

February 27, 2013

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 2012 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, three days in 2012 were deemed excludable as major event days.

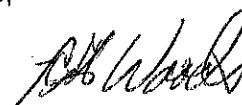
Attachment 1B provides reliability metrics for this same time period calculated per the original directions of CPUC D.96-09-045. Following the guidance of Appendix A of D.96-09-045, no days in 2012 were deemed excludable as major event days.

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.

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

Best regards,



Enclosures

CC: Edward Randolph, Energy Division Director
Jack Hagan, Safety Enforcement Division Director
Elizaveta Malashenko, Grid Planning & Reliability, Energy Division
David K. Lee, Energy Division

Southern California Edison
Annual System Reliability Report - 2012
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1A	Historical System Indices (IEEE Std 1366-2003)	SAIDI, SAIFI, and MAIFI Annual System Statistics calculated per IEEE-1366.
1B	Historical System Indices (D.96-09-045)	SAIDI, SAIFI, and MAIFI Annual System Statistics calculated per D.96-09-045.
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 (2003-2012)
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 (2003-2012)
4	No Service by Hourly Interval	The number of customers without service by hourly interval (2003-2012) for each Major Event Day.
5	No Service by Duration	The number of customers without service by outage duration (2003-2012) for each Major Event Day.

Southern California Edison
Historical System Reliability (IEEE Std 1366-2003)
2003 - 2005 Using DTOM Outage Database
2006 - 2012 Using ODRM Outage Database

YEAR	All Interruptions Included			Major Event Days Excluded Per IEEE 1366		
	SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI
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
2012	108.13	0.89	1.43	100.70	0.86	1.35

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 - 2010, values of SAIDI, SAIFI, and MAIFI were calculated per the guidance of IEEE 1366 with the one 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)
2003 - 2004 Using DTOM
2005 Using DTOM & ODRM
2006 - 2012 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
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
2012 ODRM	108.35	0.94	1.39	108.35	0.94	1.39

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 I - 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	2003	1/5/2003	Santa Ana Wind Storm	Y	2.44	0.01	0.03		14.95	0.09	0.11	DTOM
2	2003	1/6/2003	Santa Ana Wind Storm	Y	14.95	0.09	0.11	Y	1.86	0.02	0.03	DTOM
3	2003	1/7/2003	Santa Ana Wind Storm	Y	1.86	0.02	0.03	Y	0.40	0.01	0.01	DTOM
4	2003	1/8/2003	Santa Ana Wind Storm									DTOM
5	2003	2/25/2003	Rain Storm	Y	2.30	0.02	0.01	Y	0.16	0.01	0.03	DTOM
6	2003	10/24/2003	Southern California Wild Fires					Y	1.13	0.01	0.01	DTOM
7	2003	10/25/2003	Southern California Wild Fires	Y	5.98	0.06	0.02	Y	5.98	0.06	0.02	DTOM
8	2003	10/26/2003	Southern California Wild Fires	Y	1.87	0.00	0.00	Y				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	3.47	0.04	0.04					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	3.55	0.03	0.01	Y	0.22	0.00	0.00	DTOM
10	2004	12/31/2004	Winter Rain Storm	Y	1.62	0.01	0.00	Y	1.62	0.01	0.00	DTOM
Total				9	19.63	0.19	0.16	4	8.10	0.08	0.07	

1	2005	1/9/2005	Winter Rain Storm	Y	1.49	0.02	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	0.36	0.01	0.00	DTOM
5	2005	2/19/2005	Winter Rain Storm	Y	2.26	0.03	0.02					DTOM
6	2005	7/24/2005	Lightning Storm	Y	1.50	0.01	0.02					DTOM
7	2005	8/6/2005	Wind Storm	Y	1.68	0.01	0.02					DTOM
8	2005	9/3/2005	Brush Fire	Y	2.12	0.01	0.00					DTOM
9	2005	9/20/2005	Lightning Storm	Y	3.89	0.04	0.09	Y	3.89	0.04	0.09	DTOM
10	2005	10/17/2005	Lightning Storm	Y	3.69	0.04	0.04					DTOM
Total				9	19.69	0.21	0.24	4	7.30	0.10	0.12	

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	2006	1/21/2006	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	
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	

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	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	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	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	0.06
1	2012	1/21/2012	Wind Storm & Toppled/Broken	Y	3.26	0.02	0.03					ODRM
2	2012	3/17/2012	Wind & Vegetation Blown	Y	1.96	0.01	0.03					ODRM
3	2012	10/11/2012	Lightning & Rain	Y	2.21	0.01	0.02					ODRM
Total				3	7.43	0.04	0.08	0.00	0.00	0.00	0.00	0.00

**Southern California Edison
Historical System Reliability Data
2003 - 2012**

Customers experiencing > 12 sustained outages

Year	Circuit	Circuit Name	Number of customers experiencing > 12 sustained outages
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	KELPEAK*	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
2004	12860	NORTH SHORE*	245
2004	13959	PERIMETER	1,090
2004	14705	RANIER	7
2004	15090	RIM*	1,328

Year	Circuit	Circuit Name	Number of customers experiencing > 12 sustained outages
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	19894	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
2008	10216	LAVA	52
2008	12011	MIST	7
2008	14482	PUFF	2
2008	14690	RANGER	343

Year	Circuit	Circuit Name	Number of customers experiencing > 12 sustained outages
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
2012	11627	MELODY	274
2012	14750	REDBANKS	17
2012	14955	RHINEDOLLAR	31

**Southern California Edison
Top 10 SAIDI Events
2003 - 2012**

Attachment 3

2012

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 Storm & Topped/Broken	1/21/2012	3.259	240,460	24,868		N	Y
2	Lightning & Overhead equipment	10/11/2012	2.214	146,054	10,377		N	Y
3	Wind & Vegetation Blown	3/17/2012	1.959	187,878	5,709		N	Y
4	Topped/Broken & Transformer	8/12/2012	1.261	73,569	7,887		N	N
5	Vegetation Blown & Repairs	3/18/2012	1.174	86,048	4,346		N	N
6	Vegetation Blown, Wind & Standard Operation	12/18/2012	1.135	138,374	1,434		N	N
7	Substation & underground cable	8/23/2012	1.132	58,317	2,609		N	N
8	Underground Cable	2/3/2012	1.079	20,531	147,812		N	N
9	Patrolled, Lightning	8/30/2012	1.013	187,417	3,065		N	N
10	Transmission Equipment & Operation Error	8/21/2012	1.001	45,595	4,320		N	N

**Southern California Edison
Top 10 SAIDI Events
2003 - 2012**

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	3,338	Y	Y
2	Vegetation Blown & Wind	11/30/2011	47,890	234,977	10,255	3,338	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
2003 - 2012**

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
2003 - 2012**

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
2003 - 2012**

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
2003 - 2012**

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
2003 - 2012**

Attachment 3

2006

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
2003 - 2012**

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	01/01/05 - 01/11/05	7.786	954,312	23,269	1,005	Y	Y
2	Winter Rain Storm	02/16/05 - 02/23/05	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
2003 - 2012**

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	12/28/04 - 12/31/04	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
2003 - 2012**

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	01/06/03 - 01/08/03	17.228	1,236,698	7,731	2,551	Y	Y
2	Southern California Wild Fires	10/24/03 - 10/26/03	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

Major Events (As defined by D.96-09-045 for yrs. 2003 to 2010 and as defined by IEEE-1366 for yrs. 2011 to 2012)

Number of customers w/o service at hourly interval

THIS TABLE CONTAINS ROLLING DAY DATA.

Attachment 4

Time	1/6/2003	1/7/2003	Santa Ana Wind Storm	Santa Ana Wind Storm	1/8/2003	Southern California Wild Fires	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	Description of event
0	150,974	24,149	5,099	-	99	6,168	84,434						12,202	84,434			
1	177,276	26,720	9,867	81	4,491	60,988	71,180						7,187	71,180			
2	189,656	35,678	7,212	1,681	47	7,531	60,971						24,357	60,971			
3	169,700	23,267	5,691	110	47	193,783	47,181						40,904	47,181			
4	127,917	41,711	4,315	81	1,847	68,576	30,328						21,739	30,328			
5	112,215	48,693	4,155	602	14,854	45,513	24,823						15,563	24,823			
6	99,427	35,370	4,102	6,403	41	29,836	19,659						11,448	19,659			
7	84,646	31,423	4,137	521	3,546	7,319	18,040						30,504	18,040			
8	86,946	15,173	6,844	1,134	15,078	9,418	15,674						80,953	15,674			
9	58,992	13,628	7,833	637	1,317	5,937	13,206						30,040	13,206			
10	53,936	26,491	9,774	120,708	4,454	8,839	15,031						42,290	15,031			
11	60,261	35,427	8,491	653	3,256	7,889	11,669						30,355	11,669			
12	69,743	30,025	11,349	574	2,912	6,350	14,253						16,991	14,253			
13	77,406	24,075	11,607	15,893	2,295	28,195	15,084						17,970	15,084			
14	61,304	10,701	24,521	600	2,991	16,756	11,345						13,537	11,345			
15	45,025	9,033	6,537	590	30,036	14,368	7,682						5,871	7,682			
16	25,292	8,628	4,368	575	7,055	11,336	13,496						11,953	13,496			
17	25,852	11,222	4,000	575	9,159	10,253	5,765						92,301	5,765			
18	25,773	7,709	3,030	1,171	1,279	8,013	5,112						7,091	5,112			
19	29,423	12,265	2,930	616	2,759	5,758	7,681						12,949	7,681			
20	51,181	14,995	2,091	586	3,800	5,992	5,121						10,576	5,121			
21	27,891	12,993	2,026	727	3,087	5,619	4,092						7,987	4,092			
22	20,583	10,023	2,313	3,652	4,829	5,754	3,280						6,779	3,280			
23	33,400	11,230	1,540	1,606	4,722	4,065	6,271						17,630	6,271			

Southern California Edison

Major Events (As defined by D.96-09-045 for yrs. 2003 to 2010 and as defined by IEEE-1366 for yrs. 2011 to 2012)

Number of customers w/o service at hourly interval

THIS TABLE CONTAINS ROLLING DAY DATA.

Time	Attachment 4										
	Winter Rain Storm 12/30/2004	Winter Rain Storm 12/31/2004	Winter Rain Storm 1/1/2005	Winter Rain Storm 1/2/2005	Winter Rain Storm 1/3/2005	Winter Rain Storm 1/4/2005	Winter Rain Storm 1/5/2005	Winter Rain Storm 1/6/2005	Description of event		
0	3,841	1,127	2,344	118	8,955	2,091	89	327			
1	4,368	1,906	2,921	398	1,652	2,270	5,160	281			
2	3,324	1,444	34	398	-	3,830	82	281			
3	3,834	2,590	358	420	5,475	600	82	281			
4	3,737	3,755	1,600	2,571	7	3,827	82	281			
5	3,249	3,888	4,906	303	3,637	807	66	275			
6	1,972	9,143	7,949	303	1,997	627	2,669	275			
7	1,219	7,295	2,774	1,665	7,844	3,186	3,824	2,611			
8	4,717	12,424	4,609	223	16,398	2,784	179	729			
9	1,640	19,566	540	223	5,447	33,282	166	981			
10	1,745	7,628	2,162	5,192	479	35,214	7,332	2,008			
11	5,737	8,981	4,074	6,462	29,734	6,727	2,209	1,911			
12	4,276	16,928	1,259	1,261	7,823	2,813	1,194	2,913			
13	5,481	10,208	508	1,860	4,983	1,239	1,192	675			
14	4,109	6,843	832	2,845	1,139	5,954	6,876	454			
15	6,491	11,140	508	140	5,396	1,593	2,886	620			
16	807	8,410	2,442	140	4,085	533	361	1,813			
17	629	2,556	172	140	825	116	385	1,783			
18	2,592	2,034	172	141	8,390	116	444	776			
19	2,904	2,536	42	141	13,318	2,102	278	1,561			
20	705	2,522	992	65	1,012	116	312	1,617			
21	1,738	4,294	1,068	64	5,787	1,011	2,716	304			
22	2,262	4,122	118	64	619	331	2,923	304			
23	4,535	4,375	118	64	619	89	336	1,074			

Southern California Edison

Major Events (As defined by D.96-09-045 for yrs. 2003 to 2010 and as defined by IEEE-1366 for yrs. 2011 to 2012)

Number of customers w/o service at hourly interval

THIS TABLE CONTAINS ROLLING DAY DATA.

Attachment 4												
Time	1/7/2005	1/8/2005	1/9/2005	1/10/2005	1/11/2005	2/18/2005	2/17/2005	2/18/2005	2/17/2005	2/18/2005	Winter Rain Storm	Description of event
0	1,136	1,172	4,634	9,150	14,206	849	-	2,485	-	2,485	Winter Rain Storm	2/18/2005
1	488	24	5,353	12,379	17,009	125	229	1,495	229	1,495	Winter Rain Storm	2/17/2005
2	3,387	73	12,050	7,614	23,761	9	17	1,441	17	1,441	Winter Rain Storm	2/17/2005
3	555	18,858	5,806	6,362	11,891	3,916	837	1,441	837	1,441	Winter Rain Storm	2/17/2005
4	960	190	2,602	8,523	11,603	10	1,623	1,441	1,623	1,441	Winter Rain Storm	2/17/2005
5	3,054	379	14,378	7,153	17,849	10	323	4,579	323	4,579	Winter Rain Storm	2/17/2005
6	3,383	589	9,300	10,555	21,763	397	574	908	574	908	Winter Rain Storm	2/17/2005
7	2,136	26	14,493	12,129	19,731	397	622	2,737	622	2,737	Winter Rain Storm	2/17/2005
8	5,964	1,758	12,429	21,583	12,136	178	371	2,523	371	2,523	Winter Rain Storm	2/17/2005
9	3,644	2,049	24,223	25,889	11,853	191	706	502	706	502	Winter Rain Storm	2/17/2005
10	18,416	1,749	20,625	11,663	13,268	26	10,010	470	10,010	470	Winter Rain Storm	2/17/2005
11	14,005	1,156	15,716	14,795	14,945	2,782	9,127	4,659	9,127	4,659	Winter Rain Storm	2/17/2005
12	18,630	2,928	15,434	14,101	14,518	1,746	715	133	715	133	Winter Rain Storm	2/17/2005
13	12,035	10,653	14,768	25,907	16,991	1,092	1,406	133	1,406	133	Winter Rain Storm	2/17/2005
14	12,229	8,270	9,396	18,741	9,700	822	8,316	4,986	8,316	4,986	Winter Rain Storm	2/17/2005
15	5,695	5,987	12,776	17,297	8,543	227	946	6,229	946	6,229	Winter Rain Storm	2/17/2005
16	7,314	12,102	14,157	15,005	8,302	5,306	782	141	782	141	Winter Rain Storm	2/17/2005
17	6,025	7,942	18,536	11,146	12,089	2,379	4,792	141	4,792	141	Winter Rain Storm	2/17/2005
18	6,402	6,594	18,384	8,124	10,778	5,322	4,205	141	4,205	141	Winter Rain Storm	2/17/2005
19	4,794	3,573	10,382	15,219	1,684	4,002	4,969	1,123	4,969	1,123	Winter Rain Storm	2/17/2005
20	2,449	5,256	8,367	13,053	19,697	933	1,357	2,100	1,357	2,100	Winter Rain Storm	2/17/2005
21	5,710	7,556	16,640	11,746	11,712	933	1,357	1,246	1,357	1,246	Winter Rain Storm	2/17/2005
22	4,910	3,131	11,723	17,482	1,331	288	2,455	213	2,455	213	Winter Rain Storm	2/17/2005
23	1,313	10,803	10,832	13,659	971	-	2,401	21,056	2,401	21,056	Winter Rain Storm	2/17/2005

THIS TABLE CONTAINS ROLLING DAY DATA.

Attachment 4

Southern California Edison

Major Events (As defined by D.96-09-045 for yrs. 2003 to 2010 and as defined by IEEE-1366 for yrs. 2011 to 2012)

Number of customers w/o service at hourly interval

Time	2/19/2005	2/20/2005	2/21/2005	2/22/2005	2/23/2005	9/20/2005	1/2/2006	7/22/2006	Description of event
0	10,466	6,564	17,643	1,611	23,794	35,324	934	8,131	
1	17,924	3,539	13,966	1,398	23,651	73,173	2,485	6,528	
2	13,917	7,293	16,136	7,833	5,401	117,966	979	7,269	
3	20,607	1,694	12,916	5,314	4,219	94,719	3,901	7,257	
4	52,009	2,959	6,111	167	9,519	70,986	16,033	6,504	
5	48,850	2,831	10,876	3,305	5,111	59,321	23,872	4,299	
6	33,786	2,148	16,259	342	26,381	36,987	14,740	4,956	
7	27,551	5,496	9,266	339	9,743	44,392	35,171	4,806	
8	28,434	3,496	13,975	619	8,601	38,176	77,681	4,932	
9	9,986	1,428	5,374	4,169	7,510	59,889	191,661	2,263	
10	26,295	2,064	7,730	3,222	8,704	42,516	162,780	2,674	
11	21,866	2,673	10,107	6,973	11,041	62,892	169,871	3,161	
12	20,560	4,118	6,323	2,308	6,804	26,698	115,365	7,451	
13	12,826	1,424	12,967	3,533	5,970	21,128	87,849	19,300	
14	10,386	928	10,061	7,288	1,898	23,744	83,069	53,902	
15	8,937	646	3,940	2,330	1,347	16,056	79,866	105,045	
16	10,151	2,152	10,584	1,275	2,009	14,467	76,523	129,964	
17	7,290	3,921	10,439	7,048	2,811	10,871	57,515	134,398	
18	9,393	4,268	2,793	4,279	2,117	13,237	47,499	89,342	
19	8,156	3,741	4,762	4,235	1,142	9,521	36,870	145,110	
20	4,481	1,904	5,291	1,504	722	6,935	36,921	84,274	
21	5,405	13,372	7,568	2,594	620	6,730	29,519	76,624	
22	5,280	6,753	2,452	984	1,956	4,476	28,745	66,383	
23	7,146	17,008	5,496	20,739	2,630	4,349	21,198	53,678	

Southern California Edison

Major Events (As defined by D.96-09-045 for yrs. 2003 to 2010 and as defined by IEEE-1366 for yrs. 2011 to 2012)

Number of customers w/o service at hourly interval

Attachment 4

THIS TABLE CONTAINS ROLLING DAY DATA.

Time	Wild Fires	Winter Storm	Wind Storm	Wind Storm	Wind Storm	Summer Lightning	Los Angeles Wind Storm	Los Angeles Wind Storm	Description of event
	10/21/2007	1/1/2011	3/20/2011	3/21/2011	7/31/2011	11/30/2011	12/1/2011		
0	8,346	152	2,253	3,756	1,553	346	53,827		
1	13,208	848	3,614	25,090	17,863	27	195,848		
2	13,475	1,802	3,218	6,775	23,571	93	224,491		
3	42,878	906	4,366	6,002	23,258	136	185,094		
4	33,204	245	4,836	13,142	50,469	905	175,500		
5	54,764	221	1,982	14,204	31,683	136	168,896		
6	20,957	256	19,346	7,630	32,030	101	182,264		
7	45,298	1,635	19,464	7,215	24,115	101	157,517		
8	59,570	2,055	22,334	3,739	37,987	101	153,781		
9	53,648	449	14,170	5,171	6,264	1,953	159,094		
10	71,391	434	21,641	32,945	8,203	635	153,681		
11	67,827	1,896	38,613	33,472	10,251	3,655	149,957		
12	51,300	1,213	50,469	29,369	6,656	2,473	160,856		
13	43,260	448	65,147	29,585	8,299	9,002	148,958		
14	60,972	338	59,645	28,413	11,004	3,810	138,162		
15	49,155	6,185	54,173	12,384	5,024	671	130,026		
16	41,000	286	54,319	10,565	4,815	6,934	120,737		
17	51,141	446	46,595	6,619	4,835	14,239	115,884		
18	42,154	3,814	75,305	8,154	7,279	17,008	110,628		
19	53,578	2,062	68,778	10,209	1,612	30,999	110,607		
20	54,253	2,393	42,090	6,559	1,818	47,924	101,914		
21	45,699	2,871	35,941	3,779	3,094	33,931	99,117		
22	85,099	2,301	32,844	4,307	1,880	60,206	95,108		
23	38,793	2,334	33,134	4,136	2,084	124,610	92,330		

Southern California Edison

Major Events (As defined by D.96-09-045 for yrs. 2003 to 2010 and as defined by IEEE-1366 for yrs. 2011 to 2012)

Number of customers w/o service by outage duration

Attachment 5

Outage Duration	Santa Ana Wind Storm 01/06/2003 - 01/08/2003	Southern California Wild Fires 10/24/2003 - 10/26/2003	Winter Rain Storm 12/28/2004 - 12/31/2004	Winter Rain Storm 01/01/2005 - 01/11/2005	Winter Rain Storm 02/16/2005 - 02/23/2005	Lightning Storm 9/20/2005	Winter Rain Storm 1/2/2006	Summer Heat Storm 7/22/2006	Wild Fires 10/21/2007	Winter Storm 1/1/2011	Description of event Date of event
0 to 1 hour	788,468	491,078	409,325	561,834	377,235	440,023	572,274	422,684	522,063	19,856	
1 to 5 hours	172,308	58,450	151,123	203,015	153,424	64,816	101,467	55,577	67,433	2,181	
5 to 10 hours	59,570	11,547	60,160	101,172	70,856	33,672	25,500	15,986	21,017	231	
10 to 15 hours	57,778	4,883	38,830	45,767	54,924	28,181	10,751	7,881	4,637	180	
15 to 20 hours	55,373	1,996	16,205	17,431	30,162	17,358	3,862	4,703	4,349	170	
20 to 24 hours	15,325	4,081	10,963	7,955	6,708	11,119	898	3,591	1,585	17	
1 to 2 days	56,503	11,169	17,805	12,906	3,634	29,487	5,004	12,458	5,157	50	
2 to 3 days	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	111	
4 to 5 days	-	7,169	2,564	504	-	-	-	10	145	49	
5 to 6 days	900	3,478	-	-	3	-	-	-	-	-	
6 to 7 days	-	25	-	-	-	-	-	-	-	-	
>= 7 days	-	1,003	7	1,146	-	-	-	-	-	41	
Total	1,236,698	601,653	708,044	954,312	696,946	624,737	720,251	527,572	628,093	22,886	

Southern California Edison

Major Events (As defined by D.96-09-045 for yrs. 2003 to 2010 and as defined by IEEE-1366 for yrs. 2011 to 2012)

Number of customers w/o service by outage duration

Attachment 5

Outage Duration	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	WindStorm 1/21/2012	WindStorm 3/17/2012	Lightning & Rain 10/11/2012	Description of event Date of event
0 to 1 hour	299,989	79,997	86,125	141,793	353,515	195,625	160,146	118,987	
1 to 5 hours	53,535	31,620	5,895	13,080	54,549	28,201	18,436	17,698	
5 to 10 hours	11,804	6,513	22,012	11,329	25,877	10,009	4,425	4,403	
10 to 15 hours	5,112	2,755	1,929	7,067	30,380	4,179	3,709	985	
15 to 20 hours	3,359	455	331	2,323	16,495	1,390	334	2,144	
20 to 24 hours	3,680	278	261	5,031	12,249	293	263	404	
1 to 2 days	6,901	567	189	16,105	47,274	732	356	1,432	
2 to 3 days	1,035	23	2	19,471	21,220	1	1	-	
3 to 4 days	158	14	-	9,901	3,719	12	208	-	
4 to 5 days	43	-	2	5,395	3,538	-	-	-	
5 to 6 days	-	-	-	3,244	848	-	-	-	
6 to 7 days	7	-	-	221	272	-	-	-	
>= 7 days	5	-	3	17	33	18	-	1	
Total	385,628	122,222	116,749	234,977	569,969	240,460	187,878	146,054	