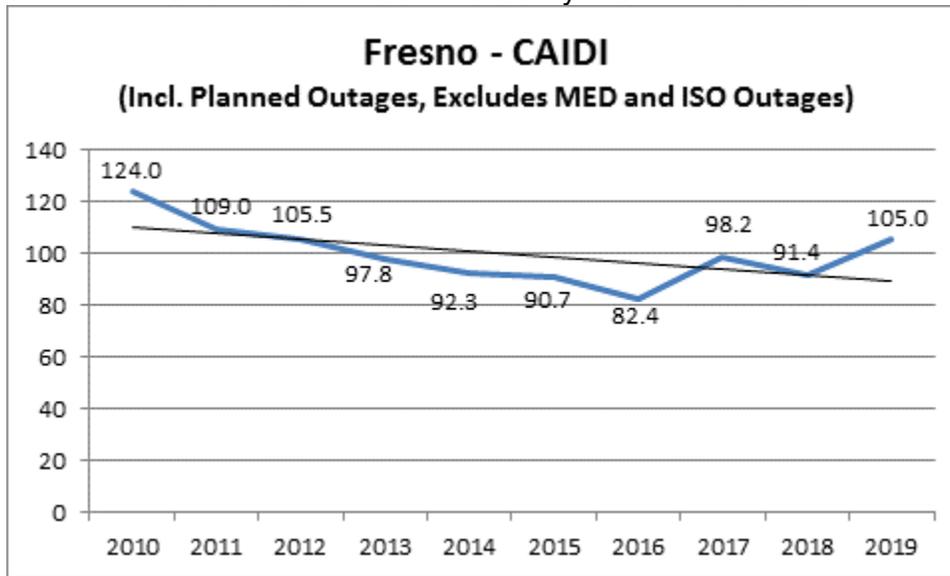


Chart 269: Division Reliability – CAIDI Indices

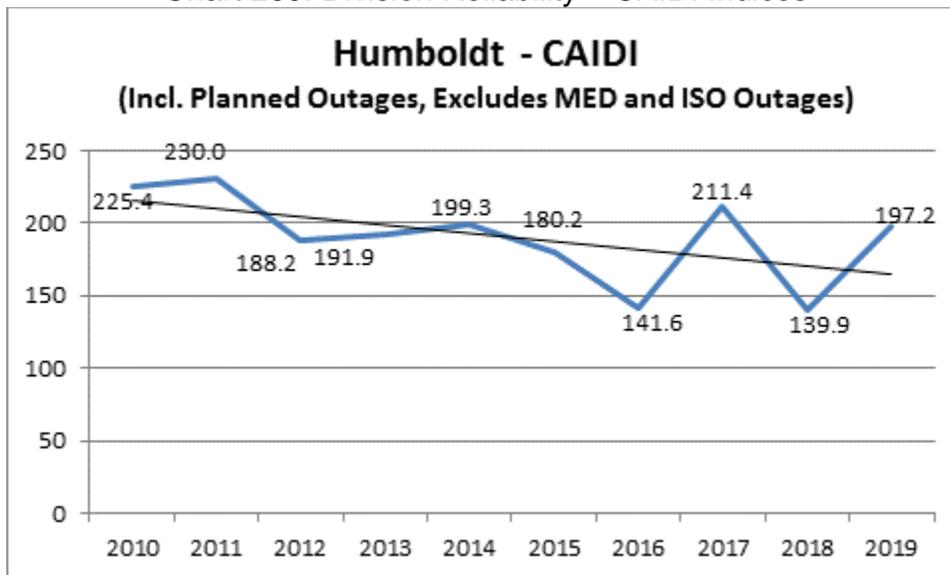


Chart 270: Division Reliability – CAIDI Indices

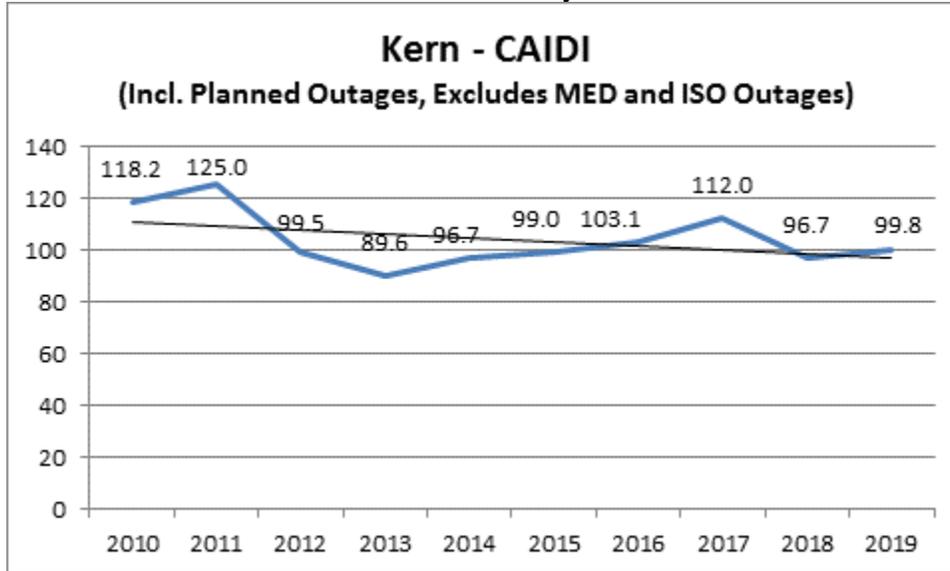


Chart 271: Division Reliability – CAIDI Indices

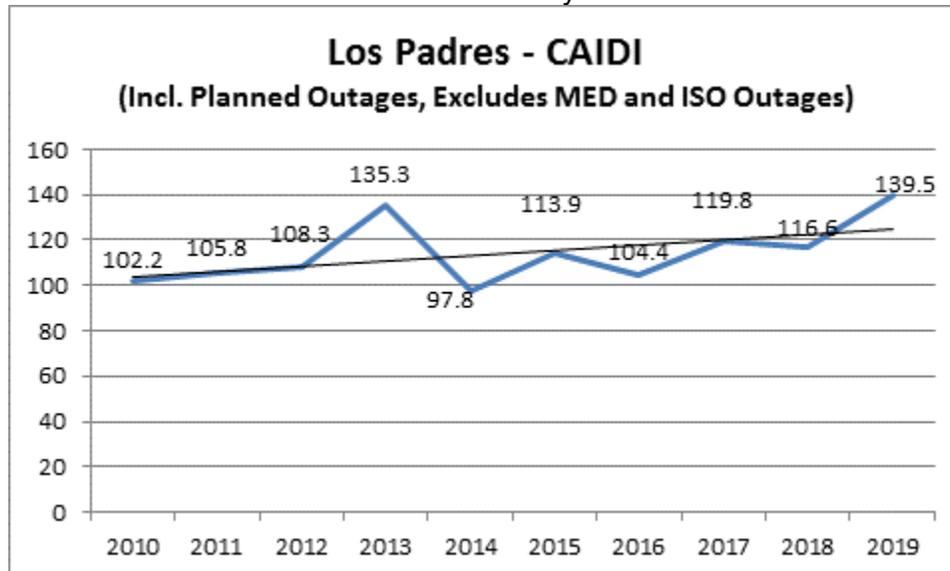


Chart 272: Division Reliability – CAIDI Indices

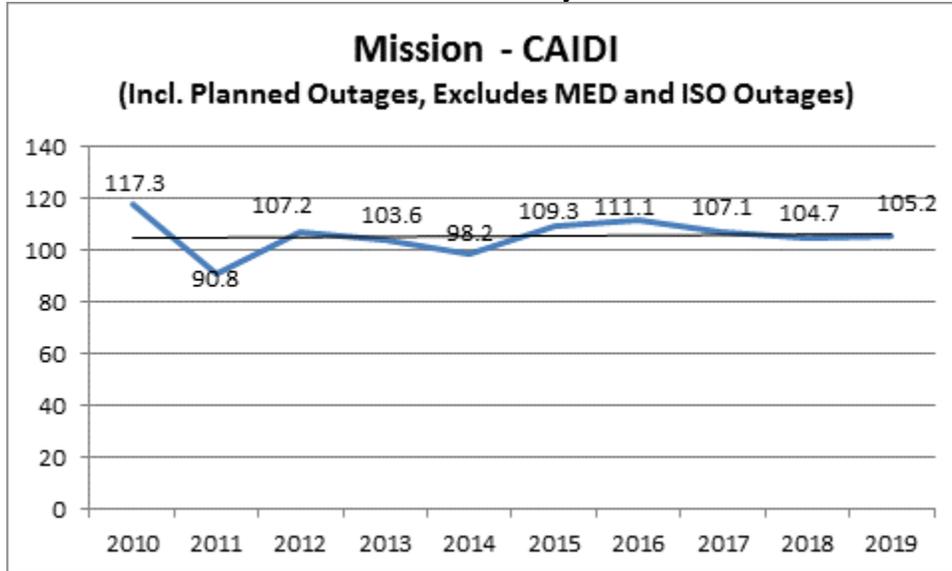


Chart 273: Division Reliability – CAIDI Indices

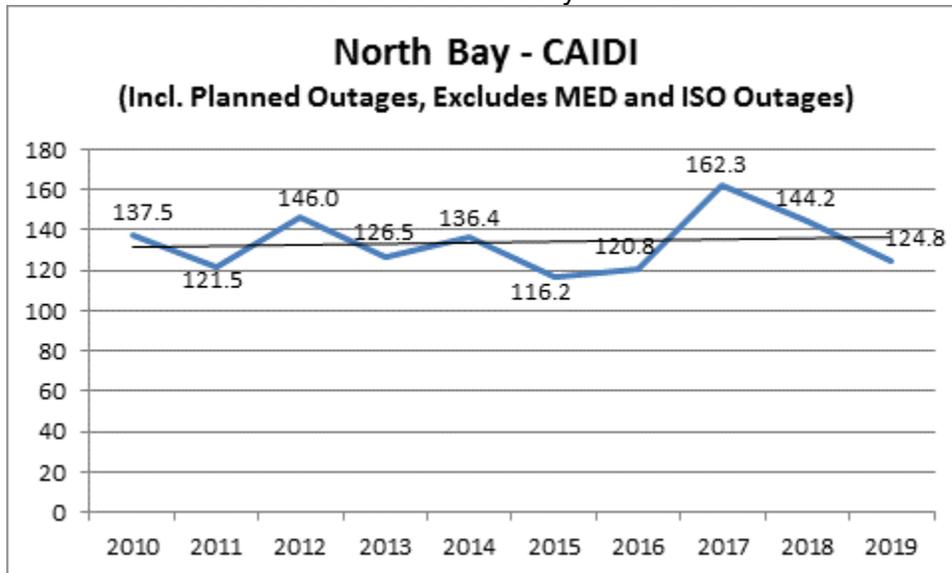


Chart 274: Division Reliability – CAIDI Indices

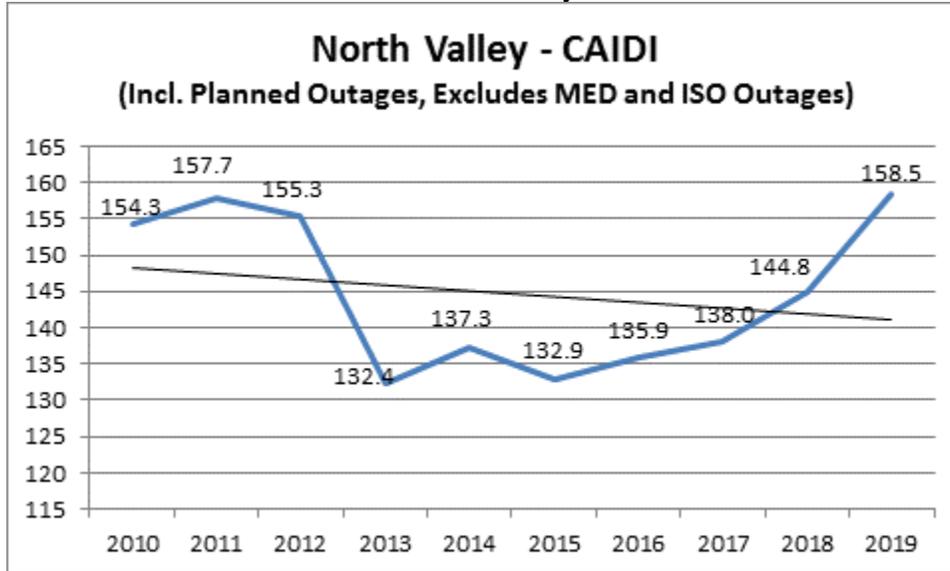


Chart 275: Division Reliability – CAIDI Indices

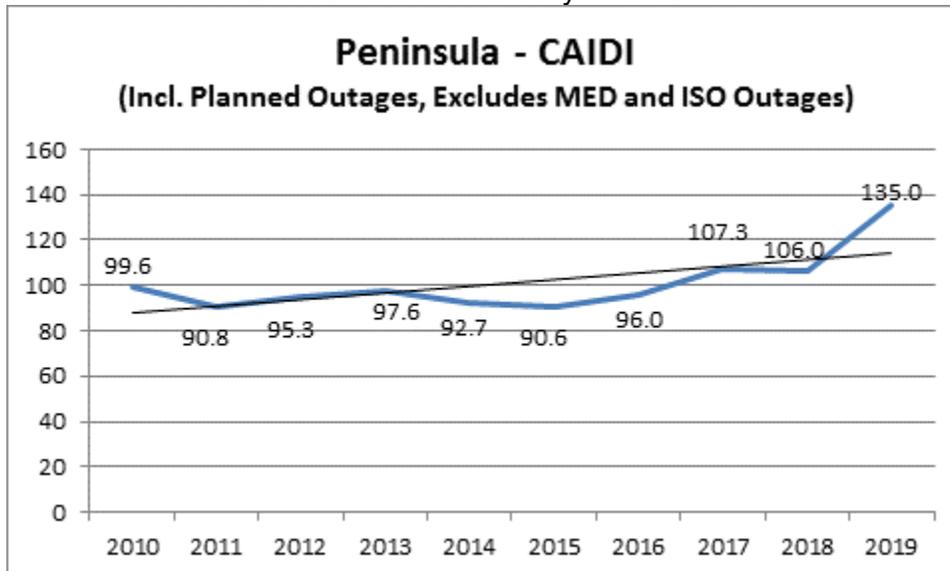


Chart 276: Division Reliability – CAIDI Indices

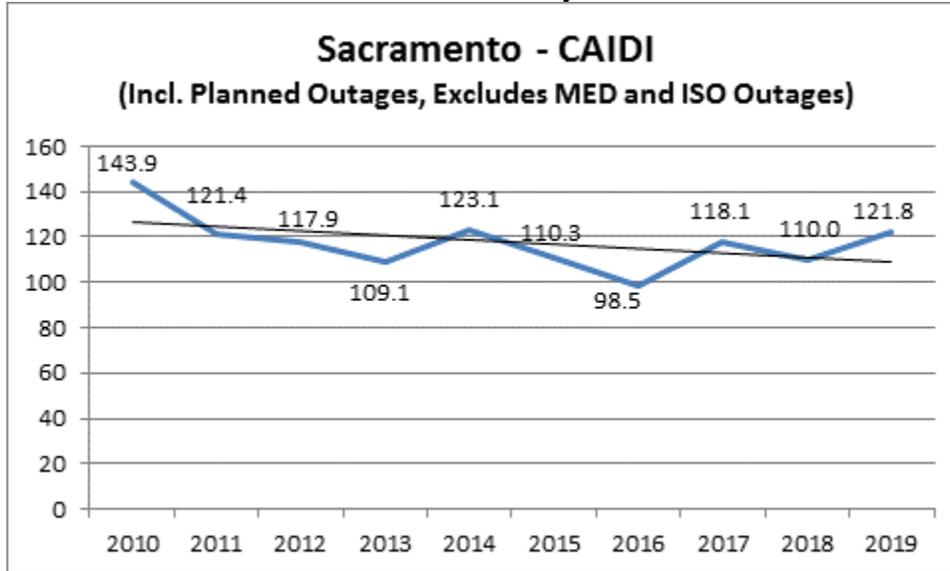


Chart 277: Division Reliability – CAIDI Indices

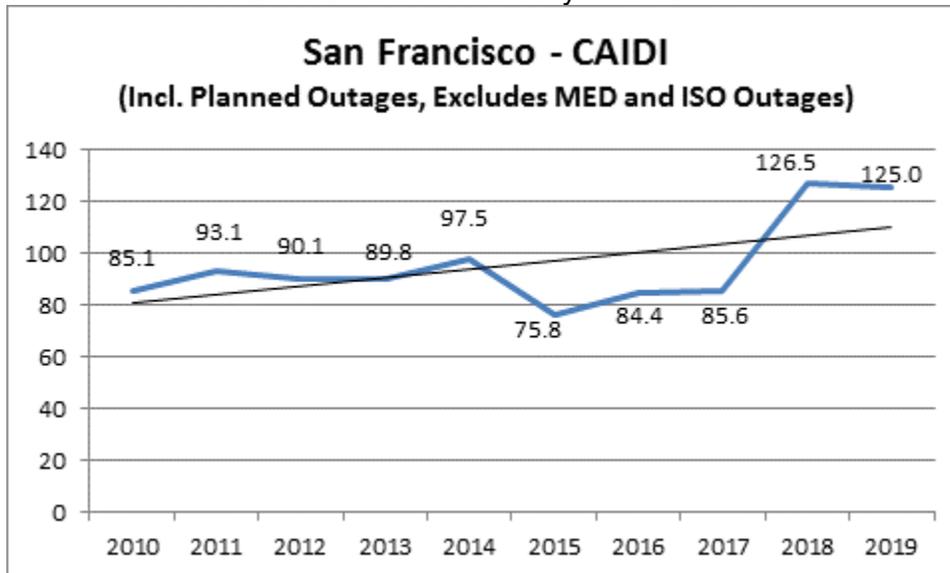


Chart 278: Division Reliability – CAIDI Indices

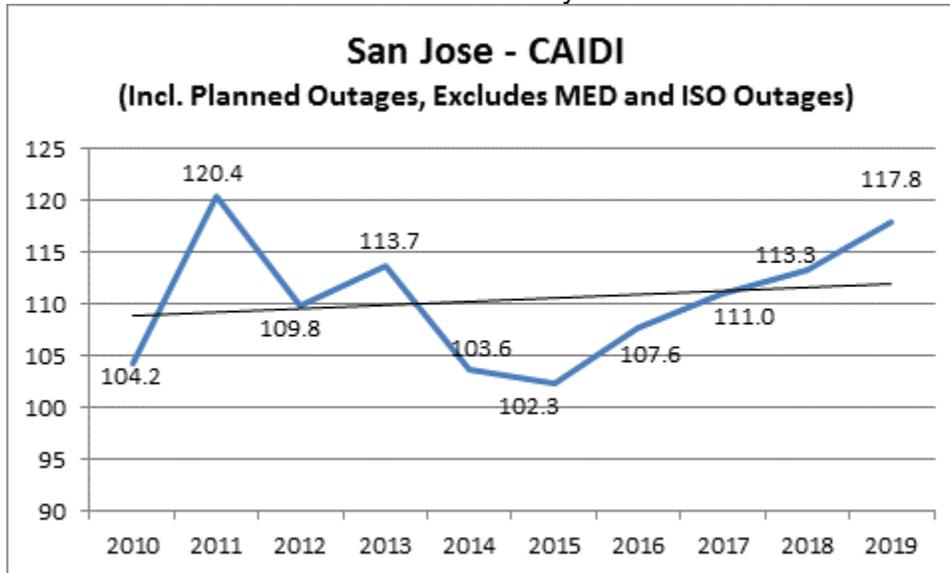


Chart 279: Division Reliability – CAIDI Indices

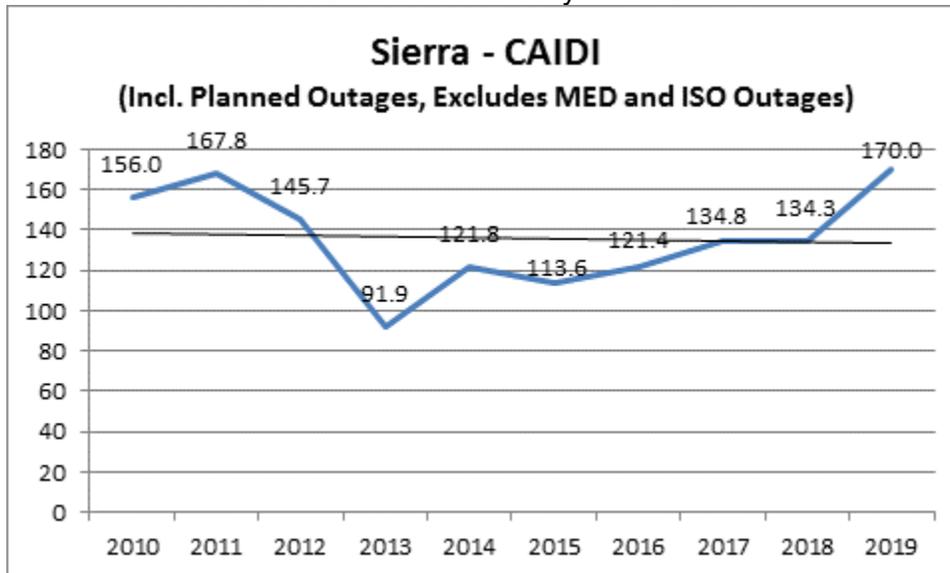


Chart 280: Division Reliability – CAIDI Indices

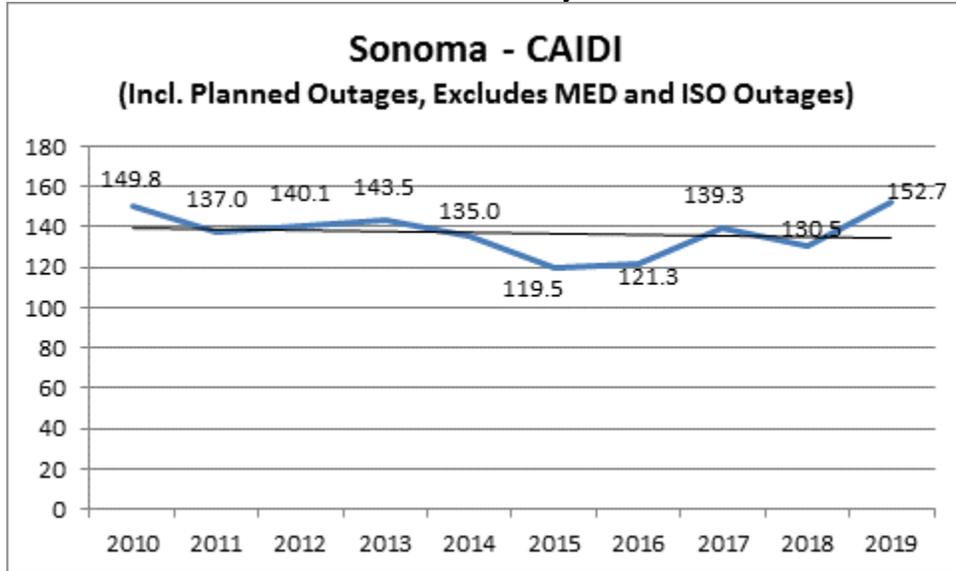


Chart 281: Division Reliability – CAIDI Indices

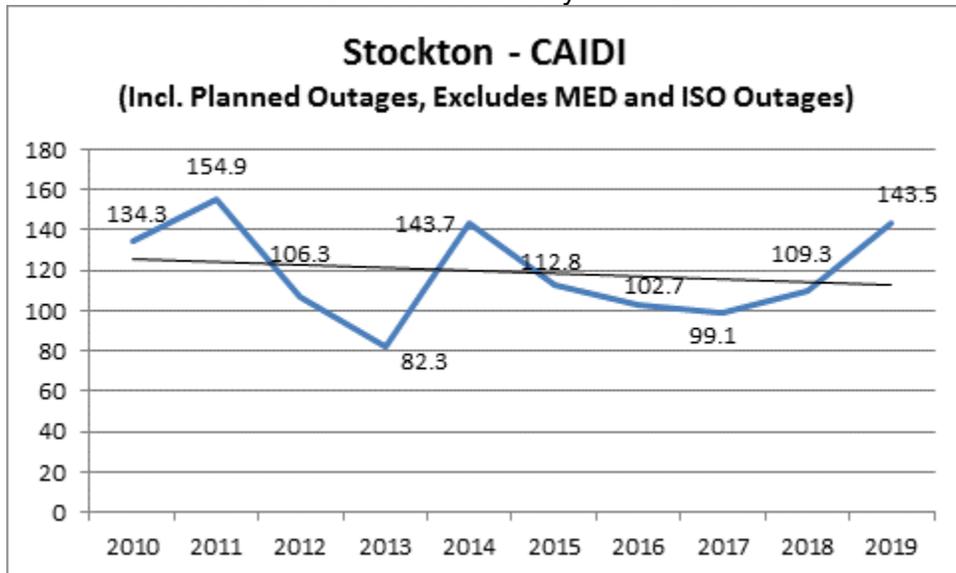


Chart 282: Division Reliability – CAIDI Indices

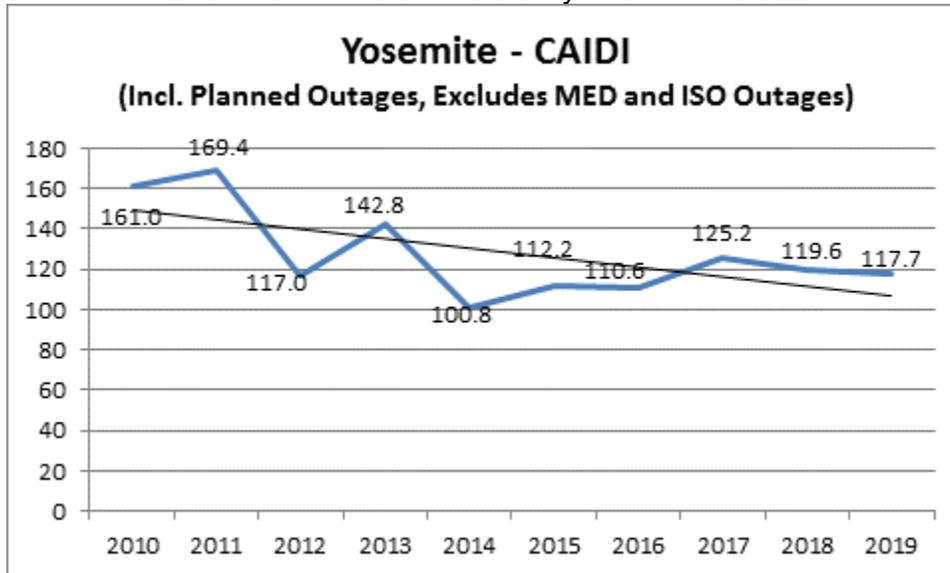
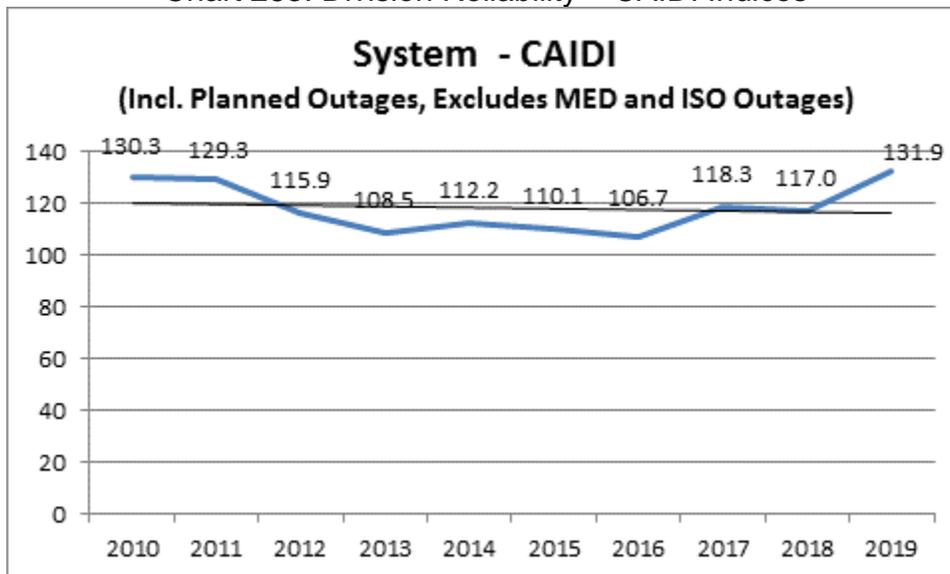


Chart 283: Division Reliability – CAIDI Indices



ii. Charts for System and Division Reliability Indices based on IEEE 1366 for the past 10 years including planned outages and including MED

1. SAIDI Performance Results (MED Included)

Chart 284: Division Reliability – AIDI Indices

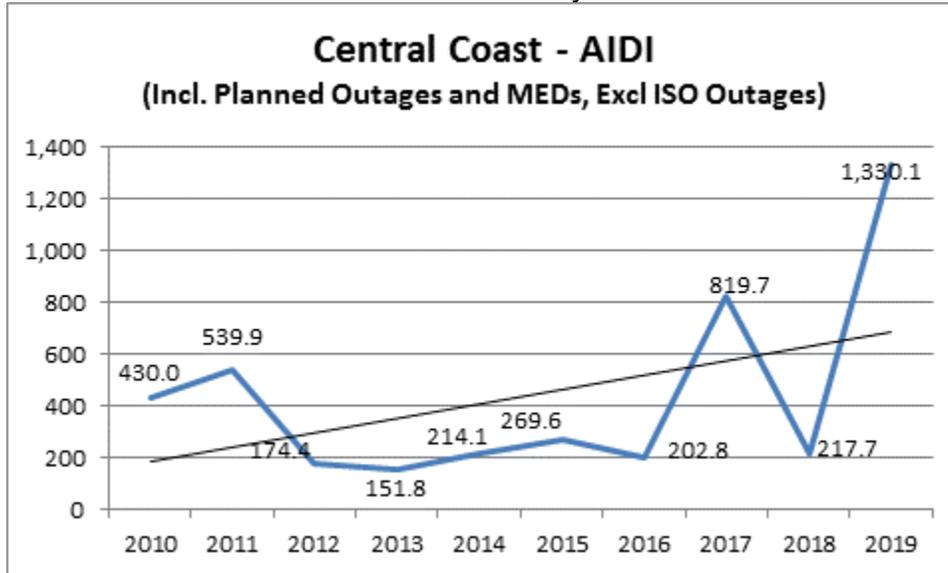


Chart 285: Division Reliability – AIDI Indices

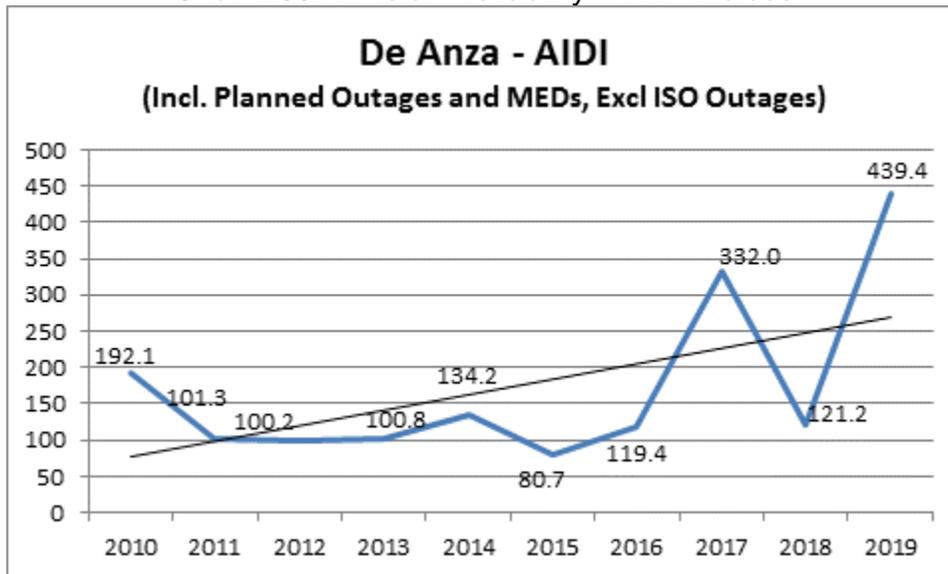


Chart 286: Division Reliability – AIDI Indices

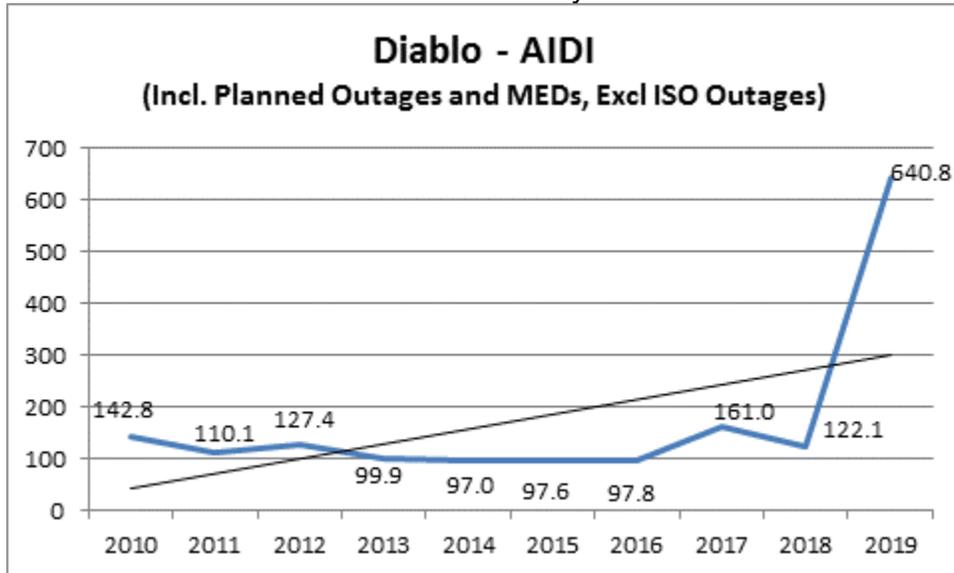


Chart 287: Division Reliability – AIDI Indices

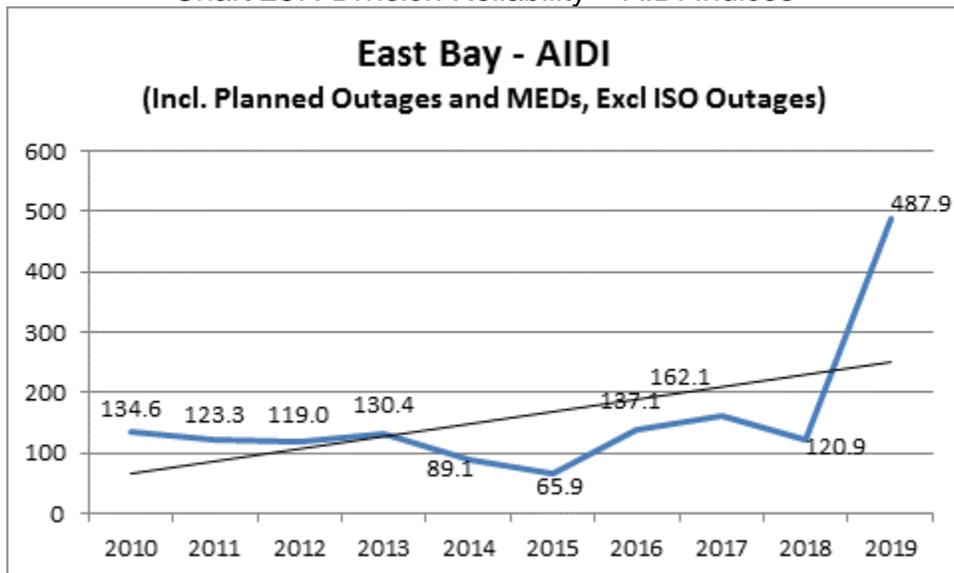


Chart 288: Division Reliability – AIDI Indices

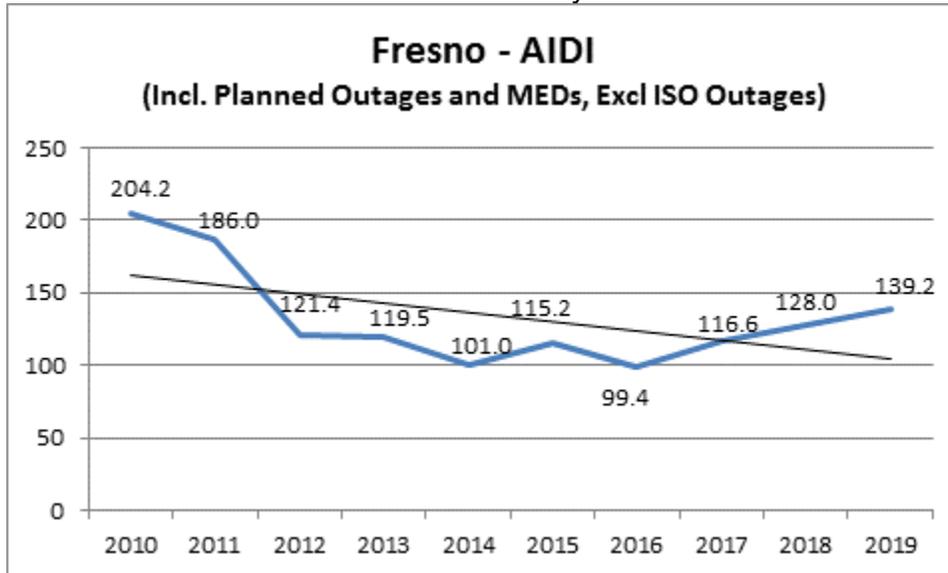


Chart 289: Division Reliability – AIDI Indices

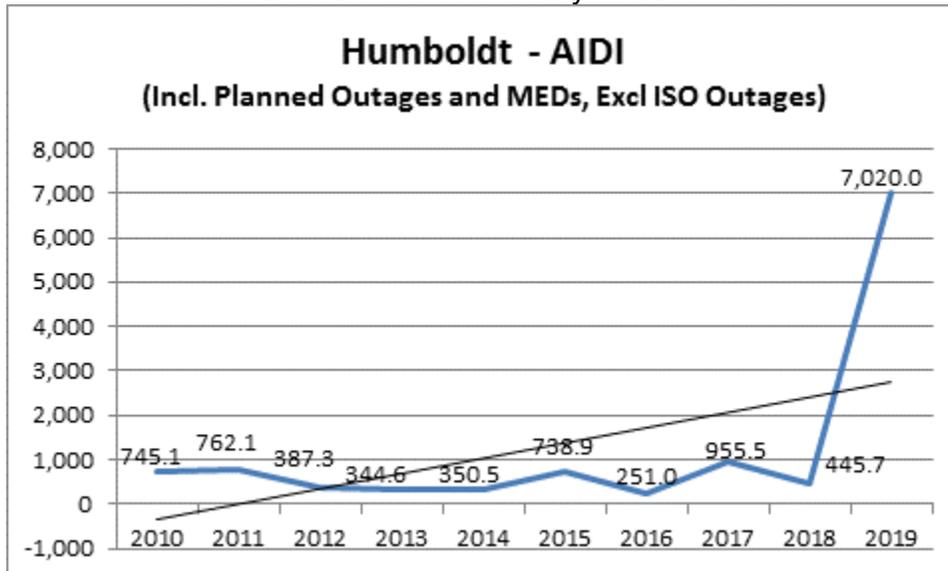


Chart 290: Division Reliability – AIDI Indices

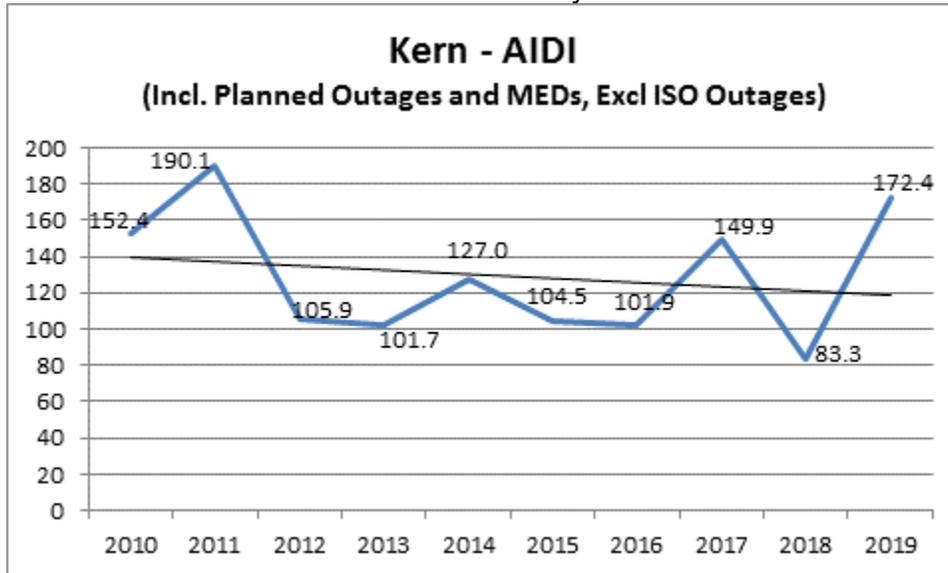


Chart 291: Division Reliability – AIDI Indices

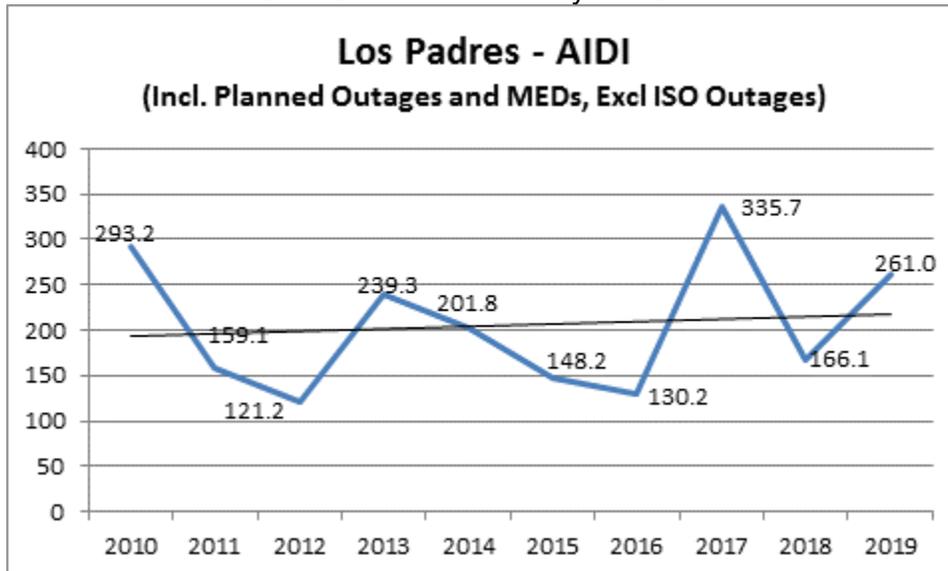


Chart 292: Division Reliability – AIDI Indices

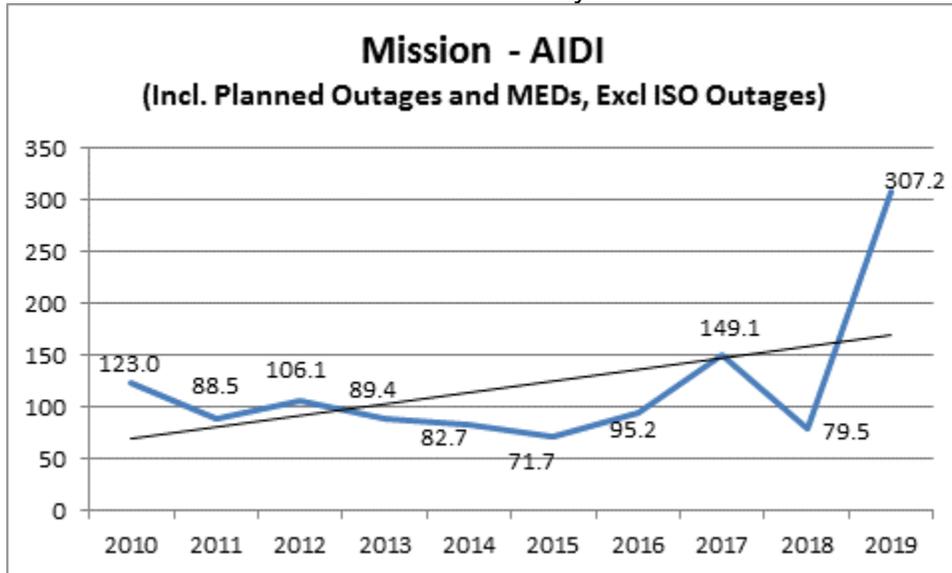


Chart 293: Division Reliability – AIDI Indices

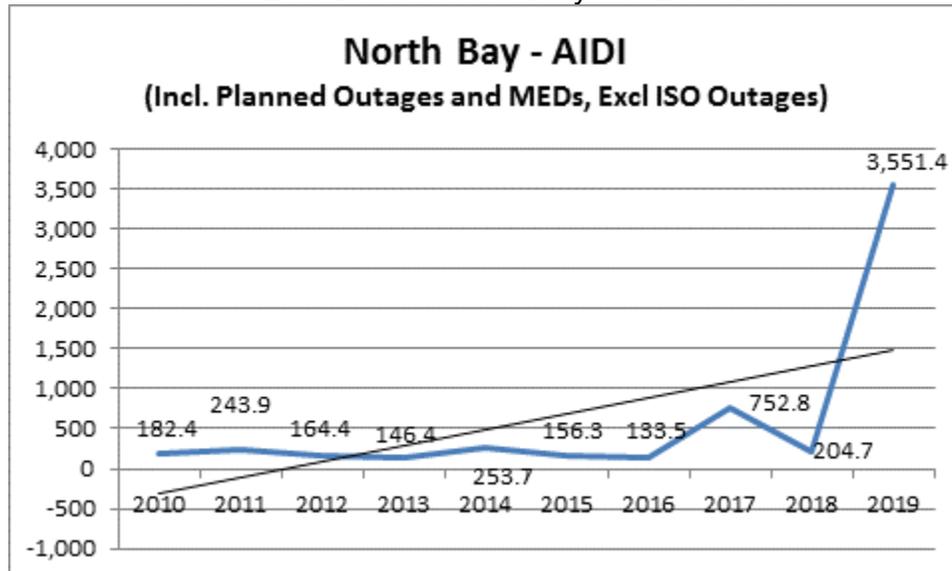


Chart 294: Division Reliability – AIDI Indices

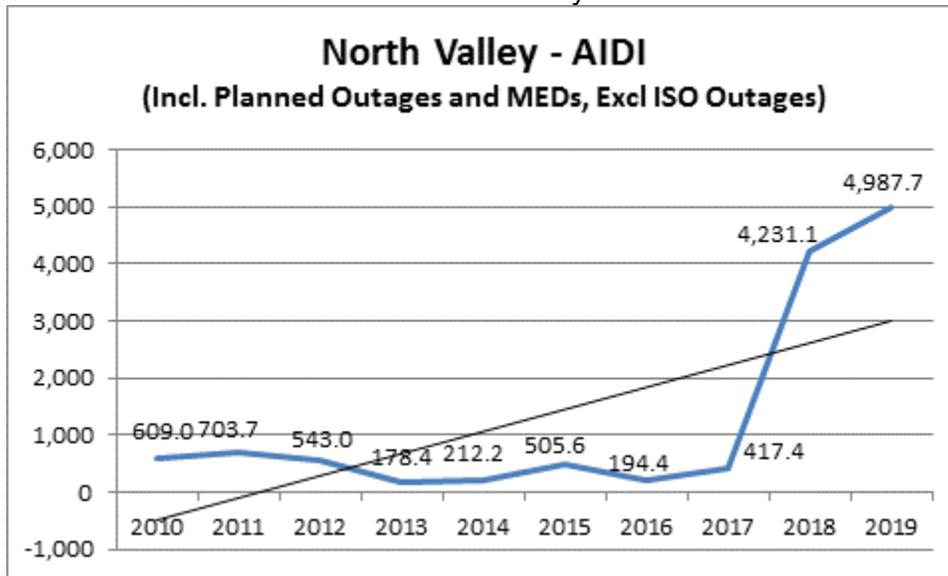


Chart 295: Division Reliability – AIDI Indices

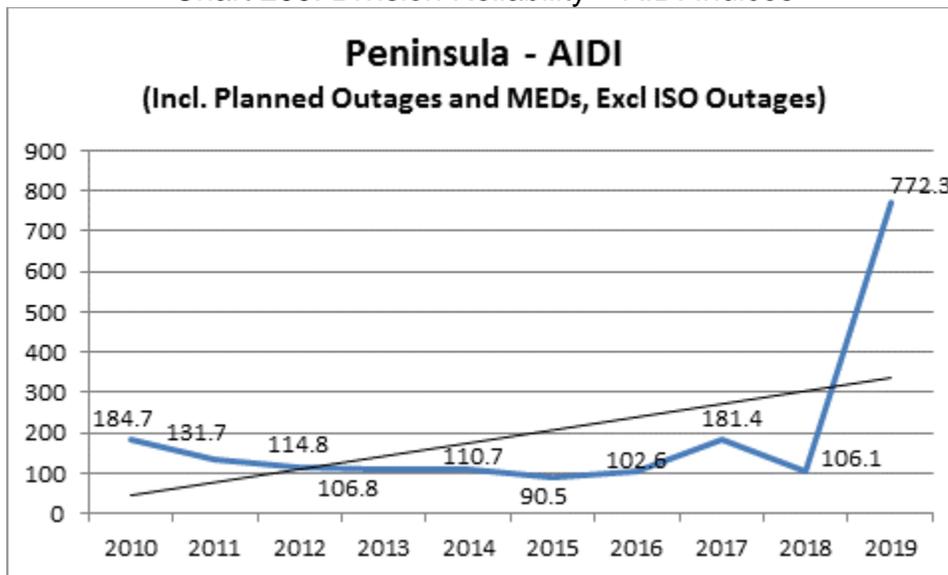


Chart 296: Division Reliability – AIDI Indices

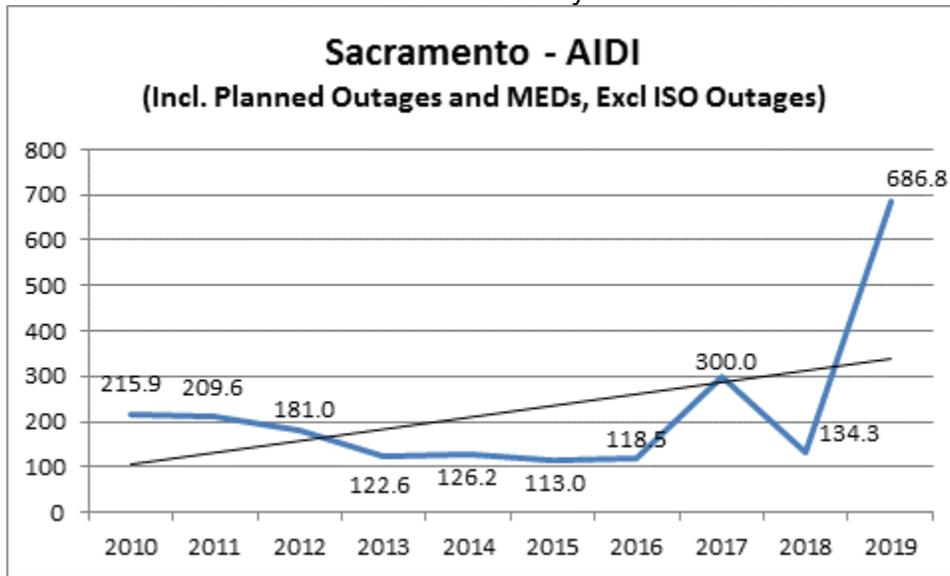


Chart 297: Division Reliability – AIDI Indices

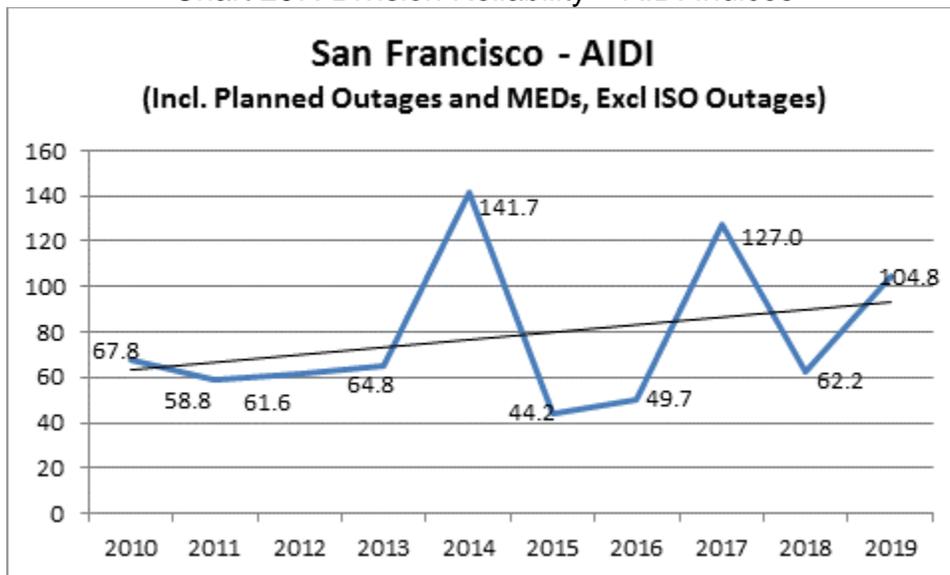


Chart 298: Division Reliability – AIDI Indices

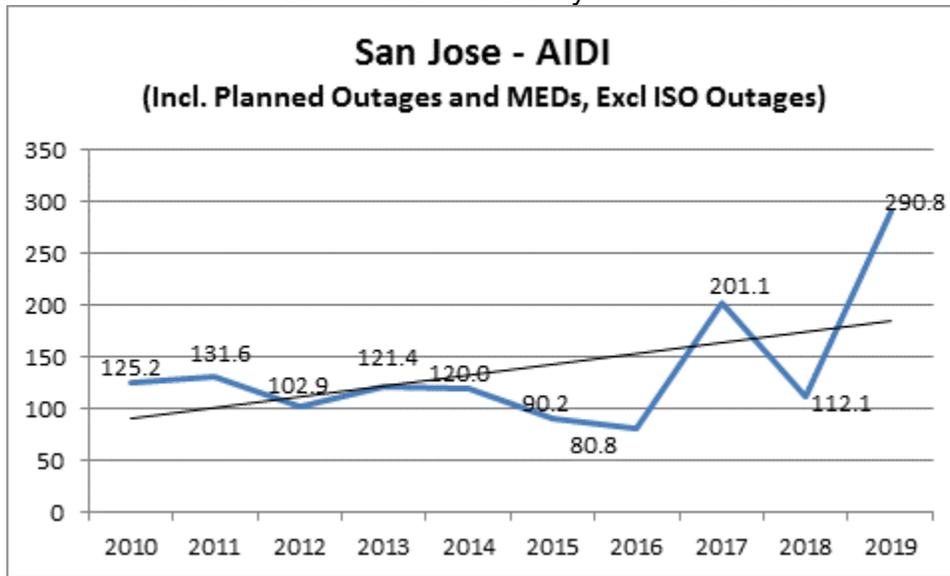


Chart 299: Division Reliability – AIDI Indices

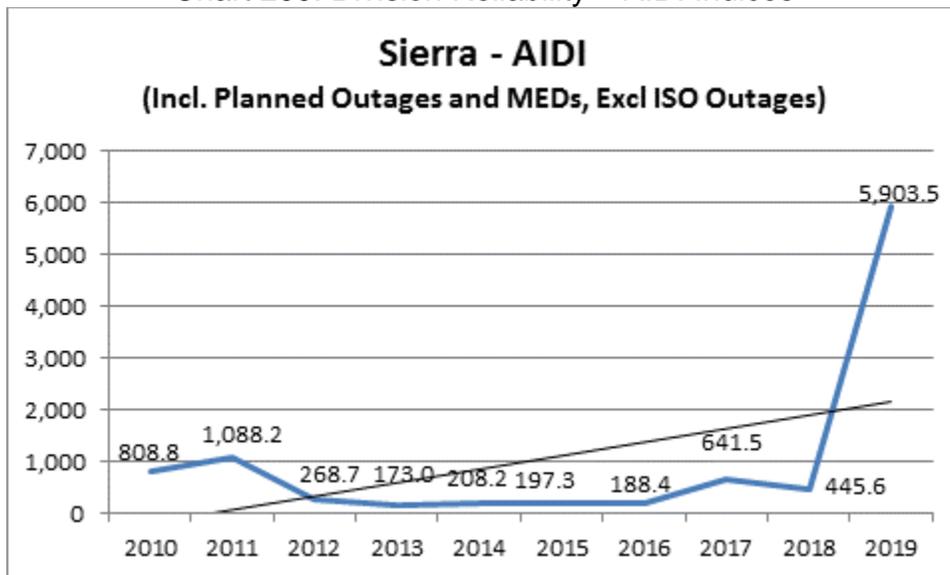


Chart 300: Division Reliability – AIDI Indices

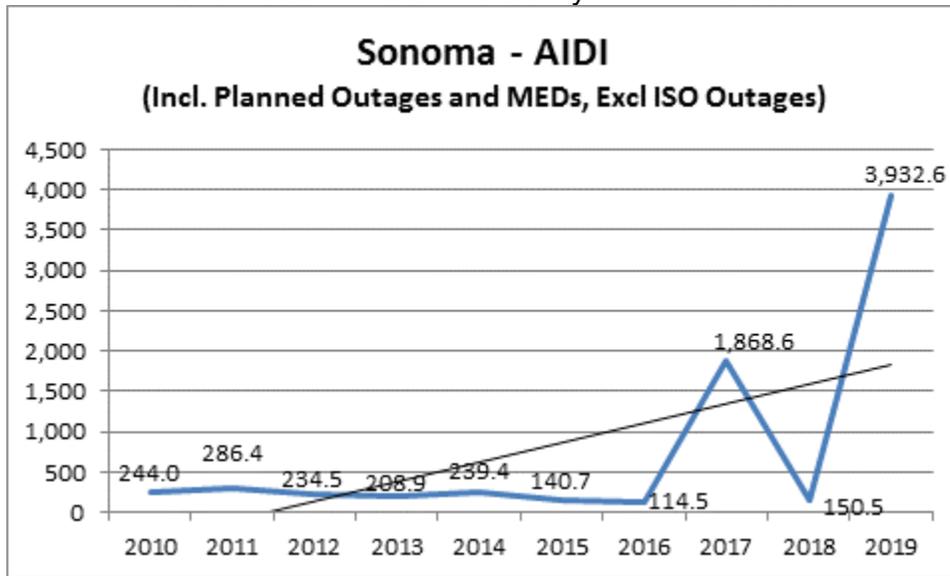


Chart 301: Division Reliability – AIDI Indices

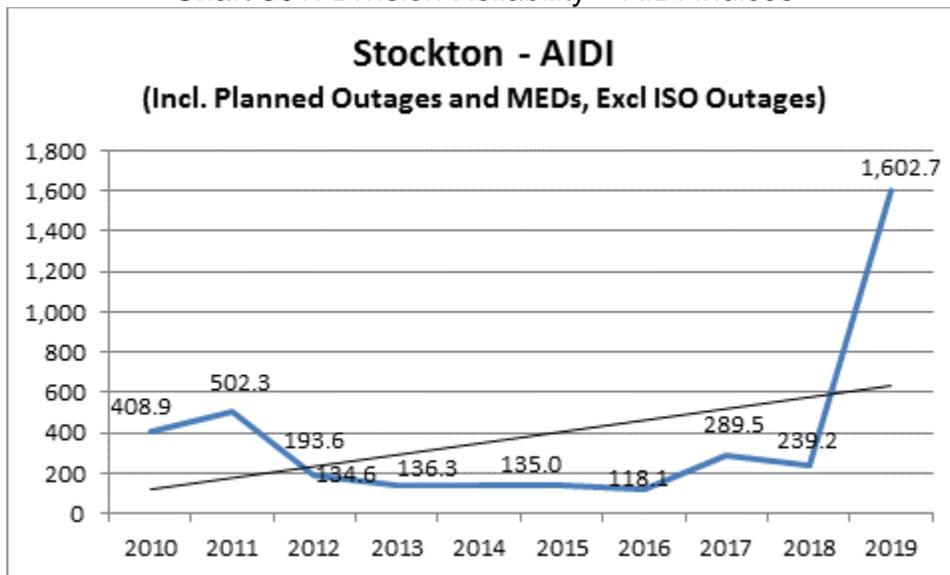


Chart 302: Division Reliability – AIDI Indices

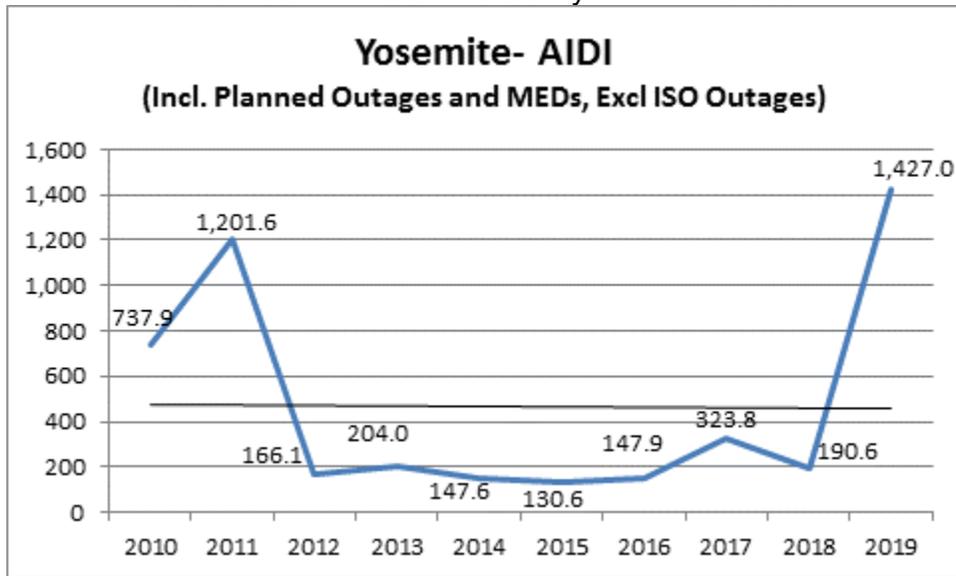
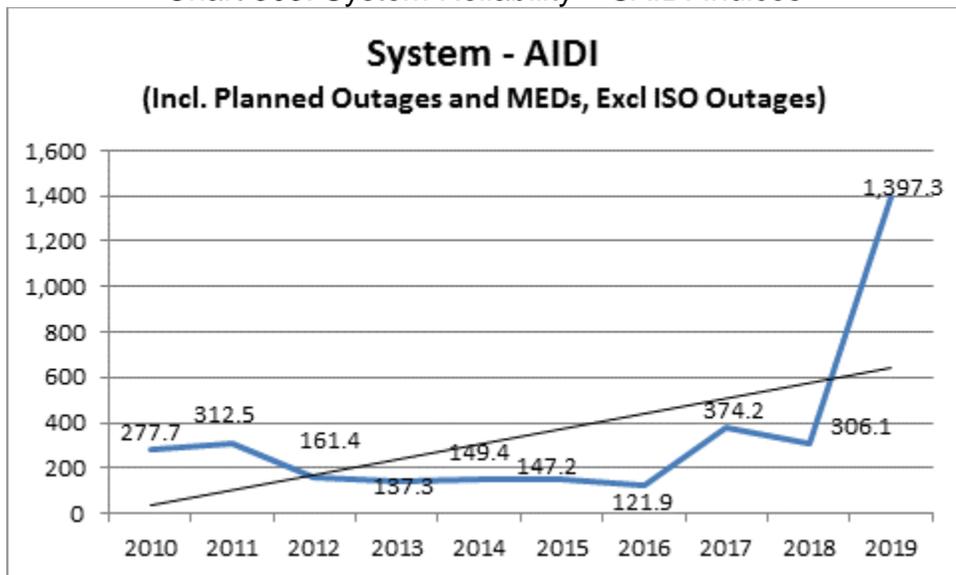


Chart 303: System Reliability – SAIDI Indices



2. SAIFI Performance Results (MED Included)

Chart 304: Division Reliability – AIFI Indices

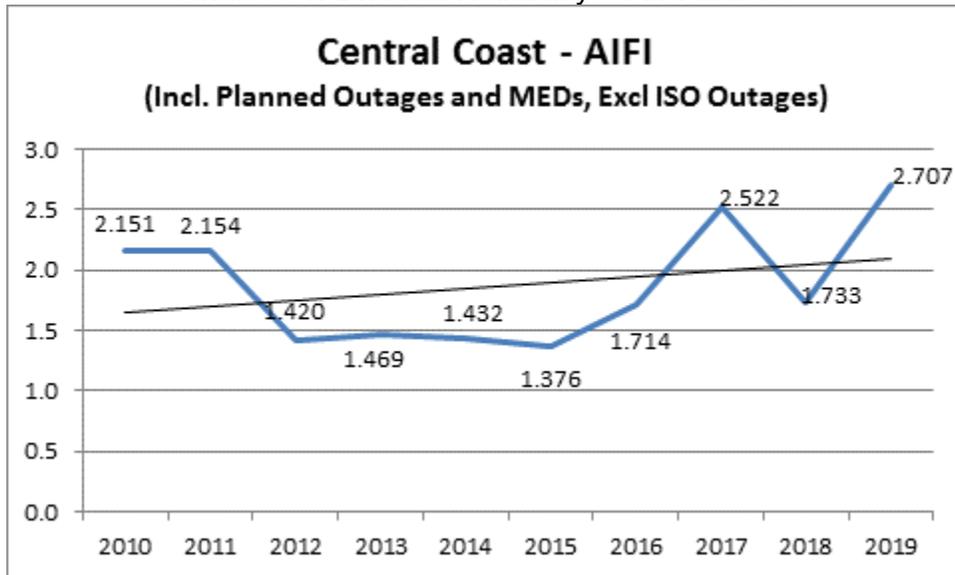


Chart 305: Division Reliability – AIFI Indices

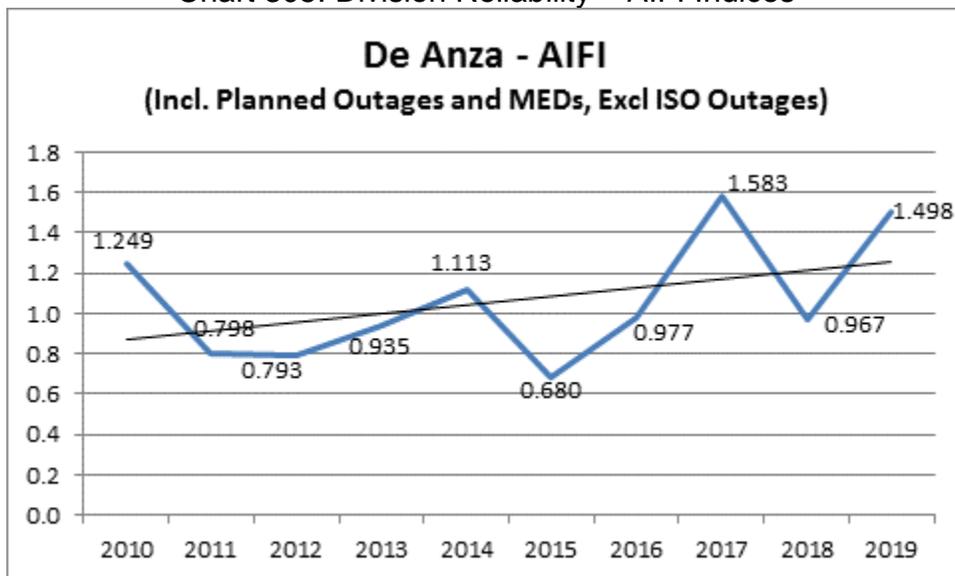


Chart 306: Division Reliability – AIFI Indices

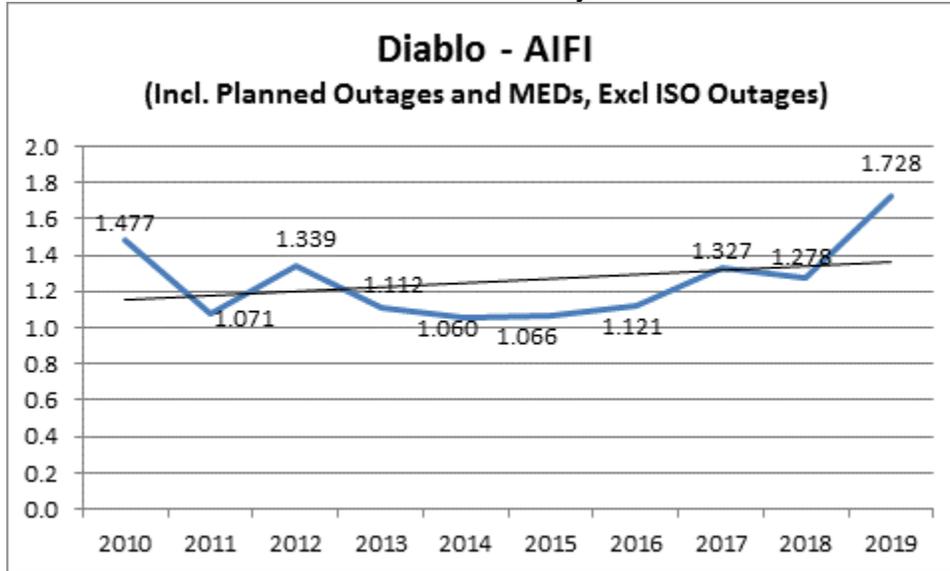


Chart 307: Division Reliability – AIFI Indices

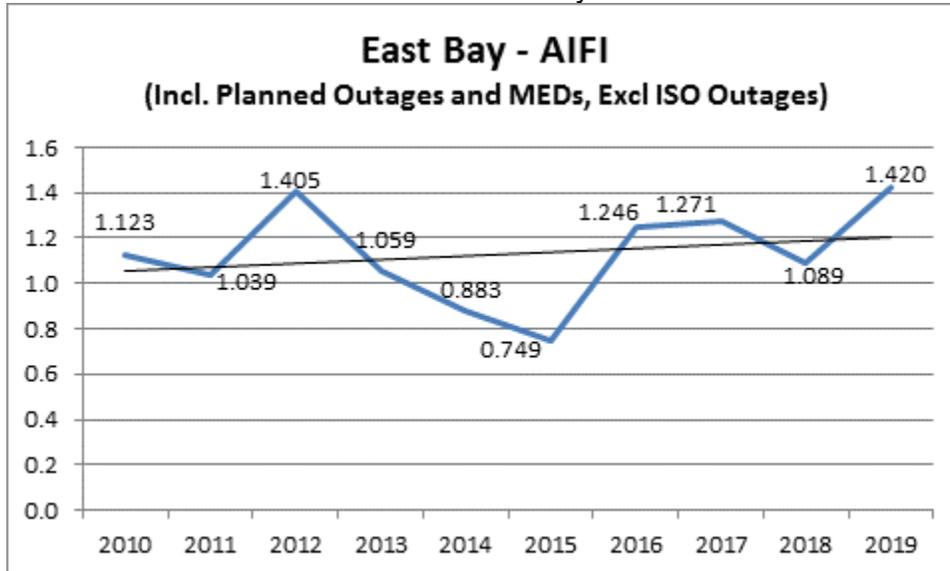


Chart 308: Division Reliability – AIFI Indices

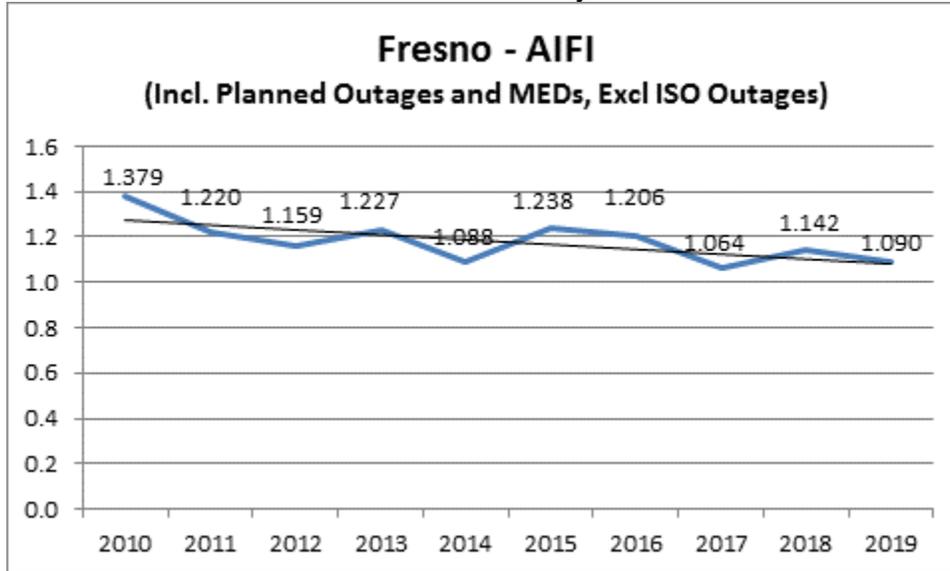


Chart 309: Division Reliability – AIFI Indices

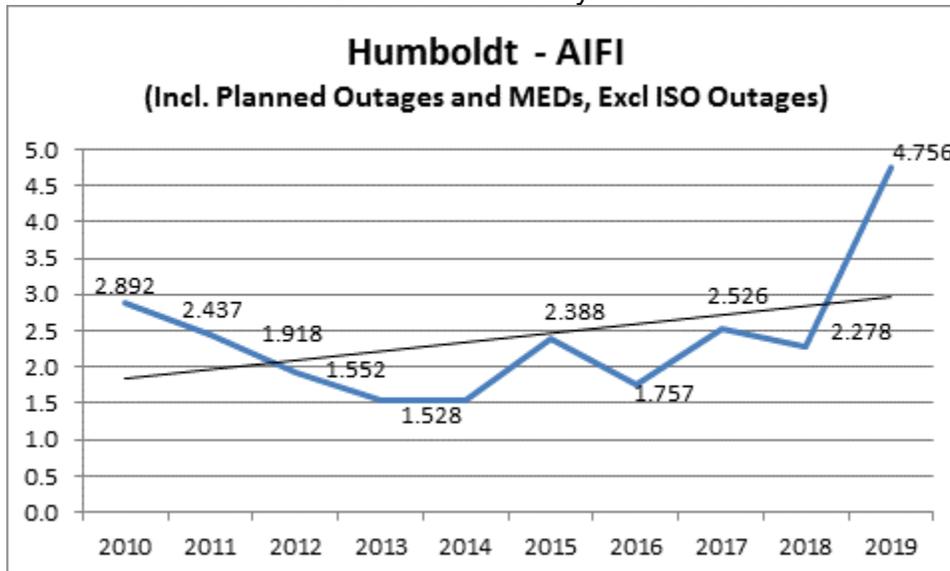


Chart 310: Division Reliability – AIFI Indices

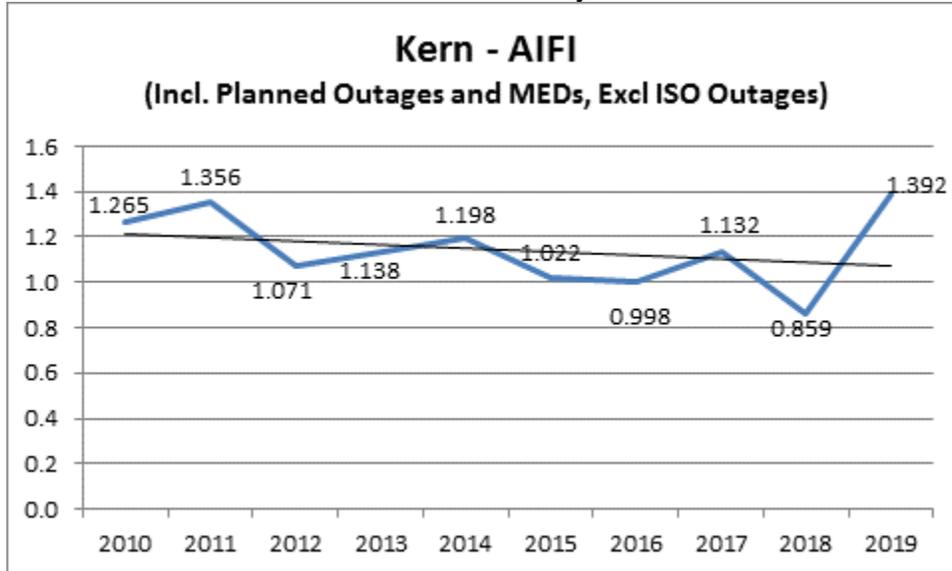


Chart 311: Division Reliability – AIFI Indices

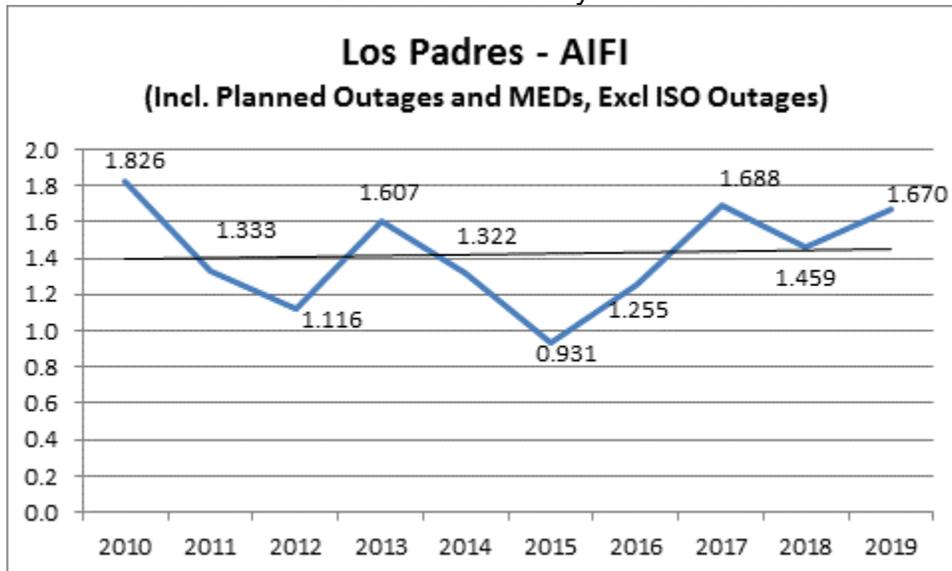


Chart 312: Division Reliability – AIFI Indices

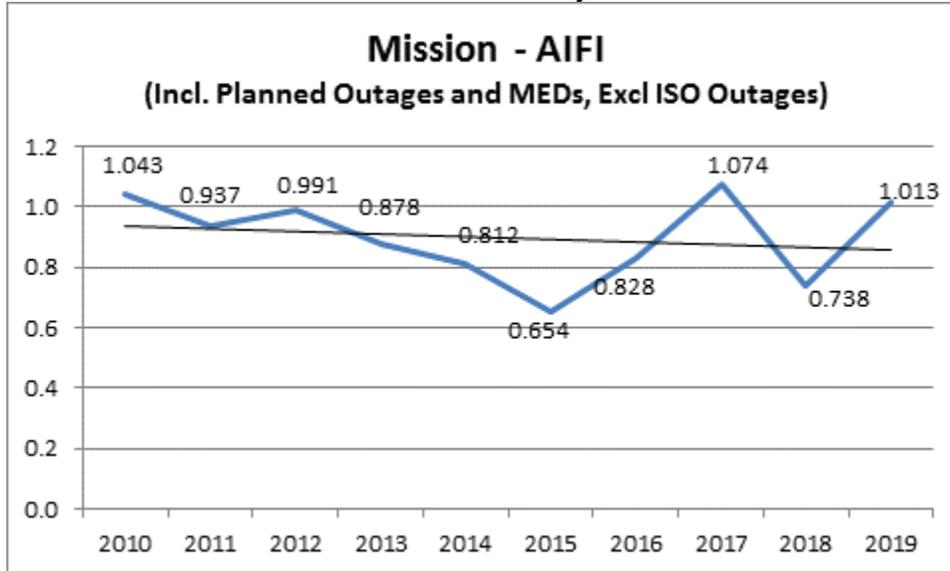


Chart 313: Division Reliability – AIFI Indices

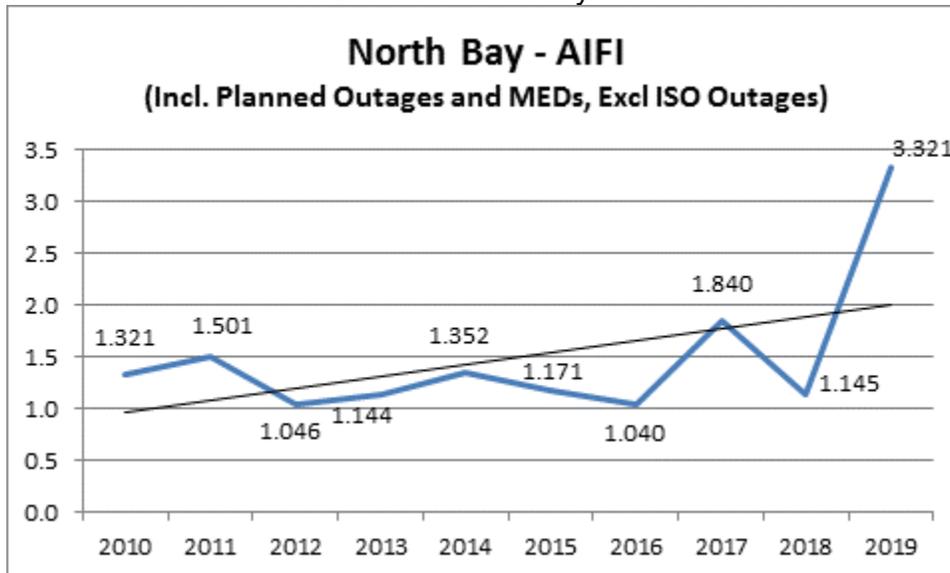


Chart 314: Division Reliability – AIFI Indices

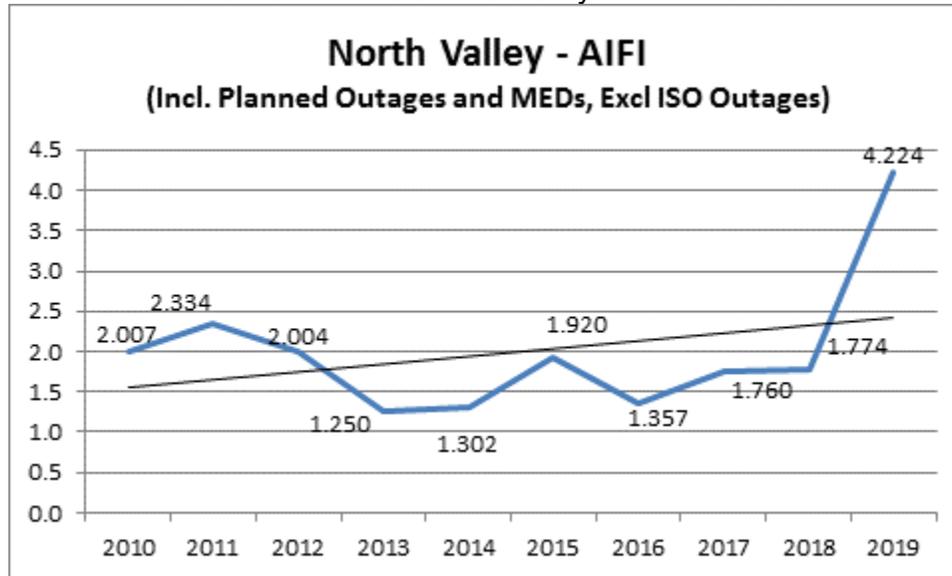


Chart 315: Division Reliability – AIFI Indices

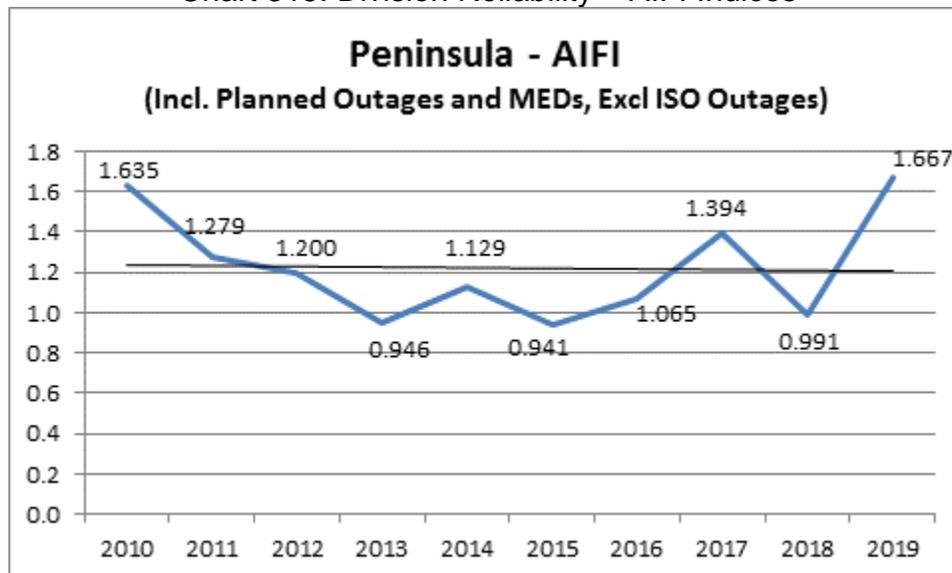


Chart 316: Division Reliability – AIFI Indices

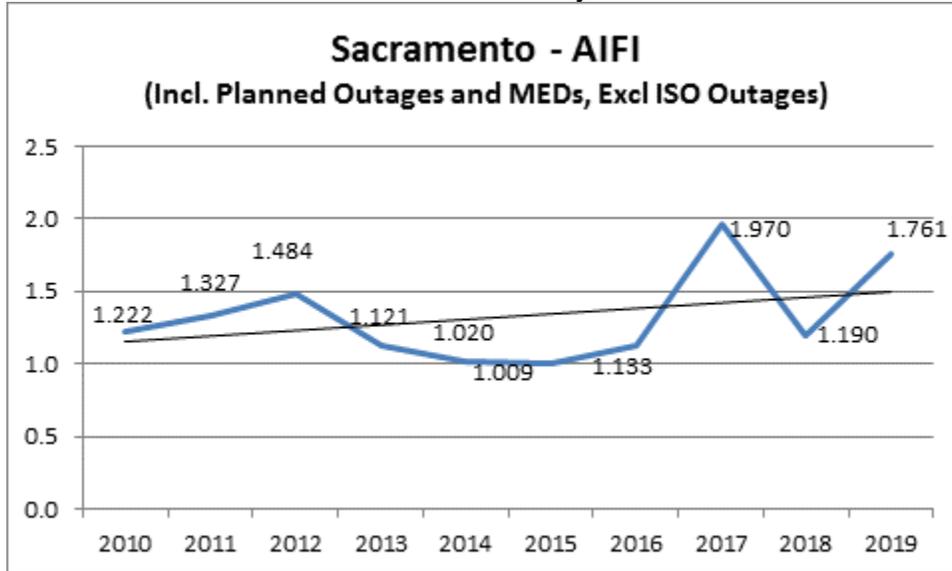


Chart 317: Division Reliability – AIFI Indices

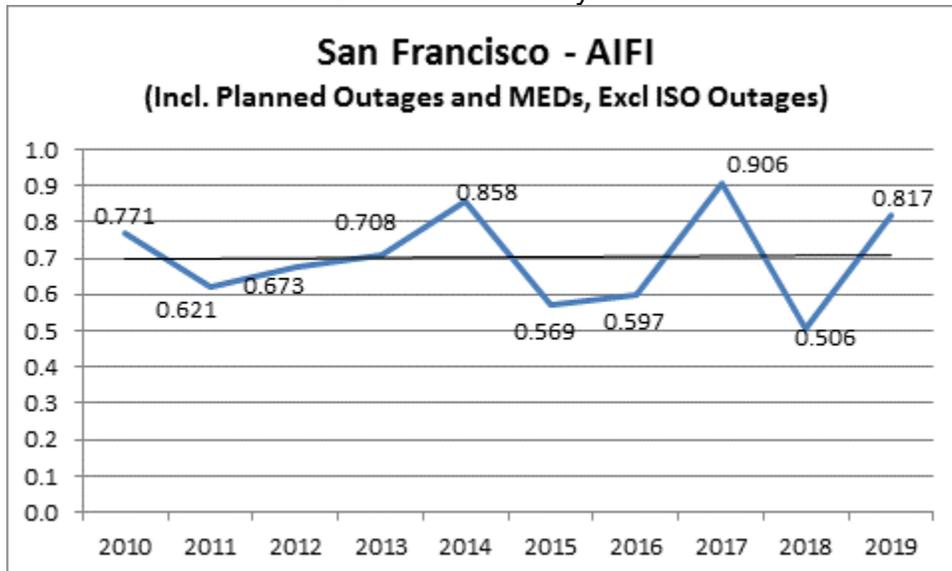


Chart 318: Division Reliability – AIFI Indices

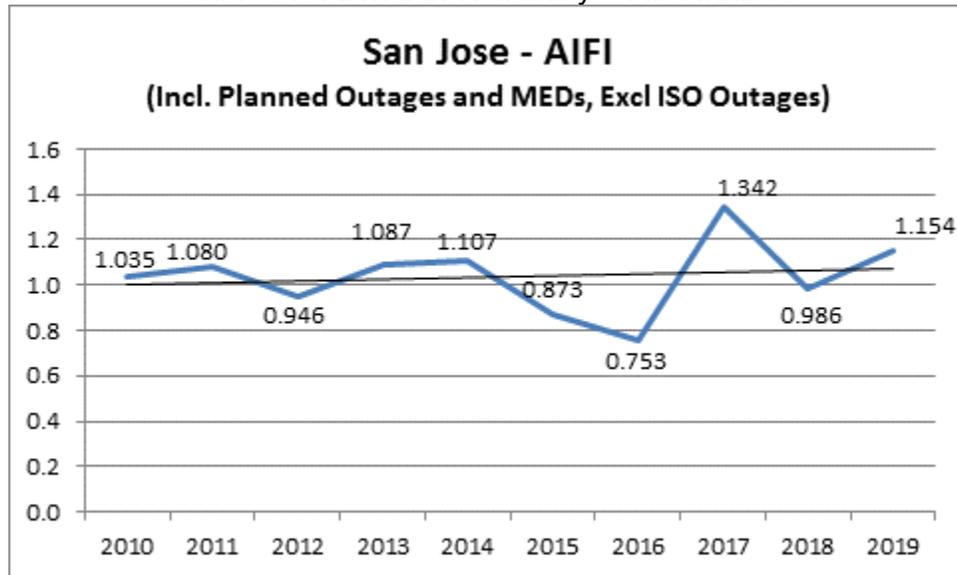


Chart 319: Division Reliability – AIFI Indices

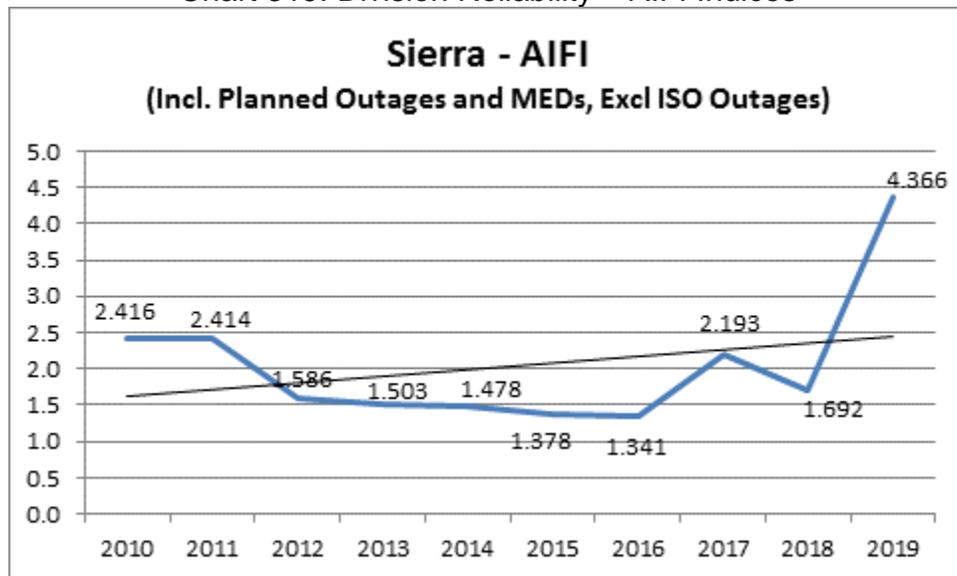


Chart 320: Division Reliability – AIFI Indices

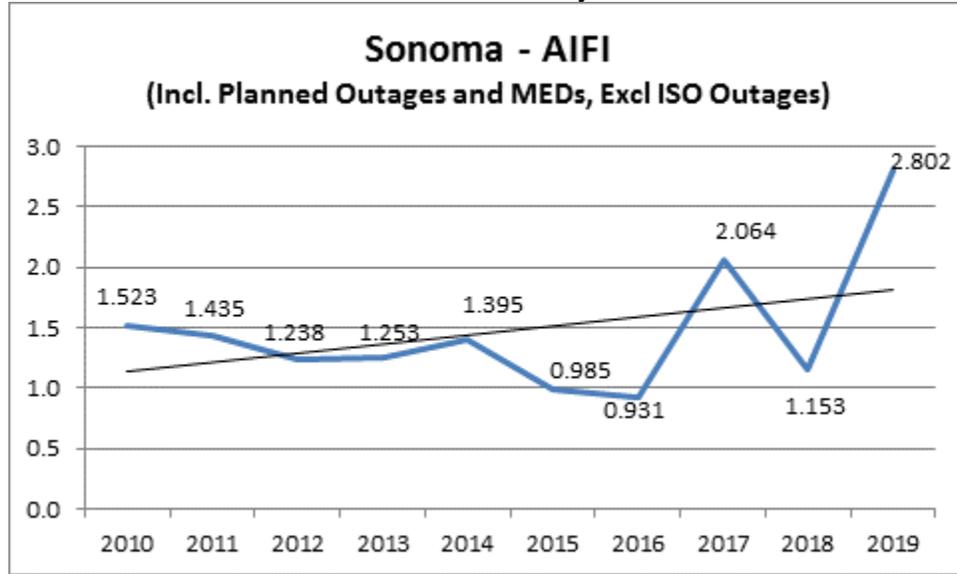


Chart 321: Division Reliability – AIFI Indices

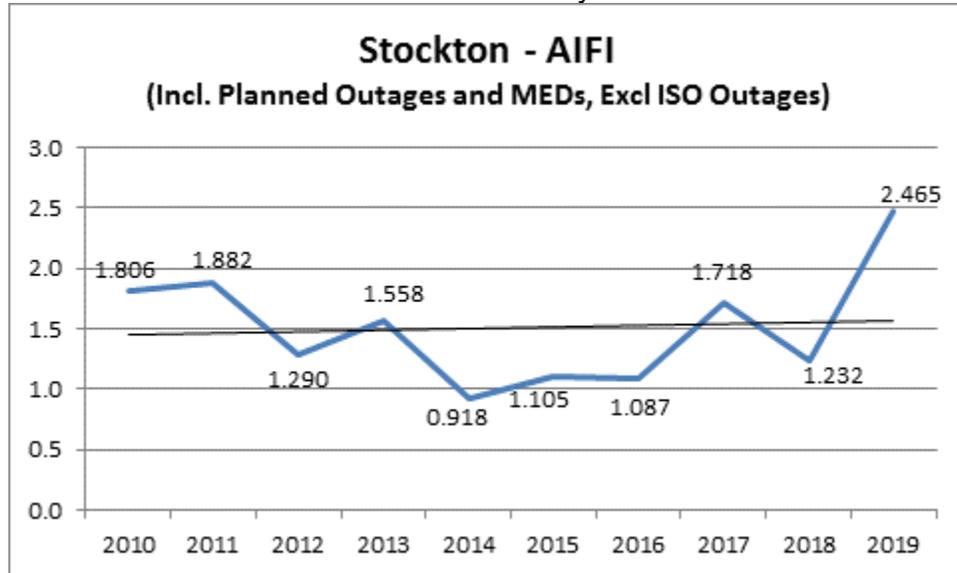


Chart 322: Division Reliability – AIFI Indices

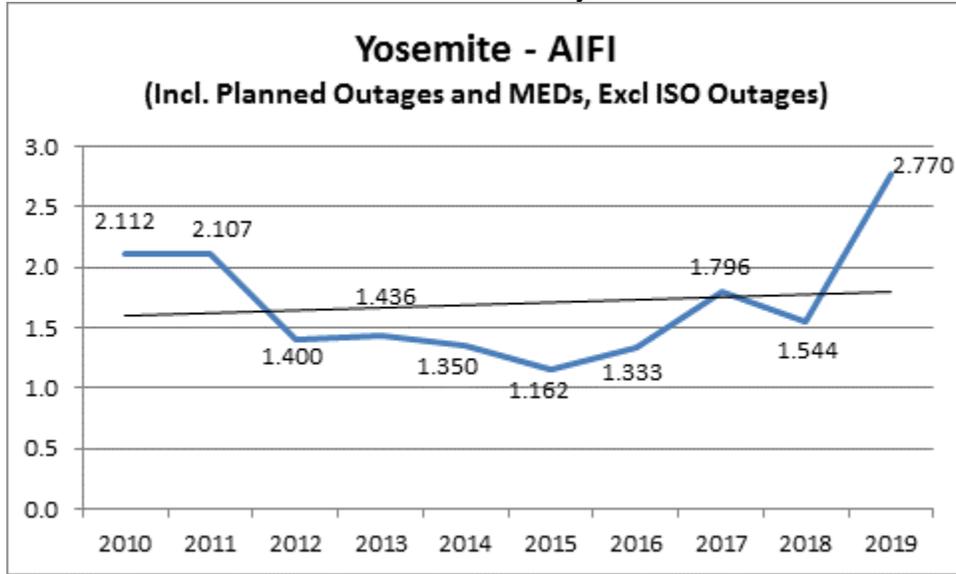
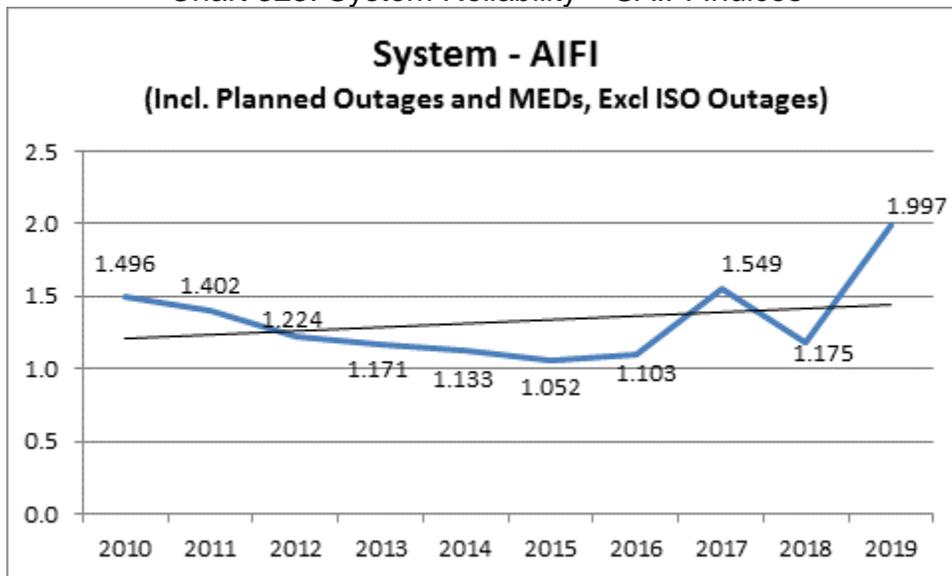


Chart 323: System Reliability – SAIFI Indices



3. MAIFI¹⁰ Performance Results (MED Included)

Chart 324: Division Reliability – MAIFI Indices

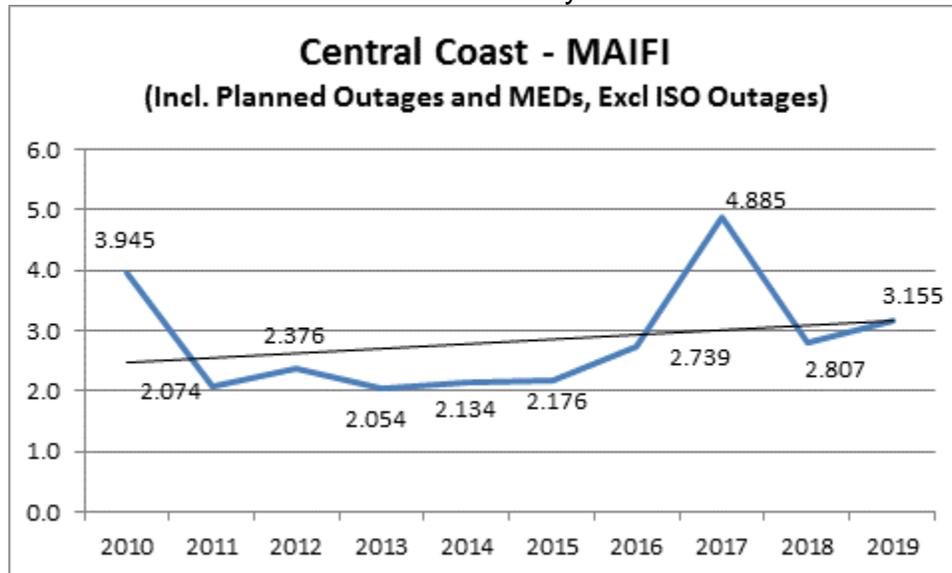
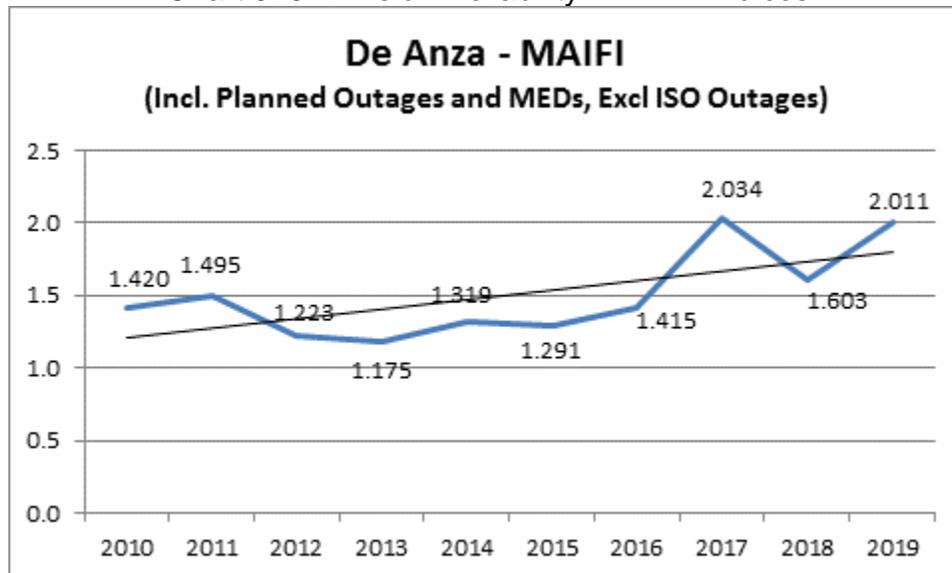


Chart 325: Division Reliability – MAIFI Indices



¹⁰ See footnote 4 above.

Chart 326: Division Reliability – MAIFI Indices

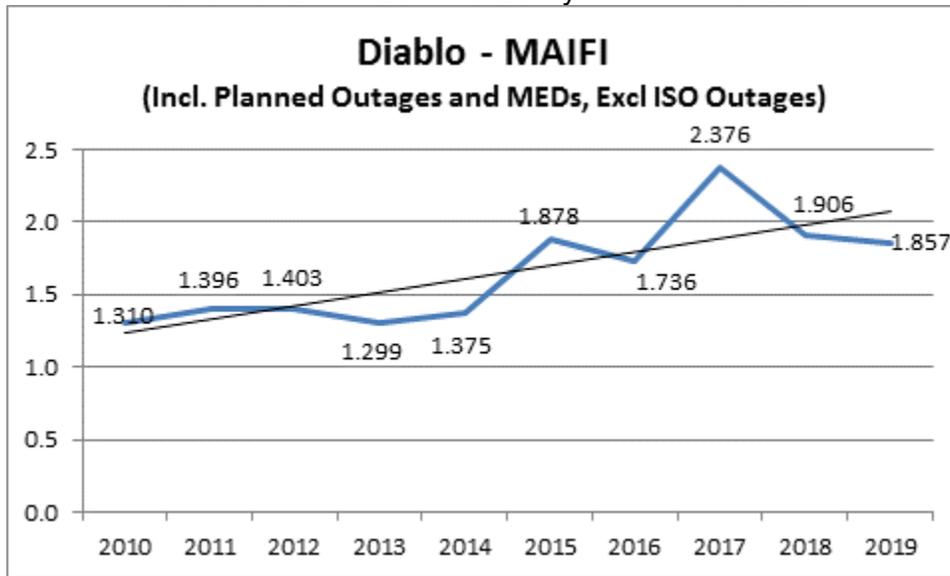


Chart 327: Division Reliability – MAIFI Indices

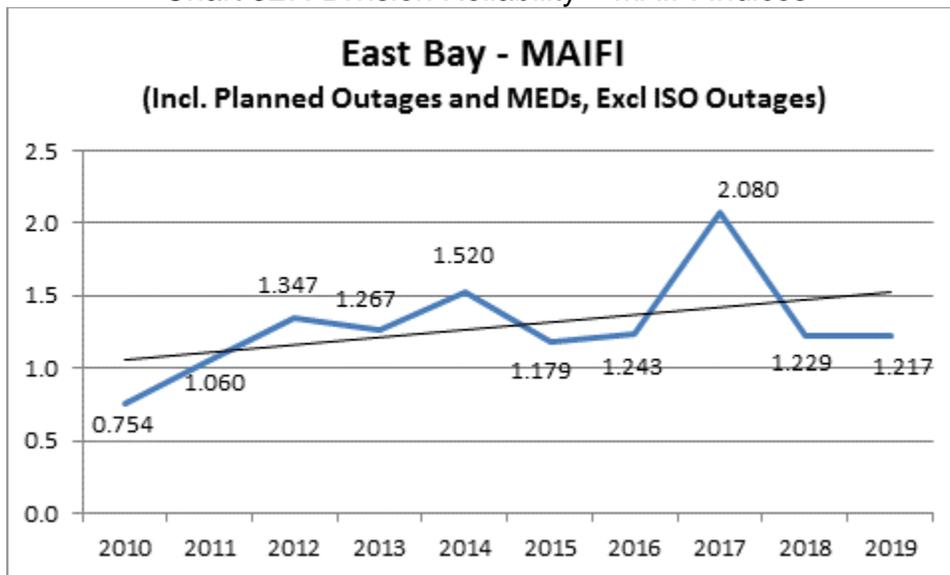


Chart 328: Division Reliability – MAIFI Indices

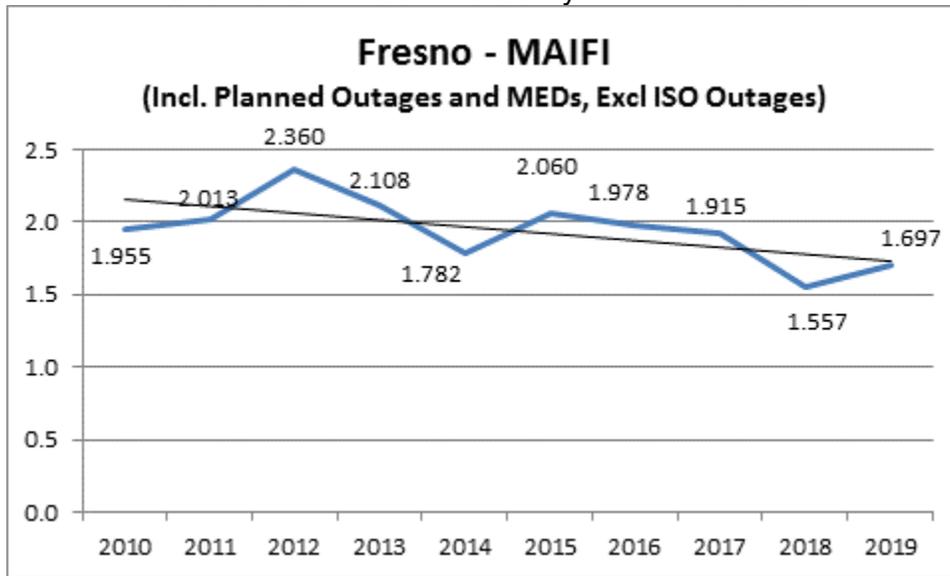


Chart 329: Division Reliability – MAIFI Indices

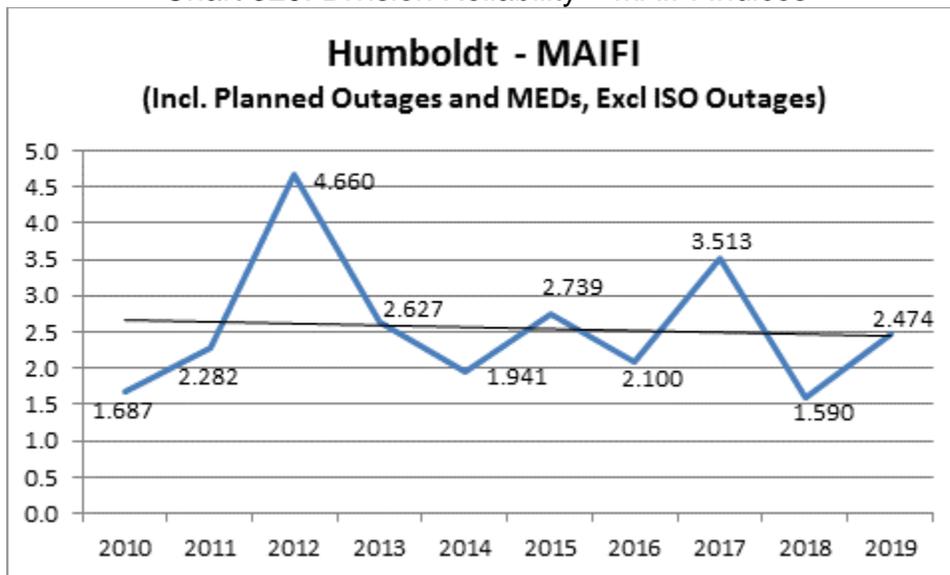


Chart 330: Division Reliability – MAIFI Indices

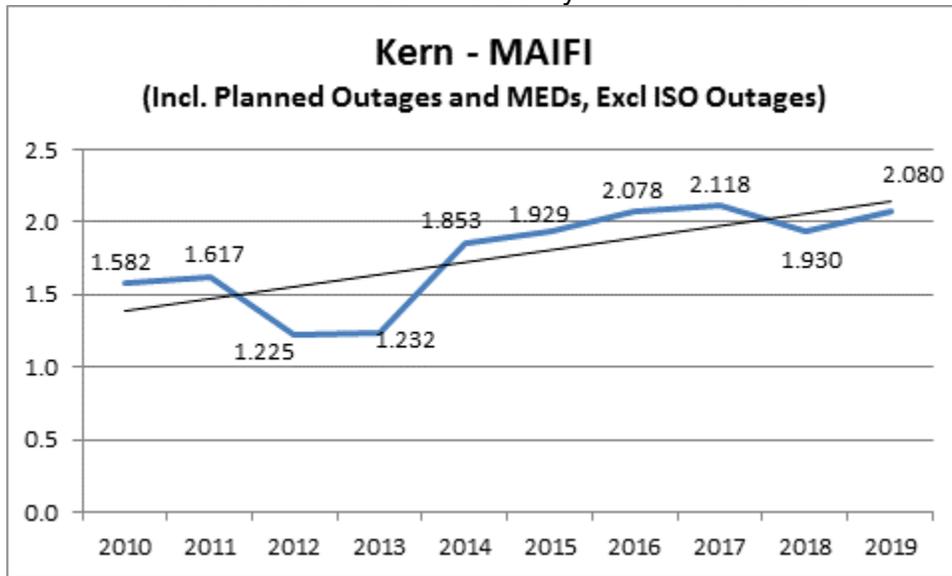


Chart 331: Division Reliability – MAIFI Indices

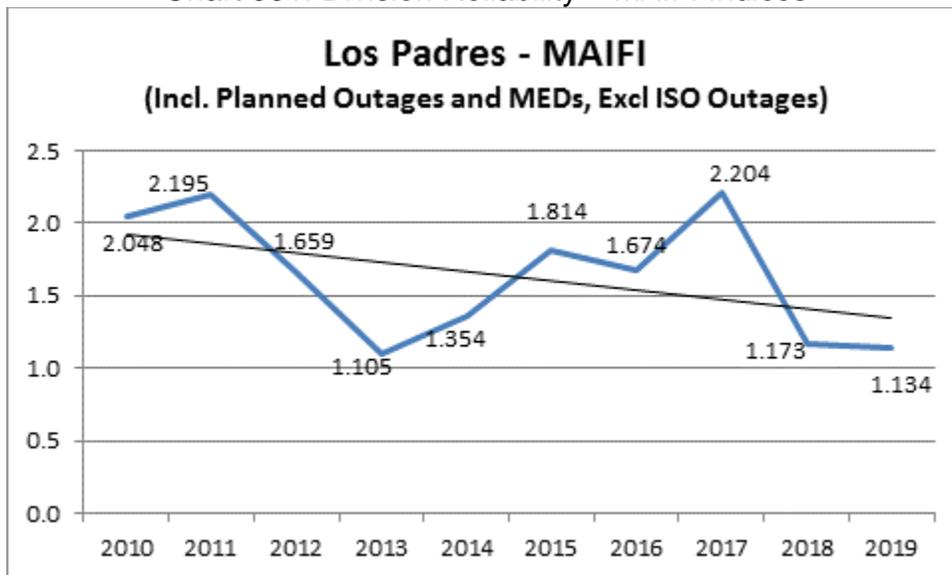


Chart 332: Division Reliability – MAIFI Indices

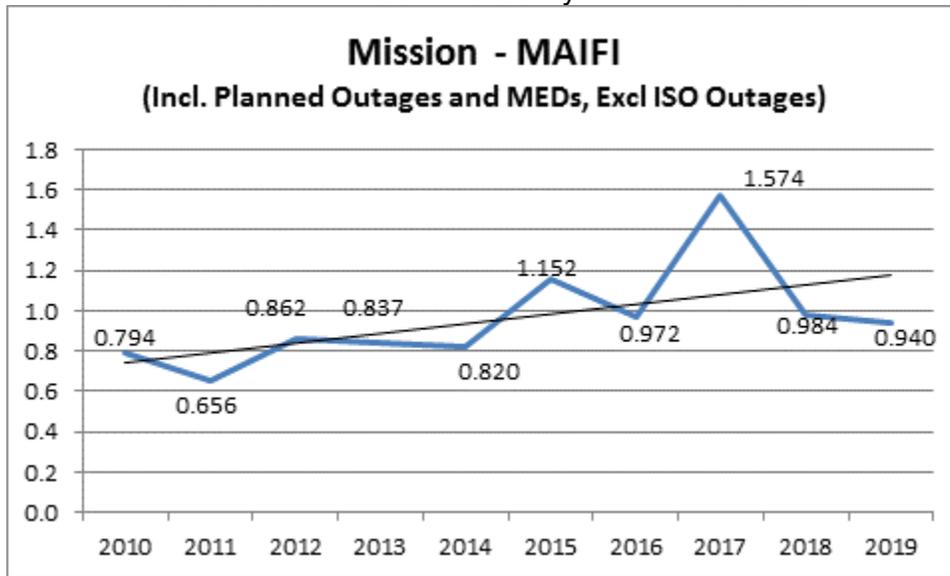


Chart 333: Division Reliability – MAIFI Indices

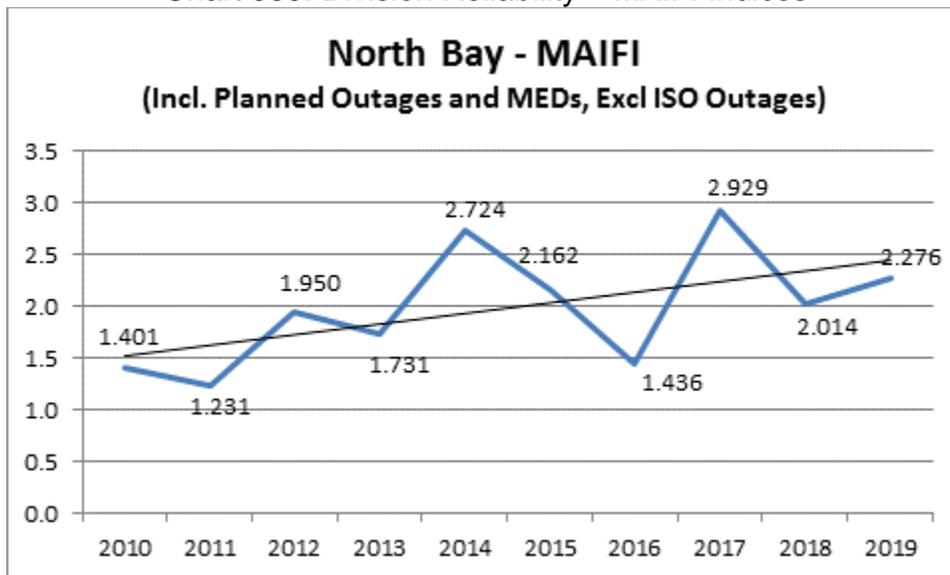


Chart 334: Division Reliability – MAIFI Indices

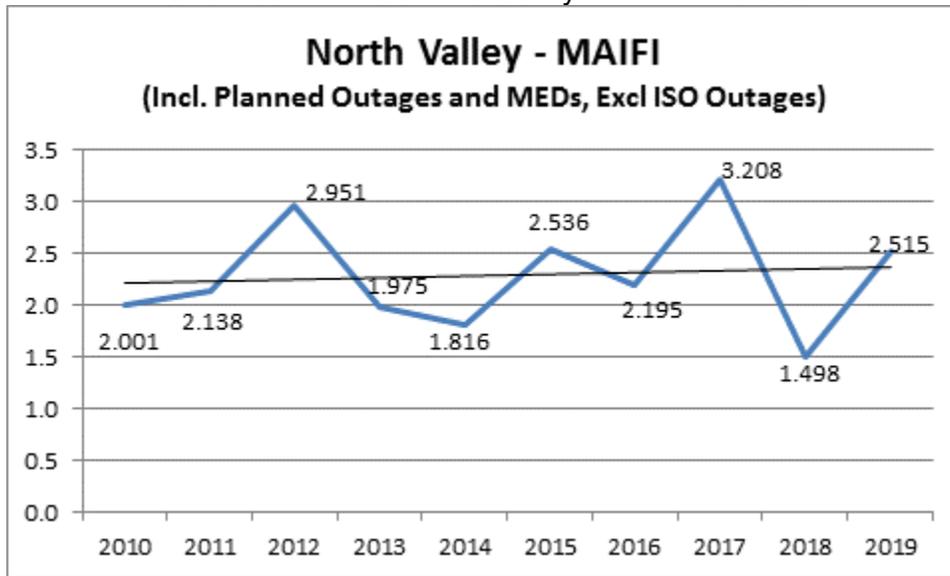


Chart 335: Division Reliability – MAIFI Indices

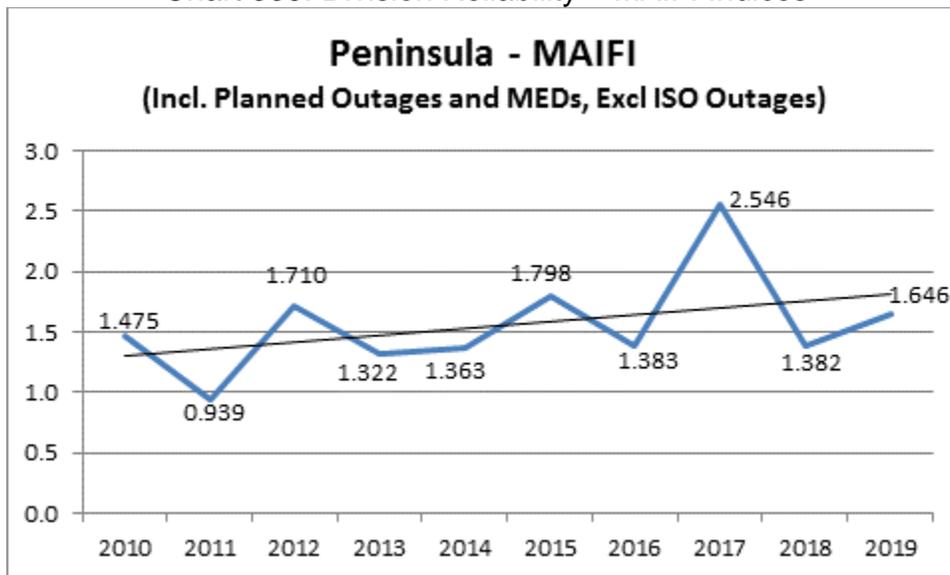


Chart 336: Division Reliability – MAIFI Indices

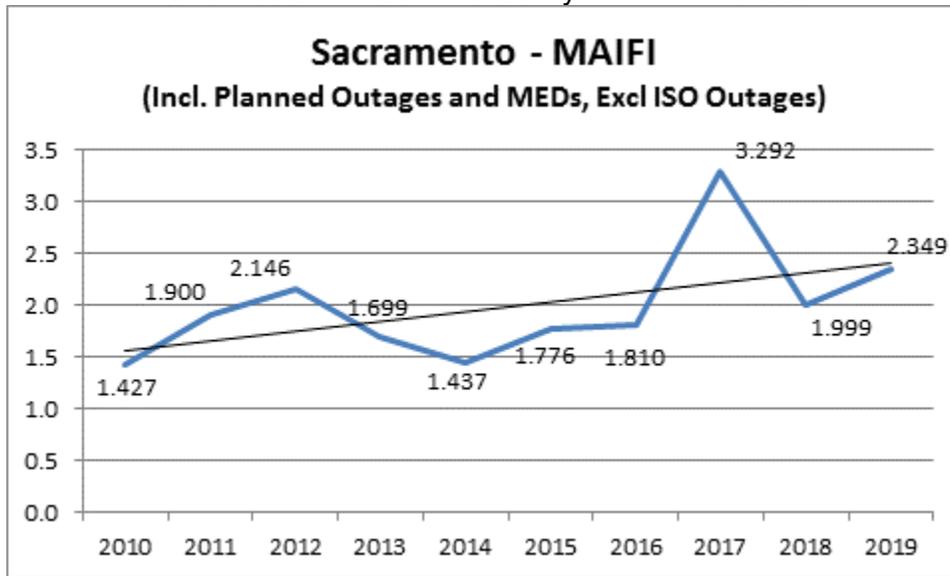


Chart 337: Division Reliability – MAIFI Indices

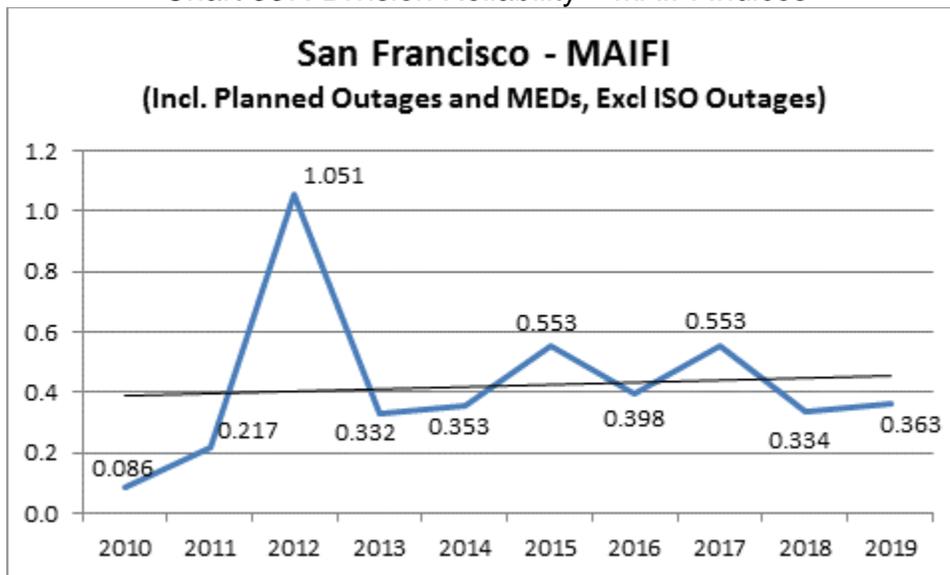


Chart 338: Division Reliability – MAIFI Indices

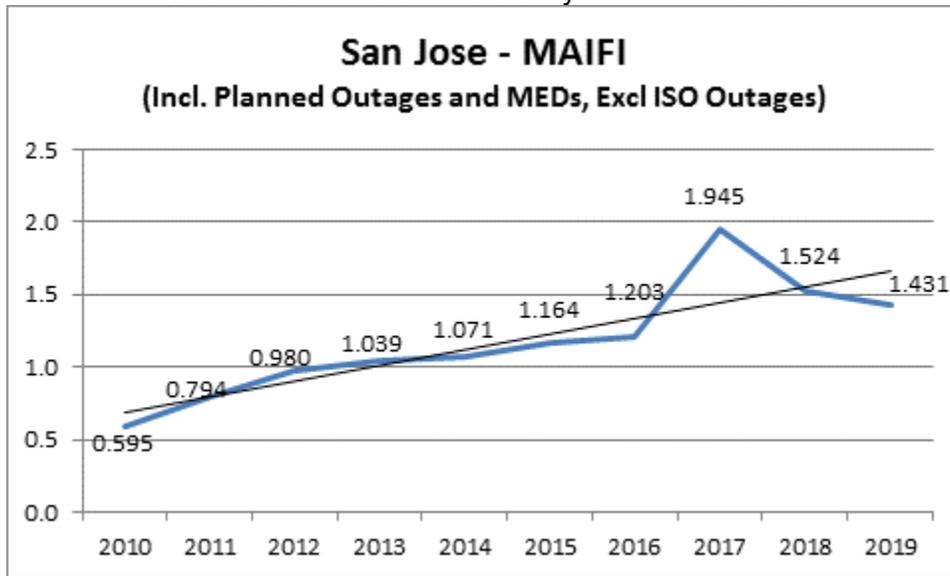


Chart 339: Division Reliability – MAIFI Indices

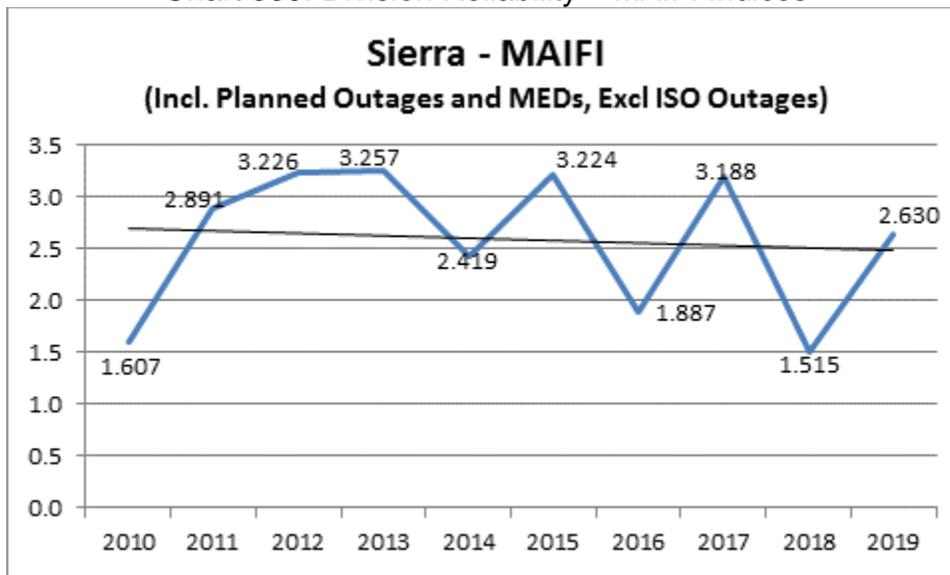


Chart 340: Division Reliability – MAIFI Indices

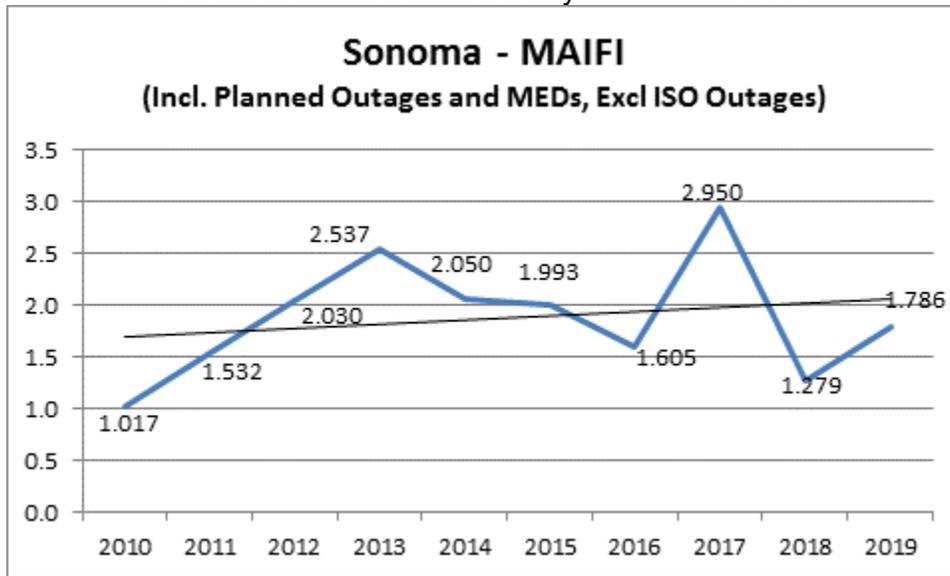


Chart 341: Division Reliability – MAIFI Indices

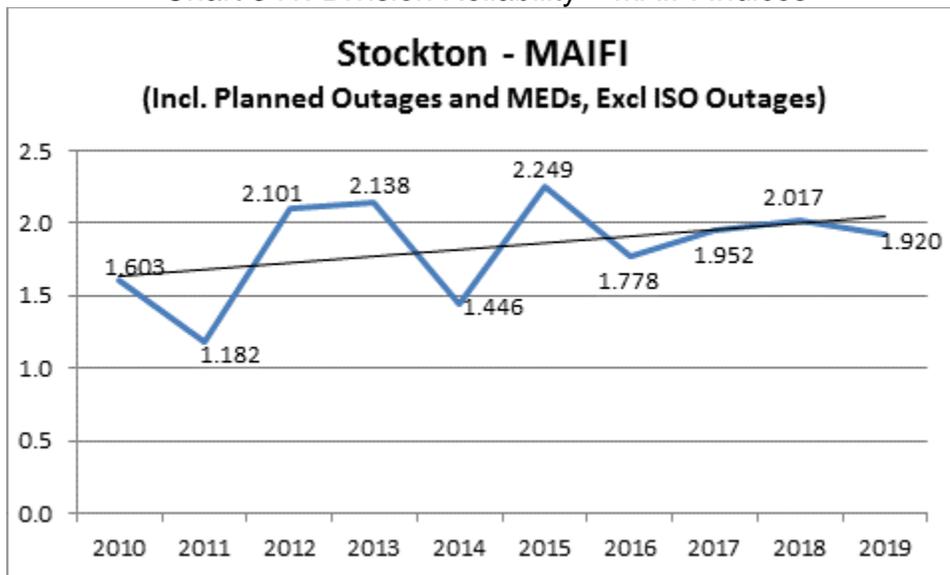


Chart 342: Division Reliability – MAIFI Indices

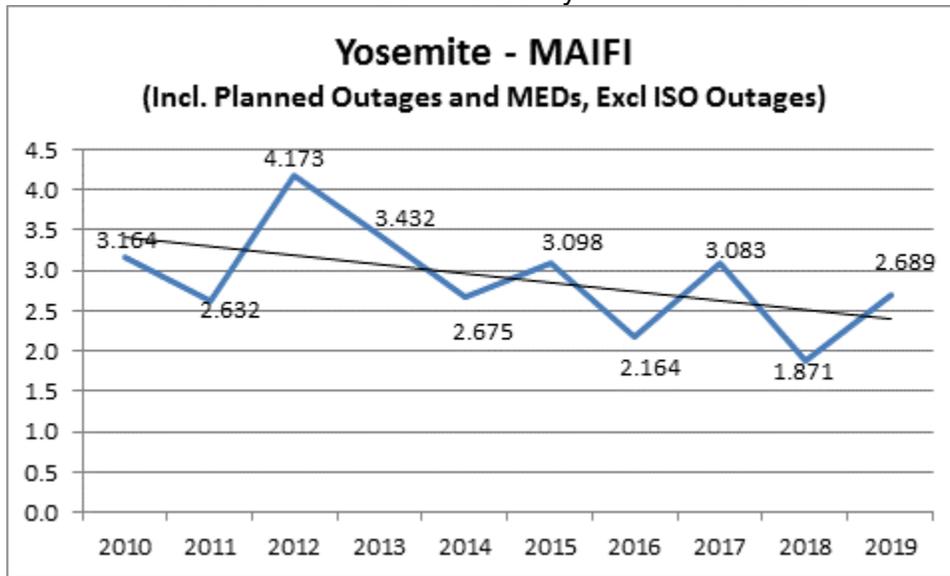
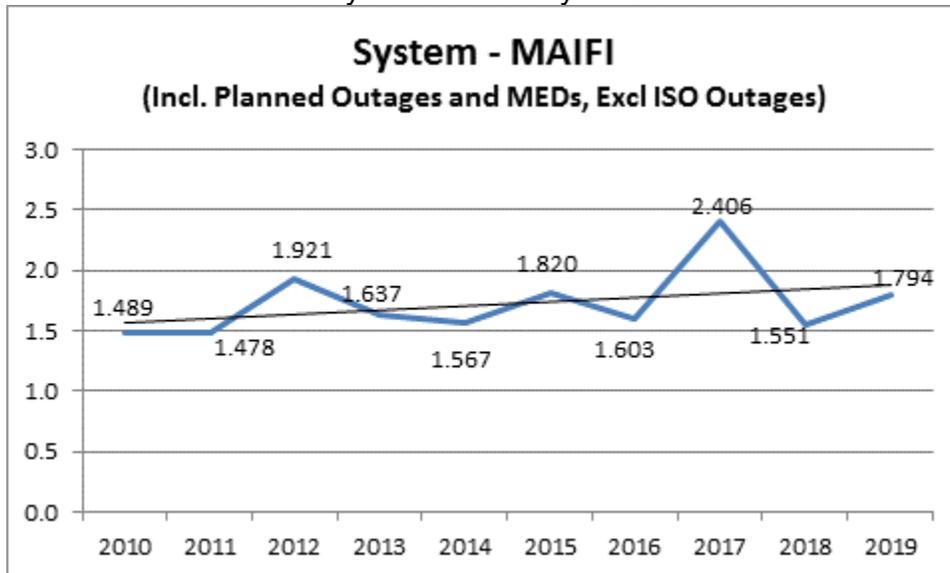


Chart 343: System Reliability – MAIFI Indices



4. CAIDI Performance Results (MED Included)

Chart 344: Division Reliability – CAIDI Indices

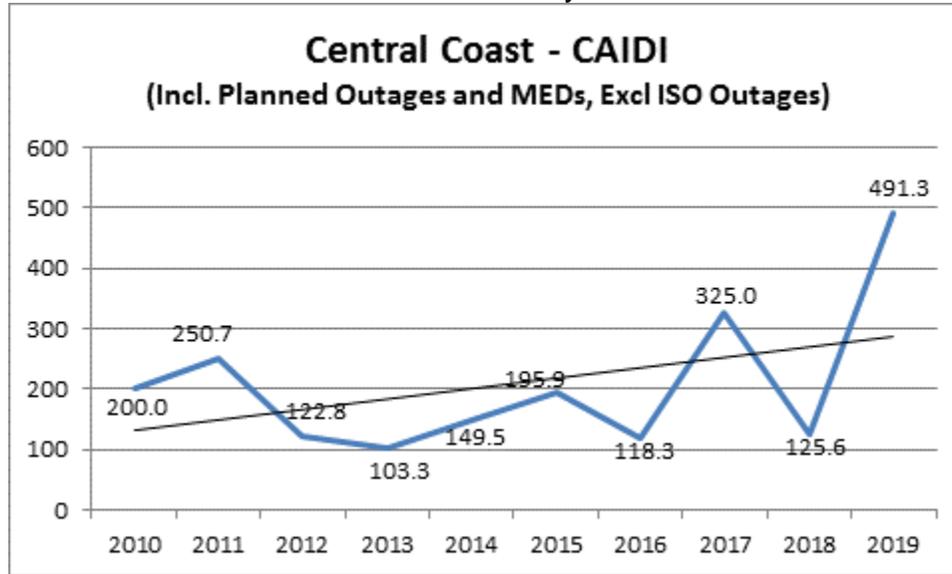


Chart 345: Division Reliability – CAIDI Indices

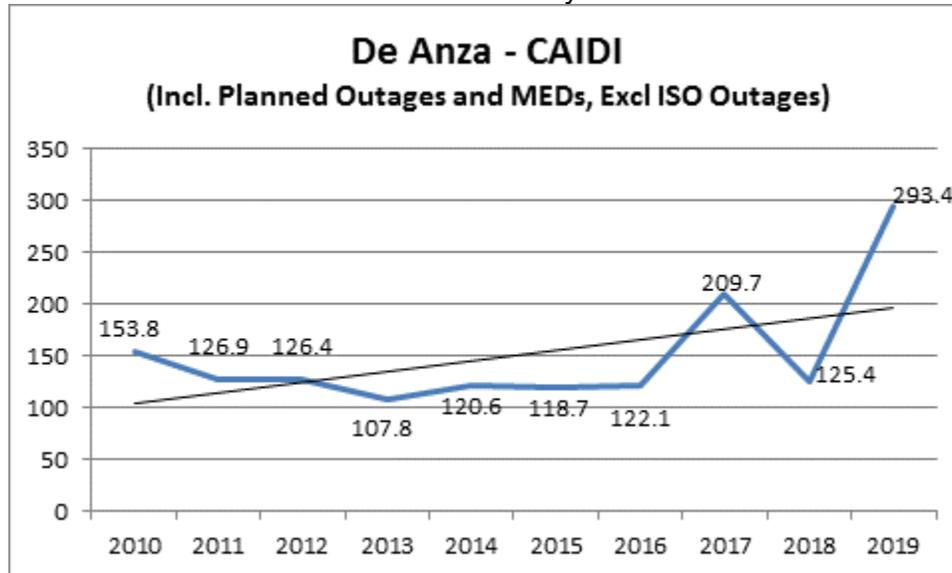


Chart 346: Division Reliability – CAIDI Indices

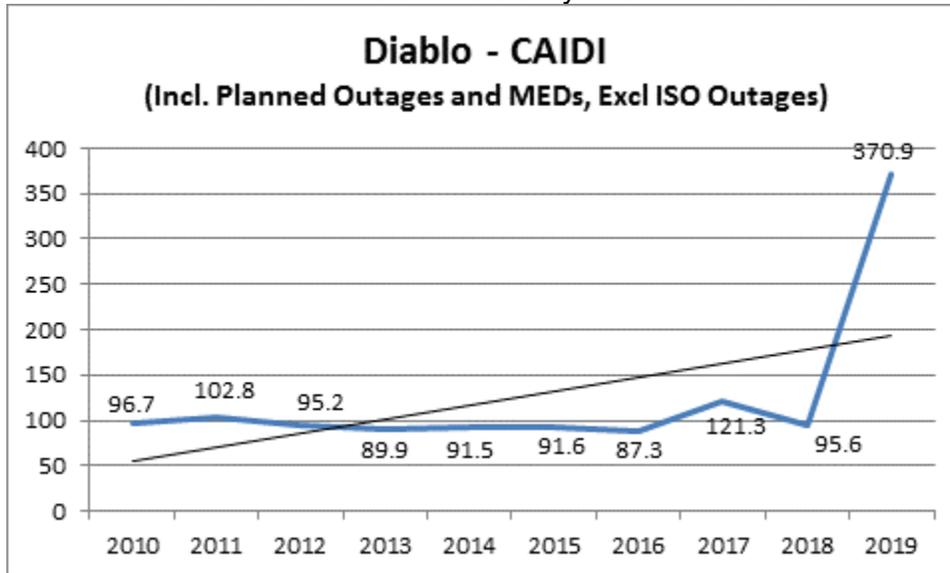


Chart 347: Division Reliability – CAIDI Indices

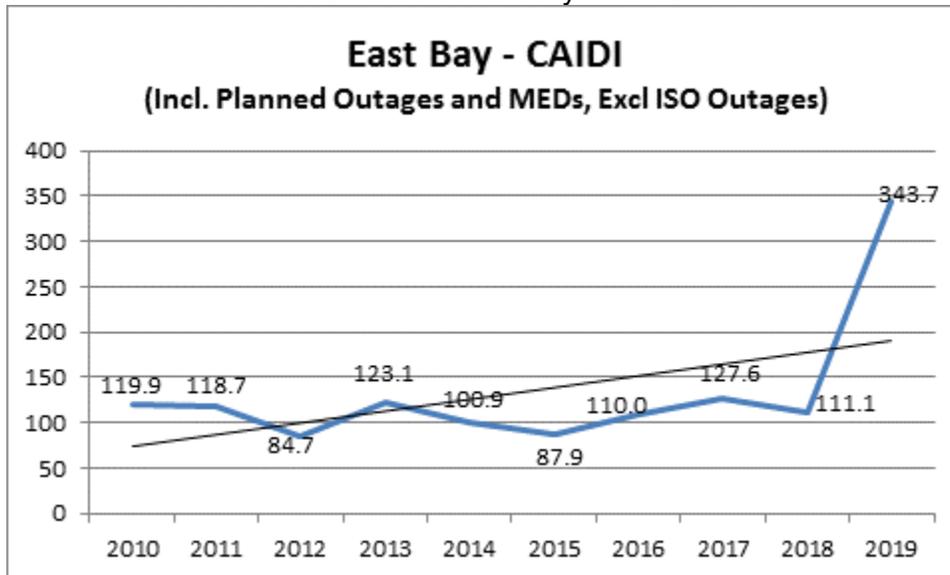


Chart 348: Division Reliability – CAIDI Indices

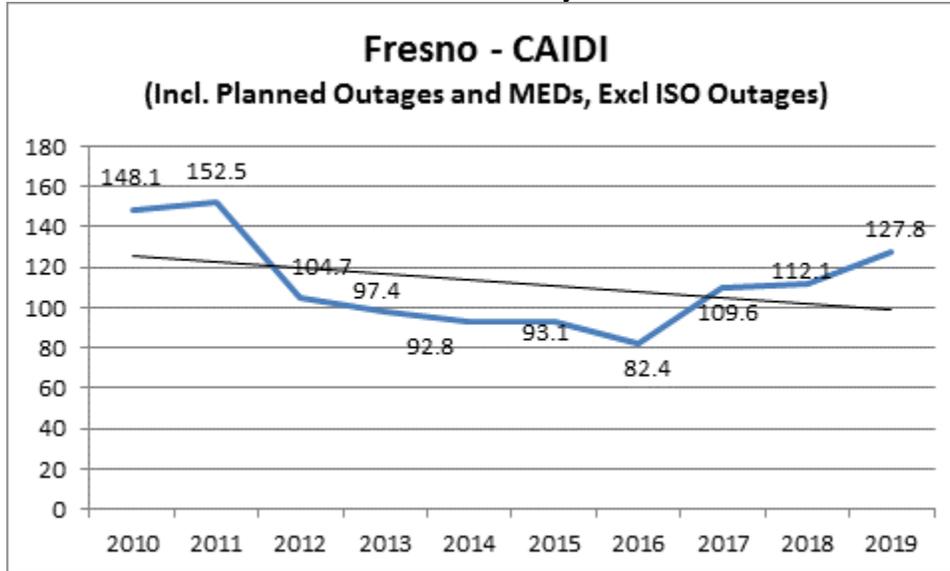


Chart 349: Division Reliability – CAIDI Indices

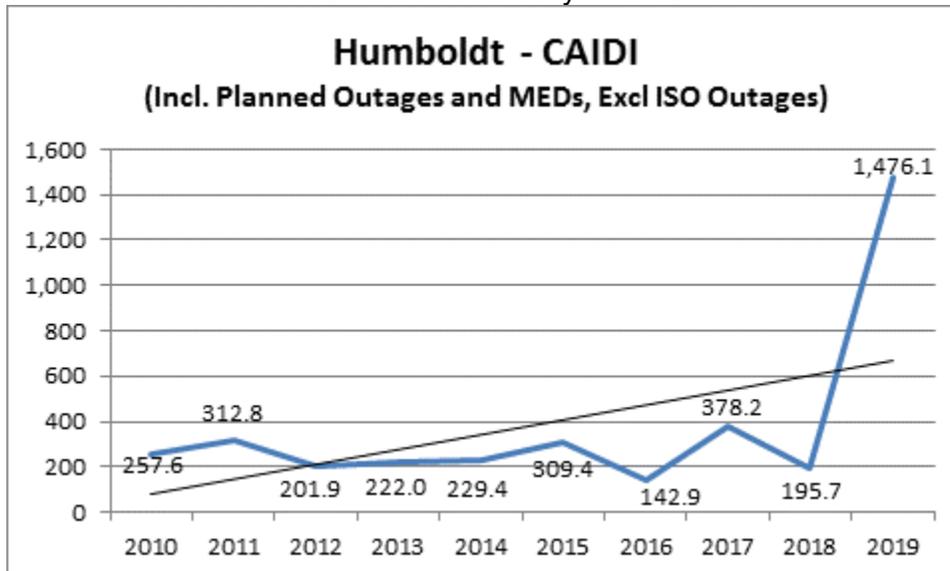


Chart 350: Division Reliability – CAIDI Indices

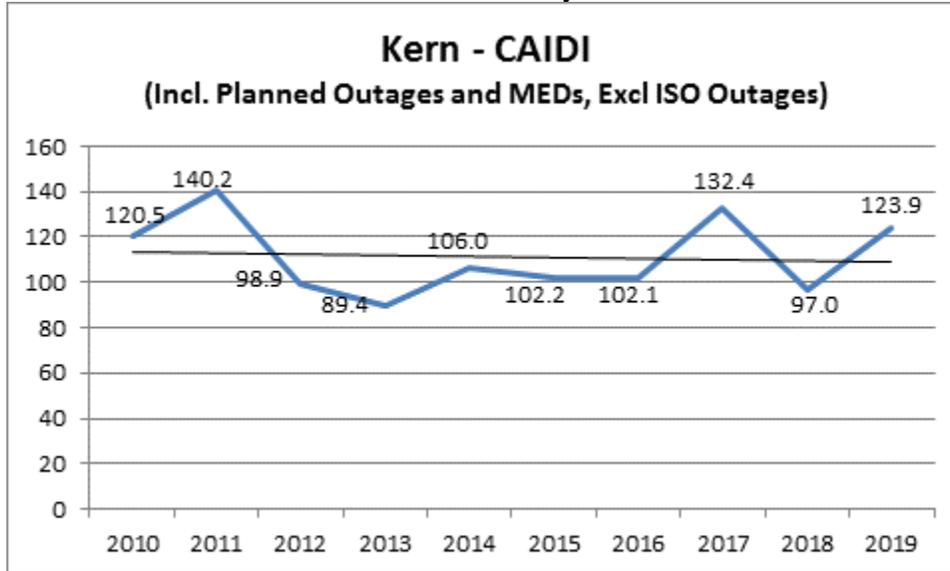


Chart 351: Division Reliability – CAIDI Indices

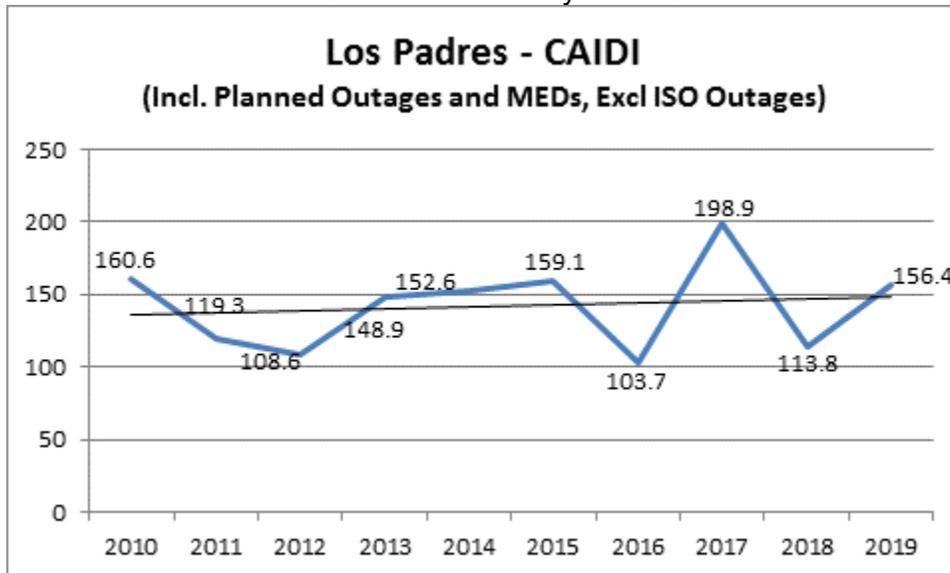


Chart 352: Division Reliability – CAIDI Indices

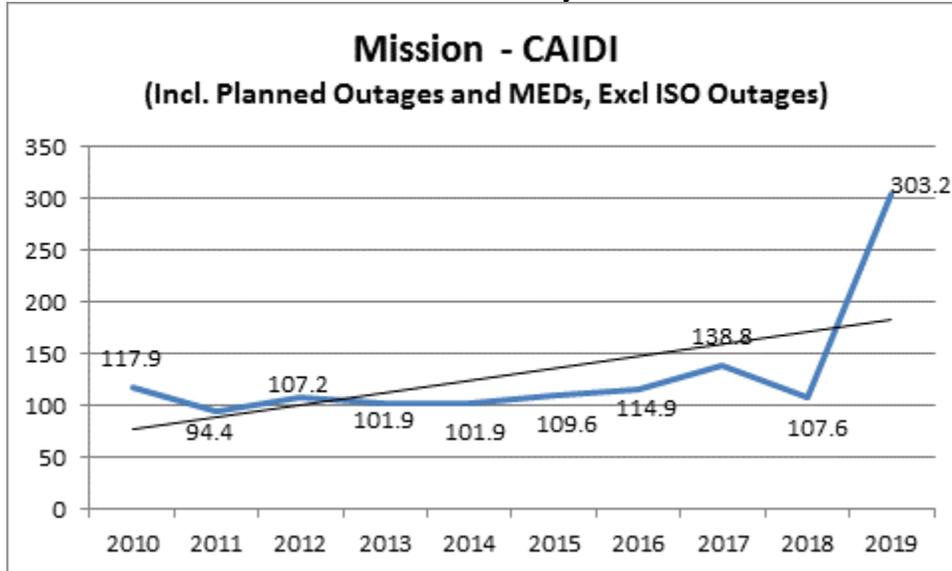


Chart 353: Division Reliability – CAIDI Indices

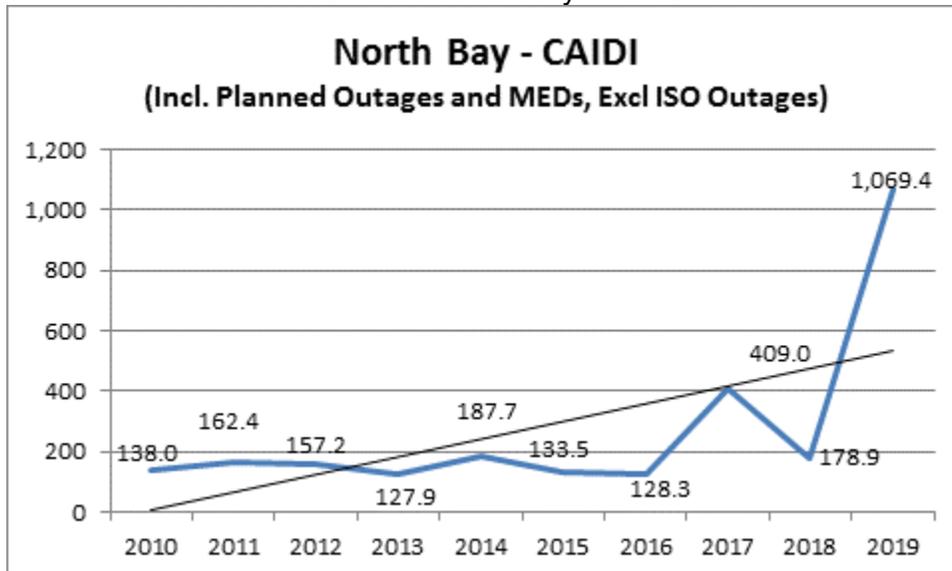


Chart 354: Division Reliability – CAIDI Indices

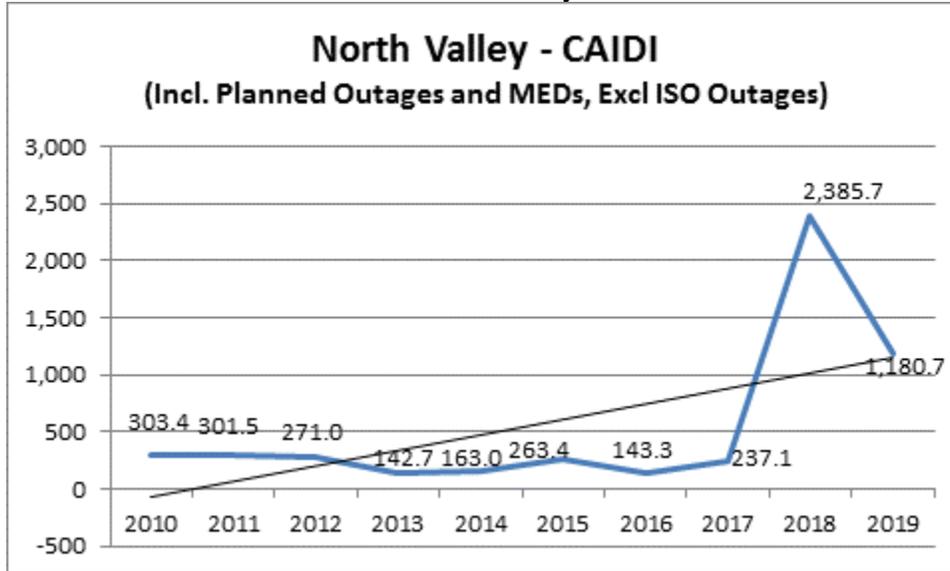


Chart 355: Division Reliability – CAIDI Indices

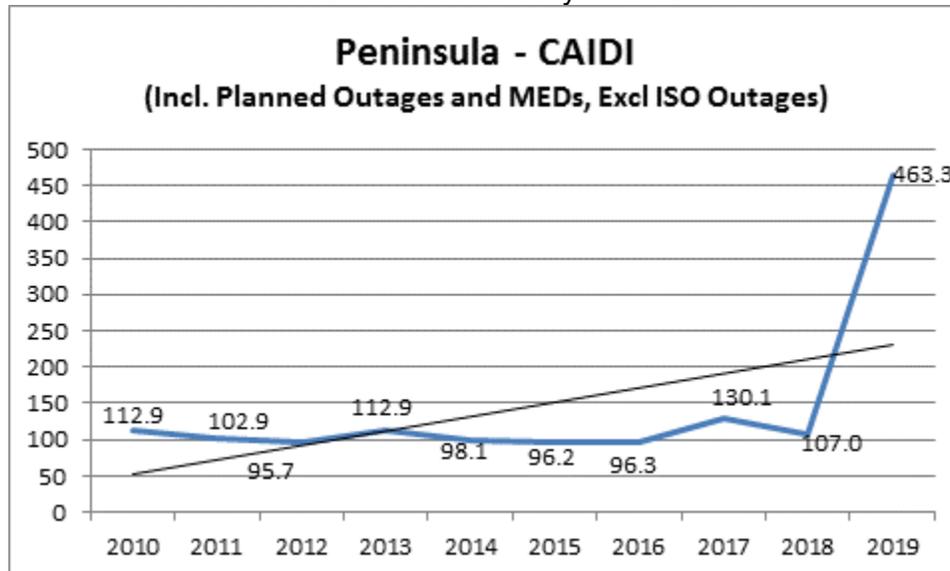


Chart 356: Division Reliability – CAIDI Indices

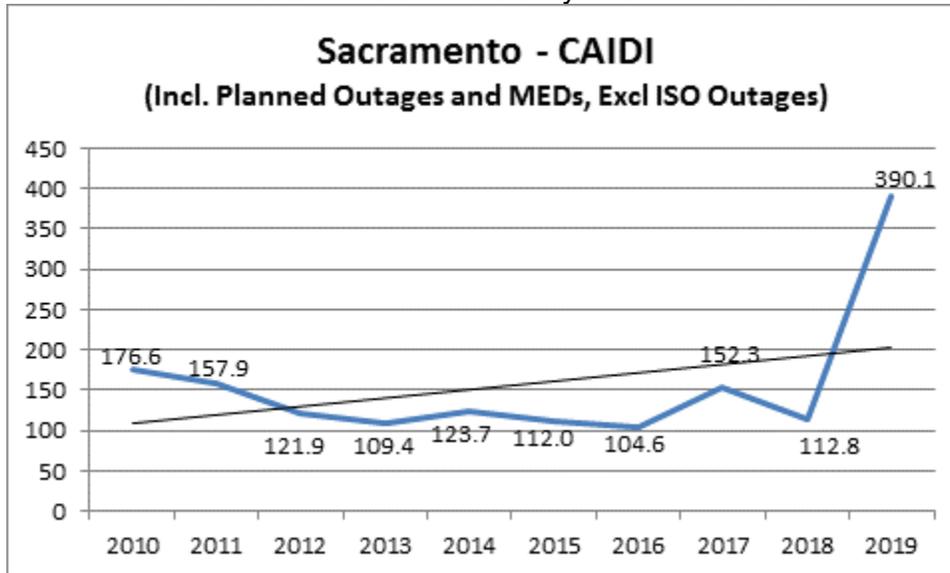


Chart 357: Division Reliability – CAIDI Indices

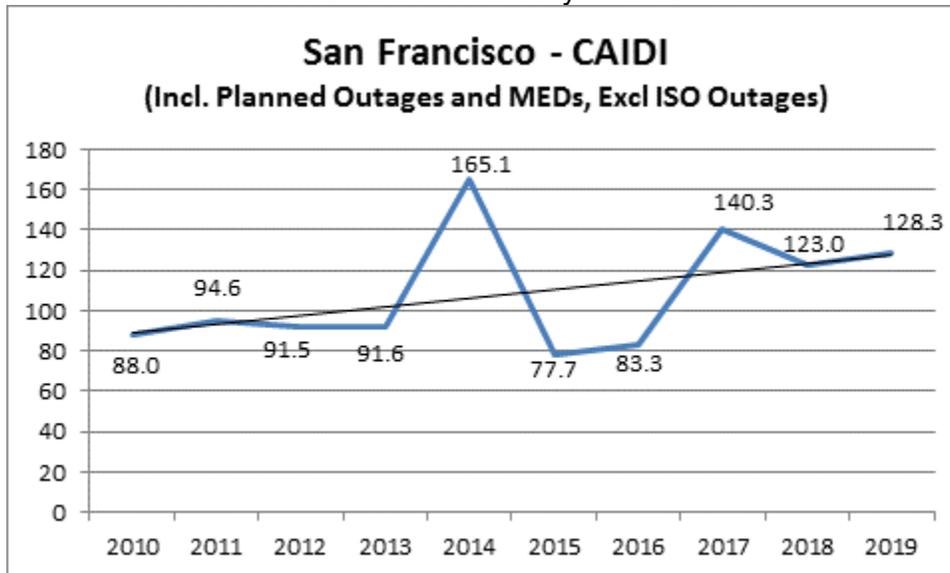


Chart 358: Division Reliability – CAIDI Indices

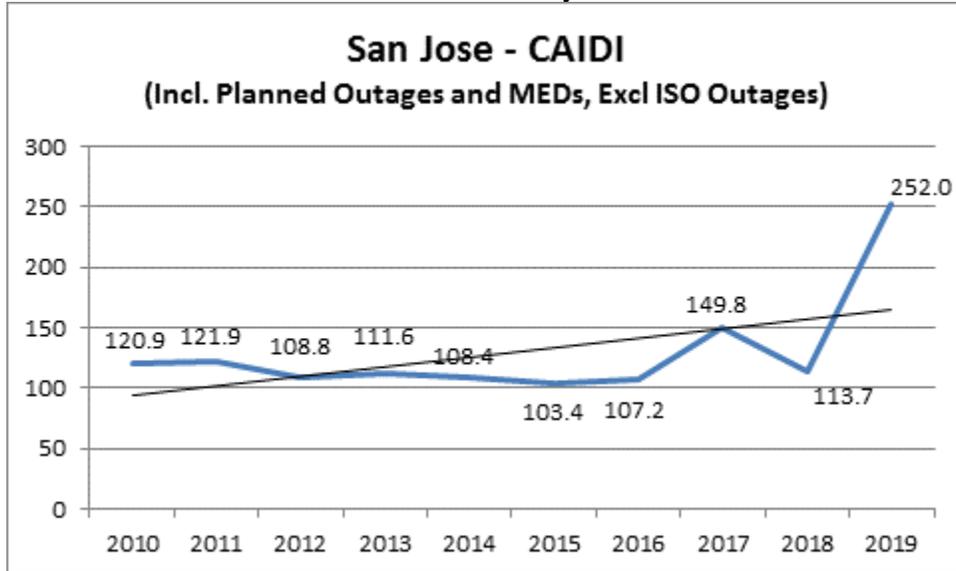


Chart 359: Division Reliability – CAIDI Indices

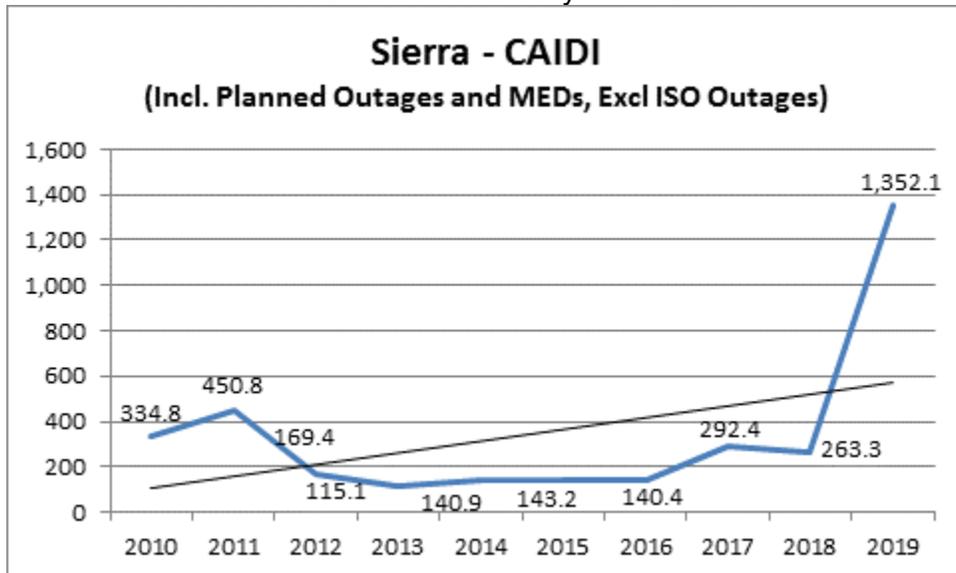


Chart 360: Division Reliability – CAIDI Indices

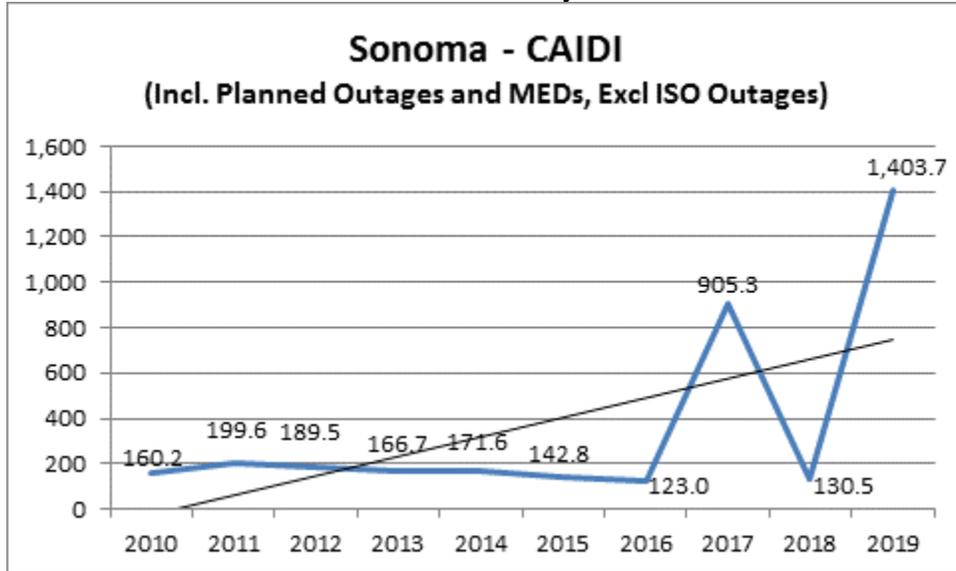


Chart 361: Division Reliability – CAIDI Indices

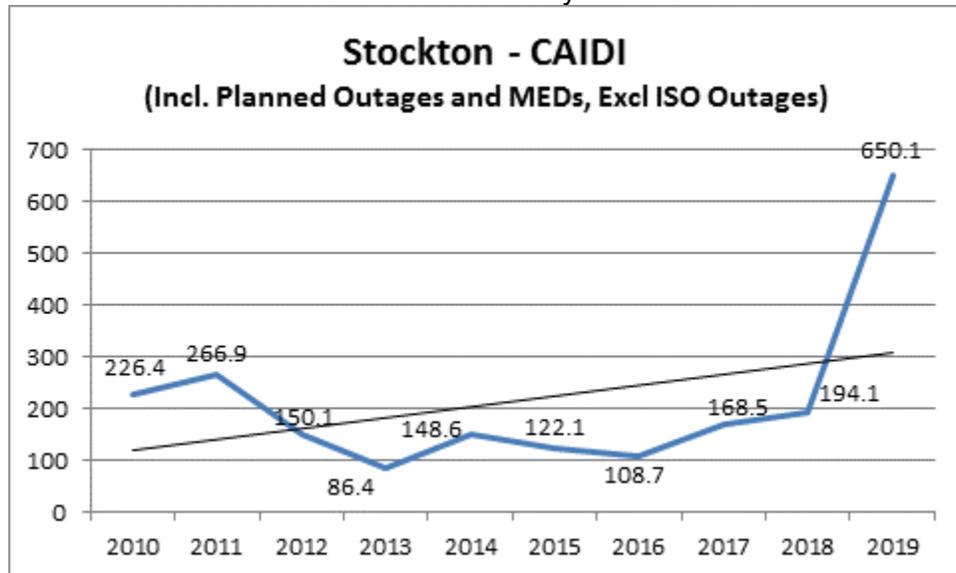


Chart 362: Division Reliability – CAIDI Indices

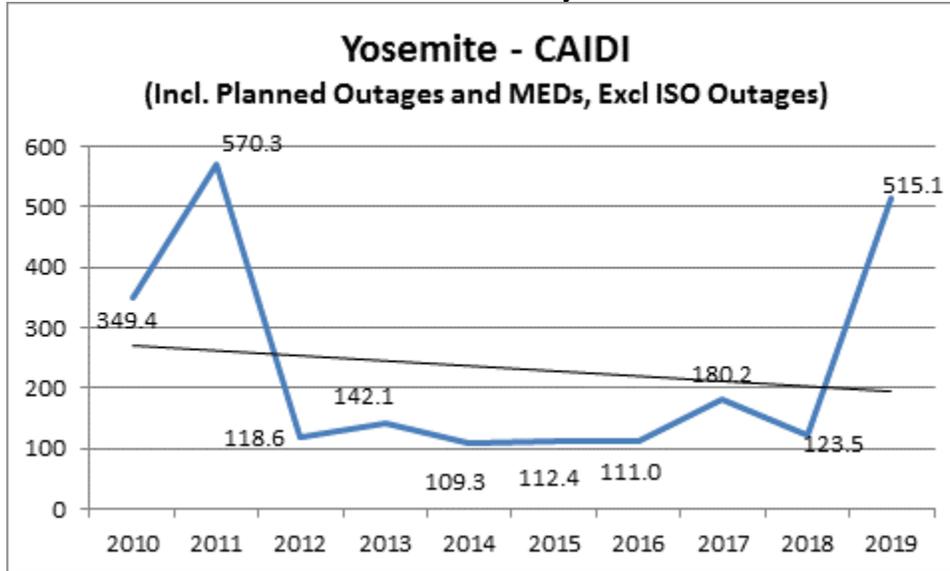
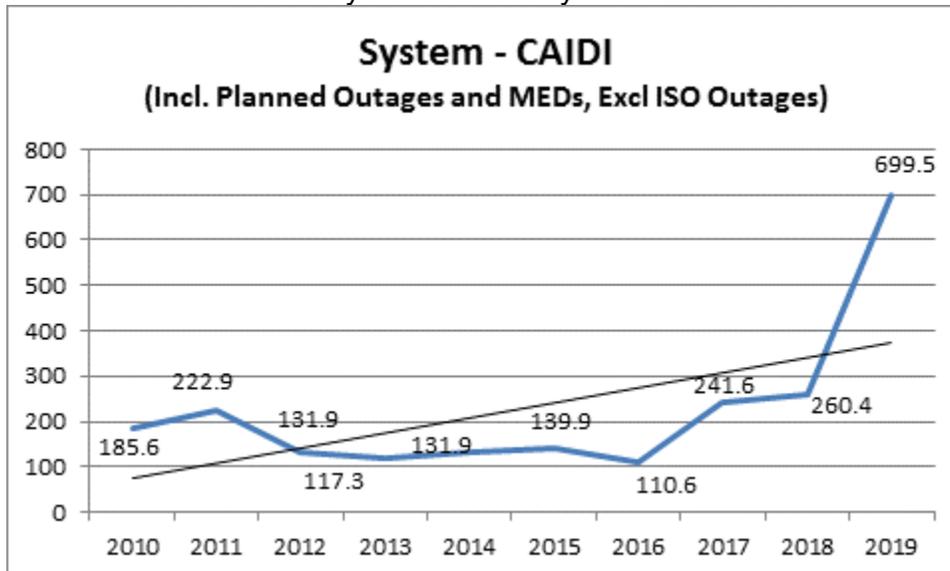


Chart 363: System Reliability – CAIDI Indices



d. The number of planned outages, date, and location of planned outages in each division on an annual basis.

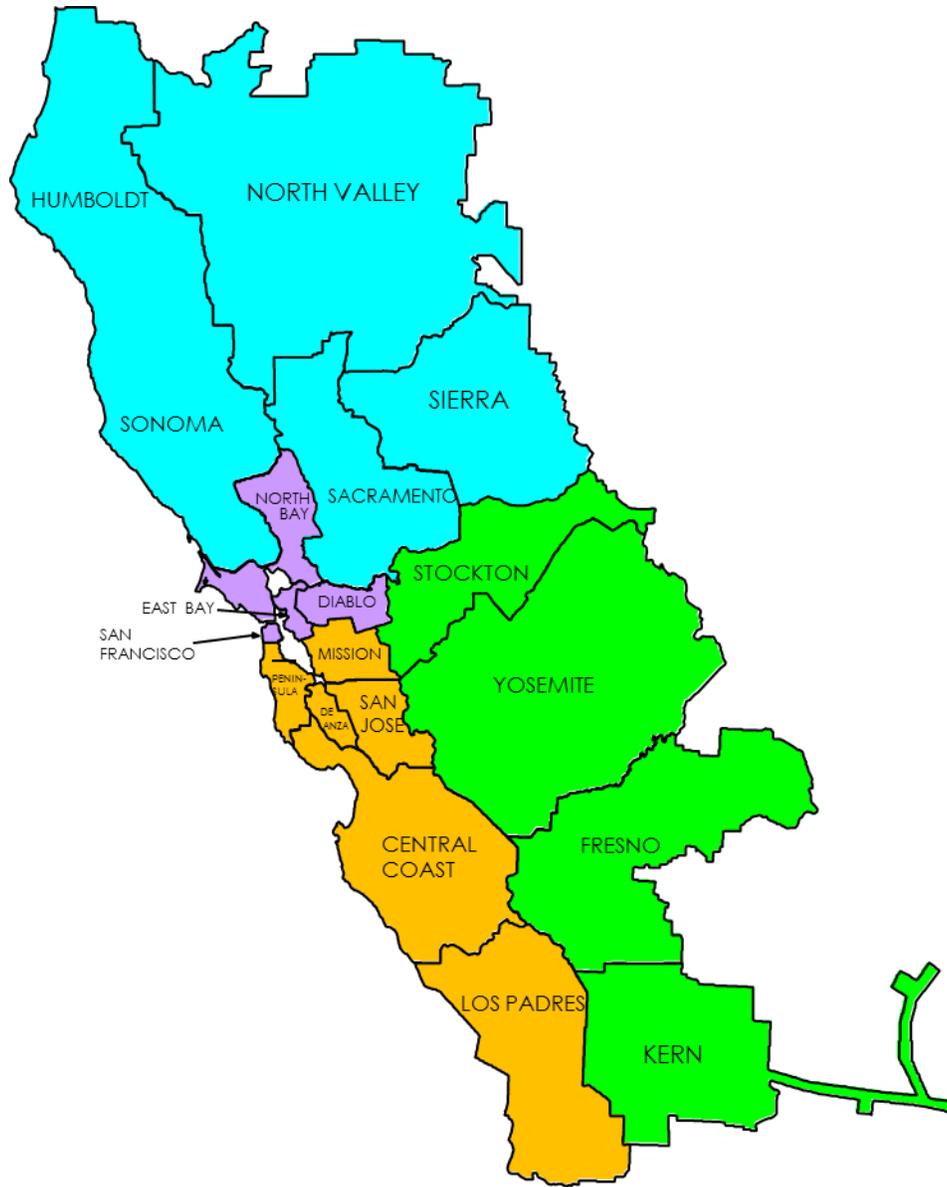
PG&E is submitting detailed planned outage information on a confidential basis under seal as required by Appendix B of Decision 16-01-008, footnote 7. Listed below is a summary of planned outages by year from 2010 through 2019:

Table 201: Ten Years Planned Outage Summary (2010-2019)

Year	Total Planned Outages
2010	12,373
2011	17,244
2012	17,006
2013	21,982
2014	18,026
2015	18,891
2016	20,253
2017	18,912
2018	36,575
2019	31,409

4. Service Territory Map

PG&E Service Territory



5. Top 1% of Worst Performing Circuits (WPC) excluding Major Event Day (MED)

PG&E's selection of its worst performing circuits is comprised of two lists. List #1 (see Table 202 below) is ranked by the highest number of sustained outages the average customer on the circuit experiences on an annual basis (AIFI). List #2 (see Table 203 below) is ranked by the highest total number of sustained outage minutes that the average customer on the circuit experiences on an annual basis (AIDI). PG&E recognizes that a given circuit could appear on both the AIDI and AIFI lists of worst performing circuits. In consideration of this overlap, PG&E identified 22 circuits on each list with three circuits appearing on both lists. The net total of 33 individual circuits represents one percent of the total number of circuits in PG&E's distribution system.

For purposes of this reliability report, PG&E's focus in developing the worst performing circuit lists has been on the impact to the *average customer on the circuit*. This is different than a focus on a circuit's impact or contribution to overall system reliability performance. For example, a circuit with 50 customers that experienced 5 sustained outages affecting the entire circuit (a total of 250 sustained customer outages) would have a higher worst performing circuit ranking than a circuit with 1,000 customers where each customer experienced 3 sustained outages (a total of 3,000 sustained customer outages). For purposes of the worst performing circuit list, the fact that the average customer on the smaller circuit experienced five sustained outages caused that circuit to rank as performing worse than a circuit where the average customer only experienced three sustained outages.

Consistent with Decision 16-01-008, PG&E has used three years (2017 - 2019) of outage data in developing the worst performing circuit lists. PG&E has excluded outage data involving planned outages, CAISO outages and major event days. PG&E has also limited its review to mainline circuit outages only (in other words, only outages involving a circuit breaker, a recloser/sectionalizer, or an interrupter). Finally, PG&E has excluded outage occurrences in which the circuit was in an abnormal configuration. An abnormal circuit configuration occurs when additional customers are temporarily added to a circuit to support construction or maintenance work performed on an adjacent circuit. Analysis has shown that outages associated with abnormal circuit configurations would skew the results of the worst performing circuit lists. PG&E believes that this approach best defines a worst performing circuit.

Table 202 lists the worst performing circuits by outage frequency and indicates the worst AIFI circuit was the Tulare Lake 2108 circuit. The average customer on the Tulare Lake 2108 circuit experienced 5.01 sustained mainline outages per year from 2017-2019 (resulting from the operation of a circuit breaker or an automatic recloser).

Table 203 focuses on the duration of the sustained outages. Here, the Willow Creek 1101 circuit was identified as the worst AIDI performing circuit. For this circuit, the average customer on the circuit experienced 1,789 sustained mainline outage minutes per year from 2017-2019 (resulting from the operation of a circuit breaker or an automatic recloser).

Eleven circuits (Tulare Lake 2108, Willow Creek 1101, Garberville 1101, Elk Creek 1101, Alleghany 1101, Otter 1102, Garberville 1102, Calistoga 1101, Bridgeville 1102, Salt Springs 2101, and Oilfields 1103) appear on both lists. These eleven circuits are highlighted in red within Tables 202 and 203. Additionally, eleven circuits marked with an asterisk (*) indicates that they are “deficient”. A “deficient” circuit is defined as a circuit that has appeared consecutively on the WPC lists for the previous two years (see the “*Deficient*” Worst Performing Section below for further details).¹¹

Table 202: AIFI Worst Performing Circuit for 2019

#	DIVISION	SUBSTATION	CIRCUIT NAME	TOTAL CUSTOMERS	CIRCUIT MILES	% OH	% UG	HFTD	3 YR AVG MAINLINE OUTAGES	3 YR AVG AIFI
1	FRESNO	TULARE LAKE	TULARE LAKE-2108*	106	58	99	1	1	6	5.01
2	HUMBOLDT	WILLOW CREEK	WILLOW CREEK-1101	784	61	94	6	1, 2, & 3	10	4.83
3	HUMBOLDT	GARBERVILLE	GARBERVILLE-1101*	1279	165	98	2	1 & 2	16	4.16
4	KERN	WHEELER RIDGE	WHEELER RIDGE-1101	352	67	99	1	1	6	3.93
5	STOCKTON	ALPINE	ALPINE-1101	280	7	12	88	1	4	3.80
6	CENTRAL COAST	CASSERLY	CASSERLY-0401	215	3	100	0	1	4	3.66
7	NORTH VALLEY	ELK CREEK	ELK CREEK-1101	918	181	99	1	1 & 2	8	3.57
8	SIERRA	ALLEGHANY	ALLEGHANY-1101	1073	79	98	2	1, 2, & 3	8	3.55
9	CENTRAL COAST	OTTER	OTTER-1102*	529	65	84	16	2 & 3	5	3.46
10	DE ANZA	LOS GATOS	LOS GATOS-1106*	1603	74	97	3	2 & 3	9	3.45
11	CENTRAL COAST	BEN LOMOND	BEN LOMOND-0401	758	22	97	3	3	4	3.39
12	HUMBOLDT	GARBERVILLE	GARBERVILLE-1102*	1803	143	94	6	2	11	3.30
13	SACRAMENTO	GRAND ISLAND	GRAND ISLAND-2223	1407	101	96	4	1	5	3.20
14	FRESNO	TULARE LAKE	TULARE LAKE-1106	133	52	99	1	1	4	3.15
15	HUMBOLDT	FRUITLAND	FRUITLAND-1141	393	28	100	0	1 & 2	7	3.14
16	NORTH BAY	CALISTOGA	CALISTOGA-1101	1637	121	91	9	1, 2, & 3	9	3.12
17	SACRAMENTO	GRAND ISLAND	GRAND ISLAND-2224	612	64	99	1	1	9	3.08
18	KERN	TWISSELMAN	TWISSELMAN-2105	153	90	100	0	1	4	2.97
19	HUMBOLDT	BRIDGEVILLE	BRIDGEVILLE-1102	281	47	100	0	1, 2, & 3	7	2.89
20	STOCKTON	SALT SPRINGS	SALT SPRINGS-2101	394	45	49	51	1 & 2	6	2.84
21	LOS PADRES	OILFIELDS	OILFIELDS-1103	1815	161	87	13	1 & 2	7	2.74
22	LOS PADRES	SANTA MARIA	SANTA MARIA-1109	1237	54	86	14	1	4	2.70

¹¹ The three-year average AIFI values are determined by the three-year average of the customers that experienced a sustained outage divided by the three-year average of the total customers served by that circuit. The three-year average AIDI values are determined by the three-year average of the customer-outage minutes divided by the three-year average of the total customers served by that circuit. These calculations are slightly different than determining the three-year average of just the actual recorded metric values for each of the three years.

Table 203: AIDI Worst Performing Circuit for 2019

#	DIVISION	SUBSTATION	CIRCUIT NAME	TOTAL CUSTOMERS	CIRCUIT MILES	% OH	% UG	HFTD	3 YR AVG MAINLINE OUTAGES	3 YR AVG AIDI
1	HUMBOLDT	WILLOW CREEK	WILLOW CREEK-1101	784	61	94	6	1, 2, & 3	10	1789
2	CENTRAL COAST	OTTER	OTTER-1102*	529	65	84	16	2 & 3	5	1787
3	NORTH VALLEY	PIT NO 7	PIT NO 7-1101	2	3	100	0	2	0	1413
4	SACRAMENTO	WILKINS SLOUGH	WILKINS SLOUGH-1103*	116	34	99	1	1	2	1411
5	SIERRA	ALLEGHANY	ALLEGHANY-1101*	1073	79	98	2	1, 2, & 3	8	1334
6	HUMBOLDT	BRIDGEVILLE	BRIDGEVILLE-1102	281	47	100	0	1, 2, & 3	7	1259
7	NORTH VALLEY	ELK CREEK	ELK CREEK-1101	918	181	99	1	1 & 2	8	1119
8	NORTH VALLEY	BUCKS CREEK	BUCKS CREEK-1103*	321	26	51	49	2 & 3	2	1029
9	HUMBOLDT	ORICK	ORICK-1101	89	9	89	11	1	1	994
10	FRESNO	TULARE LAKE	TULARE LAKE-2108*	106	58	99	1	1	6	994
11	HUMBOLDT	GARBERVILLE	GARBERVILLE-1102*	1803	143	94	6	2	11	973
12	HUMBOLDT	LAYTONVILLE	LAYTONVILLE-1101	749	80	99	1	1 & 2	6	943
13	NORTH BAY	CALISTOGA	CALISTOGA-1101*	1637	121	91	9	1, 2, & 3	9	847
14	FRESNO	DUNLAP	DUNLAP-1102	706	90	63	37	1 & 2	7	799
15	STOCKTON	SALT SPRINGS	SALT SPRINGS-2101	394	45	49	51	1 & 2	6	770
16	SIERRA	COLUMBIA HILL	COLUMBIA HILL-1101	1152	96	94	6	2 & 3	5	761
17	SIERRA	ECHO SUMMIT	ECHO SUMMIT-1101*	407	19	78	22	1 & 2	3	743
18	KERN	POSO MOUNTAIN	POSO MOUNTAIN-2101*	144	60	100	0	1 & 2	3	711
19	HUMBOLDT	LOW GAP	LOW GAP-1101	744	73	99	1	1 & 2	5	704
20	LOS PADRES	OILFIELDS	OILFIELDS-1103	1815	161	87	13	1 & 2	7	701
21	HUMBOLDT	GARBERVILLE	GARBERVILLE-1101	1279	165	98	2	1 & 2	16	686
22	SACRAMENTO	CORDELIA	CORDELIA-1104	327	69	90	10	1	2	683

Cost Effective Reliability Remediation:

The Targeted Circuit Program was previously PG&E's primary reliability improvement program to cost effectively remediate PG&E's worst performing circuits. Under the Targeted Circuit Program, PG&E's distribution engineers analyzed the causes and characteristics of historical outages as well as reviewed the current circuit design to cost effectively identify work that would improve the circuit's reliability performance. The typical targeted circuit work included, as appropriate for the circuit, installing new protection equipment, replacing overhead and underground conductors, installing new fault indicators, reframing poles to increase phase separation, installing animal/bird guards, repairing or replacing deteriorated equipment, completing pending reliability related maintenance work, performing infrared inspections, and trimming trees. The anticipated goal of each targeted circuit was to achieve a 25 percent reliability performance improvement from its 3-year historical AIFI and AIDI average. The typical timeline for a targeted circuit project to be initiated, engineered, and constructed was three years. Although historical reliability metric results have shown the Targeted Circuit Program to be effective in remediating worst performing circuit performance, funding for the Targeted Circuit Program was not submitted in the 2020 General Rate Case (GRC). PG&E's reliability improvement strategy and focus are outlined in the following paragraphs.

As reported in the Wildfire Mitigation Plan (Rulemaking (R.) 18-10-007), PG&E submitted a Wildfire Safety Plan to minimize the risk of catastrophic wildfires. A key component in the Wildfire Safety Plan submittal is the System Hardening Program.

Under the System Hardening Program, PG&E's distribution engineers evaluate a rebuild of overhead distribution circuits in the High Fire Threat District (HFTD) areas. The typical system hardening work included, as appropriate for the circuit, replacing bare wire with insulated conductor, increasing strength requirements for poles, installing new system automation and protection equipment, and targeted conversion of overhead equipment to underground equipment. The anticipated goal of each system hardened circuit is to minimize the risk of an asset failure that could result in a fire ignition. The anticipated reliability improvement of each system hardened circuit is to minimize vegetation, equipment failure, third party, animal, and other (unknown) caused outages that could result in a fire ignition. PG&E completed 171 miles of system hardening work in HFTD areas in 2019 as part of the PG&E's Wildfire Safety Plan. In 2020-2022, PG&E forecasts completing approximately 1,000 circuit miles. At the end of the System Hardening Program, PG&E intends to complete 7,100 circuit miles of system hardening work.

Another key component of the Wildfire Safety Plan is the Enhanced Vegetation Management (EVM) Program. Under the EVM Program, PG&E will aggressively expand its vegetation management around its assets in the HFTD areas. The typical EVM work included, as appropriate for the circuit, clearing overhang, targeted trimming/removal of specific tree species, and performing "ground to conductor" vegetative fuel reduction. The anticipated goal of each EVM circuit is to minimize the risk of a fire ignition due to vegetation-conductor contact. The anticipated reliability improvement of each EMV circuit is to minimize vegetation caused outages. As part of the 2019 PG&E's Wildfire Safety Plan, PG&E completed 2,498 circuit miles of EVM work in HFTD areas. In 2020, PG&E forecasts completing approximately 1,800 circuit miles. The program will be a multi-year effort to address the approximately 25,200 distribution circuit miles in the HFTD areas.

In addition to the Wildfire Safety Plan, internal reviews of unplanned outages are performed on a regular basis through PG&E Outage Review Team (ORT) Process. The objective of the ORT process is to identify and minimize chronic localized reliability issues that affect smaller number of customers. Cost effective remediation work that addresses those circuits identified from the ORT process are incorporated into PG&E's base reliability work.

As identified in Tables 202 and 203, 13 and 18 of PG&E's worst performing AIFI and AIDI circuits respectively are in Tiers 2 or 3 HFTD areas. As a result, these worst performing circuits have or would be incorporated into the Wildfire Safety Plan. For the worst performing circuits located in Tier 1 HFTD area, PG&E will evaluate what remedial action, if any, is appropriate through the ORT process. This includes determining whether any cost-effective remedial action will be performed through PG&E's base reliability improvement work. Any future funding requests for PG&E's Targeted Circuit Program would be submitted in the 2023 General Rate Case.

"Deficient" Worst Performing Circuits:

The circuits listed below are "deficient" (WPC) circuits in response to section 5b of CPUC D 16-008-001, Appendix B:

1. GARBERVILLE 1101

- i. An explanation of why it was ranked as a "deficient" circuit:
 - Three-year (2015-2017) average AIFI score of 4.95
 - Three-year (2016-2018) average AIFI score of 4.99
 - Three-year (2017-2019) average AIFI score of 4.16
- ii. A historical record of the metric:
 - AIFI 2015 = 2.27
 - AIFI 2016 = 8.76
 - AIFI 2017 = 3.81
 - AIFI 2018 = 2.49
 - AIFI 2019 = 6.17
- iii. An explanation of why it was on the deficiency list again:

The Garberville 1101 circuit provides electric service to approximately 1,279 customers in Southern Humboldt and Northern Mendocino Counties through 165 circuit-miles of primarily overhead conductor. This circuit also serves customers located in the CPUC High Fire Threat District - Tier 2 (Elevated Risk). The Garberville 1101 circuit is comprised of three main branches. The eastern branch serves approximately 288 customers through a 22 circuit-mile line section that travels through remote, mountainous terrain including zones with intermediate and heavy snow loading. The western branch serves approximately 179 customers through a 12 circuit-mile line section that traverses through coastal mountains to the community of Whitethorn. The southern branch serves approximately 787 customers through a 28 circuit-mile line section that follows the Hwy 101 corridor between Garberville and Leggett. The southern branch also runs along the South Fork of the Eel River and crosses several State Parks including Richardson's Grove, Smith Redwoods, and Standish Hickey Recreation Area. The major factors driving the Garberville 1101 reliability performance are the remote mountainous service territory with increased vegetation caused outage risks, overhead conductor exposure, and minimal ties to adjacent circuits for outage restoration support.
- iv. An explanation of what is being done to improve the circuit's future performance:

This circuit was part of the 2012 Targeted Circuit program. Specifically, the 2012 targeted circuit project upgraded 700 feet of overhead conductor, installed two overhead switches, and performed miscellaneous reliability work like pole reframing and self-protecting transformer replacement. An additional 4,400 feet of mainline conductor was successfully replaced in 2016 as part of the OH Conductor Replacement Program. A system hardening project to replace 9,000' of OH conductor has been initiated as part of the Wildfire Safety Plan.
- v. A quantitative description of the utility's expectation for that circuit's future performance:

Incremental reliability improvement is anticipated after completion of the system hardening project, but the anticipated reliability benefits

have not been quantified. This includes the associated reliability benefits after completion of the comprehensive Wildfire Safety Plan to minimize wildfire ignition risks in the Tier 2 High Fire Threat District.

2. GARBERVILLE 1102

- i. An explanation of why it was ranked as a "deficient" circuit:
 - Three-year (2015-2017) average AIFI score of 4.41 and AIDI score of 970
 - Three-year (2016-2018) average AIFI score of 4.01 and AIDI score of 1,083
 - Three-year (2017-2019) average AIFI score of 3.30 and AIDI score of 973
- ii. A historical record of the metric:
 - AIFI 2015 = 2.66
 - AIFI 2016 = 3.87
 - AIFI 2017 = 6.68
 - AIFI 2018 = 1.50
 - AIFI 2019 = 1.75

 - AIDI 2015 = 510
 - AIDI 2016 = 732
 - AIDI 2017 = 1,665
 - AIDI 2018 = 853
 - AIDI 2019 = 408
- iii. An explanation of why it was on the deficiency list again:

The Garberville 1102 circuit provides electric service to approximately 1,803 customers in Humboldt County through 143 circuit-miles of primarily overhead conductor. This circuit also serves customers located in the CPUC High Fire Threat District - Tier 2 (Elevated Risk). The primary mainline section of Garberville 1102 circuit travels through a 50 mile stretch of mountainous terrain along the northern coast. The primary mainline section also crosses an area known in the outdoor/hiking community as "The Lost Coast" and portions of the Humboldt Redwoods State Park. The primary mainline section splits near the town of Briceland, approximately 10 circuit miles northwest of Garberville. The north branch extends 37 miles to Petrolia while the south branch extends 14 miles to the community of Whitethorn. The major factors driving the Garberville 1102 reliability performance are the remote mountainous service territory with increased vegetation caused outage risks, overhead conductor exposure, and minimal ties to adjacent circuits for outage restoration support. A 15% and 32% contribution to the 2017 AIFI and AIDI

- performance respectively was driven by a single vegetation caused outage that resulted in a wire down occurrence and a broken pole.
- iv. An explanation of what is being done to improve the circuit's future performance:
- This circuit was part of the 2011 Targeted Circuit program. Specifically, the 2011 targeted circuit project installed twelve fuses, three reclosers and performed miscellaneous reliability improvement work like pole reframing and self-protecting transformer replacement. A 2013 reconductor project successfully replaced over one mile of overhead conductor with a larger conductor. A reliability improvement project to allow a temporary generator to be interconnected at the town of Petrolia was successfully completed in 2018. This project was part of a pilot program to minimize outage restoration time. A system hardening project has been initiated to replace 4,000' of OH conductor as part of the Wildfire Safety Plan.
- v. A quantitative description of the utility's expectation for that circuit's future performance:
- Although difficult to quantify the anticipated reduction in outage restoration time after completion of the 2018 distribution generation interconnection project, AIDI improvement was observed from 2017 to 2019. Incremental reliability improvement is also anticipated after completion of the system hardening project, but the anticipated reliability benefits have not been quantified. This includes the associated reliability benefits after completion of the comprehensive Wildfire Safety Plan to minimize wildfire ignition risks in the Tier 2 High Fire Threat District.

3. WILKINS SLOUGH 1103

- i. An explanation of why it was ranked as a "deficient" circuit:
- Three-year (2015-2017) average AIDI score of 1,148
 - Three-year (2016-2018) average AIDI score of 1,386
 - Three-year (2017-2019) average AIDI score of 1,411
- ii. A historical record of the metric:
- AIDI 2015 = 26
 - AIDI 2016 = 22
 - AIDI 2017 = 3,378
 - AIDI 2018 = 758
 - AIDI 2019 = 86
- iii. An explanation of why it was on the deficiency list again:
- The Wilkins Slough 1103 circuit provides electric service to approximately 116 customers in Sutter County through 34 circuit-miles of primarily overhead conductor. The Wilkins Slough 1103 circuit is comprised of several branches that supports a predominately agriculture community in area between Hwy 45 and Hwy 13 southwest of Yuba City. The major factors driving the Wilkins Slough 1103 reliability performance is equipment failure, flooding conditions which impact accessibility, and minimal ties to

adjacent circuits for outage restoration support. Specifically, the overall 2017 AIDI performance was driven by a single overhead conductor failure caused outage resulting in a wire down event. Delayed restoration efforts were associated with inaccessibility to the wire down location.

- iv. An explanation of what is being done to improve the circuit's future performance:
 - As of the date of this report, no reliability project has been initiated for the Wilkins Slough 1103 circuit.
- v. A quantitative description of the utility's expectation for that circuit's future performance:
 - PG&E will continue to explore cost effective reliability improvement opportunities through the Outage Review Team Process such as installing additional remotely operable devices and replacing traditional fuses with single phase reclosing devices. This includes observing incremental AIDI improvement from 2017 to 2019.

4. CALISTOGA 1101

- i. An explanation of why it was ranked as a "deficient" circuit:
 - Three-year (2015-2017) average AIDI score of 635
 - Three-year (2016-2018) average AIDI score of 754
 - Three-year (2017-2019) average AIDI score of 847
- ii. A historical record of the metric:
 - AIDI 2015 = 81
 - AIDI 2016 = 458
 - AIDI 2017 = 1,365
 - AIDI 2018 = 422
 - AIDI 2019 = 732
- iii. An explanation of why it was on the deficiency list again:
 - The Calistoga 1101 circuit provides electric service to approximately 1,637 customers to the city of Calistoga and Sonoma and Napa Counties through 121 circuit-miles of primarily overhead conductor. This circuit also serves customers located in the CPUC High Fire Threat District - Tier 2 (Elevated Risk) and Tier 3 (Extreme Risk). The Calistoga 1101 circuit is comprised of several branches that travels northwest along Hwy 128 and north along Hwy 29 including Robert Louis Stevenson State Park. The major factors driving the Calistoga 1101 reliability performance are the remote mountainous service territory with increased vegetation caused outage risks, overhead conductor exposure, and minimal ties to adjacent circuits for outage restoration support. Specifically, the overall 2017 AIDI performance was driven by a single environmental/external caused event resulting in multiple wire down locations. Delayed restoration efforts were associated with inaccessibility to the wire down locations.
- iv. An explanation of what is being done to improve the circuit's future performance:

This circuit was part of the 2015 Targeted Circuit program. Specifically, the 2015 targeted circuit project installed 13 fuses, 1 recloser, 1 switch, 10 overhead fault indicators, and performed miscellaneous reliability work like pole reframing and pole replacement. This circuit was part of the 2019 Wildfire Safety Plan with over 5 miles of OH conductor replacement successfully completed. Several system hardening projects have been initiated to replace an additional 37 miles of OH conductor as part of the Wildfire Safety Plan.

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

Incremental reliability improvement is anticipated after completion of the comprehensive Wildfire Safety Plan to minimize wildfire ignition risks in the Tier 3 High Fire Threat District. This includes observing incremental AIDI improvement from 2017 to 2019.

5. ALLEGHANY 1101

- i. An explanation of why it was ranked as a "deficient" circuit:
- Three-year (2015-2017) average AIDI score of 562
 - Three-year (2016-2018) average AIDI score of 630
 - Three-year (2017-2019) average AIDI score of 1,334

- ii. A historical record of the metric:

- AIDI 2015 = 205
- AIDI 2016 = 590
- AIDI 2017 = 846
- AIDI 2018 = 420
- AIDI 2019 = 2,808

- iii. An explanation of why it was on the deficiency list again:

The Alleghany 1101 circuit provides electric service to approximately 1,073 customers in Sierra County through 79 circuit-miles of primarily overhead conductor. This circuit also serves customers located in the CPUC High Fire Threat District - Tier 3 (Extreme Risk). The Alleghany 1101 circuit is comprised of about 45 miles of mainline with various branches that travel through a mix of rural highway and cross-country access. Its most northern branch travels through mountainous terrain including the Plumas National Forest. The major factors driving the Alleghany 1101 reliability performance are the remote service territory, overhead conductor exposure, and minimal ties to adjacent circuits for outage restoration support. Specifically, the overall 2019 AIDI performance was driven by a single unknown caused event. Delayed restoration efforts were associated with securing helicopter resources to perform visual patrols of the inaccessible mainline sections in the Tier 3 HFTD.

- iv. An explanation of what is being done to improve the circuit's future performance:

This circuit was part of PG&E's 2013 Targeted Circuit program. Specifically, the 2013 targeted circuit project replaced 2,700 feet of

overhead conductor with larger wire to be more resilient to snow loading conditions. This project also upgraded 2 reclosers to provide remote operation capability. As of the date of this report, no system hardening project has been initiated for the Alleghany 1101 circuit. Additional outage review investigations will be explored to help identify targeted opportunities like installing fault indicators to help pinpoint fault locations.

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

Based on results shown by other similar circuits after targeted circuit work, PG&E anticipates that the work proposed will improve reliability performance by 25 percent or more. Incremental reliability improvement is also anticipated after completion of the comprehensive Wildfire Safety Plan to minimize wildfire ignition risks in the Tier 3 High Fire Threat District.

6. ECHO SUMMIT 1101

- i. An explanation of why it was ranked as a "deficient" circuit:
- Three-year (2015-2017) average AIDI score of 1,473
 - Three-year (2016-2018) average AIDI score of 1,400
 - Three-year (2017-2019) average AIDI score of 743
- ii. A historical record of the metric:
- AIDI 2015 = 237
 - AIDI 2016 = 2,027
 - AIDI 2017 = 2,145
 - AIDI 2018 = 46
 - AIDI 2019 = 57
- iii. An explanation of why it was on the deficiency list again:
- The Echo Summit circuit provides electric service to approximately 407 customers in El Dorado County through 19 circuit-miles of primarily overhead conductor. This circuit also serves customers located in the CPUC High Fire Threat District - Tier 2 (Elevated Risk). The Echo Summit 1101 circuit is comprised of two main branches that travel west and southwest through remote, mountainous terrain including the El Dorado National Forest. The major factors driving the Echo Summit 1101 reliability performance are the remote mountainous service territory with increased vegetation caused outage risks, overhead conductor exposure, and minimal ties to adjacent circuits for outage restoration support.
- iv. An explanation of what is being done to improve the circuit's future performance:
- Two base reliability projects were completed in 2017 for replacing protective devices batteries with extended life battery packs for enabling remote operability during longer duration outages, installing 7 new reclosers, and upgrading 2 reclosers. Two reliability projects have been initiated for replacing tree attachments with wood poles

and for replacing 11,600 ft of OH conductor as part of the Wildfire Safety Plan.

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

AIDI reliability performance has significantly improved in 2018 and 2019 after the completion of the 2017 base reliability projects. Incremental reliability improvement is also anticipated after completion of the system hardening project, but the anticipated reliability benefits have not been quantified. This includes the associated reliability benefits after completion of the comprehensive Wildfire Safety Plan to minimize wildfire ignition risks in the Tiers 2 High Fire Threat Districts.

7. OTTER 1102

- i. An explanation of why it was ranked as a "deficient" circuit:
- Three-year (2015-2017) average AIFI score of 3.06 and AIDI score of 687
 - Three-year (2016-2018) average AIFI score of 3.84 and AIDI score of 976
 - Three-year (2017-2019) average AIFI score of 3.46 and AIDI score of 1,787
- ii. A historical record of the metric:
- AIFI 2015 = 1.44
 - AIFI 2016 = 5.90
 - AIFI 2017 = 1.84
 - AIFI 2018 = 3.80
 - AIFI 2019 = 4.76

 - AIDI 2015 = 844
 - AIDI 2016 = 1,110
 - AIDI 2017 = 103
 - AIDI 2018 = 1,713
 - AIDI 2019 = 3,546
- iii. An explanation of why it was on the deficiency list again:
- The Otter 1102 circuit provides electric service to approximately 530 customers in Monterey County through 65 circuit-miles of primarily overhead conductor. This circuit also serves customers located in the CPUC High Fire Threat District - Tier 2 (Elevated Risk). The primary mainline section of Otter 1102 circuit travels south along Central California's coastline through a 26 mile stretch of mountainous terrain including Andrew Molera and Pfeiffer Big Sur State Parks. The major factors driving the Otter 1102 reliability performance are the remote mountainous service territory with increased vegetation caused outage risks, overhead conductor

- exposure with elevated corrosion conditions, and minimal ties to adjacent circuits for outage restoration support.
- iv. An explanation of what is being done to improve the circuit's future performance:
 This circuit was part of the 2014 Targeted Circuit program. Specifically, the targeted circuit project replaced 1,000 feet of overhead conductor, installed seven fuses, replaced 7 poles, reframed 14 cross arms, and installed 9 animal guards. An additional 19,100 feet of reconductor work was completed from 2015-2016 with another 10,100 feet of reconductor work planned for 2020 completion as part of the Wildfire Safety Plan. Additional outage review investigations will be explored to help identify targeted opportunities like installing a temporary generation site at the end of the circuit to support restoration efforts.
- v. A quantitative description of the utility's expectation for that circuit's future performance:
 Incremental reliability improvement is anticipated after completion of the overhead reconductor work in 2020 and the comprehensive Wildfire Safety Plan to minimize wildfire ignition risks in the Tier 2 High Fire Threat District.

8. TULARE LAKE 2108

- i. An explanation of why it was ranked as a "deficient" circuit:
- Three-year (2015-2017) average AIFI score of 3.43 and average AIDI score of 655
 - Three-years (2016-2018) average AIFI score of 4.49 and average AIDI score of 686
 - Three-year (2017-2019) average AIFI score of 5.01 and average AIDI score of 994
- ii. A historical record of the metric:
- AIFI 2015 = 1.99
 - AIFI 2016 = 2.68
 - AIFI 2017 = 5.57
 - AIFI 2018 = 5.21
 - AIFI 2019 = 4.24
-
- AIDI 2015 = 712
 - AIDI 2016 = 473
 - AIDI 2017 = 778
 - AIDI 2018 = 805
 - AIDI 2019 = 1,396
- iii. An explanation of why it was on the deficiency list again:
 The Tulare Lake 2108 circuit provides electric service to approximately 106 customers in Kings County through 58 circuit-

miles of primarily overhead conductor. The Tulare 2108 circuit is comprised of several branches that supports a predominately agriculture community. The major factors driving the overall 2019 reliability performance are equipment failure and animal caused outages.

- iv. An explanation of what is being done to improve the circuit's future performance:

As part of the ORT process, one action item was successfully completed in 2019 for improving protective device coordination. Additional outage review investigations will be explored to help identify targeted opportunities like installing SCADA operable devices to support outage restoration efforts.
- v. A quantitative description of the utility's expectation for that circuit's future performance:

PG&E will continue to explore cost effective reliability improvement opportunities through the Outage Review Team Process such as installing additional remotely operable devices and installing fuses on unprotected tap lines.

9. POSO MOUNTAIN 2101

- i. An explanation of why it was ranked as a "deficient" circuit:
 - Three-year (2015-2017) average AIDI score of 1,088
 - Three-year (2016-2018) average AIDI score of 884
 - Three-year (2017-2019) average AIDI score of 711
- ii. A historical record of the metric:
 - AIDI 2015 = 1,691
 - AIDI 2016 = 1,379
 - AIDI 2017 = 192
 - AIDI 2018 = 1,082
 - AIDI 2019 = 866
- iii. An explanation of why it was on the deficiency list again:

The Poso Mountain 2101 circuit provides electric service to approximately 144 customers in Kern County through 60 circuit-miles of entirely overhead conductor. This circuit also serves customers located in the CPUC High Fire Threat District - Tier 2 (Elevated Risk). The Poso Mountain 2101 circuit is comprised of several branches that support a predominately unincorporated community north of Bakersfield. The major factors driving the Poso Mountain 2101 reliability performance are overhead conductor exposure, animal caused outages, and minimal ties to adjacent circuits for outage restoration support.
- iv. An explanation of what is being done to improve the circuit's future performance:

As part of PG&E's base reliability work, three failed reclosers were replaced with bird guard protection in 2016. A base reliability project has been initiated for installing 6 fuses and installing 2 overhead fault indicators. As of the date of this report, no system hardening project has been initiated for the Poso Mountain 2101 circuit.

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

Although difficult to quantify the anticipated reliability benefits after completion of the 2016 base reliability project, AIDI improvement was observed from 2016 to 2019. Incremental reliability improvement is also anticipated after completion of the base reliability project and completion of the comprehensive Wildfire Safety Plan to minimize wildfire ignition risks in the Tier 2 High Fire Threat District.

10. LOS GATOS 1106

- i. An explanation of why it was ranked as a "deficient" circuit:

- Three-year (2015-2017) average AIFI score of 2.94
- Three-year (2016-2018) average AIFI score of 4.51
- Three-year (2017-2019) average AIFI score of 3.45

- ii. A historical record of the metric:

- AIFI 2015 = 0.82
- AIFI 2016 = 4.42
- AIFI 2017 = 3.58
- AIFI 2018 = 5.54
- AIFI 2019 = 1.24

- iii. An explanation of why it was on the deficiency list again:

Los Gatos is located approximately seven miles southwest of San Jose in De Anza Division. The Los Gatos 1106 circuit provides electric service to approximately 1,603 customers in Santa Clara county through 74 miles of primary overhead conductor. This circuit also serves customers located in the CPUC High Fire Threat District - Tier 2 (Elevated Risk) and Tier 3 (Extreme Risk). The Los Gatos 1107 circuit is comprised of one main branch that travels south along Highway 50 through a 3 mile stretch of mountainous terrain including Lexington Reservoir Park. The primary mainline section splits into various branches near the Lexington Reservoir and extends into the Santa Cruz mountains. The major factors driving the Los Gatos 1106 reliability performance are the mountainous service territory with increased vegetation caused outage risks, overhead conductor exposure, and minimal ties to adjacent circuits for outage restoration support.

- iv. An explanation of what is being done to improve the circuit's future performance:

A targeted circuit project had been initiated on the Los Gatos 1106 circuit but has since been repurposed to support the wildfire mitigation efforts. Several system hardening projects have been initiated to replace over 30 miles of OH conductor as part of the Wildfire Safety Plan with 1.15 miles successfully completed in 2019-2020.

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

Incremental reliability improvement is anticipated after completion of the system hardening projects, but the anticipated reliability benefits have not been quantified. This includes the associated reliability benefits after completion of the comprehensive Wildfire Safety Plan to minimize wildfire ignition risks in the Tiers 2 and 3 High Fire Threat Districts.

11. BUCKS CREEK 1103

- i. An explanation of why it was ranked as a "deficient" circuit:
 - Three-year (2015-2017) average AIDI score of 1,106
 - Three-year (2016-2018) average AIDI score of 1,175
 - Three-year (2017-2019) average AIDI score of 1,029
- ii. A historical record of the metric:
 - AIDI 2015 = 1,036
 - AIDI 2016 = 1,199
 - AIDI 2017 = 1,084
 - AIDI 2018 = 1,242
 - AIDI 2019 = 761
- iii. An explanation of why it was on the deficiency list again:

The Bucks Creek 1103 circuit provides electric service to approximately 321 customers in Plumas County through 26 circuit-miles of OH conductor and UG cable. This circuit also serves customers located in the CPUC High Fire Threat District - Tier 3 (Extreme Risk). The Bucks Creek 1103 circuit is comprised of one main branch that travels east along OHV Road 9 through a 15 mile stretch of mountainous terrain including Plumas National Forest to the Bucks Lake community. The major factors driving Bucks Creek 1103 reliability performance are the remote mountainous service territory with increased vegetation caused outage risks, overhead conductor exposure, and minimal ties to adjacent circuits for outage restoration support.
- iv. An explanation of what is being done to improve the circuit's future performance:

As of the date of this report, no system hardening project has been initiated for the Bucks Creek 1103 circuit.
- v. A quantitative description of the utility's expectation for that circuit's future performance:

Incremental reliability improvement is anticipated after completion of the comprehensive Wildfire Safety Plan to minimize wildfire ignition risks in the Tier 3 High Fire Threat District.

6. Top 10 major unplanned power outage events of 2019

Significant Outage Events Of 2019

Table below lists the ten largest outage events experienced during 2019. PG&E interprets this reporting requirement as the ten events (individual days or in some cases a group of consecutive days) with a significant number of customer interruptions in the system or a portion of the system. These events are listed in descending order of customer interruptions.

Table 204 - Ten Largest 2019 Outage Events

Rank	Description	Date	Number of Customers Affected *	Longest Customer Interruption (Hours)	# of People Used To Restore Service	CPUC Major Event?
1	Strong, damaging winds and associated critical fire danger resulted in Extreme-Plus fire potential and the most widespread implementation of PSPS	10/26/2019 – 10/27/2019	1,258,339	312	1,576	Yes
2	A strong offshore wind event developed across Northern CA resulting in critical fire potential and the implementation of PSPS	10/09/2019 – 10/10/2019	799,312	89	378	Yes
3	A pair of potent storms impacted the territory beginning with an “atmospheric river” event, which produced gusty winds, heavy rain and significant low snow in Redding, followed by a colder, dynamic storm that resulted in additional periods of rain and gusty south winds along with low snow and isolated thunderstorms.	2/12/2019 – 2/17/2019	587,843	625	1,677	Yes
4	A series of winter storms resulted in periods of strong gusty south winds, heavy rain, thunderstorms and low elevation snowfall	2/02/2019 – 2/05/2019	378,432	177	1,683	Yes (Feb 2,4,5)
5	A potent winter storm impacted the territory with strong south-southeast winds, isolated thunderstorms and heavy rain and mountain snow	11/25/2019 – 11/27/2019	346,907	120	1,804	Yes (Nov 26, 27)
6	A powerful Pacific storm delivered gusty south winds, heavy rain and mountain snow to the territory	1/16/2019 – 1/17/2019	338,564	87	1,796	Yes
7	Critical fire weather conditions associated with dry, gusty winds led to Extreme-Plus fire potential and the implementation of PSPS	10/23/2019	209,215	384	558	Yes
8	A pair of robust winter storms produced adverse weather in the form of strong gusty winds, heavy rain and mountain snow	1/05/2019 – 1/06/2019	197,290	50	1,977	Yes (Jan 6)
9	Strong high pressure produced triple-digit temperatures away from the coast resulting in widespread heat-related outage activity	8/14/2019 – 8/16/2019	179,699	40	201	Yes (Aug 15)
10	Breezy to gusty north-northeast winds produced critical fire weather conditions across the North leading to the implementation of PSPS	10/29/2019 – 10/30/2019	171,644	72	951	Yes (Oct 29)

* Note: Values exclude planned outages. PG&E resources are through December 31, 2019. PSPS event data reflects PG&E crew repairs only (excludes patrols, inspections and vegetation management). Contractor information not currently available.

7. Summary List of Major Event Day (MED) per IEEE 1366

Major Event Day

IEEE Standard 1366 defines MED as follows:

IEEE Standard 1366-2003 uses a statistically-based method of identifying excludable events. Specifically, the IEEE standard provides for the exclusion of all outages occurring on any day where its SAIDI is greater than “TMED” where:

$T_{MED} = e^{\text{average over 5 yrs. of Ln (daily SAIDI) + 2.5 * STD DEV of 5 yrs. of Ln (daily SAIDI)}}$

The IEEE 1366 Standard includes outage resulting from the failure of a single line transformer.

Table 205 – 2019 Major Event Day

Date	Description	Reason
1/06/2019	Robust winter storms produced adverse weather in the form of strong gusty winds, heavy rain and mountain snow	IEEE MED
1/16/2019 – 1/17/2019	A powerful Pacific storm delivered gusty south winds, heavy rain and mountain snow to the territory	IEEE MED
2/02/2019, 2/04/2019, 2/05/2019	A series of winter storms resulted in periods of strong gusty south winds, heavy rain, thunderstorms and low elevation snowfall	IEEE MED
2/09/2019 – 2/10/2019	A cold winter storm resulted in significant low snow related outage activity across Humboldt and along the central Sierra. Snow levels dropped to around 500' – 2500' north to south.	IEEE MED
2/12/2019 – 2/17/2019	A pair of potent storms impacted the territory beginning with an “atmospheric river” event, which produced gusty winds, heavy rain and significant low snow in Redding, followed by a colder, dynamic storm that resulted in additional periods of rain and gusty south winds along with low snow and isolated thunderstorms.	IEEE MED
2/26/2019 – 2/27/2019	Strong high pressure produced triple-digit temperatures away from the coast resulting in widespread heat-related outage activity.	IEEE MED
6/8/2019	Breezy to gusty offshore winds, hot temperatures and low humidity resulted in critical fire danger across the north resulting in the implementation of PSPS impacting 22,327 customers across portions of North Valley, Sacramento and North Bay divisions.	IEEE MED
6/10/2019	Strong high pressure resulted in hot and dry weather across the territory with daytime highs ranging from the 90s to around 105F across the territory. Due to high electric loads, widespread heat-related outage activity was observed across the Bay Area and northern San Joaquin Valley.	IEEE MED
8/15/2019	Strong high pressure produced triple-digit temperatures away from the coast resulting in widespread heat-related outage activity.	IEEE MED
9/23/2019	Dry weather combined with breezy to gusty northeast winds led to critical fire weather conditions across the North resulting in the implementation of PSPS in portions of North Valley, Sacramento and Sierra divisions.	IEEE MED
9/25/2019	Critical fire weather conditions were observed due to the onset of breezy to gusty offshore flow, hot temperatures and low humidity across the Bay Area and Northern Region resulting in the implementation of PSPS impacting 26,121 customers.	IEEE MED
10/05/2019	Breezy to gusty northeast winds, dry conditions and warm autumn temperatures resulted in critical fire weather and the implementation of PSPS across portions of North Valley division, which impacted 11,609 customers.	IEEE MED
10/09/2019 – 10/10/2019	A strong offshore wind event developed across Northern CA resulting in critical fire potential and the implementation of PSPS	IEEE MED
10/23/2019	Critical fire weather conditions associated with dry, gusty winds led to Extreme-Plus fire potential and the implementation of PSPS.	IEEE MED
10/26/2019 – 10/27/2019	Strong, damaging winds and associated critical fire danger resulted in Extreme-Plus fire potential and the most widespread implementation of PSPS.	IEEE MED
10/29/2019	Breezy to gusty north-northeast winds produced critical fire weather conditions across the North leading to the implementation of PSPS.	IEEE MED
11/20/2019	Strong offshore flow and associated critical fire weather conditions led to the implementation of PSPS across northern portions of the territory as well as in Kern division impacting a total of 49,202 distribution customers	IEEE MED
11/26/2019 – 11/27/2019	A potent winter storm impacted the territory with strong south-southeast winds, isolated thunderstorms and heavy rain and mountain snow.	IEEE MED

*MED is defined as Major Events Day

7.1 Major Event Day (MED) Discussions:

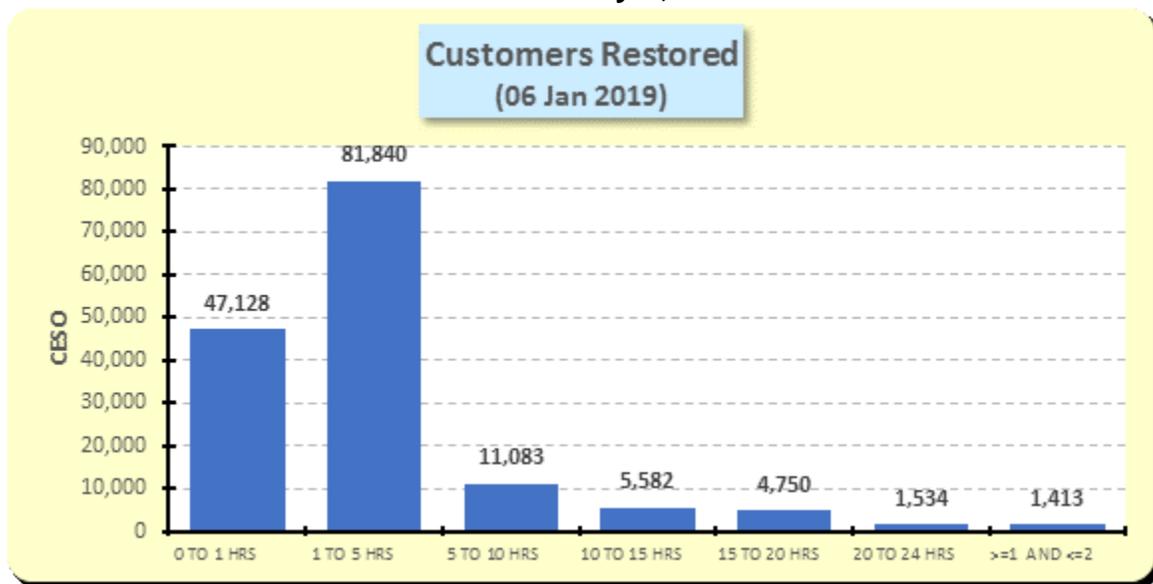
January 6, 2019 Major Event Day

Table 206 below indicates the number of customers without service at periodic intervals for this event (01/6/2019). The numbers of customers noted in the table are for only those divisions impacted by this event.

Table 206 – January 6

Outage Duration	Customers Impacted	Cumulative %
0 TO 1 HRS	47,128	30.72%
1 TO 5 HRS	81,840	84.08%
5 TO 10 HRS	11,083	91.30%
10 TO 15 HRS	5,582	94.94%
15 TO 20 HRS	4,750	98.04%
20 TO 24 HRS	1,534	99.04%
>=1 AND <=2	1,413	99.96%
>=2 AND <=3	63	100.00%
Total	153,393	

Chart 364: January 6, 2019 MED



Note: The number of customer outages segmented by hourly restoration periods requires a level of detail not normally maintained by PG&E in its central computerized records. The information shown here is what PG&E has been able to reconstruct from several databases and may have a margin of error of up to 5%.

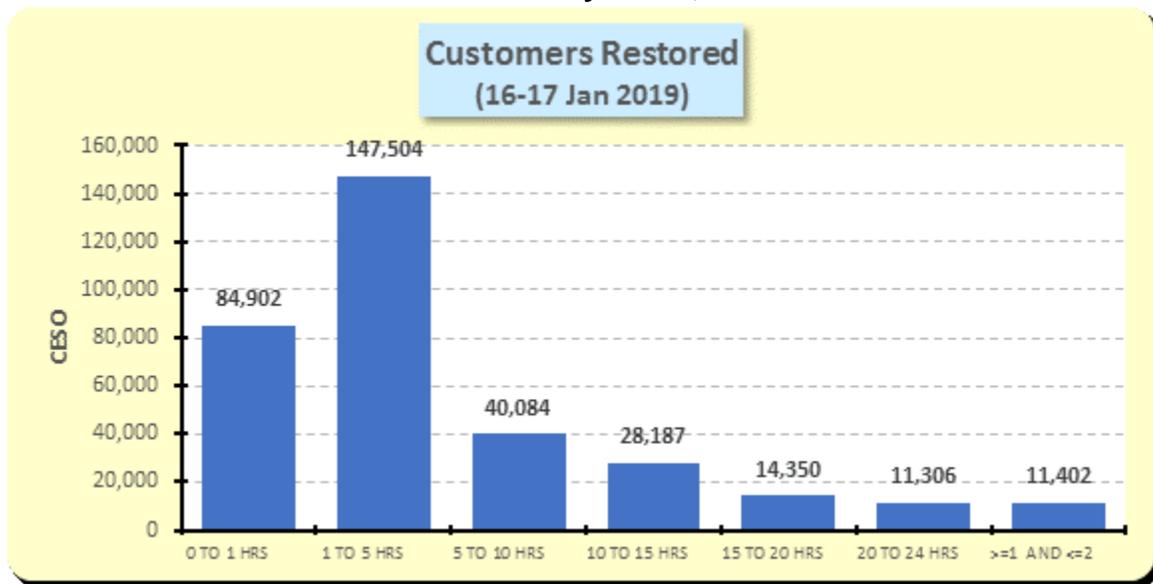
January 16-17, 2019 Major Event Day

Table 207 below indicates the number of customers without service at periodic intervals for this event (01/16/2019 – 01/17/2019). The numbers of customers noted in the table are for only those divisions impacted by this event.

Table 207 – January 16-17

Outage Duration	Customers Impacted	Cumulative %
0 TO 1 HRS	84,902	25.04%
1 TO 5 HRS	147,504	68.55%
5 TO 10 HRS	40,084	80.37%
10 TO 15 HRS	28,187	88.68%
15 TO 20 HRS	14,350	92.91%
20 TO 24 HRS	11,306	96.25%
>=1 AND <=2	11,402	99.61%
>=2 AND <=3	1,318	100.00%
>=3 AND <=4	4	100.00%
>=4 AND <=5	3	100.00%
Total	339,053	

Chart 365: January 16-17, 2019 MED



Note: The number of customer outages segmented by hourly restoration periods requires a level of detail not normally maintained by PG&E in its central computerized records. The information shown here is what PG&E has been able to reconstruct from several databases and may have a margin of error of up to 5%.

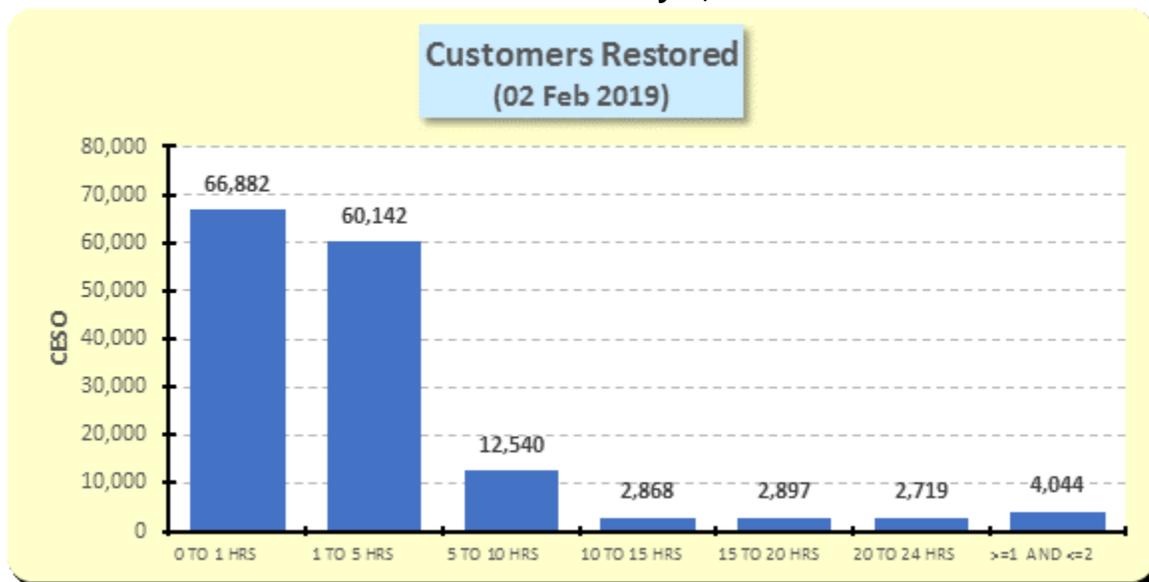
February 2, 2019 Major Event Day

Table 208 below indicates the number of customers without service at periodic intervals for this event (02/02/2019). The numbers of customers noted in the table are for only those divisions impacted by this event.

Table 208 – February 2

Outage Duration	Customers Impacted	Cumulative %
0 TO 1 HRS	66,882	43.73%
1 TO 5 HRS	60,142	83.05%
5 TO 10 HRS	12,540	91.24%
10 TO 15 HRS	2,868	93.12%
15 TO 20 HRS	2,897	95.01%
20 TO 24 HRS	2,719	96.79%
>=1 AND <=2	4,044	99.43%
>=2 AND <=3	857	99.99%
>=3 AND <=4	8	100.00%
Total	152,957	

Chart 366: February 2, 2019 MED



Note: The number of customer outages segmented by hourly restoration periods requires a level of detail not normally maintained by PG&E in its central computerized records. The information shown here is what PG&E has been able to reconstruct from several databases and may have a margin of error of up to 5%.

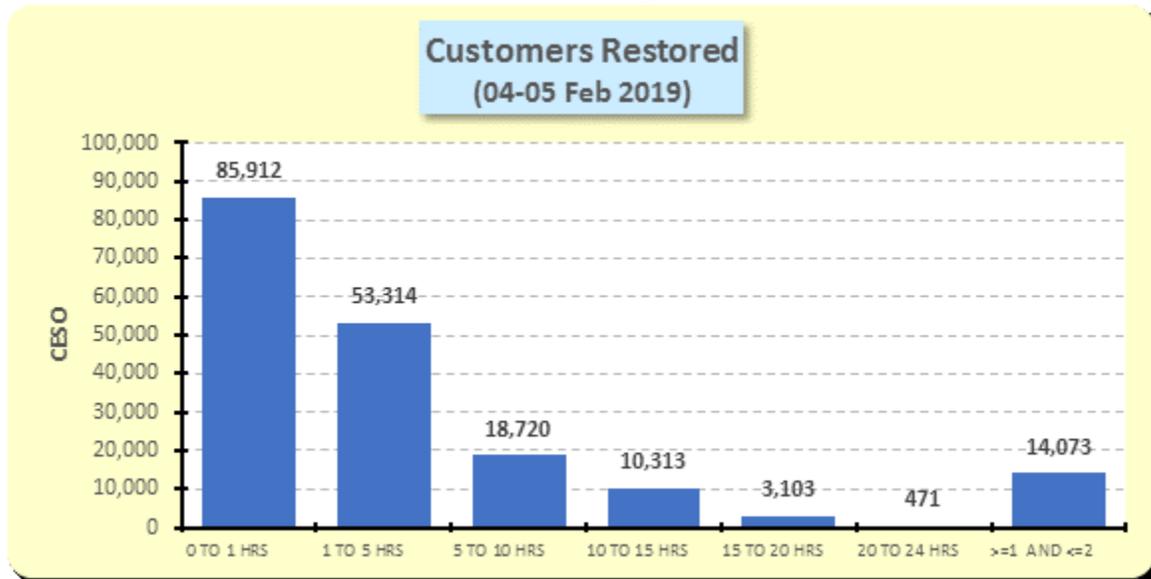
February 4-5, 2019 Major Event Day

Table 209 below indicates the number of customers without service at periodic intervals for this event (02/04/2019 – 02/05/2019). The numbers of customers noted in the table are for only those divisions impacted by this event.

Table 209 – February 4-5

Outage Duration	Customers Impacted	Cumulative %
0 TO 1 HRS	85,912	43.35%
1 TO 5 HRS	53,314	70.25%
5 TO 10 HRS	18,720	79.70%
10 TO 15 HRS	10,313	84.90%
15 TO 20 HRS	3,103	86.46%
20 TO 24 HRS	471	86.70%
>=1 AND <=2	14,073	93.80%
>=2 AND <=3	5,824	96.74%
>=3 AND <=4	5,311	99.42%
>=4 AND <=5	384	99.62%
>=5 AND <=6	198	99.72%
>=6 AND <=7	379	99.91%
> 7	185	100.00%
Total	198,187	

Chart 367: February 4-5, 2019 MED



Note: The number of customer outages segmented by hourly restoration periods requires a level of detail not normally maintained by PG&E in its central computerized records. The information shown here is what PG&E has been able to reconstruct from several databases and may have a margin of error of up to 5%.

February 9-10 Major Event Day

Table 210 below indicates the number of customers without service at periodic intervals for this event (02/09/2019 – 02/10/2019). The numbers of customers noted in the table are for only those divisions impacted by this event.

Table 210 – February 9-10

Outage Duration	Customers Impacted	Cumulative %
0 TO 1 HRS	44,113	33.65%
1 TO 5 HRS	47,606	69.97%
5 TO 10 HRS	16,461	82.52%
10 TO 15 HRS	5,072	86.39%
15 TO 20 HRS	4,145	89.56%
20 TO 24 HRS	1,146	90.43%
>=1 AND <=2	8,186	96.67%
>=2 AND <=3	1,401	97.74%
>=3 AND <=4	1,183	98.65%
>=4 AND <=5	920	99.35%
>=5 AND <=6	454	99.69%
>=6 AND <=7	83	99.76%
> 7	318	100.00%
Total	131,088	

Chart 368: February 9-10, 2019 MED



Note: The number of customer outages segmented by hourly restoration periods requires a level of detail not normally maintained by PG&E in its central computerized records. The information shown here is what PG&E has been able to reconstruct from several databases and may have a margin of error of up to 5%.

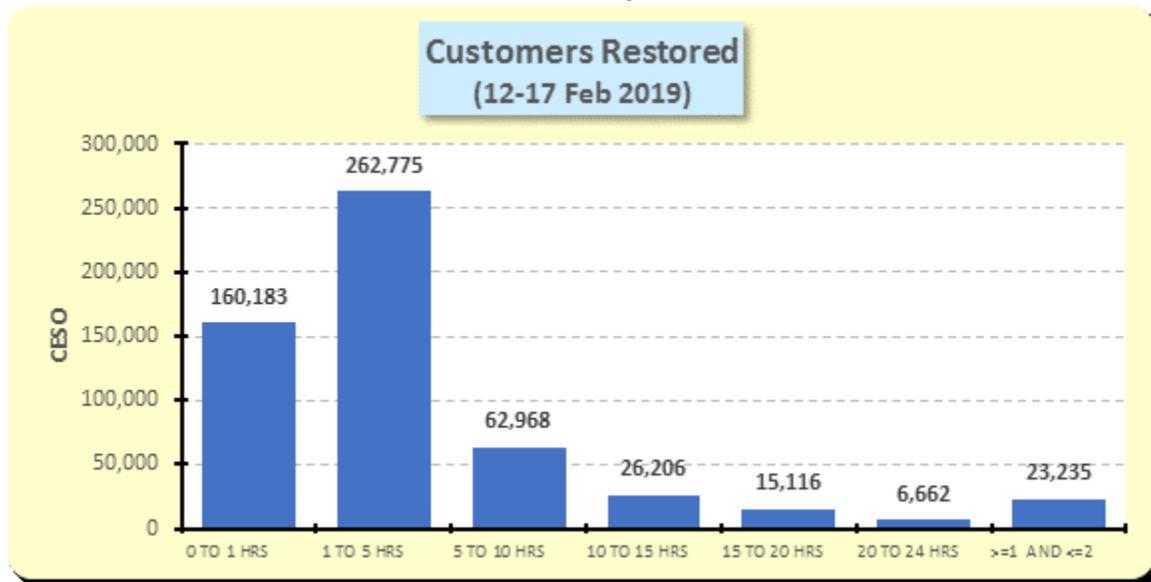
February 12-17 Major Event Day

Table 211 below indicates the number of customers without service at periodic intervals for this event (02/12/2019 – 02/17/2019). The numbers of customers noted in the table are for only those divisions impacted by this event.

Table 211 – February 12-17

Outage Duration	Customers Impacted	Cumulative %
0 TO 1 HRS	160,183	27.22%
1 TO 5 HRS	262,775	71.87%
5 TO 10 HRS	62,968	82.57%
10 TO 15 HRS	26,206	87.02%
15 TO 20 HRS	15,116	89.59%
20 TO 24 HRS	6,662	90.72%
>=1 AND <=2	23,235	94.67%
>=2 AND <=3	11,500	96.63%
>=3 AND <=4	6,571	97.74%
>=4 AND <=5	5,408	98.66%
>=5 AND <=6	4,191	99.37%
>=6 AND <=7	2,038	99.72%
> 7	1,648	100.00%
Total	588,501	

Chart 369: February 12-17, 2019 MED



Note: The number of customer outages segmented by hourly restoration periods requires a level of detail not normally maintained by PG&E in its central computerized records. The information shown here is what PG&E has been able to reconstruct from several databases and may have a margin of error of up to 5%.

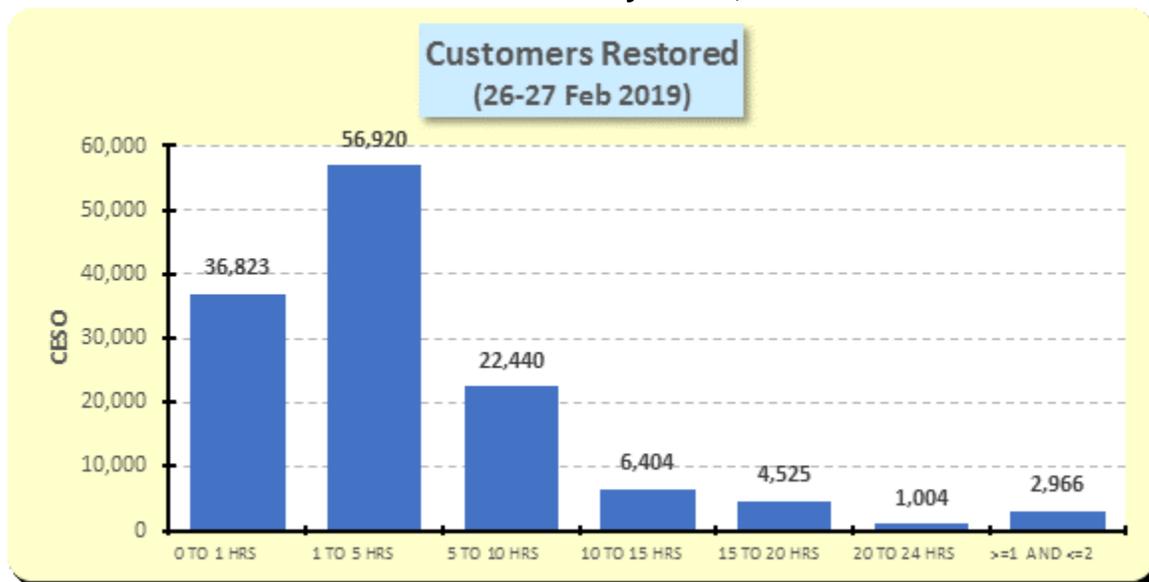
February 26 -27 Major Event Day

Table 212 below indicates the number of customers without service at periodic intervals for this event (02/26/2019 – 02/27/2019). The numbers of customers noted in the table are for only those divisions impacted by this event.

Table 212 – February 26-27

Outage Duration	Customers Impacted	Cumulative %
0 TO 1 HRS	36,823	27.46%
1 TO 5 HRS	56,920	69.91%
5 TO 10 HRS	22,440	86.64%
10 TO 15 HRS	6,404	91.42%
15 TO 20 HRS	4,525	94.79%
20 TO 24 HRS	1,004	95.54%
>=1 AND <=2	2,966	97.76%
>=2 AND <=3	2,372	99.52%
>=3 AND <=4	326	99.77%
>=4 AND <=5	226	99.94%
>=5 AND <=6	81	100.00%
>=6 AND <=7	3	100.00%
> 7	2	100.00%
Total	134,092	

Chart 370: February 26-27, 2019 MED



Note: The number of customer outages segmented by hourly restoration periods requires a level of detail not normally maintained by PG&E in its central computerized records. The information shown here is what PG&E has been able to reconstruct from several databases and may have a margin of error of up to 5%.

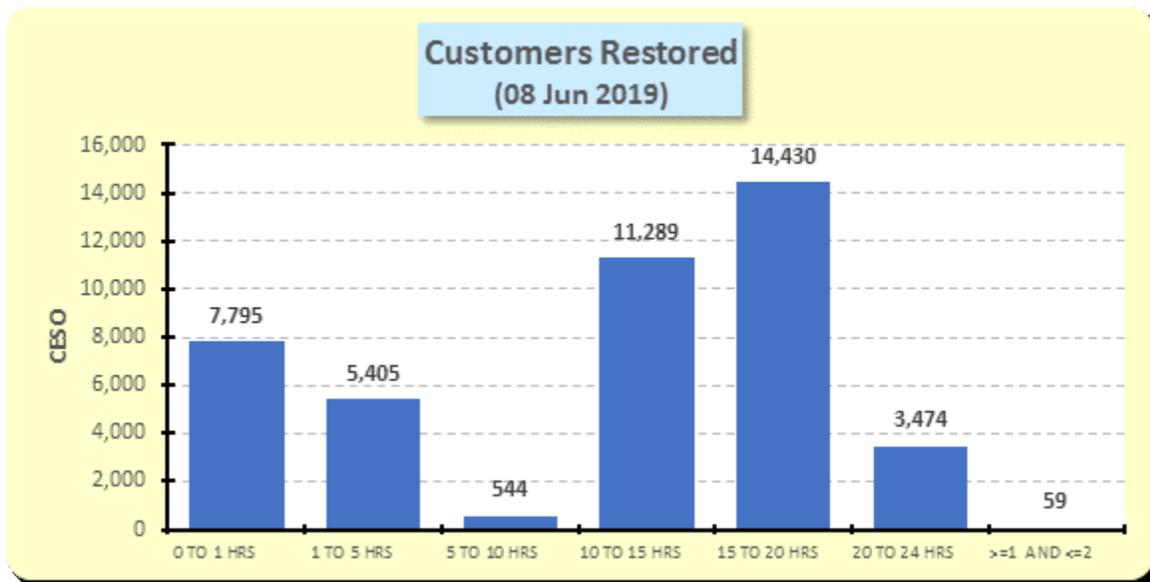
June 8 Major Event Day

Table 213 below indicates the number of customers without service at periodic intervals for this event (06/08/2019). The numbers of customers noted in the table are for only those divisions impacted by this event.

Table 213 – June 8

Outage Duration	Customers Impacted	Cumulative %
0 TO 1 HRS	7,795	18.13%
1 TO 5 HRS	5,405	30.70%
5 TO 10 HRS	544	31.96%
10 TO 15 HRS	11,289	58.22%
15 TO 20 HRS	14,430	91.78%
20 TO 24 HRS	3,474	99.86%
>=1 AND <=2	59	100.00%
> 7	2	100.00%
Total	42,998	

Chart 371: June 8, 2019 MED



Note: The number of customer outages segmented by hourly restoration periods requires a level of detail not normally maintained by PG&E in its central computerized records. The information shown here is what PG&E has been able to reconstruct from several databases and may have a margin of error of up to 5%.

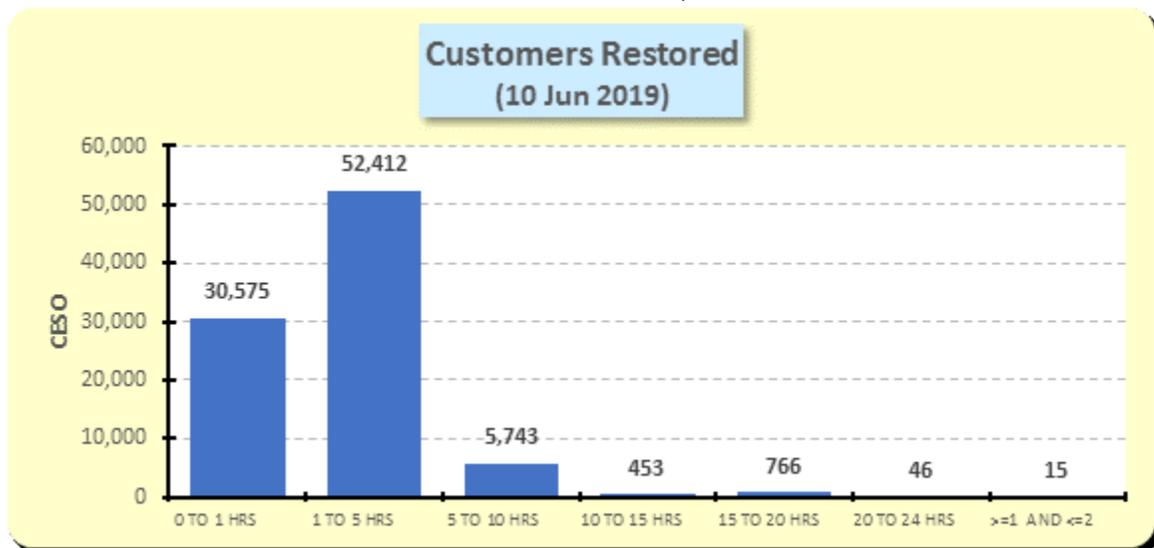
June 10 Major Event Day

Table 214 below indicates the number of customers without service at periodic intervals for this event (06/10/2019). The numbers of customers noted in the table are for only those divisions impacted by this event.

Table 214 – June 10

Outage Duration	Customers Impacted	Cumulative %
0 TO 1 HRS	30,575	33.97%
1 TO 5 HRS	52,412	92.20%
5 TO 10 HRS	5,743	98.58%
10 TO 15 HRS	453	99.08%
15 TO 20 HRS	766	99.93%
20 TO 24 HRS	46	99.98%
>=1 AND <=2	15	100.00%
Total	90,010	

Chart 372: June 10, 2019 MED



Note: The number of customer outages segmented by hourly restoration periods requires a level of detail not normally maintained by PG&E in its central computerized records. The information shown here is what PG&E has been able to reconstruct from several databases and may have a margin of error of up to 5%.

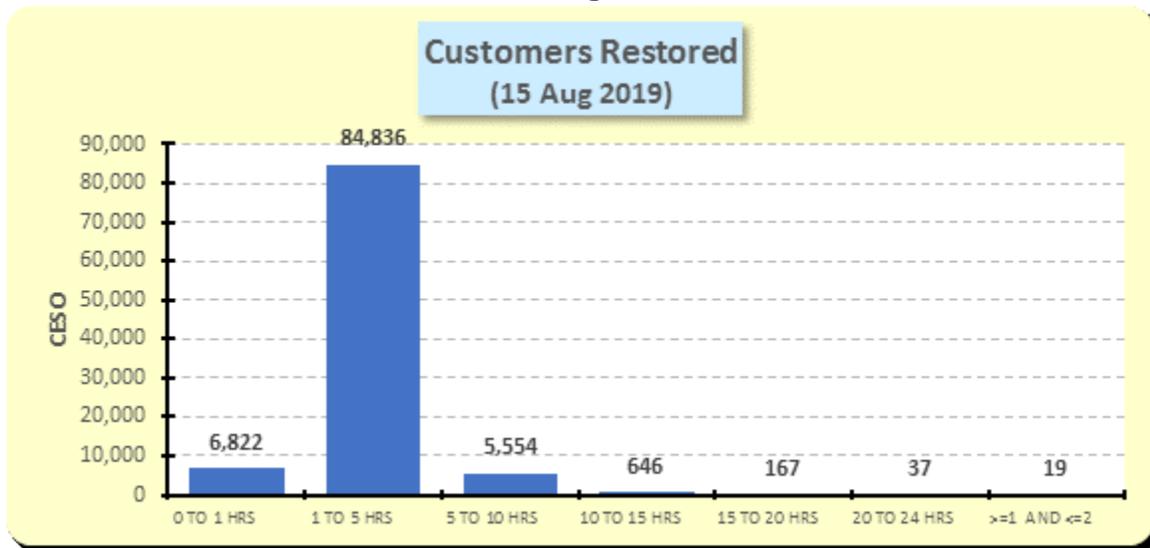
August 15 Major Event Day

Table 215 below indicates the number of customers without service at periodic intervals for this event (08/15/2019). The numbers of customers noted in the table are for only those divisions impacted by this event.

Table 215 – August 15

Outage Duration	Customers Impacted	Cumulative %
0 TO 1 HRS	6,822	6.96%
1 TO 5 HRS	84,836	93.45%
5 TO 10 HRS	5,554	99.11%
10 TO 15 HRS	646	99.77%
15 TO 20 HRS	167	99.94%
20 TO 24 HRS	37	99.98%
>=1 AND <=2	19	100.00%
Total	98,081	

Chart 373: August 15, 2019 MED



Note: The number of customer outages segmented by hourly restoration periods requires a level of detail not normally maintained by PG&E in its central computerized records. The information shown here is what PG&E has been able to reconstruct from several databases and may have a margin of error of up to 5%.

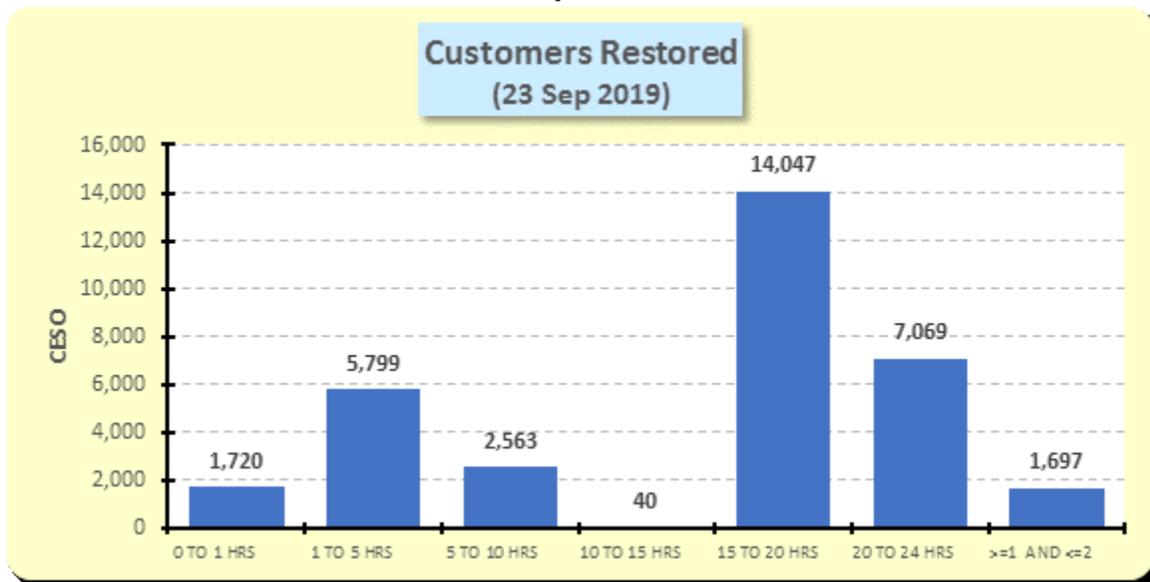
September 23 Major Event Day

Table 216 below indicates the number of customers without service at periodic intervals for this event (09/23/2019). The numbers of customers noted in the table are for only those divisions impacted by this event.

Table 216 – September 23

Outage Duration	Customers Impacted	Cumulative %
0 TO 1 HRS	1,720	5.22%
1 TO 5 HRS	5,799	22.81%
5 TO 10 HRS	2,563	30.59%
10 TO 15 HRS	40	30.71%
15 TO 20 HRS	14,047	73.33%
20 TO 24 HRS	7,069	94.78%
>=1 AND <=2	1,697	99.93%
>=2 AND <=3	22	100.00%
Total	32,957	

Chart 374: September 23, 2019 MED



Note: The number of customer outages segmented by hourly restoration periods requires a level of detail not normally maintained by PG&E in its central computerized records. The information shown here is what PG&E has been able to reconstruct from several databases and may have a margin of error of up to 5%.

September 25 Major Event Day

Table 217 below indicates the number of customers without service at periodic intervals for this event (09/25/2019). The numbers of customers noted in the table are for only those divisions impacted by this event.

Table 217 – September 25

Outage Duration	Customers Impacted	Cumulative %
0 TO 1 HRS	5,383	7.39%
1 TO 5 HRS	14,888	27.82%
5 TO 10 HRS	1,266	29.55%
10 TO 15 HRS	37,160	80.55%
15 TO 20 HRS	10,654	95.17%
20 TO 24 HRS	2	95.17%
>=1 AND <=2	3,520	100.00%
Total	72,873	

Chart 375: September 25, 2019 MED



Note: The number of customer outages segmented by hourly restoration periods requires a level of detail not normally maintained by PG&E in its central computerized records. The information shown here is what PG&E has been able to reconstruct from several databases and may have a margin of error of up to 5%.

October 5 Major Event Day

Table 218 below indicates the number of customers without service at periodic intervals for this event (10/05/2019). The numbers of customers noted in the table are for only those divisions impacted by this event.

Table 218 – October 5

Outage Duration	Customers Impacted	Cumulative %
0 TO 1 HRS	10,222	32.19%
1 TO 5 HRS	8,025	57.45%
5 TO 10 HRS	188	58.05%
10 TO 15 HRS	9,760	88.78%
15 TO 20 HRS	3,230	98.95%
>=1 AND <=2	334	100.00%
Total	31,759	

Chart 376: October 5, 2019 MED



Note: The number of customer outages segmented by hourly restoration periods requires a level of detail not normally maintained by PG&E in its central computerized records. The information shown here is what PG&E has been able to reconstruct from several databases and may have a margin of error of up to 5%.

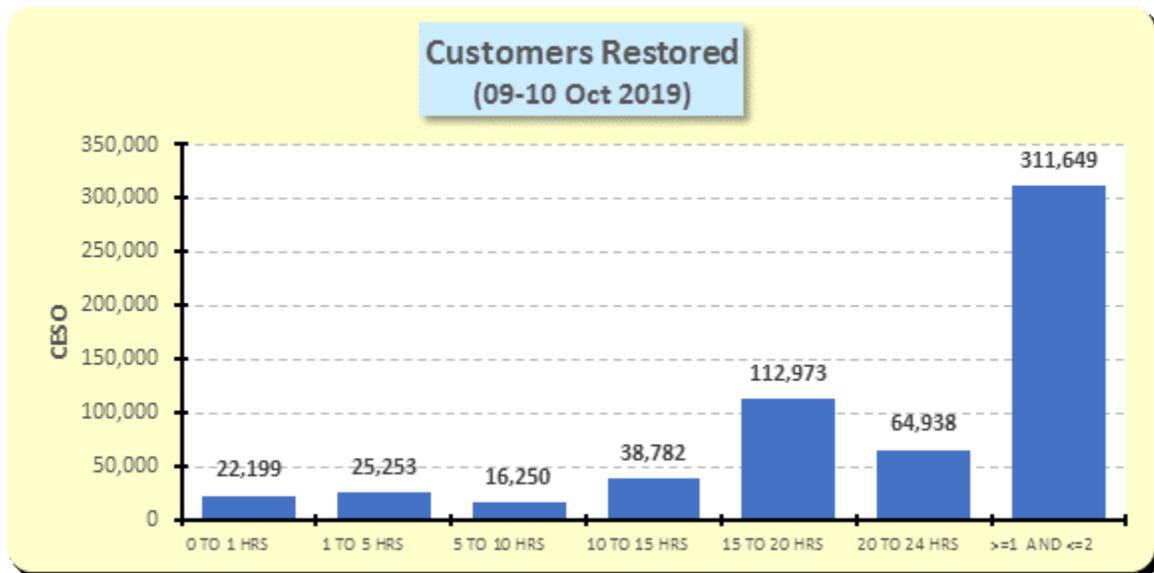
October 9-10 Major Event Day

Table 219 below indicates the number of customers without service at periodic intervals for this event (10/09/2019 – 10/10/2019). The numbers of customers noted in the table are for only those divisions impacted by this event.

Table 219 – October 9-10

Outage Duration	Customers Impacted	Cumulative %
0 TO 1 HRS	22,199	2.78%
1 TO 5 HRS	25,253	5.94%
5 TO 10 HRS	16,250	7.98%
10 TO 15 HRS	38,782	12.84%
15 TO 20 HRS	112,973	26.99%
20 TO 24 HRS	64,938	35.12%
>=1 AND <=2	311,649	74.15%
>=2 AND <=3	195,295	98.61%
>=3 AND <=4	11,063	100.00%
Total	798,402	

Chart 377: October 9-10, 2019 MED



Note: The number of customer outages segmented by hourly restoration periods requires a level of detail not normally maintained by PG&E in its central computerized records. The information shown here is what PG&E has been able to reconstruct from several databases and may have a margin of error of up to 5%.

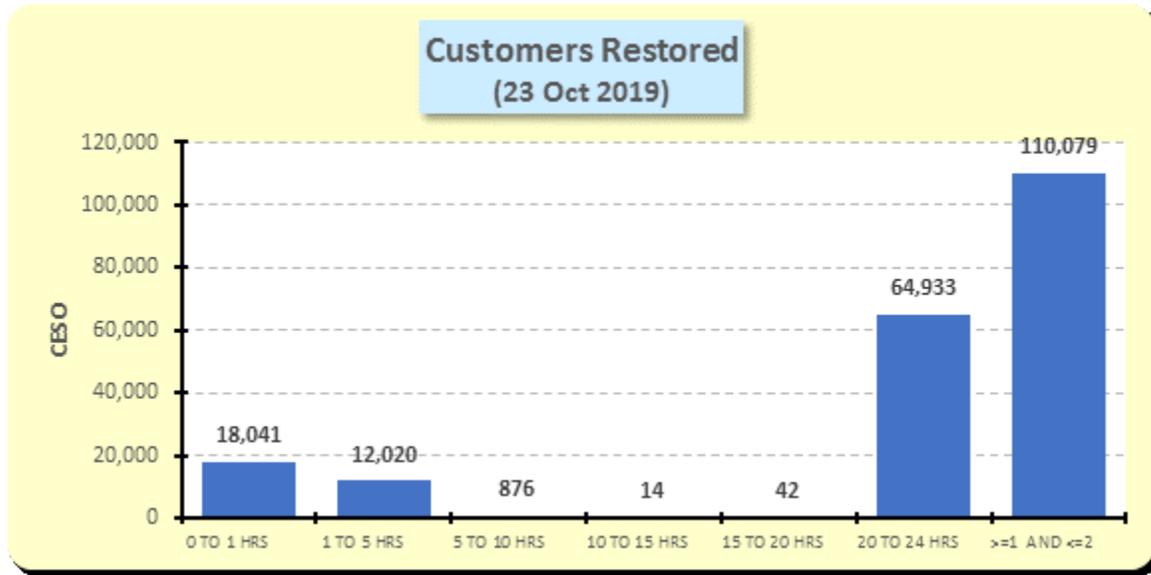
October 23 Major Event Day

Table 220 below indicates the number of customers without service at periodic intervals for this event (10/23/2019). The numbers of customers noted in the table are for only those divisions impacted by this event.

Table 220 – October 23

Outage Duration	Customers Impacted	Cumulative %
0 TO 1 HRS	18,041	8.67%
1 TO 5 HRS	12,020	14.45%
5 TO 10 HRS	876	14.87%
10 TO 15 HRS	14	14.87%
15 TO 20 HRS	42	14.89%
20 TO 24 HRS	64,933	46.10%
>=1 AND <=2	110,079	99.00%
>=2 AND <=3	1,208	99.58%
>=6 AND <=7	10	99.59%
> 7	855	100.00%
Total	208,078	

Chart 378: October 23, 2019 MED



Note: The number of customer outages segmented by hourly restoration periods requires a level of detail not normally maintained by PG&E in its central computerized records. The information shown here is what PG&E has been able to reconstruct from several databases and may have a margin of error of up to 5%.

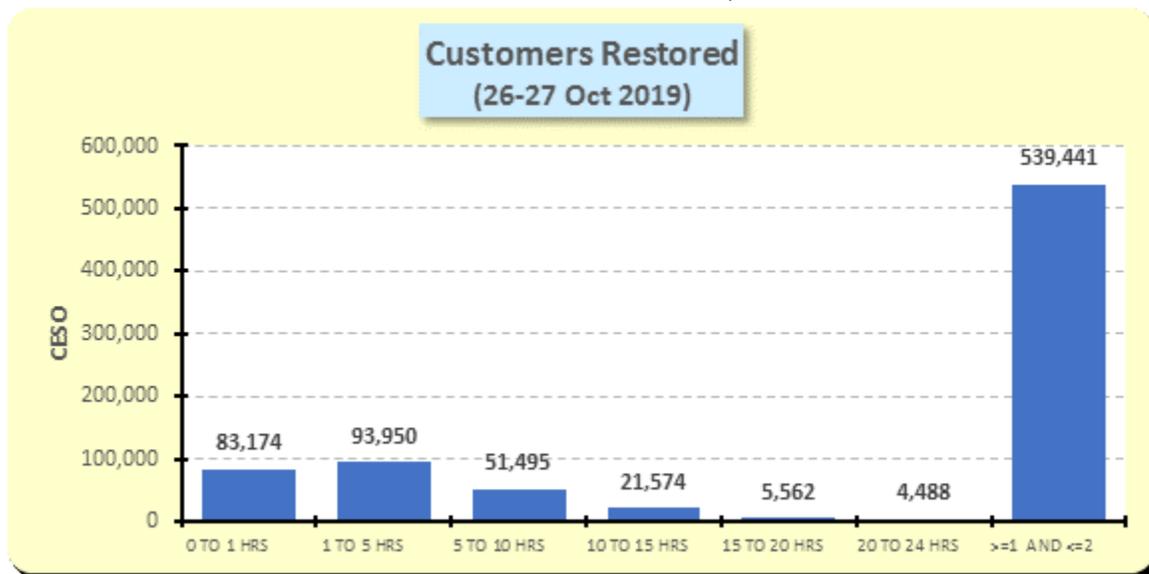
October 26-27 Major Event Day

Table 221 below indicates the number of customers without service at periodic intervals for this event (10/26/2019 – 10/27/2019). The numbers of customers noted in the table are for only those divisions impacted by this event.

Table 221 – October 26-27

Outage Duration	Customers Impacted	Cumulative %
0 TO 1 HRS	83,174	6.61%
1 TO 5 HRS	93,950	14.08%
5 TO 10 HRS	51,495	18.17%
10 TO 15 HRS	21,574	19.88%
15 TO 20 HRS	5,562	20.33%
20 TO 24 HRS	4,488	20.68%
>=1 AND <=2	539,441	63.56%
>=2 AND <=3	173,787	77.37%
>=3 AND <=4	204,219	93.60%
>=4 AND <=5	76,532	99.68%
>=5 AND <=6	2,915	99.91%
>=6 AND <=7	249	99.93%
> 7	858	100.00%
Total	1,258,244	

Chart 379: October 26-27, 2019 MED



Note: The number of customer outages segmented by hourly restoration periods requires a level of detail not normally maintained by PG&E in its central computerized records. The information shown here is what PG&E has been able to reconstruct from several databases and may have a margin of error of up to 5%.

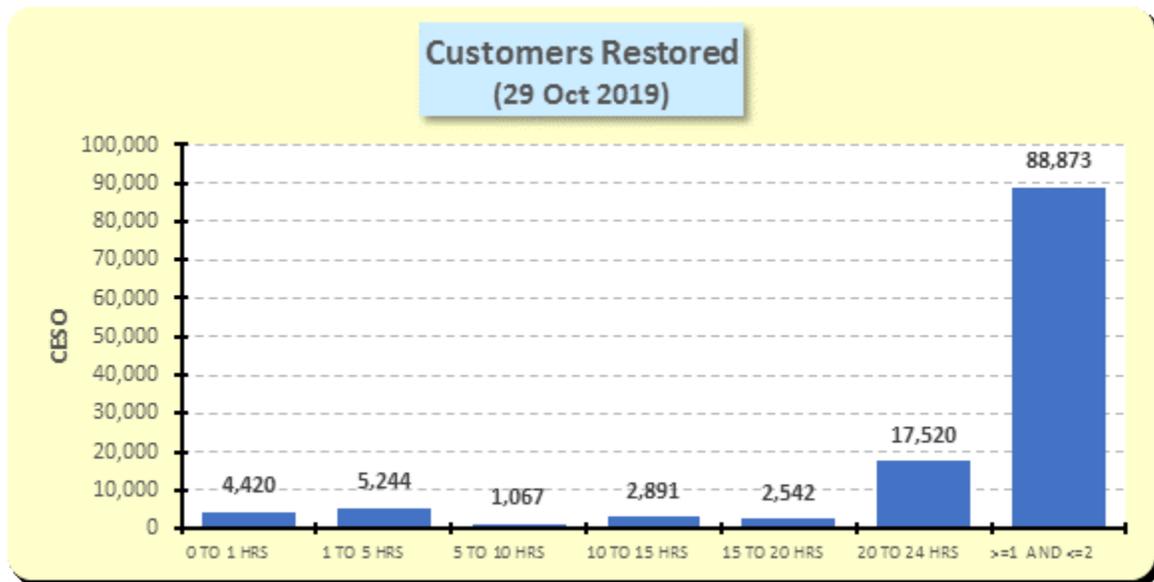
October 29 Major Event Day

Table 222 below indicates the number of customers without service at periodic intervals for this event (10/29/2019). The numbers of customers noted in the table are for only those divisions impacted by this event.

Table 222 – October 29

Outage Duration	Customers Impacted	Cumulative %
0 TO 1 HRS	4,420	3.59%
1 TO 5 HRS	5,244	7.85%
5 TO 10 HRS	1,067	8.71%
10 TO 15 HRS	2,891	11.06%
15 TO 20 HRS	2,542	13.12%
20 TO 24 HRS	17,520	27.35%
>=1 AND <=2	88,873	99.49%
>=2 AND <=3	623	100.00%
Total	123,180	

Chart 380: October 29, 2019 MED



Note: The number of customer outages segmented by hourly restoration periods requires a level of detail not normally maintained by PG&E in its central computerized records. The information shown here is what PG&E has been able to reconstruct from several databases and may have a margin of error of up to 5%.

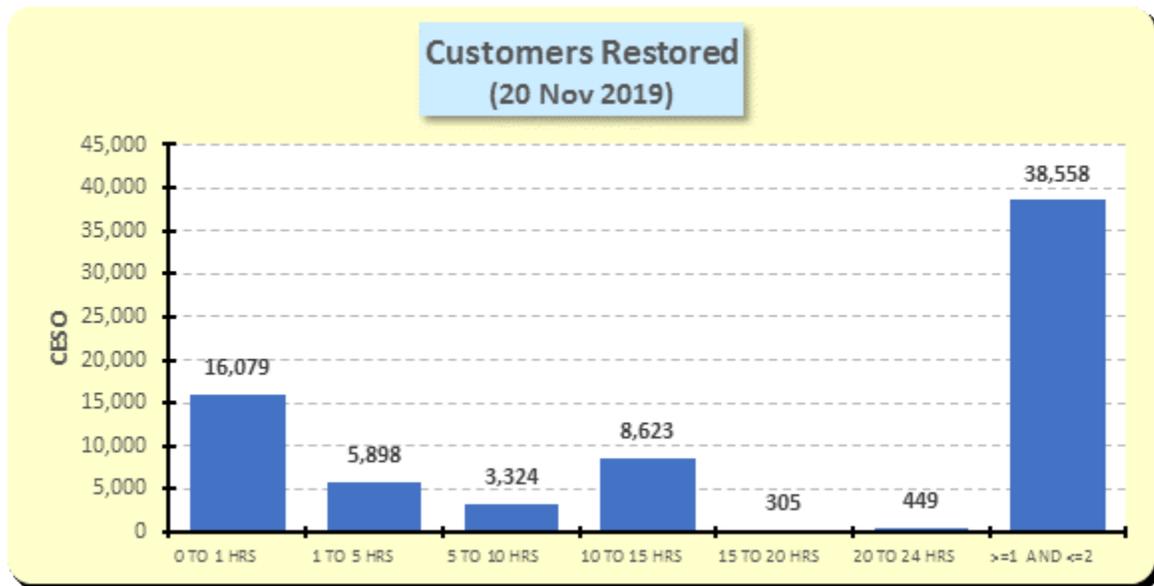
November 20 Major Event Day

Table 223 below indicates the number of customers without service at periodic intervals for this event (11/20/2019). The numbers of customers noted in the table are for only those divisions impacted by this event.

Table 223 – November 20

Outage Duration	Customers Impacted	Cumulative %
0 TO 1 HRS	16,079	21.96%
1 TO 5 HRS	5,898	30.01%
5 TO 10 HRS	3,324	34.55%
10 TO 15 HRS	8,623	46.32%
15 TO 20 HRS	305	46.74%
20 TO 24 HRS	449	47.35%
>=1 AND <=2	38,558	100.00%
Total	73,236	

Chart 381: November 20, 2019 MED



Note: The number of customer outages segmented by hourly restoration periods requires a level of detail not normally maintained by PG&E in its central computerized records. The information shown here is what PG&E has been able to reconstruct from several databases and may have a margin of error of up to 5%.

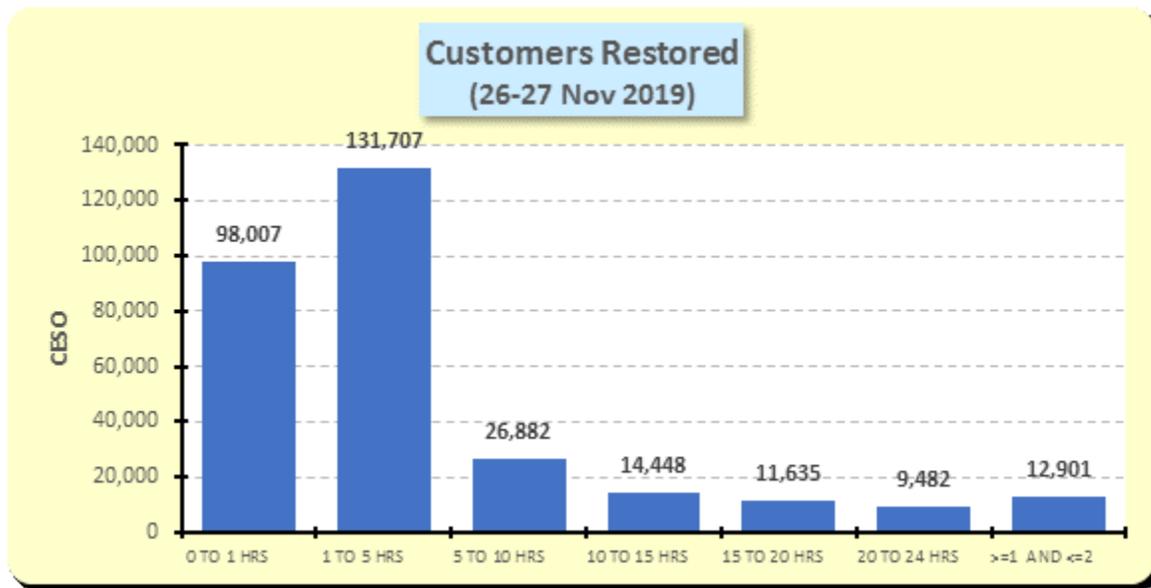
November 26-27 Major Event Day

Table 224 below indicates the number of customers without service at periodic intervals for this event (11/26/2019 – 11/27/2019). The numbers of customers noted in the table are for only those divisions impacted by this event.

Table 224 – November 26-27

Outage Duration	Customers Impacted	Cumulative %
0 TO 1 HRS	98,007	31.63%
1 TO 5 HRS	131,707	74.14%
5 TO 10 HRS	26,882	82.81%
10 TO 15 HRS	14,448	87.48%
15 TO 20 HRS	11,635	91.23%
20 TO 24 HRS	9,482	94.29%
>=1 AND <=2	12,901	98.46%
>=2 AND <=3	2,845	99.37%
>=3 AND <=4	1,773	99.95%
>=4 AND <=5	169	100.00%
Total	309,849	

Chart 382: November 26-27, 2019 MED



Note: The number of customer outages segmented by hourly restoration periods requires a level of detail not normally maintained by PG&E in its central computerized records. The information shown here is what PG&E has been able to reconstruct from several databases and may have a margin of error of up to 5%.

8. Historical Ten Largest Unplanned Outage Events for 2009-2018

Table 225 - Ten Largest 2018 Outage Events

Rank	Description	Date	Number of Customers Affected *	Longest Customer Interruption (Hours)	# of People Used To Restore Service	CPUC Major Event?
1	A trio of early winter-season storms generated a significant amount of outage activity due to gusty south winds and heavy rain with considerable flashover activity across the interior south.	11/21/2018 – 11/23/2018	224,103	97	460	Yes (11/21 only)
2	Carr Fire	7/28/2018 – 7/30/2018	121,187	248	132	Yes (7/28 only)
3	Early season low pressure system brought the first rain in months to the territory resulting in significant flashover-related outages with widespread thunderstorm activity across the interior and south on 10/3 producing over 2,000 lightning strikes.	10/2/2018 – 10/3/2018	115,705	30		
4	A dynamic Pacific weather system delivered gusty south winds, heavy rain, scattered thunderstorms and heavy mountain snow to the territory; causing significant outage activity, especially in Central Coast division.	11/28/2018 – 11/29/2018	109,891	99	741	Yes (11/29 only)
5	A strong winter storm impacted the territory with heavy rain, heavy mountain snow and gusty south winds followed by a secondary wave generating low snow and thunderstorms the next day	3/1/2018 – 3/2/2018	108,654	100		
6	Not weather related	5/17/2018	75,292	19	120	Yes
7	An offshore wind event developed across the northern two thirds of the territory and produced Extreme-Plus fire danger resulting in execution of PSPS.	10/14/2018	70,326	89	441	Yes
8	Camp Fire	11/8/2018	68,468	936	214	Yes
9	Breezy to gusty northeast winds developed across the territory producing considerable outage activity in San Jose and Central Coast divisions	12/31/2018	57,736	31		
10	A moist, atmospheric-river storm system delivered copious amounts of rainfall to parts of the territory with thunderstorm activity across the interior producing over 900 lightning strikes and widespread outage activity.	3/22/2018	55,598	39		

* Note: Values exclude planned outages

Table 226 - Ten Largest 2017 Outage Events

Rank	Description	Date	Number of Customers Affected *	Longest Customer Interruption (Hours)	# of People Used To Restore Service	CPUC Major Event?
1	A series of atmospheric river storm events impacted the territory with heavy rain and strong south winds. Extensive damage occurred on the Central Coast where Salinas Airport recorded a gust to 69 mph. This was caused by a rapidly intensifying area of low pressure, also known as 'bombogenesis'.	02/17/2017 – 02/22/2017	732,590	235	3,496 Total 3,186 PG&E 310 Mutual Assistance	Y (except Feb 19)
2	Another winter storm series comprised of three storms impacted the territory from 1/18 – 1/23 with heavy rain, mountain snow, and strong south winds.	1/18/2017 – 1/23/2017	653,502	170	3,274 Total 3,151 PG&E 123 Mutual Assistance	Y
3	A vigorous storm produced significant damage across the territory on 1/8/17 due to a combination of very heavy rain and strong south winds. The heavy rain resulted in flooding along rivers, creeks, and streams. A second strong winter storm impacted the territory 1/10/2017 to 1/11/2017.	1/8/2017 – 1/11/2017	560,246	450	3,357 Total 3,180 PG&E 177 Mutual Assistance	Y
4	A strong and dynamic winter storm impacted the territory 4/6 to 4/7 and produced significant outage activity. The storm was the most impactful April storm in the 22+ year PG&E outage record (back to 1995). This storm put the capstone on the wettest water year in PG&E's history.	4/6/2017 – 4/7/2017	249,024	328	1,945	Y
5	October wildfires	10/8/2017 – 10/9/2017	211,812	587	2,336 Total 2,125 PG&E 211 Mutual Assistance	Y
6	A winter storm brought heavy rain and gusty southerly winds through the northern two thirds of the service area, causing significant outage activity	2/7/2017	146,210	127	2,103	Y
7	An offshore wind event developed across the northern two thirds of the territory and produced wind gusts up to 45 mph across lower elevations. Multiple Red Flag Warnings were posted.	12/16/2017	112,218	59	1,385	Y
8	A winter storm moved in the territory and produced considerable outage activity due to rain, gusty south winds, and mountain snow	1/3/2017 – 1/4/2017	102,123	172	1,227	Y (except Jan 4)
9	This event was not weather related. Bad breaker at Larkin Sub in San Francisco.	4/21/2017	93,863	13	220	Y
10	A weather system moved into the territory from the Pacific and generated wind and rain-related outage activity	10/20/2017	70,839	101	499	Y

* Note: Values exclude planned outages

Table 227 - Ten Largest 2016 Outage Events

Rank	Description	Date	Number of Customers Affected *	Longest Customer Interruption (Hours)	# of People Used To Restore Service	CPUC Major Event?
1	A strong winter storm passed through northern and central CA producing strong south winds of 30 - 50 mph across the lower elevations and 60+ across the exposed higher terrain, as well as moderate to heavy rain. A strong squall line nearly 200 miles long developed in the Sacramento Valley.	3/5/2016 – 3/7/2016	266,173	87	2,405	Yes (Mar 5 th)
2	A series of three storms impacted northern and central CA with periods of moderate to heavy rain and gusty south winds. Some locations saw rain totals near 10 inches and gusts 50+ mph were also observed.	10/14/2016 – 10/16/2016	255,680	59	1,553	Yes (Oct 14 th)
3	A dynamic weather system moved through the PG&E territory late Wednesday into Thursday with strong south winds. Wind gusts were generally 25 - 40 mph across the Sacramento and northern San Joaquin valley, but very strong gusts to 50 - 60 were observed over the Sierra foothills.	2/17/2016 – 2/18/2016	166,492	46	1,292	Yes (Feb 17 th)
4	A weather system produced breezy northwest winds 25 – 35 mph with gusts to 50 mph in some locations. Thunderstorms were also reported in the Sacramento, San Joaquin Valleys and the Sierra foothills.	4/24/2016 – 4/25/2016	96,897	24		No
5	Tropical moisture interacted with a Pacific weather system and associated cold front to wring out significant rain across the PG&E territory. 4 – 7 inches of rain were observed along with wind gusts from 20 – 40+ mph.	12/15/2016 – 12/16/2016	91,581	38		No
6	Generally fair and seasonably cool weather was observed across the PG&E territory.	6/16/2016	82,691	15		No
7	A winter storm brought moderate to heavy rain showers, prompting flash flood watches for recent burn scars (e.g., Rim, King, Butte).	1/5/2016 – 1/6/2016	79,600	44		No
8	A very wet weather system produced considerable rain across central CA. 24 hours rain totals topped 6 inches in the wettest locations in the Sierra Nevada.	12/10/2016	77,546	56		No
9	A winter storm and associated cold front pushed west to east across the territory today bringing moderate to heavy rain and gusty southeast winds 25 to 35 with higher gusts over elevated and exposed terrain	3/11/2016	52,342	47		No
10	A strong storm system across southern CA produced low elevation snow in the southern Sierra down to near 2500 ft. and gusty northwest winds from 30 – 40 mph.	1/31/2016	48,120	52		No

* Note: Values exclude planned outages

Table 228 - Ten Largest 2015 Outage Events

Rank	Description	Date	Number of Customers Affected *	Longest Customer Interruption (Hours)	# of People Used To Restore Service	IEEE Major Event?
1	A series of strong Pacific storms moved into CA producing very heavy rain and gusty south winds. South wind gusts near 50 mph were observed along the coast with gusts near 60 mph observed in the northern Sacramento Valley. Generally 4 - 8 inches of rain were observed across the elevated terrain in the northern part of the territory. Some locations topped 8 inches with Bucks Lake for example, recording 9 inches of rain during the series.	2/6/2015 - 2/8/2015	389,567		2836	Yes
2	Tropical moisture associated with former Hurricane Dolores drifted over the territory. Atmospheric instability combined with the abundant tropical moisture initiated a widespread thunderstorm outbreak across the San Joaquin Valley and Central Coast. More than 6000 cloud to ground strikes were recorded.	7/18/2015 - 7/19/2015	154,459		925	Yes
3	A strong cold front (squall line) moved into the northern part of the territory and produced strong wind gusts, a period of very heavy rainfall, and significant outage activity. The front swiftly progressed south through the remainder of the territory. Widespread wind gusts from 40 - 55 mph were observed across the Sacramento Valley and Redding recorded a gust near 60 mph.	12/13/2015	142,059		364	Yes
4	A late winter-storm moved through the territory producing moderate rain showers, gusty south winds from 30 - 40 mph, and thunderstorms. Nearly 1000 cloud to ground lightning strikes were recorded across the Sacramento and San Joaquin Valleys	4/6/2015 - 4/7/2015	134,789		442	Yes
5	A strong high pressure ridge developed over the territory and produced the first significant heat of the season. Some selected high temperature readings: Redding 107, Fresno 106, Livermore 106, Sacramento 104, Santa Rosa 99, and San Jose 91.	6/8/2015	99,439		1104	Yes
6	The first widespread rain and snow producing system of the fall/winter season passed through the territory. Thunderstorms also developed and near 500 cloud to ground lightning strikes were recorded. Wind gusts from 25 - 35 mph were observed.	11/2/2015	92,777		33	No
7	A large transmission outage in the central coast at Moss Landing occurred. No significant adverse weather was recorded.	10/18/2015	69,906		1080	No
8	A potent Pacific weather system produced wind gusts to 40 - 50 mph across the lower elevations with gusts near 60 - 70 mph across the exposed, higher terrain. Most of the adverse weather and resultant outage impacts were observed across the northern part of the PG&E service territory.	12/10/2015	64,533		602	No
9	A cold frontal system with moderate rain showers moved through the territory and was followed by gusty northwest winds primarily along the coast. Peak winds gusts from 40 - 50 mph were observed.	11/15/2015	59,547		554	No
10	An upper level weather system moved over the territory and produced rain showers, breezy winds, and thunderstorms. The PG&E lightning detection network recorded 456 lightning strikes in the territory.	5/7/2015	57,241		1740	No

* Note: Values exclude planned outages

Table 229 - Ten Largest 2014 Outage Events

Rank	Description	Date	Number of Customers Affected *	Longest Customer Interruption (Hours)	# of People Used To Restore Service (Major Events) **	IEEE Major Event?
1	The strongest storm event in more than 3 years slammed the territory with strong winds and heavy rain showers starting on 12/11. Rain and unsettled weather began Wednesday along the north coast and then a very strong cold front developed and intensified Wednesday evening and overnight into Thursday and very slowly progressed through the territory bringing very heavy rain and strong southerly winds. The gusty southerly winds reached up to 50 mph across the Santa Cruz mountains, near 70 mph across elevated Bay Area terrain, and near 120 mph across the Sierra Crest. Over 3 inches of rain fell across many Bay Area locations and over 2 inches for northern Central Valley by Thursday afternoon.	12/11/2014 - 12/12/2014	467,394	77		Yes
2	A strong but dry storm system originating from Western Canada dropped south through the Service Area and produced very strong north to northeast winds from Tuesday morning through early Wednesday. Gusts in excess of 60 mph were reported across the Bay Area elevated terrain and foothills across the Sierra Nevada. A strong mountain wave moved into San Jose division from the east, resulting in reported gusts above 50 mph in downtown San Jose.	12/30/2014 – 12/31/2014	296,402	67		Yes (Dec 30 th)
3	A strong storm moved in from the southwest, bringing heavy rain and gusty southeast winds to many areas, especially the Central Coast and San Joaquin Valley. A secondary line of heavy showers with imbedded thundershowers developed over the San Joaquin Valley during the early afternoon hours, which caused significant outage activity. Wind gusts up to 47 mph were also observed across the lower elevations.	2/28/2014 – 3/1/2014	167,137	55		N
4	Two strong Pacific weather systems produced an impressive round of precipitation across the territory Tuesday and Wednesday. Accompanying the rain showers were breezy to gusty southerly winds that developed through the San Joaquin Valley and adjacent elevated terrain. Rainfall totals were 7 inches across the Santa Cruz Mountains and the Central Sierra and generally 2 - 4 inches across the lower elevations in the Bay Area.	12/02/2014 – 12/04/2014	138,447	34		Yes (Dec 3 rd)
5	An “Atmospheric River” weather event delivered significant rain and high-elevation mountain snow to the territory. The abundant rain and gusty south winds to 40 mph at times produced a prolonged stretch of light to moderate elevated outage activity. Rain totals from the event were highest across the central Sierra and the north coast where 7 – 15 inches of rain fell during the event.	2/7/2014 – 2/8/2014	102,832	35		N
6	At 3:20 AM on Sun 8/24/2014 a magnitude 6.0 earthquake was observed in the North Bay Area near American Canyon, Ca. An earthquake summary poster from USGS can be found here: http://earthquake.usgs.gov/earthquakes/eqarchives/poster/2014/20140824.pdf	8/24/2014	99,705	30		Yes
7	A strong ridge of high pressure and lack of the marine layer and sea-breeze combined to produce hot temperatures for Bay Area interior valleys and across the interior. Maximum temperatures reached over 100 in Santa Rosa and Livermore on Sunday and up to 105 across the interior Central Valley.	6/8/2014 – 6/9/2014	83,962	39		N
8	A wet weather system delivered heavy rain across Northern California and the Sierra, along with moderate rain throughout the Bay Area. After the front moved through, thunderstorms developed and produced 331 lightning strikes within the PG&E territory.	9/25/2014	61,597	23		N
9	A weather system delivered the first widespread rain of the season south of a Salinas to Sonora line and also produced a northwest gust front down the San Joaquin Valley where gusts up to 40 mph were observed in Fresno and Bakersfield.	10/31/2014	55,145	22		N
10	The weather system with a very moist air mass slid through the Bay Area early Thursday morning and produced light showers and drizzly conditions that resulted in isolated significant outage activity in the east Bay Area.	9/18/2014	39,860	17		N

* Note: Values exclude planned outages.

** Note: This data is requested only for Major Event days.

Table 230 - Ten Largest 2013 Outage Events

Rank	Description	Date	Number of Customers Affected *	Longest Customer Interruption (Hours)	# of People Used To Restore Service (Major Events) **	CPUC Major Event?
1	On 11/19 into 11/20, a weather system moved into the territory and delivered up to 2 inches of rain over elevated terrain. It was the first significant rain storm of the season. Then on 11/21 into 11/22 surface low pressure over southern California combined with developing high pressure in Nevada to deliver very strong north to northeast winds across the north half of the Service Territory. Winds were very strong over elevated terrain; wind gusts up to 65 mph were observed in the Oakland hills (Oakland North RAWs) and to 101 mph in the northern Sierra Nevada. (The wind gust at Oakland north was second only to the January 4 th mega-storm gust of 71 mph). Wind speeds near 45 - 50 mph were also observed over lower elevation locations such as Oakland and Santa Rosa.	11/19/2013 - 11/22/2013	385,017	143		N
2	The marine layer surged onto the coast and delivered coastal mist and drizzle which ultimately resulted in an insulator flashover event. The event was preceded by a series of brisk wind events which may have increased salt contamination along the coast.	6/23/2013	170,429	15		N
3	Fair and dry weather was observed on 11/12/2013. An unplanned outage occurred in the Bellota substation.	11/12/2013	113,266	10		N
4	High pressure built over California and maximum temperatures from 99 - 107 were observed along the Central Valley. Temperature maximums near the coast were in the 60s to 70s with 70s - 90s for coastal to intermediate valleys. Most customers were impacted by trouble on the Transmission system.	7/19/2013	99,738	18		N
5	Overnight Sunday into the early morning hours of Monday April 8, 2013, a strong Pacific Jet Stream drove a small but intense cold front with very gusty northwest winds into the California coast and Bay Area. Gusts along the coast reached generally into the 50 - 60 mph range with the peak gust of 75 mph recorded at a station on the west edge of San Francisco County.	4/8/2013	93,200	42		N
6	A strong ridge of high pressure built over California bringing extreme heat to all locations except the coast and immediate coastal valleys. High temperatures on 7/1 near the coast ranged from the 70s - 80s with 90s - low 100s for coastal Valleys. Temperatures were extreme in the interior with maximum temperatures up to 111 in the Central Valley. The heat intensified on 7/2 where maximum soared again into the 100s, with Redding observing a 116-degree maximum.	7/1/2013- 7/2/2013	93,194	29		N
7	On Sunday a weak area of low pressure moved west to east through the Territory bringing increasing clouds, light showers and snow showers over the Sierra and a few light stray showers elsewhere, primarily across the south. Most customers were impacted by a fault on a substation relay.	3/3/2013	69,578	11		N
8	A classic California October offshore wind event unfolded 10/3/2013 as surface high pressure built north of the Service Territory. Wind speeds were generally 20 - 35 mph with gusts to 40 - 55 across the Sacramento valley, northern Sierra Nevada and elevated terrain around the Bay Area.	10/3/2013	56,573	25		N
9	The ridge of high pressure dramatically amplified delivering significant heat across the Territory. Maximum temperatures across the interior valley locations reached above 105 with Red Bluff reaching 112 degrees. Overnight temperatures remained warm on the far ends of the valley, with minimum temperatures only dipping into the upper 70s in the southern San Joaquin and mid 80s in the northern Sacramento Valley.	6/8/2013	52,442	22		N
10	A cold and dynamic weather system dropped southwestward into the territory and brought cooler and very unsettled weather in the form of rain, snow and gusty winds. Winds were strongest over elevated terrain of the Bay Area - Altamont pass gusted to 69 mph.	10/27/2013	49,692	36		N

* Note: Values exclude planned outages.

** Note: This data is requested only for Major Event days.

Table 231 - Ten Largest 2012 Outage Events

Rank	Description	Date	Number of Customers Affected *	Longest Customer Interruption (Hours)	# of People Used To Restore Service (Major Events) **	CPUC Major Event?
1	The final and strongest storm of an 'Atmospheric River' series moved through the territory on 12/02/2012 delivering widespread gusts of 50-70 mph in the northern Sacramento Valley. The strongest wind observed was in Plumas National Forest where a gust of 102 mph was recorded. This system also brought heavy amounts of rain across northern California where localized flooding and mudslides were reported in numerous locations. Precipitation totals from the entire series (See Rank #3) topped 20 inches in the wettest locations in the north.	12/02/2012	298,393	80		N
2	A series of moderate to strong storms impacted the Service Area delivering rain, wind, thunderstorms and several feet of snow across the northern mountains and Sierra. The second storm in the series moved onto the Humboldt coast during the evening of 12/21 and then progressed south and east through the territory overnight into 12/22. The third and strongest storm of the series developed just off the coast and pushed a vigorous cold front through the Service Area on 12/23. Gusts up to 80 mph were observed over elevated terrain. Yet another round of heavy mountain snow fell across the north and the Sierra. Up to 6 feet of snow fell in some locations across the north during the series making restoration difficult.	12/21/2012 – 12/23/2012	195,099	172		N
3	The first storm of the 'Atmospheric River' series moved into the territory on 11/28 and delivered strong south winds up to 50-60 mph and heavy rains. The second and stronger system impacted the Territory 11/29 through 11/30. This system brought significant rainfall totals across the north half of the Territory with up to 10" observed in the wettest locations across elevated terrain. After a brief break on 12/1 the final and strongest storm of the series moved through on 12/2 (see Rank 1).	11/28/2012 – 11/30/2012	183,145	71		N
4	On 1/20 a strong Pacific weather system with an associated well-organized frontal band pushed north to south through the territory. This system delivered heavy rains and gusty southerly winds to most locations and was the first rain in a month or more for many locations across the south half of the territory.	1/20/2012 – 1/21/2012	168,496	40		N
5	On 3/16 a system impacted Northern Region and the Bay Area with heavy showers, gusty southerly winds, and a few lightning strikes. On 3/17 this system progressed south through Central Coast and Central Valley Divisions bringing heavy rains, thunderstorms and gusty winds. On 3/18, snow levels fell as cold air filtered in resulting in low snow outage activity from Grass Valley south into Fresno division.	3/16/2012 – 3/18/2012	146,602	63		N
6	Overnight Sunday, 10/21/2012 into Monday, 10/22/2012 a cold front associated with a unusually cold, early-season storm swept west to east across the PG&E Service Area bringing a variety of adverse weather including rain, wind, thunderstorms and low snow. Two tornados also formed in the eastern Sacramento Valley and Sierra foothills.	10/22/2012	129,801	22		N
7	A vigorous late season weather system swept through the Service Area on 6/4 – 6/5 and brought a variety of adverse weather conditions. This system delivered over 700 lightning strikes across the Service Territory with the majority occurring in the northern Sacramento Valley. Winds gusting to 40 mph came up abruptly in the San Joaquin causing numerous wind related outages.	6/4/2012 – 6/5/2012	93,735	22		N
8	On 12/17 a weakening front moved through the Service Area bringing rain showers and breezy southerly winds up to 35-40 mph across the Sacramento Valley. Showers progressed into the southern San Joaquin overnight into 12/18. Post-frontal northwest winds then developed across the San Joaquin Valley, with gusts up to 35 mph observed at Fresno.	12/17/2012 – 12/18/2012	83,063	18		N
9	A Pacific storm system and associated cold front and swept through the north half of the PG&E Service Area. The front brought brisk south winds of 30 to 40 mph, with higher gusts over elevated terrain. During the afternoon, thunderstorms formed along the north coast and northern Sacramento Valley in the post-frontal environment.	3/31/2012	68,165	21		N
10	Non-weather-related event.	7/21/2012	47,182	30		N

* Note: Values exclude planned outages. ** Note: This data is requested only for Major Event days.

Table 232 - Ten Largest 2011 Outage Events

Rank	Description	Date	Number of Customers Affected *	Longest Customer Interruption (Hours)	# of People Used To Restore Service (Major Events) **	CPUC Major Event?
1	A series of cold and powerful storms moved through the Service Area with the majority of outages resulting from low snow and gusty winds. The bulk of outage activity occurred overnight Sat 19 th to Sun 20 th as strong southeasterly wind gusts were observed in many locations (SF Apt 45 mph, Stockton 44 mph, Redding 45 mph, Bakersfield 40 mph). Excessive low elevation snowfall caused significant outage activity. Yosemite Division was hard hit with low snow (snow totals - 38" reported at 4200' above Oakhurst)	Mar 17 -22	581,949	256	1,839***	Y-Partial (See Table 4)
2	After a short respite from inclement weather, another strong and cold storm moved into the Service Area on March 24 th . Once again, strong southerly wind gusts were observed (SF Apt 38 mph, Oakland 37 mph). Low elevation snow was the main adverse weather issue with Sierra, North Valley, Stockton, and Yosemite Divisions hard hit with low snow. (snow totals - 13" in Shingletown, 25" at 3700' along Highway 88, 34" at the 4200' above Oakhurst)	Mar 24 – 27	464,767	504	1,839***	Y-Partial (See Table 4)
3	A series of cold storms moved across the Service Area starting Valentine's day until Feb 19. On the 17 th very cold air filtered into the region lowering snow levels enough to create low snow related outages across the Coast Ranges of Humboldt Divisions, and down the entire Sierra Nevada foothills. The hardest hit divisions were Humboldt, Yosemite, and Sierra. (Snow totals - 14" in Shingletown, 38" at 3700' on Highway 88, 12" at 2600' in Humboldt County). Snow recorded down to 500 feet in Humboldt.	Feb 15 – 19	357,802	151		N
4	High pressure in the Great Basin and low pressure off the southern California coast set the stage for strongest northeast wind event to hit the Service Area in the last 20 years. Gusts up to 50 mph were common in the Sierra with the highest gust of 94 mph recorded on Mt. Elizabeth in the Yosemite division. Winds were quite strong in the Valley as well (Stockton 52 mph, Redding 40 mph, Fresno 36 mph)	Nov 30 – Dec 1	325,942	131		N
5	A strong and cold storm affected the entire Service Area with low snow falling in the Northern Region and gusty southerly winds and heavy rains further east and south. The hardest hit divisions were Humboldt, North Valley, and Sierra. (Snow totals – 18" in Shingletown, 20" in Susanville, 19" in Grass Valley). Snow recorded down to 500 feet in Humboldt.	Feb 24 - 25	187,851	152		N
6	An early season storm moved through the Service Area bringing moderate southerly winds and heavy precipitation rates. In Ukiah, more than a half inch of rain fell within one hour in the early morning. The Central Valley Region experienced the most outages. These were mainly pole fires/flashover caused by the first rain to fall in the area after months of prolonged dry weather.	Oct 5	100,357	24		N
7	Widespread thunderstorm activity broke out across the southern part of the Service Area early in the morning with the biggest impacts in Fresno and Kern divisions. The Bakersfield area in Kern was hit particularly hard by lightning, with Kern Division recording 3833 lightning strikes for the day.	Sept 10	77,443	69		N
8	A late season cold storm moved through the Service Area with low snow outage conditions across divisions in the Sierra Nevada, especially the Sierra Division. (8" of snow at 3700' along Highway 88) Thunderstorms and associated lightning also broke out across the Central Valley. Impacts were minimal in the Bay Area and Central Coast Regions.	May 15	62,863	30		N
9	A non-weather-related outage day with maximum temperatures along the Central Valley in the mid-80s. The outage count was only slightly above average for a June day; however, a large number of customers in the East Bay were affected by two distribution substation outages.	Jun 12	50,028	15		N
10	The first warm day of the spring was observed in many areas. San Jose had a high of 84. This could have contributed to the above average outage total. No other adverse weather was reported. The largest impacts were recorded in the San Francisco and San Jose Divisions.	Apr 1	44,177	6		N

* Note: Values exclude single distribution line transformer and planned outages.

** Note: This data is requested only for Major Event days.

*** Note: During the course of the March 17-27, 2011 storms, approximately 1,839 PG&E Operations, Maintenance and Construction (OM&C) employees responded. These employees included electric and gas construction crews, troublemen, meter technicians, clerical staff, gas and electric estimators and meter readers. Resources were dispatched and moved from lesser impacted areas to the more heavily impacted areas. In addition to PG&E personnel, 110 vegetation crews, 10 contract crews (approximately 200 individuals), and 36 mutual aid crews (approximately 175 individuals) were utilized to supplement existing resources.

Table 233 - Ten Largest 2010 Outage Events

Rank	Description	Date	Number of Customers Affected *	Longest Customer Interruption (Hours)	# of People Used To Restore Service (Major Events) **	CPUC Major Event?
1	A strong jet stream developed over the Eastern Pacific, which spawned a series of outage producing weather events that included: - Three impulses of strong winds; gust above 50 mph each day (Jan 18, 19, 20) - Periods of moderate to heavy rainfall (Jan 18, 19, 20, 21) - Bands of thundershower activity (several thousand strikes Jan 18-21) - Heavy snowfall at low elevations of the Sierra Nevada (Jan 21, 22)	Jan 18-24	1,169,513	497	3,830 ***	Y
2	A strong storm system with several impulses moved through the entire Service Area during the Dec 17 – 20 period bringing gusty winds and heavy rain. Wind gusts during the period: 43 mph at Stockton, 43 mph at Salinas, 46 mph at SFO, 43 at Red Bluff.	Dec 17-20	215,116	120		N
3	A series of cold storms brought significant snow to low elevations in the Sierra Nevada foothills. The snow came early in the season, when deciduous trees still retained most of their leaves. Excessive snow loading occurred on trees causing large limbs to break off and fall onto power lines. Snowfall amounts ranged from near 1 foot at the 3000' elevation, to several feet above 5000'. This storm produced the most low elevations snow in November in the last 15 years.	Nov 20-21	215,245	186		N
4	Storm system with strong south winds on Dec 28 (gusts to 47 mph at Marysville, 41mph at Stockton, 46 mph SFO) followed by strong northwest winds on Dec 29 (gusts to 46 mph at San Jose, 41 mph at Stockton, 43 at Bakersfield, 46 mph at SFO).	Dec 28-29	180,370	47		N
5	A late season storm brought rain, thunderstorms, and wind. Over 500 lightning strikes were recorded. The storm was particularly strong along the Central Coast and in the southern San Joaquin Valley. Reported wind gusts: 45 mph at Salinas, 46 mph at Santa Maria, 46 mph at Bakersfield 46.	Apr 11-12	122,050	73		N
6	Early season storm brought thunderstorms to Northern Region (over 1000 strikes recorded) along with rain to other parts of the Service Area. In many cases, this was the first rain of the season causing flashover outages.	Sep 8-10	114,402	60		N
7	An early season storm brought high winds and heavy rain to primarily the Northern Region. Redding recorded a peak wind gust of 49 mph. Santa Rosa recorded 4.75" of rainfall.	Oct 24	111,522	43		N
8	Storm system swept across the Service Area bringing rain and gusty winds. Reported wind gusts: 41 mph at Salinas, 41 mph at Bakersfield.	Dec 4-5	98,041	21		N
9	Heat wave conditions resulted in the hottest two days of the summer. Maximum temperatures exceeded 110 in portions of the Central Valley (111 at Bakersfield on 8/25). Maximum temperatures between 100 and 110 were reported both days at many coastal valley areas (109 at Ukiah on 8/25, 107 at Santa Rosa on 8/24, 105 at Livermore on 8/25).	Aug 24-25	97,616	82		N
10	Heat wave affected the service area, on both days Central Valley maximum temperatures ranged between 100 and 110; maximum temperatures above 100 were reported in coastal valleys on 6/27.	Jun 27-28	87,751	38		N

* Note: Values exclude single distribution line transformer and planned outages.

*** Note: This data is requested only for Major Event days.

*** Note: During the course of the January 18, 2010 Storm approximately 3,830 PG&E Operations, Maintenance and Construction (OM&C) employees responded. These employees included electric and gas construction crews, troublemen, gas service representatives, meter technicians, clerical staff, gas and electric estimators and meter readers. Resources were dispatched and moved from lesser areas to the more heavily impacted areas. In addition to PG&E personnel, 1000 vegetation workers and 60 contract crews (approximately 360 individuals) were utilized to supplement existing resources.
impacted areas to the more heavily impacted areas. In addition to PG&E personnel, 1000 vegetation workers and 60 contract crews (approximately 360 individuals) were utilized to supplement existing resources.

Table 234 - Ten Largest 2009 Outage Events

Rank	Description	Date	Number of Customers Affected *	Longest Customer Interruption (Hours)	# of People Used To Restore Service (Major Events) **	CPUC Major Event?
1	A strong early season storm affected the entire service area with many stations reporting wind gusts over 50 mph (57 mph at Ft. Funston (SF), 56 mph at Fairfield, 55 mph at Oroville, 51 mph at Monterey). Single day rainfall totals ranged between two and five inches at many locations (4.54 in. at Watsonville, 4.27 in. at Fairfield, and 3.66 in. at Napa). National Weather Service records indicate this storm was the strongest October rain and wind event since 1962.	10/13-10/14	617,589	244***	4,400 ****	Y
2	A strong cold front produced significant snowfall on Feb. 13 in the 1500-3000 ft. range of the northern and central Sierra foothills (up to 2 feet of snow at 3000 ft. and @ 1 foot at 2000 ft.). A second storm followed on Feb.15 producing widespread heavy rain and strong wind gusts to the entire Service Area (67 mph at Valley Ford, 59 mph at Oroville, 50 mph at Redding, and Ft. Funston (SF), 47 mph at Salinas, 43 mph at San Luis Obispo. A third storm on Feb 16 delivered additional rainfall and wind gusts in the 30 to 40 mph range at several locations.	2/13-2/17	340,582	107		N
3	A large cluster of thunderstorms produced widespread lightning activity in the Bay Area and Sacramento Valley on Sep. 12. The lightning activity was followed by a weak weather front the next day that produced the first light rain of the season over much Northern California resulting in flashover related outages.	9/12-9/14	190,671	92		N
4	A strong cold front produced significant snowfall at the 1000-3000 ft. range of the Sierra foothills (up to 2 feet of snow was observed at 3000 ft., @ 1 foot at 1500 ft.) Light snow was reported at locations in the Central Valley.	12/7	147,630	113		N
5	Strong northerly winds developed across the entire Service Area with the gusts in the 45 to 55 mph range in the Bay Area and Sacramento Valley (52 mph at Fairfield, 49 mph at Sacramento, 45 mph at Red Bluff)	11/28	119,504	84		N
6	Strong north to northwest winds in the 40 to 60 mph range followed the passage of a weak weather front through the service area (58 mph at Ft. Funston (SF), 58 mph at SF Airport, 50 mph at San Carlos, 46 mph at Stockton)	4/14	116,406	45		N
7	An area of low pressure produced a large outbreak of thunderstorms with widespread lightning overnight on Jun. 3, continuing into the morning of June 4.	6/3-6/4	98,187	38		N
8	Strong north to northwest winds in the 45 to 55 mph range were recorded throughout the Sacramento and San Joaquin Valleys following the passage of a weak weather front (52 mph at Merced, 49 mph at Stockton, 47 mph at Modesto and Madera, 46 mph at Red Bluff, 45 mph at Fresno).	10/27	70,901	20		N
9	A winter storm accompanied by periods of moderate to heavy rainfall and scattered thundershower activity crossed the service area. Rainfall totals of up to 2 inches were reported.	12/12	54,111	41		N
10	Widespread thunderstorm activity resulted in several hundred lightning strikes in Areas 4, 5, 6 and 7.	5/28	52,705	22		N

* Note: Values exclude single distribution line transformer and planned outages.

** Note: This data is requested only for Major Event days.

*** Note: This duration was due to the lack of access caused by flooding in the Stockton area. Access was granted after waters receded. Work was the completed and service was restored to the six customers remaining out of service.

**** Note: Approximately 4,400 PG&E Operations, Maintenance & Construction (OM&C) employees responded. In addition to PG&E personnel, 400 vegetation workers and 42 contract crews (approximately 210 individuals) were utilized to supplement existing resources.

9. Number of Customer Inquiries About Electric Reliability and the Number of Days per Response

The following table provides the total number of customer inquiries, and PG&E response times for the year 2019.

YTD 2019 ESR Closed Cases							
Division Name	Total Cases	Closed 0-7 Days	Closed 8-14 Days	Closed >14 Days	% Closed 0-7 Days	% Closed 8-14 Days	% Closed >14 Days
Central Coast	122	122	0	0	100%	0%	0%
DeAnza	71	71	0	0	100%	0%	0%
Diablo	115	115	0	0	100%	0%	0%
East Bay	50	50	0	0	100%	0%	0%
Fresno	48	48	0	0	100%	0%	0%
Humboldt	29	27	2	0	93%	7%	0%
Kern	32	32	0	0	100%	0%	0%
Los Padres	37	37	0	0	100%	0%	0%
Mission	73	73	0	0	100%	0%	0%
North Bay	131	131	0	0	100%	0%	0%
North Valley	88	88	0	0	100%	0%	0%
Peninsula	62	62	0	0	100%	0%	0%
Sacramento	162	107	25	30	66%	15%	19%
San Francisco	24	24	0	0	100%	0%	0%
San Jose	162	162	0	0	100%	0%	0%
Sierra	73	73	0	0	100%	0%	0%
Sonoma	92	92	0	0	100%	0%	0%
Stockton	74	74	0	0	100%	0%	0%
Yosemite	44	44	0	0	100%	0%	0%
Grand Total	1489	1432	27	30	96%	2%	2%

Note: ESR = Electric Service Reliability (Recurring Outages). This Includes ESR cases created on or after January 1, 2019 and closed as of December 31, 2019. It excludes canceled and re-directed ESR tickets. Re-directed help tickets are those initially categorized as an ESR ticket but subsequently determined to be non-reliability related and then forwarded to the appropriate department. An example of a re-redirect: a customer calls regarding a PG&E planned outage. This request is forwarded to the maintenance and construction department and a new help ticket is created. In 2019, there were approximately 256 re-redirects.

10. Appendix A – Definitions, Acronyms & Abbreviations

AIDI – Average Interruption Duration Indices

AIFI – Average Interruption Frequency Indices for sustained outages only

Customer: A metered electrical service point for which an active bill account is established at a specific location.

CAIDI: Customer Average Interruption Duration Index - The Customer Average Interruption Duration Index (CAIDI) represents the average time required to restore service.

CESO: A term that counts the number of Customers Experiencing Sustained Outages.

DART – Distribution Asset Reconciliation Tools – a distribution asset database used by PG&E.

Distribution system: That portion of an electric system that delivers electric energy from transformation points on the transmission system to the customer. PG&E defines its distribution system as line voltage less than 60 kilovolts (KV). The distribution system is generally considered to be anything from the distribution substation fence to the transformer prior to stepping down the voltage to the customer premise.

EON: EON stands for Enhanced Outage Notification, now retired, that was used to identify and record momentary outages. Customers agreed to put EON devices in their homes and the device would send PG&E information when the customer experienced and outages. The EON project was used prior to the availability of Smart Meter data.

IEEE – Institute of Electrical and Electronics Engineers, Inc.

ILIS – Integrated Logging and Information System – The tool PG&E’s distribution operators use to log electric outages.

ISO: The California Independent System Operator. The ISO operates the transmission system throughout most of the State of California, including throughout PG&E’s service territory.

Major Event: Designates an event that exceeds reasonable design and or operational limits of the electric power system. A Major Event includes at least one Major Event Day. *See also: Major Event Day.*

Major Event Day (MED): A day in which the daily system, System Average Interruption Duration Index (SAIDI) exceeds a Major Event Day threshold value. For the purposes of calculating daily system SAIDI, any interruption that spans multiple calendar days is accrued to the day on which the interruption began.

MAIFI: Momentary Average Interruption Frequency Index

The Momentary Average Interruption Frequency Index (MAIFI) indicates the average frequency of momentary interruptions. PG&E's momentary outage reporting tools were originally designed to track momentary outages based on D96-09-045. As provided in D.16-01-008, the provided MAIFI metric is the same as what PG&E has used in its prior annual reliability reports and corresponds to the MAIFI_E definition contained in the IEEE Guide for Electric Power Distribution Reliability Indices (IEEE 1366 standard), which counts multiple outage interruptions that occur close to each other in time as a single momentary outage event. This metric is equal to the total number of customer momentary interruption events divided by the total number of customers served and does not include the events immediately preceding a sustained interruption.

Momentary interruption: The brief (five minutes or less) loss of power delivery to one or more customers caused by the opening and closing operation of an interrupting device.

Non-Restorable Outage Process – PG&E utilizes a non-restorable outage designation and process for unique outage events involving requests by customers or agencies requiring that facilities be de-energized, access not permitted, and/or restoration be delayed due to circumstances not initiated or controlled by PG&E. This process includes adjusting the outage minutes to accurately reflect these situations and to measure PG&E's actual true performance.

ODB – Operations Database - ODB is the outage database for PG&E

Planned outage: The intentional disabling of a component's capability to deliver power, done at a preselected time, usually for the purposes of construction, preventative maintenance, or repair.

SAIDI: System Average Interruption Duration Index

The System Average Interruption Duration Index (SAIDI) indicates the total duration of interruption for the average customer during a predefined period of time. It is commonly measured in minutes or hours of interruption.

SAIFI: System Average Interruption Frequency Index

The System Average Interruption Frequency Index (SAIFI) indicates how often the average customer experiences a sustained interruption over a predefined period of time.

SCADA: Supervisory Control and Data Acquisition – an online database for distribution operators to remotely gather information and control the distribution system.

Sustained interruption: Any interruption not classified as a part of a momentary event. That is, any interruption that lasts more than five minutes.

Unplanned interruption: The loss of electric power to one or more customers that does not result from a planned outage.