

March 1, 2012

Mr. Paul Clanon, Executive Director
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, California 94102

Subject: Reporting Standards, System SAIDI, SAIFI, and MAIFI Report
Decision 96-09-045

Dear Mr. Clanon:

Pursuant to Appendix A of D.96-09-045 as modified by Advice Letter 2673-E, attached is Southern California Edison's 2011 Annual System Reliability Report.

Attachment 1A provides values of SAIDI, SAIFI, and MAIFI for each of the past ten years calculated using the guidance of IEEE Standard 1366-2003, "*IEEE Guide for Electric Power Distribution Reliability Indices*." Following the guidance of this standard, six days in 2011 were deemed excludable as major event days.

Attachment 1B provides reliability metrics for this same time period calculated per the original directions of CPUC D.96-09-045. Following the guidance of Appendix A of D.96-09-045, one day in 2011 was deemed excludable as a major event day.

Attachment 1C provides details of all excluded days, whether excluded under IEEE 1366 or D.96-09-045.

Attachments 2 – 5 provide additional information on significant outages as required by D.96-09-045.

Of particular note, was the windstorm in Los Angeles County occurring on November 30 and December 1, 2011 which resulted in daily levels of SAIDI significantly greater than any seen in the past ten years.

If you have any questions regarding this submittal, please contact me or Roger Lee at 714-973-5545.

Best regards,



Robert G. Woods
Director, Electric System Planning

Attachments

CC: Edward Randolph, Energy Division Director
Michelle Cooke, Consumer Protection & Safety Division Director
Liza Malashenko, Energy Division
David K. Lee, Energy Division

Southern California Edison
Annual System Reliability Report - 2011
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1C	Major Event Days Detail	For each excluded major event day, the date & primary cause, the associated SAIDI, SAIFI and MAIFI and the basis for the exclusion (either the D96-09-045 definition or IEEE Std 1366-2003 2.5 Beta Method).
2	List > 12 Sustained	Circuit ID and number of customers experiencing more than one sustained outage per month on a rolling annual average basis after exclusion of major events (2002-2011)
3	Top 10 SAIDI Each Year	The largest SAIDI days each year, the number of customers affected, and the number of people used to restore service (2002-2011)
4	No Service by Hourly Interval	The number of customers without service by hourly interval (2002-2011) for each major event day.
5	No Service by Duration	The number of customers without service by outage duration (2002-2011) for each major event day.

Southern California Edison
Historical System Reliability (IEEE Std 1366-2003)
2002 - 2005 Using DTOM Outage Database
2006 - 2011 Using ODRM Outage Database

YEAR	All Interruptions Included			Major Event Days Excluded Per IEEE 1366		
	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI
2002	52.29	1.27	1.15	44.95	1.05	1.09
2003	89.26	1.39	1.43	53.37	1.11	1.15
2004	74.93	1.34	1.21	55.30	1.15	1.05
2005	92.26	1.53	1.47	72.57	1.33	1.23
2006	142.14	1.05	1.85	96.59	0.89	1.52
2007	151.32	1.10	1.74	85.34	0.88	1.37
2008	118.91	1.06	1.73	99.35	0.95	1.56
2009	105.80	0.90	1.45	88.77	0.83	1.31
2010	140.91	1.05	1.69	98.69	0.82	1.41
2011	232.39	1.04	1.53	108.15	0.91	1.36

All calculations utilize a definition of "sustained" interruption as described in IEEE Std 1366, 2003 Edition, which is an interruption lasting longer than 5 minutes.

In years 2006 - 2011, values of SAIDI, SAIFI, and MAIFI were calculated per the guidance of IEEE 1366 with the exception of using five years of historical data in applying the "2.5 beta method" to determine excludable days. Per IEEE 1366, days are excluded from a given year's metric if their SAIDI exceeds 2.5 times the standard deviation of the natural logarithm of daily SAIDI over the previous five year period. However, complete ODRM data did not exist prior to 2006. Therefore, excludable days for years 2006 and 2007 were both determined based on daily SAIDI data in year 2006. Excludable days for 2008 were determined based on daily SAIDI data in years 2006 and 2007. Excludable days for 2009 were determined based on daily SAIDI data in years 2006, 2007, and 2008. Excludable days for 2010 were determined based on daily SAIDI data in years 2006, 2007, 2008, and 2009. This interim approach is consistent with IEEE 1366.

Southern California Edison
Historical System Reliability (CPUC D.96-09-045)
 2002 - 2004 Using DTOM
 2005 Using DTOM & ODRM
 2006 - 2011 Using ODRM

YEAR	All Interruptions Included ¹			Major Event Days Excluded Per D.96-09-045 ²		
	SAIDI ³	SAIFI	MAIFI	SAIDI ³	SAIFI	MAIFI
2002	52.75	1.23	1.11	50.44	1.11	1.10
2003 (w/o sub) ⁵	87.23	1.39	1.37	63.90	1.19	1.17
2003 (w/ sub)	79.20	1.35	1.37	57.78	1.15	1.18
2004 (w/o sub)	75.21	1.34	1.19	67.11	1.26	1.12
2004 (w/ sub)	68.39	1.30	1.19	62.83	1.24	1.13
2005 (w/o sub)	91.64	1.52	1.44	74.25	1.27	1.21
2005 (w/ sub)	91.45	1.52	1.44	74.16	1.27	1.21
2005 (ODRM) ⁴	106.41	1.02	2.00	82.10	0.82	1.67
2006 ODRM	142.27	1.08	1.81	116.34	1.00	1.64
2007 ODRM	151.60	1.15	1.68	141.95	1.11	1.60
2008 ODRM	119.21	1.12	1.67	119.21	1.12	1.67
2009 ODRM	105.98	0.94	1.41	105.98	0.94	1.41
2010 ODRM	141.14	1.09	1.64	141.14	1.09	1.64
2011 ODRM	232.60	1.08	1.49	173.03	1.03	1.43

All calculations utilize a definition of "sustained" interruption as described in D.96-09-045, which is an interruption lasting 5 minutes or longer.

¹ This excludes ISO-directed firm load curtailment, Protective Outage Plan (POP) outages, Remedial Action Scheme (RAS) outages.

² Major Event Exclusions are defined in D.96-09-045 under Appendix A, Section 1 - Item 4c.

³ Metrics for 1999 - 2005 have been adjusted upward to reflect the variance introduced by Southern California Edison's former convention of declaring All Load Up (ALU) when power had been restored up to the last residential transformer. An estimate was added to the annual CMI base to arrive at the normalized SAIDIs. No adjustment was necessary beyond 2005.

⁴ ODRM data in 2005 only does not include Area Outages.

⁵ "Sub" refers to substitution of historical average metrics in circuits affected by the Bark Beetle Infestation.

Major Event Days Detail

Attachment 1C

No.	YEAR	DATE	CAUSE	Excluded under IEEE 1366	SAIDI	SAIFI	MAIFI	Excluded under D.96-09-045	SAIDI	SAIFI	MAIFI	Source of data
1	2002	6/26/2002	Louisiana Fire	Y	2.15	0.15	0.00	Y	2.15	0.15	0.00	DTOM
2	2002	6/27/2002	Louisiana Fire					Y	0.05	0.00	0.00	DTOM
3	2002	6/28/2002	Louisiana Fire					Y	0.11	0.00	0.00	DTOM
4	2002	11/8/2002	Rain/Wind Storm	Y	2.42	0.04	0.03					DTOM
5	2002	12/16/2002	Rain/Wind Storm	Y	2.78	0.03	0.02					DTOM
Total				3	7.34	0.22	0.06	3	2.31	0.15	0.01	
1	2003	1/5/2003	Santa Ana Wind Storm	Y	2.44	0.01	0.03					DTOM
2	2003	1/6/2003	Santa Ana Wind Storm	Y	14.95	0.09	0.11	Y	14.95	0.09	0.11	DTOM
3	2003	1/7/2003	Santa Ana Wind Storm	Y	1.86	0.02	0.03	Y	1.86	0.02	0.03	DTOM
4	2003	1/8/2003	Santa Ana Wind Storm					Y	0.40	0.01	0.01	DTOM
5	2003	2/25/2003	Rain Storm	Y	2.30	0.02	0.01					DTOM
6	2003	10/24/2003	Southern California Wild Fires					Y	0.16	0.01	0.03	DTOM
7	2003	10/25/2003	Southern California Wild Fires	Y	5.98	0.06	0.02	Y	1.13	0.01	0.01	DTOM
8	2003	10/26/2003	Southern California Wild Fires	Y	1.87	0.00	0.00	Y	5.98	0.06	0.02	DTOM
9	2003	10/28/2003	Southern California Wild Fires	Y	3.02	0.03	0.03					DTOM
10	2003	11/12/2003	Lightning Storm	Y	3.47	0.04	0.04					DTOM
11	2003	12/25/2003	Rain Storm & Mud Slides	Y	35.88	0.28	0.28	6	24.48	0.20	0.21	DTOM
Total				8	35.88	0.28	0.28	6	24.48	0.20	0.21	
1	2004	8/12/2004	Lightning Storm	Y	1.57	0.00	0.01					DTOM
2	2004	9/11/2004	Moorpark A-Bank Transformer Failure	Y	1.62	0.03	0.01					DTOM
3	2004	10/17/2004	Rain Storm	Y	1.99	0.02	0.03					DTOM
4	2004	10/20/2004	Rain Storm	Y	1.61	0.03	0.02					DTOM
5	2004	10/27/2004	Wind Storm	Y	2.39	0.02	0.02					DTOM
6	2004	11/21/2004	Wind Storm	Y	2.57	0.02	0.02					DTOM
7	2004	12/28/2004	Winter Rain Storm	Y	2.71	0.03	0.05	Y	2.71	0.03	0.05	DTOM
8	2004	12/29/2004	Winter Rain Storm	Y	3.55	0.03	0.01	Y	3.55	0.03	0.01	DTOM
9	2004	12/30/2004	Winter Rain Storm	Y	1.62	0.01	0.00	Y	0.22	0.00	0.00	DTOM
10	2004	12/31/2004	Winter Rain Storm	Y	19.63	0.19	0.16	Y	1.62	0.01	0.00	DTOM
Total				9	19.63	0.19	0.16	4	8.10	0.08	0.07	

Major Event Days Detail

Attachment 1C

No.	YEAR	DATE	CAUSE	Excluded under IEEE 1366	SAIDI	SAIFI	MAIFI	Excluded under D.96-09-045	SAIDI	SAIFI	MAIFI	Source of data
1	2005	1/9/2005	Winter Rain Storm	Y	1.49	0.02	0.01		1.48	0.03	0.01	DTOM
2	2005	1/10/2005	Winter Rain Storm	Y	1.48	0.03	0.01	Y	1.48	0.03	0.01	DTOM
3	2005	1/11/2005	Winter Rain Storm	Y	1.57	0.02	0.01	Y	1.57	0.02	0.01	DTOM
4	2005	1/12/2005	Winter Rain Storm	Y	2.26	0.03	0.02	Y	0.36	0.01	0.00	DTOM
5	2005	2/19/2005	Winter Rain Storm	Y	1.50	0.01	0.02					DTOM
6	2005	7/24/2005	Lightning Storm	Y	1.68	0.01	0.02					DTOM
7	2005	8/6/2005	Wind Storm	Y	2.12	0.01	0.00					DTOM
8	2005	9/3/2005	Brush Fire	Y	3.89	0.04	0.09	Y	3.89	0.04	0.09	DTOM
9	2005	9/20/2005	Lightning Storm	Y	3.69	0.04	0.04					DTOM
10	2005	10/17/2005	Lightning Storm	Y	19.69	0.21	0.24	4	7.30	0.10	0.12	DTOM
Total				9	45.55	0.16	0.33	2	25.92	0.08	0.18	
1	2006	1/2/2006	Wind storm & Rain storm	Y	10.48	0.05	0.10	Y	10.48	0.05	0.10	ODRM
2	2006	7/15/2006	Heat Storm	Y	2.49	0.02	0.02					ODRM
3	2006	7/20/2006	Heat Storm	Y	2.30	0.01	0.03					ODRM
4	2006	7/22/2006	Heat Storm	Y	15.44	0.04	0.07	Y	15.44	0.04	0.07	ODRM
5	2006	7/23/2006	Heat Storm	Y	4.87	0.01	0.02					ODRM
6	2006	7/24/2006	Heat Storm	Y	2.82	0.01	0.01					ODRM
7	2006	12/27/2006	Wind storm, Others	Y	4.05	0.02	0.04					ODRM
8	2006	12/28/2006	Wind storm, Others	Y	3.09	0.01	0.02					ODRM
Total				8	45.55	0.16	0.33	2	25.92	0.08	0.18	
1	2007	1/5/2007	Wind storm & Rain storm	Y	2.17	0.02	0.04					ODRM
2	2007	3/27/2007	Wind storm & Rain storm	Y	5.71	0.03	0.04					ODRM
3	2007	4/12/2007	Wind storm, Others	Y	2.21	0.02	0.04					ODRM
4	2007	8/31/2007	Lightning storm & Heat storm	Y	3.28	0.02	0.03					ODRM
5	2007	9/1/2007	Lightning storm & Heat storm	Y	3.40	0.01	0.03					ODRM
6	2007	9/2/2007	Lightning storm & Heat storm	Y	6.13	0.02	0.02					ODRM
7	2007	9/3/2007	Lightning storm & Heat storm	Y	10.33	0.03	0.02					ODRM
8	2007	9/4/2007	Lightning storm & Heat storm	Y	2.33	0.01	0.01					ODRM
9	2007	10/21/2007	Wind Storm, Wild Fires & 10% Major Event (higher customers interrupted on momentary with low duration)	Y	9.61	0.04	0.09	Y	9.61	0.04	0.09	ODRM
10	2007	10/22/2007	Wind Storm, Wild Fires, (less customers interrupted with high duration) i.e. Snow Valley 12KV, Taggart 12KV, Oak Knoll were de-energized requested by Fire Dept.	Y	18.31	0.04	0.03					ODRM
11	2007	12/25/2007	Wind storm	Y	2.49	0.01	0.02					ODRM
Total				11	65.98	0.23	0.36	1	9.61	0.04	0.09	

Major Event Days Detail

Attachment 1C

No.	YEAR	DATE	CAUSE	Excluded under IEEE 1366	SAIDI	SAIFI	MAIFI	Excluded under D.96-09-045	SAIDI	SAIFI	MAIFI	Source of data
1	2008	1/4/2008	Rain storm & Wind storm	Y	3.00	0.02	0.03					ODRM
2	2008	1/5/2008	Rain storm & Wind storm	Y	2.10	0.01	0.01					ODRM
3	2008	1/24/2008	Rain storm & Wind storm	Y	3.63	0.01	0.01					ODRM
4	2008	2/3/2008	Rain storm & Wind storm	Y	2.63	0.02	0.06					ODRM
5	2008	7/2/2008	Wild Fires	Y	3.30	0.02	0.02					ODRM
6	2008	12/15/2008	Rain storm & Wind storm	Y	2.18	0.01	0.02					ODRM
7	2008	12/17/2008	Rain storm & Wind storm	Y	2.72	0.01	0.02					ODRM
Total				7	19.57	0.10	0.18	0	0.00	0.00	0.00	
1	2009	6/3/2009	Lightning Storm	Y	3.85	0.02	0.05					ODRM
2	2009	8/27/2009	Wild Fires	Y	2.93	0.00	0.01					ODRM
3	2009	8/29/2009	Wild Fires	Y	1.98	0.00	0.00					ODRM
4	2009	8/31/2009	Wild Fires	Y	3.84	0.00	0.00					ODRM
5	2009	10/27/2009	Wind Storm	Y	1.99	0.01	0.03					ODRM
6	2009	12/7/2009	Rain/Wind Storm	Y	2.43	0.02	0.03					ODRM
Total				6	17.03	0.07	0.13	0	0.00	0.00	0.00	
1	2010	1/18/2010	Vegetation Blown	Y	3.97	0.02	0.04					ODRM
2	2010	1/21/2010	Vegetation Blown	Y	5.83	0.02	0.03					ODRM
3	2010	1/22/2010	Vegetation Blown	Y	3.52	0.01	0.01					ODRM
4	2010	1/23/2010	Vegetation Blown	Y	1.98	0.01	0.00					ODRM
5	2010	7/15/2010	Lightning & TOPPLED/BROKEN	Y	2.39	0.01	0.03					ODRM
6	2010	9/27/2010	Overloaded	Y	3.38	0.01	0.01					ODRM
7	2010	10/1/2010	Lightning	Y	2.48	0.03	0.02					ODRM
8	2010	10/4/2010	Lightning & Fire	Y	3.15	0.02	0.01					ODRM
9	2010	10/19/2010	Lightning & PROTECTION	Y	3.50	0.04	0.04					ODRM
10	2010	12/19/2010	Vegetation Blown & Overload	Y	2.99	0.01	0.03					ODRM
11	2010	12/22/2010	Vegetation Blown	Y	3.82	0.02	0.02					ODRM
12	2010	12/29/2010	Vegetation Blown & Low Voltage	Y	2.25	0.01	0.02					ODRM
13	2010	12/30/2010	Vegetation Blown & Wind	Y	2.97	0.01	0.02					ODRM
Total				13	42.22	0.23	0.28	0	0.00	0.00	0.00	
1	2011	1/1/2011	Unknown	Y	2.40	0.00	0.00					ODRM
2	2011	3/20/2011	Snow & Vegetation Blown	Y	8.85	0.03	0.05					ODRM
3	2011	3/21/2011	Vegetation Blown & Lightning	Y	2.76	0.01	0.01					ODRM
4	2011	7/31/2011	Lightning	Y	2.77	0.01	0.01					ODRM
5	2011	11/30/2011	Vegetation Blown & Wind	Y	47.89	0.02	0.02	Y	59.57	0.05	0.06	ODRM
6	2011	12/1/2011	Wind & Vegetation Blown	Y	59.56	0.05	0.06	Y	59.57	0.05	0.06	ODRM
Total				6	124.24	0.12	0.17	1	59.57	0.05	0.06	

**Southern California Edison
Historical System Reliability Data
2002 - 2011**

Attachment 2

Customers experiencing > 12 sustained outages

Year	Circuit	Circuit Name	Number of customers experiencing > 12 sustained outages
2002	1630	BIG ROCK	469
2002	4635	DANBY	57
2002	9060	IVERSON	124
2002	14814	REDSTONE	1,246
2003	2290	BROOKINGS*	1
2003	2370	BUDD	287
2003	2881	CAPANERO	292
2003	3240	CEDAR GLEN*	440
2003	5850	ELSTER	132
2003	8410	HIGH SCHOOL*	341
2003	8670	HOOK CREEK*	550
2003	9320	JORDAN	665
2003	9549	KELLPEAK*	10
2003	11448	MCCLENNY	55
2003	12190	MORITZ*	1,345
2003	12860	NORTH SHORE*	528
2003	14349	POSO PARK	49
2003	14690	RANGER*	730
2003	15922	SAUNDERS*	733
2003	16049	SEALS	93
2003	16839	SQUINT*	777
2003	17190	SUGARLOAF	131
2003	17997	TORONTO*	53
2004	390	ALPINE*	302
2004	1630	BIG ROCK	534
2004	3387	CHAWA	894
2004	5085	DINKEY CREEK	85
2004	6432	FINGAL	189
2004	8670	HOOK CREEK*	297
2004	8930	INTAKE	13
2004	9060	IVERSON	125
2004	9194	JEEP*	1,079
2004	9205	JENKS LAKE*	121
2004	9290	JOHNSONDALE	119
2004	11760	METTLER	340
2004	12136	MONTREAL*	630
2004	12190	MORITZ*	1,447
2004	12840	NORTH BAY*	226

Year	Circuit	Circuit Name	Number of customers experiencing > 12 sustained outages
2004	12860	NORTH SHORE*	245
2004	13959	PERIMETER	1,090
2004	14705	RANIER	7
2004	15090	RIM*	1,328
2004	15275	ROBIN	45
2004	15415	ROSEBUD	734
2004	15986	SCHMIDT	470
2004	17915	TITAN	79
2004	17985	TOPOC	92
2004	17997	TORONTO*	690
2004	19694	ANGELES	1,088
2005	2664	CALCADIA	4
2005	5090	DISCOVERY	32
2005	7490	GRANITE	267
2005	9777	KINSEY	70
2005	10216	LAVA	55
2005	10670	LOMBARDY	94
2005	12722	NIPTON	33
2005	13776	PAT	1,151
2005	15282	ROBINSON CREEK	199
2005	15415	ROSEBUD	581
2005	16308	SHEEPHOLE	3
2005	17731	THACHER	457
2005	19136	WEISS	177
2006	5085	DINKEY CREEK	29
2006	14955	RHINEDOLLAR	64
2007	1832	BLUE CUT	193
2007	12847	NORTH PARK	436
2007	17121	STROH	112
2008	2290	BROOKINGS	1
2008	3240	CEDAR GLEN	605
2008	4221	COVE	10
2008	4360	CRESTLINE	22
2008	4170	FROZEN	3
2008	8268	HEAPS PEAK	4
2008	8670	HOOK CREEK	147
2008	8848	HURST	6
2008	10119	LARK	147

Year	Circuit	Circuit Name	Number of customers experiencing > 12 sustained outages
2008	10216	LAVA	52
2008	12011	MIST	7
2008	14482	PUFF	2
2008	14690	RANGER	343
2008	14955	RHINEDOLLAR	31
2008	17997	TORONTO	47
2008	19036	WASP	46
2009	3240	CEDAR GLEN	19
2009	4136	COSO	45
2009	5492	EARTH	4
2009	8268	HEAPS PEAK	6
2009	14690	RANGER	306
2009	14955	RHINEDOLLAR	31
2009	16395	SHOSHONE	1
2009	17997	TORONTO	23
2010	12960	OAK GLEN	4
2010	13194	OPPORTUNITY	9
2010	14955	RHINEDOLLAR	31
2010	15415	ROSEBUD	41
2010	17061	STONELEY	82
2011	04223	COVEVIEW	184
2011	04367	CRESTWIND	28
2011	04170	FROZEN	3
2011	09185	JAWBONE	2
2011	09275	JOB	35
2011	12190	MORITZ	983
2011	14758	RED BOX	8

Southern California Edison
Top 10 SAIDI Events
2002 - 2011

Attachment 3

2011

Rank	Description	Date	SAIDI	Number of customers affected	Longest customer interruption (min)	Number of people used to restore service	D.96-09-045 Major Event?	IEEE 1366 Major Event?
1	Wind & Vegetation Blown	12/1/2011	59.564	569,969	14,806	3,300	Y	Y
2	Vegetation Blown & Wind	11/30/2011	47.890	234,977	10,255	3,300	N	Y
3	Snow & Vegetation Blown	3/20/2011	8.851	385,628	45,068		N	Y
4	Lightning	7/31/2011	2.769	116,749	21,682		N	Y
5	Vegetation Blown & Lightning	3/21/2011	2.763	122,222	4,795		N	Y
6	Unknown	1/1/2011	2.403	22,886	260,236		N	Y
7	Vegetation Blown	2/18/2011	1.737	119,202	5,501		N	N
8	Vegetation Blown & Snow	2/26/2011	1.563	92,686	4,226		N	N
9	Lightning	9/10/2011	1.531	161,304	6,904		N	N
10	Wind & Vegetation Blown	11/2/2011	1.490	90,559	2,752		N	N

**Southern California Edison
Top 10 SAIDI Events
2002 - 2011**

Attachment 3

2010

Rank	Description	Date	SAIDI	Number of customers affected	Longest customer interruption (min)	Number of people used to restore service	D.96-09-045 Major Event?	IEEE 1366 Major Event?
1	Vegetation Blown	1/21/2010	5.832				N	Y
2	Vegetation Blown	1/18/2010	3.966				N	Y
3	Vegetation Blown	12/22/2010	3.817				N	Y
4	Vegetation Blown	1/22/2010	3.518				N	Y
5	Lightning & PROTECTION	10/19/2010	3.495				N	Y
6	Overloaded	9/27/2010	3.378				N	Y
7	Lightning & Fire	10/4/2010	3.153				N	Y
8	Vegetation Blown & Overload	12/19/2010	2.992				N	Y
9	Vegetation Blown & Wind	12/30/2010	2.973				N	Y
10	Lightning	10/1/2010	2.483				N	Y

**Southern California Edison
Top 10 SAIDI Events
2002 - 2011**

Attachment 3

2009

Rank	Description	Date	SAIDI	Number of customers affected	Longest customer interruption (min)	Number of people used to restore service	D.96-09-045 Major Event?	IEEE 1366 Major Event?
1	Lightning Storm	6/3/2009	3.848				N	Y
2	Wild Fires	8/31/2009	3.837				N	Y
3	Wild Fires	8/27/2009	2.935				N	Y
4	Rain/Wind Storm	12/7/2009	2.436				N	Y
5	Wind Storm	10/27/2009	1.993				N	Y
6	Wild Fires	8/29/2009	1.983				N	Y
7	Wind Storm	3/22/2009	1.724				N	N
8	Wild Fires	4/3/2009	1.564				N	N
9	Rain Storm	2/9/2009	1.543				N	N
10	Car Hit Pole	12/12/2009	1.222				N	N

**Southern California Edison
Top 10 SAIDI Events
2002 - 2011**

Attachment 3

2008

Rank	Description	Date	SAIDI	Number of customers affected	Longest customer interruption (min)	Number of people used to restore service	D.96-09-045 Major Event?	IEEE 1366 Major Event?
1	Rain/Wind Storm	1/24/2008	3.633				N	Y
2	Wild Fires	7/2/2008	3.304				N	Y
3	Rain/Wind Storm	1/4/2008	3.006				N	Y
4	Rain/Wind Storm	12/17/2008	2.723				N	Y
5	Rain/Wind Storm	2/3/2008	2.628				N	Y
6	Rain/Wind Storm	12/15/2008	2.186				N	Y
7	Rain/Wind Storm	1/5/2008	2.103				N	Y
8	Rain/Wind Storm	12/25/2008	1.793				N	N
9	Rain/Wind Storm	1/27/2008	1.555				N	N
10	Rain/Wind Storm	1/25/2008	1.404				N	N

**Southern California Edison
Top 10 SAIDI Events
2002 - 2011**

Attachment 3

2007

Rank	Description	Date	SAIDI	Number of customers affected	Longest customer interruption (min)	Number of people used to restore service	D.96-09-045 Major Event?	IEEE 1366 Major Event?
1	Wild Fires	10/22/2007	18.310				N	Y
2	Summer heat storm	9/3/2007	10.336				N	Y
3	Wild Fires	10/21/2007	9.649	628,093	6,632	1,258	Y	Y
4	Summer heat storm	9/2/2007	6.162				N	Y
5	Rain/Wind Storm	3/27/2007	5.711				N	Y
6	Summer heat storm	9/1/2007	3.398				N	Y
7	Summer heat storm	8/31/2007	3.285				N	Y
8	Wind Storm	12/25/2007	2.494				N	Y
9	Summer heat storm	9/4/2007	2.334				N	Y
10	Wind Storm	4/12/2007	2.215				N	Y

**Southern California Edison
Top 10 SAIDI Events
2002 - 2011**

2006

Attachment 3

Rank	Description	Date	SAIDI	Number of customers affected	Longest customer interruption (min)	Number of people used to restore service	D.96-09-045 Major Event?	IEEE 1366 Major Event?
1	Summer heat storm	7/22/2006	15.441	527,572	6,748	1,616	Y	Y
2	Winter rain storm	1/2/2006	10.478	720,251	4,532	684	Y	Y
3	Summer heat storm	7/23/2006	4.866	170,590			N	Y
4	Winter rain storm	12/27/2006	4.055	285,211			N	Y
5	Winter rain storm	12/28/2006	3.084	155,839			N	Y
6	Summer heat storm	7/24/2006	2.821	98,614			N	Y
7	Summer heat storm	7/15/2006	2.492	159,258			N	Y
8	Summer heat storm	7/20/2006	2.305	208,040			N	Y
9	Summer heat storm	7/21/2006	2.085	238,707			N	N
10	Winter rain storm	1/22/2006	1.966	157,613			N	N

**Southern California Edison
Top 10 SAIDI Events
2002 - 2011**

Attachment 3

2005

Rank	Description	Date	SAIDI	Number of customers affected	Longest customer interruption (min)	Number of people used to restore service	D.96-09-045 Major Event?	IEEE 1366 Major Event?
1	Winter Rain Storm	1/01/2005 - 01/11/2005	7.786	954,312	23,269	1,005	Y	Y
2	Winter Rain Storm	2/16/2005 - 02/23/2005	5.713	696,946	8,233	641	Y	Y
3	Lightning Storm	9/20/2005	3.887	624,737	2,910	391	Y	Y
4	Lightning Storm	10/17/2005	3.693				N	Y
5	Brush Fire	9/3/2005	2.121				N	Y
6	Wind Storm	8/6/2005	1.683				N	Y
7	Lightning Storm	7/24/2005	1.500				N	Y
8	Lightning Storm	5/6/2005	1.235				N	N
9	Wind Storm	11/26/2005	1.089				N	N
10	Rain/Wind Storm	12/31/2005	1.061				N	N

**Southern California Edison
Top 10 SAIDI Events
2002 - 2011**

Attachment 3

2004

Rank	Description	Date	SAIDI	Number of customers affected	Longest customer interruption (min)	Number of people used to restore service	D.96-09-045 Major Event?	IEEE 1366 Major Event?
1	Winter Rain Storm	2/28/2004 - 12/31/2004	8.100	708,044	38,065	1,005	Y	Y
2	Wind Storm	11/21/2004	2.571				N	Y
3	Wind Storm	10/27/2004	2.389				N	Y
4	Rain Storm	10/17/2004	1.999				N	Y
5	Moorpark A-Bank	9/11/2004	1.622				N	Y
6	Rain Storm	10/20/2004	1.610				N	Y
7	Lightning Storm	8/12/2004	1.574				N	Y
8	Rain Storm	10/19/2004	0.989				N	N
9	Wind Storm	11/22/2004	0.904				N	N
10	Lightning Storm	8/13/2004	0.883				N	N

**Southern California Edison
Top 10 SAIDI Events
2002 - 2011**

Attachment 3

2003

Rank	Description	Date	SAIDI	Number of customers affected	Longest customer interruption (min)	Number of people used to restore service	D.96-09-045 Major Event?	IEEE 1366 Major Event?
1	Santa Ana Wind Storm	1/06/2003 - 01/08/2003	17.228	1,236,698	7,731	2,551	Y	Y
2	Southern California Wild Fires	09/24/2003 - 10/26/2003	6.105	601,653	12,808	1,919	Y	Y
3	Rain Storm & Mud Slides	12/25/2003	3.468				N	Y
4	Lightning Storm	11/12/2003	3.024				N	Y
5	Santa Ana Wind Storm	01/05/2003	2.438				N	Y
6	Rain Storm	02/25/2003	2.303				N	Y
7	Rain Storm	10/31/2003	1.127				N	N
8	Wind Storm	03/17/2003	0.946				N	N
9	Wind Storm	02/12/2003	0.796				N	N
10	Lightning Storm	08/20/2003	0.770				N	N

**Southern California Edison
Top 10 SAIDI Events
2002 - 2011**

Attachment 3

2002

Rank	Description	Date	SAIDI	Number of customers affected	Longest customer interruption (min)	Number of people used to restore service	D.96-09-045 Major Event?	IEEE 1366 Major Event?
1	Rain/Wind Storm	12/16/2002	2.780				N	Y
2	Rain/Wind Storm	11/8/2002	2.416				N	Y
3	Mira Loma RAS / Louisiana Fire	5/26/2002 - 06/28/2002	2.307	600,607	3,996	50	Y	Y
4	Rain/Wind Storm	11/9/2002	1.043				N	N
5	Rain Storm	11/25/2002	1.015				N	N
6	Wind Storm	2/9/2002	0.862				N	N
7	Car Hit Pole	10/4/2002	0.847				N	N
8	Rain/Wind Storm	11/7/2002	0.712				N	N
9	Heat Storm	9/1/2002	0.662				N	N
10	Rain Storm	2/17/2002	0.643				N	N

Southern California Edison

Major Events

Number of customers w/o service at hourly interval

THIS TABLE CONTAINS ROLLING DAY DATA.

Attachment 4

Time	Mira Loma RAS	Mira Loma RAS	Mira Loma RAS	Mira Loma RAS	Santa Ana Wind Storm	Santa Ana Wind Storm	Santa Ana Wind Storm	Santa Ana Wind Storm	Santa Ana Wind Storm	Description of event
	6/26/2002	6/27/2002	6/28/2002	1/6/2003	1/7/2003	1/8/2003				↵ Date of event
0	1,973	459	119	150,974	24,149	5,099				
1	1,995	459	808	177,276	26,720	9,867				
2	22	459	870	189,656	35,678	7,212				
3	-	9,716	1,364	169,700	23,267	5,691				
4	-	459	9,866	127,917	41,711	4,315				
5	-	4,571	285	112,215	48,693	4,155				
6	469	2,136	223	99,427	35,370	4,102				
7	-	589	3,485	84,646	31,423	4,137				
8	131	589	4,033	86,946	15,173	6,844				
9	-	501	352	58,992	13,628	7,833				
10	412	522	1,533	63,936	26,491	9,774				
11	114	1,302	599	60,261	35,427	8,491				
12	1,053	205	186	69,743	30,025	11,349				
13	622	114	124	77,406	24,075	11,607				
14	622	29	29	61,304	10,701	24,521				
15	-	101	29	45,025	9,033	6,537				
16	-	1,176	29	25,292	8,628	4,368				
17	-	1,918	4,095	25,852	11,222	4,000				
18	540,502	4,243	2,704	25,773	7,709	3,030				
19	16,349	119	227	29,423	12,265	2,930				
20	4,058	119	1,068	51,181	14,995	2,091				
21	1,690	119	227	27,891	12,993	2,026				
22	459	119	227	20,583	10,023	2,313				
23	2,827	119	227	33,400	11,230	1,540				

Southern California Edison

Major Events

Number of customers w/o service at hourly interval

THIS TABLE CONTAINS ROLLING DAY DATA.

Attachment 4

Time	Southern California Wild Fires 10/24/2003	Southern California Wild Fires 10/25/2003	Southern California Wild Fires 10/26/2003	Winter Rain Storm 12/28/2004	Winter Rain Storm 12/29/2004	Winter Rain Storm 12/30/2004	Winter Rain Storm 12/31/2004	Description of event
0	-	99	6,168	12,202	84,434	3,841	1,127	
1	81	4,491	60,988	7,187	71,180	4,368	1,906	
2	1,681	47	7,531	24,357	60,971	3,324	1,444	
3	110	47	193,783	40,904	47,181	3,834	2,590	
4	81	1,847	68,576	21,739	30,328	3,737	3,755	
5	602	14,854	45,513	15,563	24,823	3,249	3,888	
6	6,403	41	29,836	11,448	19,659	1,972	9,143	
7	521	3,546	7,319	30,504	18,040	1,219	7,295	
8	1,134	15,078	9,418	80,953	15,674	4,717	12,424	
9	637	1,317	5,937	30,040	13,206	1,640	19,566	
10	120,708	4,454	8,839	42,290	15,031	1,745	7,628	
11	653	3,256	7,889	30,355	11,669	5,737	8,981	
12	574	2,912	6,350	16,991	14,253	4,276	16,928	
13	15,893	2,295	28,195	17,970	15,084	5,481	10,208	
14	600	2,991	16,756	13,537	11,345	4,109	6,843	
15	590	30,036	14,368	5,871	7,682	6,491	11,140	
16	575	7,055	11,336	11,953	13,496	807	8,410	
17	575	9,159	10,253	92,301	5,765	629	2,556	
18	1,171	1,279	8,013	7,091	5,112	2,592	2,034	
19	616	2,759	5,758	12,949	7,681	2,904	2,536	
20	586	3,800	5,992	10,576	5,121	705	2,522	
21	727	3,087	5,619	7,987	4,092	1,738	4,294	
22	3,652	4,829	5,754	6,779	3,280	2,262	4,122	
23	1,606	4,722	4,065	17,630	6,271	4,535	4,375	

Southern California Edison

Major Events

Number of customers w/o service at hourly interval

THIS TABLE CONTAINS ROLLING DAY DATA.

Attachment 4

Time	1/1/2005	1/2/2005	1/3/2005	1/4/2005	1/5/2005	1/6/2005	1/7/2005	1/8/2005	Description of event
0	2,344	118	8,955	2,091	89	327	1,136	1,172	
1	2,921	398	1,652	2,270	5,160	281	488	24	
2	34	398	-	3,830	82	281	3,387	73	
3	358	420	5,475	600	82	281	555	18,858	
4	1,600	2,571	7	3,827	82	281	960	190	
5	4,906	303	3,637	807	66	275	3,054	379	
6	7,949	303	1,997	627	2,669	275	3,383	589	
7	2,774	1,665	7,844	3,186	3,824	2,611	2,136	26	
8	4,609	223	16,398	2,784	179	729	5,964	1,758	
9	540	223	5,447	33,282	166	981	3,644	2,049	
10	2,162	5,192	479	35,214	7,332	2,008	18,416	1,749	
11	4,074	6,462	29,734	6,727	2,209	1,911	14,005	1,156	
12	1,259	1,261	7,823	2,813	1,194	2,913	18,630	2,928	
13	508	1,860	4,983	1,239	1,192	675	12,035	10,653	
14	832	2,845	1,139	5,954	6,876	454	12,229	8,270	
15	508	140	5,396	1,593	2,886	620	5,695	5,987	
16	2,442	140	4,085	533	361	1,813	7,314	12,102	
17	172	140	825	116	385	1,783	6,025	7,942	
18	172	141	8,390	116	444	776	6,402	6,594	
19	42	141	13,318	2,102	278	1,561	4,794	3,573	
20	992	65	1,012	116	312	1,617	2,449	5,256	
21	1,068	64	5,787	1,011	2,716	304	5,710	7,556	
22	118	64	619	331	2,923	304	4,910	3,131	
23	118	64	619	89	336	1,074	1,313	10,803	

Southern California Edison

Major Events

Number of customers w/o service at hourly interval

THIS TABLE CONTAINS ROLLING DAY DATA.

Attachment 4

Time	1/9/2005	1/10/2005	1/11/2005	2/16/2005	2/17/2005	2/18/2005	2/19/2005	2/20/2005	Description of event
0	4,634	9,150	14,206	849	-	2,485	10,466	6,564	
1	5,353	12,379	17,009	125	229	1,495	17,924	3,539	
2	12,050	7,614	23,761	9	17	1,441	13,917	7,293	
3	5,806	6,362	11,891	3,916	837	1,441	20,607	1,694	
4	2,602	8,523	11,603	10	1,623	1,441	52,009	2,959	
5	14,378	7,153	17,849	10	323	4,579	48,850	2,831	
6	9,300	10,555	21,763	397	574	908	33,786	2,148	
7	14,493	12,129	19,731	397	622	2,737	27,551	5,496	
8	12,429	21,583	12,136	178	371	2,523	28,434	3,496	
9	24,223	25,889	11,853	191	706	502	9,986	1,428	
10	20,625	11,663	13,268	26	10,010	470	26,295	2,064	
11	15,716	14,795	14,945	2,782	9,127	4,659	21,866	2,673	
12	15,434	14,101	14,518	1,746	715	133	20,560	4,118	
13	14,768	25,907	16,991	1,092	1,406	133	12,826	1,424	
14	9,396	18,741	9,700	822	8,316	4,986	10,386	928	
15	12,776	17,297	8,543	227	946	6,229	8,937	646	
16	14,157	15,005	8,302	5,306	782	141	10,151	2,152	
17	18,536	11,146	12,089	2,379	4,792	141	7,290	3,921	
18	18,384	8,124	10,778	5,322	4,205	141	9,393	4,268	
19	10,382	15,219	1,684	4,002	4,969	1,123	8,156	3,741	
20	8,367	13,053	19,597	933	1,357	2,100	4,481	1,904	
21	16,640	11,746	11,712	933	1,357	1,246	5,405	13,372	
22	11,723	17,482	1,331	288	2,455	213	5,280	6,753	
23	10,832	13,659	971	-	2,401	21,056	7,146	17,008	

Southern California Edison

Major Events

Number of customers w/o service at hourly interval

THIS TABLE CONTAINS ROLLING DAY DATA.

Attachment 4

Time	Winter Rain Storm 2/21/2005	Winter Rain Storm 2/22/2005	Winter Rain Storm 2/23/2005	Lightning Storm 9/20/2005	Winter Rain Storm 1/2/2006	Summer Heat Storm 7/22/2006	Wild Fires 10/21/2007	Description of event ↔ Date of event
0	17,643	1,611	23,794	35,324	934	8,131	8,346	
1	13,966	1,398	23,651	73,173	2,485	6,528	13,208	
2	16,136	7,833	5,401	117,966	979	7,269	13,475	
3	12,916	5,314	4,219	94,719	3,901	7,257	42,878	
4	6,111	167	9,519	70,986	16,033	6,504	33,204	
5	10,876	3,305	5,111	59,321	23,872	4,299	54,764	
6	16,259	342	26,381	36,987	14,740	4,956	20,957	
7	9,266	339	9,743	44,392	35,171	4,806	45,298	
8	13,975	619	8,601	38,176	77,681	4,932	59,570	
9	5,374	4,169	7,510	59,889	191,661	2,263	53,648	
10	7,730	3,222	8,704	42,516	162,780	2,674	71,391	
11	10,107	6,973	11,041	62,892	169,871	3,161	67,827	
12	6,323	2,308	6,804	26,698	115,365	7,451	51,300	
13	12,967	3,533	5,970	21,128	87,849	19,300	43,260	
14	10,061	7,288	1,898	23,744	83,069	53,902	60,972	
15	3,940	2,330	1,347	16,056	79,866	105,045	49,155	
16	10,584	1,275	2,009	14,467	76,523	129,964	41,000	
17	10,439	7,048	2,811	10,871	57,515	134,398	51,141	
18	2,793	4,279	2,117	13,237	47,499	89,342	42,154	
19	4,762	4,235	1,142	9,521	36,870	145,110	53,578	
20	5,291	1,504	722	6,935	36,921	84,274	54,253	
21	7,568	2,594	620	6,730	29,519	76,624	45,699	
22	2,452	984	1,956	4,476	28,745	66,383	85,099	
23	5,496	20,739	2,630	4,349	21,198	53,678	38,793	

Southern California Edison

Major Events

Number of customers w/o service at hourly interval

THIS TABLE CONTAINS ROLLING DAY DATA.

Attachment 4

Time	Winter Storm	Wind Storm	Wind Storm	Wind Storm	Summer Lightning	Los Angeles Wind Storm	Los Angeles Wind Storm	Los Angeles Wind Storm	Description of event
	1/1/2011	3/20/2011	3/21/2011	7/31/2011	11/30/2011	12/1/2011			
0	152	2,253	3,756	1,553	346	53,827			
1	848	3,614	25,090	17,863	27	195,848			
2	1,802	3,218	6,775	23,571	93	224,491			
3	906	4,366	6,002	23,258	136	185,094			
4	245	4,836	13,142	50,469	905	175,500			
5	221	1,982	14,204	31,683	136	168,896			
6	256	19,346	7,630	32,030	101	182,264			
7	1,635	19,464	7,215	24,115	101	157,517			
8	2,055	22,334	3,739	37,987	101	153,781			
9	449	14,170	5,171	6,264	1,953	159,094			
10	434	21,641	32,945	8,203	635	153,681			
11	1,896	38,613	33,472	10,251	3,655	149,957			
12	1,213	50,469	29,369	6,656	2,473	160,856			
13	448	65,147	29,585	8,299	9,002	148,958			
14	338	59,645	28,413	11,004	3,810	138,162			
15	6,185	54,173	12,384	5,024	671	130,026			
16	286	54,319	10,565	4,815	6,934	120,737			
17	446	46,595	6,619	4,835	14,239	115,884			
18	3,814	75,305	8,154	7,279	17,008	110,628			
19	2,062	68,778	10,209	1,612	30,999	110,607			
20	2,393	42,090	6,559	1,818	47,924	101,914			
21	2,871	35,941	3,779	3,094	33,931	99,117			
22	2,301	32,844	4,307	1,880	60,206	95,108			
23	2,334	33,134	4,136	2,084	124,610	92,330			

Southern California Edison

Major Events

Number of customers w/o service by outage duration

Attachment 5

Outage Duration	Mira Loma RAS	Santa Ana Wind Storm	Southern California Wild Fires	Winter Rain Storm	Winter Rain Storm	Winter Rain Storm	Lightning Storm	Winter Rain Storm	Summer Heat Storm	Wild Fires	Description of event
	06/26/2002 - 06/28/2002	01/06/2003 - 01/08/2003	10/24/2003 - 10/26/2003	12/28/2004 - 12/31/2004	01/01/2005 - 01/11/2005	02/16/2005 - 02/23/2005	9/20/2005	1/2/2006	7/22/2006	10/21/2007	Date of event
0 to 1 hour	583,670	788,468	491,078	409,325	561,834	377,235	440,023	572,274	422,684	522,063	
1 to 5 hours	7,126	172,308	58,450	151,123	203,015	153,424	64,816	101,467	55,577	67,433	
5 to 10 hours	5,835	59,570	11,547	60,160	101,172	70,856	33,672	25,500	15,986	21,017	
10 to 15 hours	1,203	57,778	4,883	38,830	45,767	54,924	28,181	10,751	7,881	4,637	
15 to 20 hours	2,744	55,373	1,996	16,205	17,431	30,162	17,358	3,862	4,703	4,349	
20 to 24 hours	-	15,325	4,081	10,963	7,955	6,708	11,119	898	3,591	1,585	
1 to 2 days	-	56,503	11,169	17,805	12,906	3,634	29,487	5,004	12,458	5,157	
2 to 3 days	29	24,949	1,734	1,062	13	-	81	459	4,036	1,574	
3 to 4 days	-	5,524	5,040	-	2,569	-	-	36	646	133	
4 to 5 days	-	-	7,169	2,564	504	-	-	-	10	145	
5 to 6 days	-	900	3,478	-	-	3	-	-	-	-	
6 to 7 days	-	-	25	-	-	-	-	-	-	-	
> 7 days	-	-	1,003	7	1,146	-	-	-	-	-	
Total	600,607	1,236,698	601,653	708,044	954,312	696,946	624,737	720,251	527,572	628,093	

Southern California Edison

Major Events

Number of customers w/o service by outage duration

Attachment 5

Outage Duration	Winter Storm 1/1/2011	Wind Storm 3/20/2011	Wind Storm 3/21/2011	Summer Lightning 7/31/2011	Los Angeles Wind Storm 11/30/2011	Los Angeles Wind Storm 12/1/2011	Description of event
0 to 1 hour	19,856	299,989	79,997	86,125	141,793	353,515	
1 to 5 hours	2,181	53,535	31,620	5,895	13,080	54,549	
5 to 10 hours	231	11,804	6,513	22,012	11,329	25,877	
10 to 15 hours	180	5,112	2,755	1,929	7,067	30,380	
15 to 20 hours	170	3,359	455	331	2,323	16,495	
20 to 24 hours	17	3,680	278	261	5,031	12,249	
1 to 2 days	50	6,901	567	189	16,105	47,274	
2 to 3 days	-	1,035	23	2	19,471	21,220	
3 to 4 days	111	158	14	-	9,901	3,719	
4 to 5 days	49	43	-	2	5,395	3,538	
5 to 6 days	-	-	-	-	3,244	848	
6 to 7 days	-	7	-	-	221	272	
> 7 days	41	5	-	3	17	33	
Total	22,886	385,628	122,222	116,749	234,977	569,969	