

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
Table of Contents

Attachment	Tab Name	Description
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			Excluded under D.96-09-045			Source of data
				SAIDI	SAIFI	MAIFI	SAIDI	SAIFI	MAIFI	
1	2003	1/5/2003	Santa Ana Wind Storm	2.44	0.01	0.03				DTOM
2	2003	1/6/2003	Santa Ana Wind Storm	14.95	0.09	0.11	14.95	0.09	0.11	DTOM
3	2003	1/7/2003	Santa Ana Wind Storm	1.86	0.02	0.03	1.86	0.02	0.03	DTOM
4	2003	1/8/2003	Santa Ana Wind Storm				0.40	0.01	0.01	DTOM
5	2003	2/25/2003	Rain Storm	2.30	0.02	0.01				DTOM
6	2003	10/24/2003	Southern California Wild Fires				0.16	0.01	0.03	DTOM
7	2003	10/25/2003	Southern California Wild Fires	5.98	0.06	0.02	1.13	0.01	0.01	DTOM
8	2003	10/26/2003	Southern California Wild Fires	1.87	0.00	0.00	5.98	0.06	0.02	DTOM
9	2003	10/28/2003	Southern California Wild Fires	3.02	0.03	0.03				DTOM
10	2003	11/12/2003	Lightning Storm	3.47	0.04	0.04				DTOM
11	2003	12/25/2003	Rain Storm & Mud Slides							DTOM
Total				35.88	0.28	0.28	24.48	0.20	0.21	
1	2004	8/12/2004	Lightning Storm	1.57	0.00	0.01				DTOM
2	2004	9/11/2004	Moorpark A-Bank Transformer Failure	1.62	0.03	0.01				DTOM
3	2004	10/17/2004	Rain Storm	1.99	0.02	0.03				DTOM
4	2004	10/20/2004	Rain Storm	1.61	0.03	0.02				DTOM
5	2004	10/27/2004	Wind Storm	2.39	0.02	0.02				DTOM
6	2004	11/21/2004	Wind Storm	2.57	0.02	0.02				DTOM
7	2004	12/28/2004	Winter Rain Storm	2.71	0.03	0.05	2.71	0.03	0.05	DTOM
8	2004	12/29/2004	Winter Rain Storm	3.55	0.03	0.01	3.55	0.03	0.01	DTOM
9	2004	12/30/2004	Winter Rain Storm				0.22	0.00	0.00	DTOM
10	2004	12/31/2004	Winter Rain Storm	1.62	0.01	0.00	1.62	0.01	0.00	DTOM
Total				19.63	0.19	0.16	8.10	0.08	0.07	
1	2005	1/9/2005	Winter Rain Storm	1.49	0.02	0.01				DTOM
2	2005	1/10/2005	Winter Rain Storm	1.48	0.03	0.01	1.48	0.03	0.01	DTOM
3	2005	1/11/2005	Winter Rain Storm	1.57	0.02	0.01	1.57	0.02	0.01	DTOM
4	2005	1/12/2005	Winter Rain Storm				0.36	0.01	0.00	DTOM
5	2005	2/19/2005	Winter Rain Storm	2.26	0.03	0.02				DTOM
6	2005	7/24/2005	Lightning Storm	1.50	0.01	0.02				DTOM
7	2005	8/6/2005	Wind Storm	1.68	0.01	0.02				DTOM
8	2005	9/3/2005	Brush Fire	2.12	0.01	0.00				DTOM
9	2005	9/20/2005	Lightning Storm	3.89	0.04	0.09	3.89	0.04	0.09	DTOM
10	2005	10/17/2005	Lightning Storm	3.69	0.04	0.04				DTOM
Total				19.69	0.21	0.24	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	1/2/2006	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	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	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	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	
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	1	59.57	0.05	0.06	ODRM
Total				6		124.24	0.12	0.17					
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	

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	16639	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

2010 **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	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

2005

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	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

2004 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	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	Santa Ana Wind Storm	Santa Ana Wind Storm	Santa Ana Wind Storm	Santa Ana Wind Storm	Southern California Wild Fires	Southern California Wild Fires	Southern California Wild Fires	Southern California Wild Fires	Winter Rain Storm	Winter Rain Storm	Description of event
0	150,974	24,149	5,099	81	99	6,168	12,202	84,434			
1	177,276	26,720	9,867	81	4,491	60,988	7,187	71,180			
2	189,656	35,678	7,212	1,681	47	7,531	24,357	60,971			
3	169,700	23,267	5,891	110	47	193,783	40,904	47,181			
4	127,917	41,711	4,315	81	1,847	68,576	21,739	30,328			
5	112,215	48,693	4,155	602	14,854	45,513	15,563	24,823			
6	98,427	35,370	4,102	6,403	41	29,836	11,448	19,659			
7	84,646	31,423	4,137	521	3,546	7,319	30,504	18,040			
8	86,946	15,173	6,844	1,134	15,078	9,418	80,953	15,674			
9	58,992	13,628	7,833	637	1,317	5,937	30,040	13,206			
10	53,936	26,491	9,774	120,708	4,454	8,839	42,290	15,031			
11	60,261	35,427	8,491	553	3,256	7,889	30,355	11,669			
12	69,743	30,025	11,349	574	2,912	6,350	16,991	14,253			
13	77,406	24,075	11,607	15,893	2,295	28,195	17,970	15,084			
14	61,304	10,701	24,521	600	2,991	16,756	13,537	11,345			
15	45,025	9,033	6,537	590	30,036	14,388	5,871	7,682			
16	25,292	8,628	4,368	575	7,055	11,336	11,953	13,496			
17	25,852	11,222	4,000	575	9,159	10,253	92,301	5,765			
18	25,773	7,709	3,030	1,171	1,279	8,013	7,091	5,112			
19	29,423	12,265	2,930	616	2,759	5,758	12,949	7,681			
20	51,181	14,995	2,091	586	3,800	5,992	10,576	5,121			
21	27,891	12,993	2,026	727	3,087	5,619	7,987	4,092			
22	20,583	10,023	2,313	3,652	4,829	5,754	6,779	3,280			
23	33,400	11,230	1,540	1,606	4,722	4,065	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.

Attachment 4

	Winter Rain Storm	Winter Rain Storm	Winter Rain Storm	Winter Rain Storm	Winter Rain Storm	Winter Rain Storm	Winter Rain Storm	Winter Rain Storm	Winter Rain Storm	Winter Rain Storm	Winter Rain Storm	Description of event
Time	12/30/2004	12/31/2004	1/1/2005	1/2/2005	1/3/2005	1/4/2005	1/5/2005	1/6/2005	1/7/2005	1/8/2005	1/9/2005	1/10/2005
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

	Winter Rain Storm	Winter Rain Storm	Winter Rain Storm	Winter Rain Storm	Winter Rain Storm	Winter Rain Storm	Winter Rain Storm	Winter Rain Storm	Winter Rain Storm	Winter Rain Storm	Winter Rain Storm	Description of event
Time	1/7/2005	1/8/2005	1/9/2005	1/10/2005	1/11/2005	2/1/8/2005	2/17/2005	2/18/2005	2/18/2005	2/18/2005	2/18/2005	Date of event
0	1,136	1,172	4,634	9,150	14,206	849	-	2,485				
1	488	24	5,353	12,379	17,009	125	229	1,495				
2	3,387	73	12,050	7,614	23,761	9	17	1,441				
3	555	18,858	5,806	6,362	11,891	3,916	837	1,441				
4	960	190	2,602	8,523	11,603	10	1,623	1,441				
5	3,054	379	14,378	7,153	17,849	10	323	4,579				
6	3,383	589	9,300	10,555	21,763	397	574	908				
7	2,136	26	14,493	12,129	19,731	397	622	2,737				
8	5,964	1,758	12,429	21,583	12,136	178	371	2,523				
9	3,644	2,049	24,223	25,889	11,853	191	706	502				
10	18,416	1,749	20,625	11,663	13,268	26	10,010	470				
11	14,005	1,156	15,716	14,795	14,945	2,782	9,127	4,659				
12	18,630	2,928	15,434	14,101	14,518	1,746	715	133				
13	12,035	10,653	14,768	25,907	16,991	1,092	1,406	133				
14	12,229	8,270	9,396	18,741	9,700	822	8,316	4,986				
15	5,695	5,987	12,776	17,297	8,543	227	946	6,229				
16	7,314	12,102	14,157	15,005	8,302	5,306	782	141				
17	6,025	7,942	18,536	11,146	12,089	2,379	4,792	141				
18	6,402	6,594	18,384	8,124	10,778	5,322	4,205	141				
19	4,794	3,573	10,382	15,219	1,684	4,002	4,969	1,123				
20	2,449	5,256	8,367	13,053	19,597	933	1,357	2,100				
21	5,710	7,556	16,640	11,746	11,712	933	1,357	1,246				
22	4,910	3,131	11,723	17,482	1,331	288	2,455	213				
23	1,313	10,803	10,832	13,659	971	-	2,401	21,056				

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

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

THIS TABLE CONTAINS ROLLING DAY DATA.

Attachment 4

	WindStorm	WindStorm	Lightning & Rain								⚡ Description of event
Time	1/21/2012	3/17/2012	10/11/2012								⚡ Date of event
0	1,174	1,008	458								
1	4,150	2,741	134								
2	1,106	3,610	134								
3	6,743	457	1,275								
4	7,409	2,393	141								
5	15,218	2,255	114								
6	23,440	15,540	7,008								
7	13,989	12,982	4,880								
8	16,516	12,840	4,837								
9	5,731	28,104	18,614								
10	31,634	38,755	5,405								
11	24,455	41,816	8,762								
12	26,878	25,858	9,722								
13	85,151	22,659	11,453								
14	45,427	21,312	27,798								
15	36,652	16,647	28,978								
16	25,796	19,420	25,540								
17	22,711	11,795	27,331								
18	17,443	7,487	22,196								
19	18,769	6,777	22,669								
20	13,776	6,233	15,008								
21	12,554	3,685	12,217								
22	8,957	5,910	8,776								
23	7,587	7,975	9,154								

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	Southern California Wild Fires	Winter Rain Storm	Winter Rain Storm	Winter Rain Storm	Lightning Storm	Winter Rain Storm	Summer Heat Storm	Wild Fires	Winter Storm	Description of event
01/06/2003 - 01/08/2003	788,468	491,078	409,325	561,834	02/16/2005 - 02/23/2005	9/20/2005	1/2/2006	7/22/2006	10/21/2007	1/1/2011	Date of event
0 to 1 hour											
1 to 5 hours	172,308	58,450	151,123	203,015	153,424	64,816	101,467	55,577	522,063	19,856	
5 to 10 hours	59,570	11,547	60,160	101,172	70,856	33,672	25,500	15,986	67,433	2,181	
10 to 15 hours	57,778	4,883	38,830	45,767	54,924	28,181	10,751	7,881	21,017	231	
15 to 20 hours	55,373	1,996	16,205	17,431	30,162	17,358	3,862	4,703	4,637	180	
20 to 24 hours	15,325	4,081	10,963	7,955	6,708	11,119	898	3,591	4,349	170	
1 to 2 days	56,503	11,169	17,805	12,906	3,634	29,487	5,004	12,458	1,585	17	
2 to 3 days	24,949	1,734	1,062	13	-	81	459	4,036	5,157	50	
3 to 4 days	5,524	5,040	-	2,569	-	-	36	646	1,574	-	
4 to 5 days	-	7,169	2,564	504	-	-	-	10	133	111	
5 to 6 days	900	3,478	-	-	3	-	-	-	145	49	
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

	Wind Storm	Wind Storm	Summer Lightning	Los Angeles Wind Storm	Los Angeles Wind Storm	Los Angeles Wind Storm	Wind Storm	Wind Storm	Lightning & Rain	Description of event
Outage Duration	3/20/2011	3/21/2011	7/31/2011	11/30/2011	12/1/2011	1/21/2012	3/17/2012	10/11/2012		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		

Reliability Report Data 2002-2012

Investor-Owned Utilities

This report summarizes the reliability indices reports filed by each of the investor-owned utilities, in compliance with 170 IAC 4-1-23(e). Reliability data is shown for the time period 2002 through 2012.

Each utility reported its indices with and without major events. Major events are storms or weather events that are more destructive than normal storm patterns. The utilities do not all define a “major event” exactly the same; therefore some utilities will capture more of their service interruptions in the “without” category than other utilities. This is one reason why one should avoid making direct comparisons among the utilities based on the indices. Service territory geography and size and customer mix are also factors that make direct comparison of the indices among the utilities difficult.

Three separate reliability indices were reported by each of the utilities:

- System Average Interruption Frequency Index (SAIFI): the total number of customer interruptions divided by the total number of customers (average interruptions per customer).
- System Average Interruption Duration Index (SAIDI): the sum of all customer interruption durations (in minutes) divided by the total number of customers (average minutes of interruption per customer).
- Customer Average Interruption Duration Index (CAIDI): SAIDI divided by SAIFI (average minutes per interruption).

“Major Events” (Weather) Summary

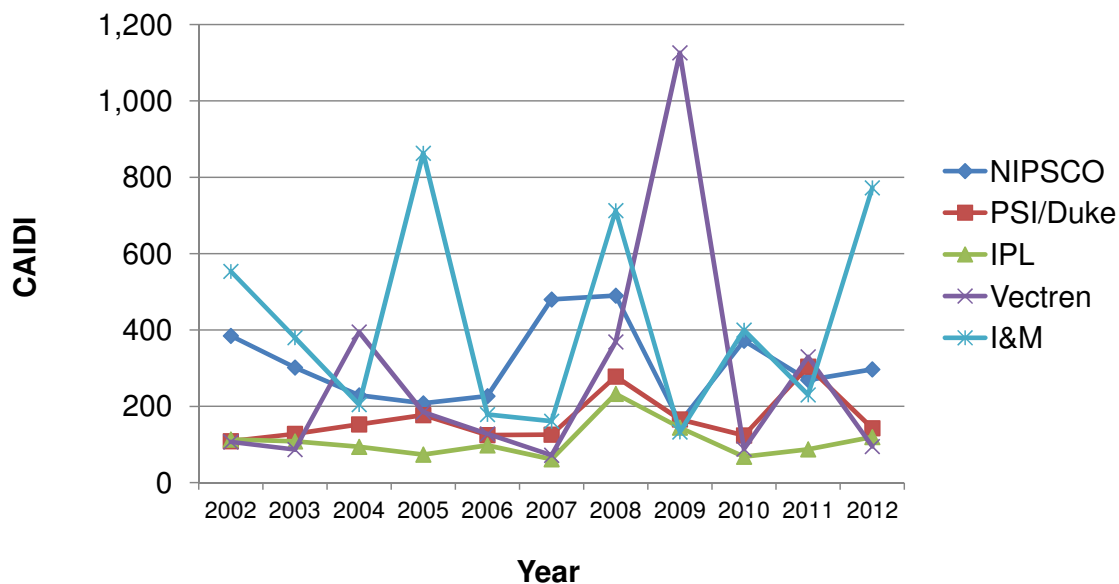
The following table summarizes the number of major event days each utility reported having in 2012. In addition to the major events below, NIPSCO stated it experienced an additional 76 weather events it considered severe. It should be noted that one storm system can potentially cause multiple major event days.

Utility	Major Event Days
NIPSCO	17
IPL	6
I&M	9
Duke Energy Indiana	4
Vectren	4

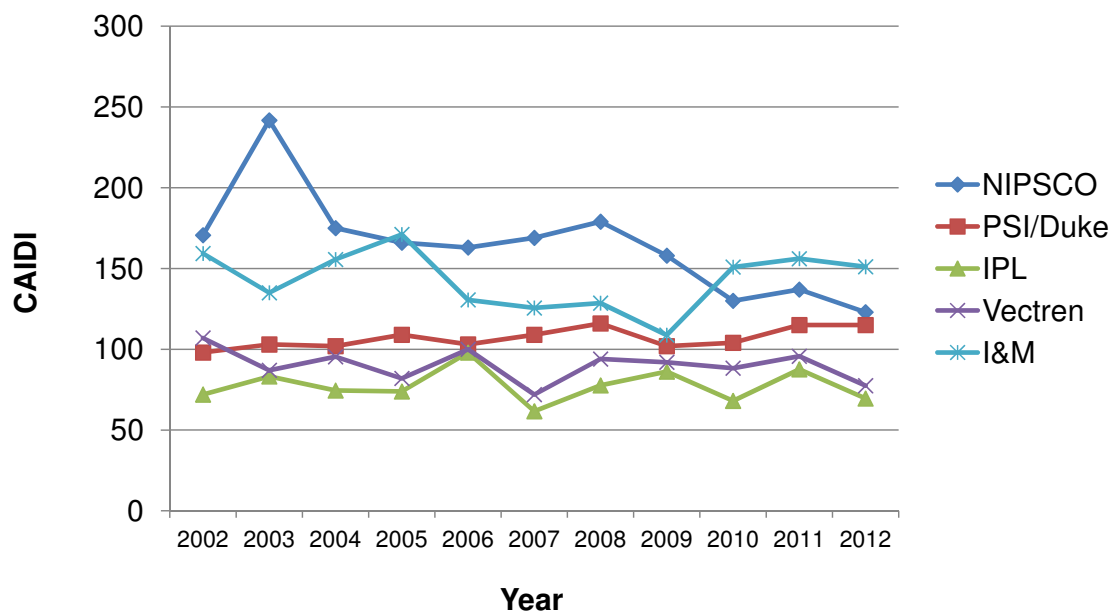
Electric Reliability: Including Major Events*											
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
NIPSCO											
SAIFI	1.41	1.65	1.38	1.24	1.40	2.23	1.80	0.88	1.36	1.38	1.44
SAIDI	542	498	317	258	317	1,073	882	140	505	371	428
CAIDI	385	302	229	208	227	480	490	158	372	269	297
PSI/Duke											
SAIFI	1.57	1.58	1.66	1.59	1.63	1.41	2.48	1.76	1.58	2.07	1.52
SAIDI	170	201	255	282	203	178	689	293	195	630	216
CAIDI	109	128	153	177	125	126	278	166	124	304	143
IPL											
SAIFI	1.17	0.90	0.81	0.90	1.07	0.76	1.54	1.1	1.04	0.86	1.04
SAIDI	133	98	77	67	105	47	359	158	71	75	125
CAIDI	113	108	94	74	98	62	233	145	68	88	120
Vectren											
SAIFI	1.46	1.27	2.36	2.05	1.87	1.23	2.33	2.56	1.02	2.16	1.24
SAIDI	164	111	932	376	241	89	859	2,889	90	711	117
CAIDI	107	87	395	185	128	72	369	1,126	88	330	95
I&M											
SAIFI	1.68	1.56	1.42	1.31	1.24	1.24	1.63	0.91	0.98	1.12	1.39
SAIDI	931	594	291	1,132	222	199	1,164	122	392	258	1,071
CAIDI	554	380	205	863	179	161	713	133	400	230	773
Notes SAIFI: System Average Interruption Frequency Index; (total # of customer interruptions) / (total # of customers) SAIDI: System Average Interruption Duration Index; (duration or time of service interruptions) / (total # of customers) CAIDI: Customer Average Interruption Duration Index; (SAIDI) / (SAIFI) *Major events are storms or weather events that are more destructive than normal storm patterns. The same definition of "major event" is not used by all utilities. **NIPSCO's 2007 report updated values for 2004-2006 based on accepted industry standard IEEE Std 1366 - the values above reflect these revisions.											

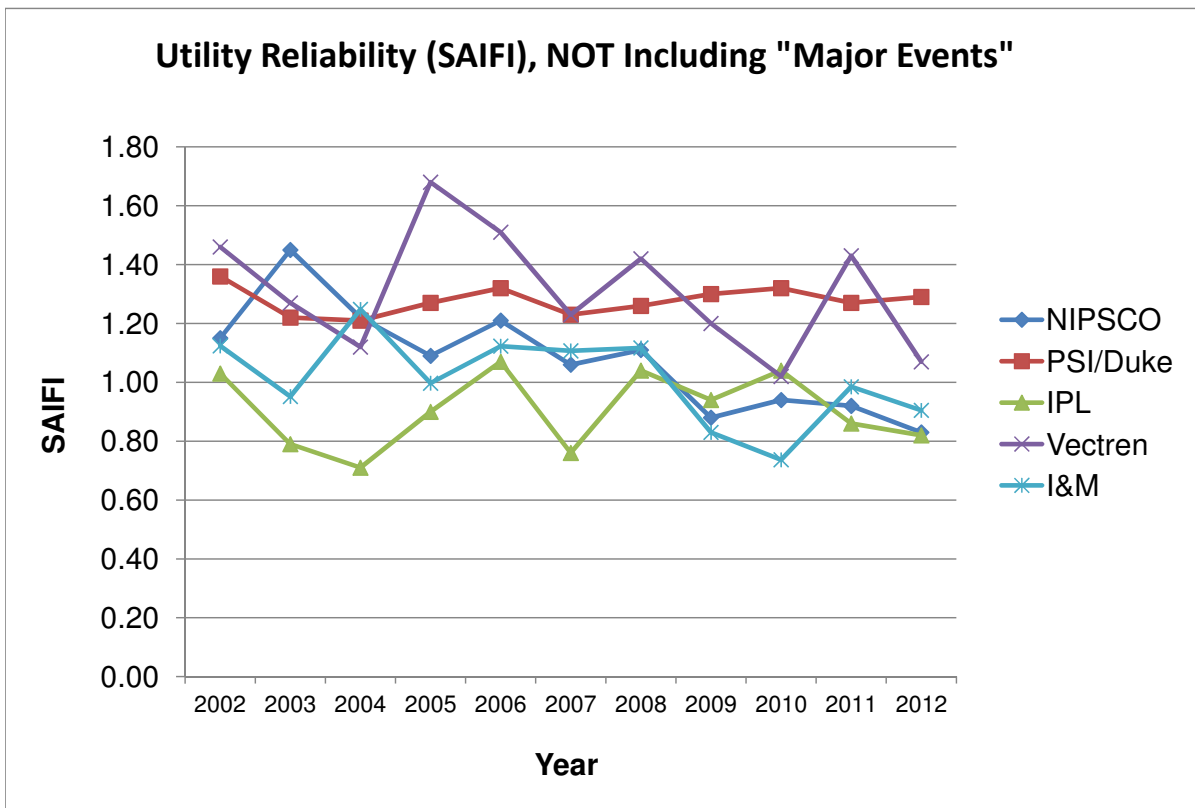
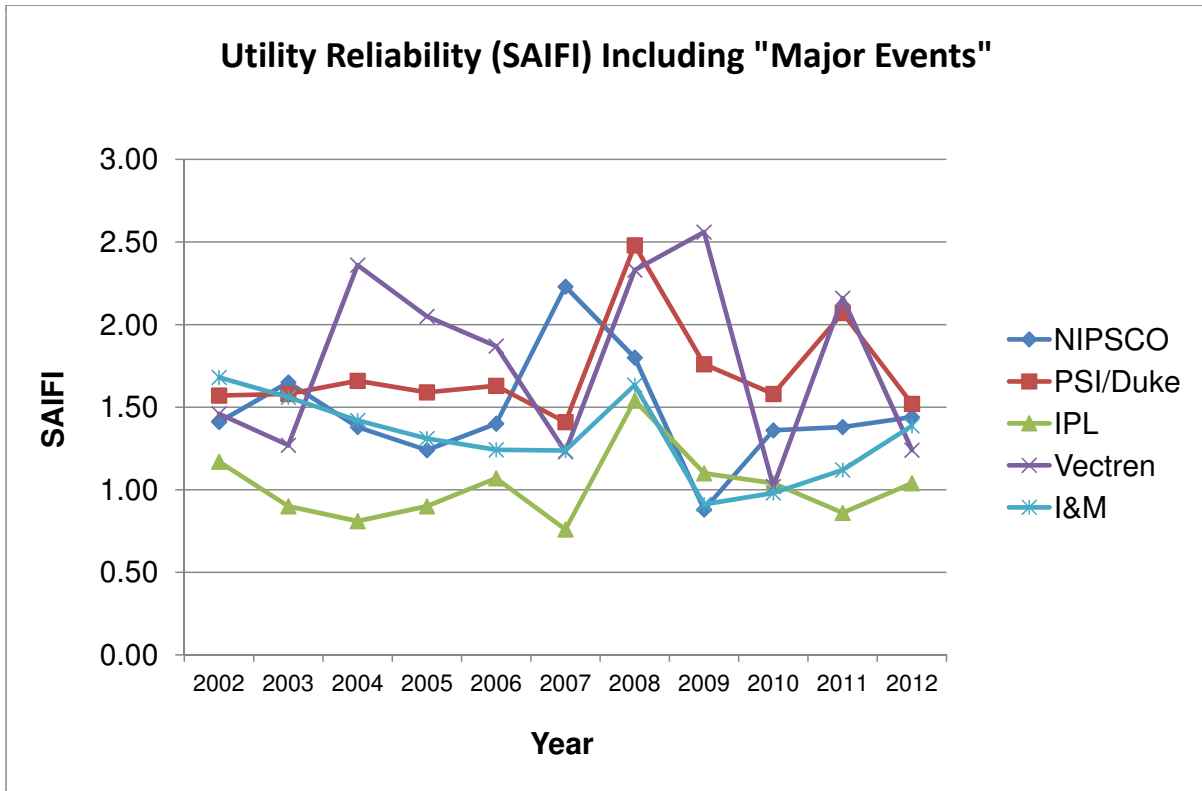
Electric Reliability: NOT Including Major Events*											
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
NIPSCO											
SAIFI	1.15	1.45	1.22	1.09	1.21	1.06	1.11	0.88	0.94	0.92	0.83
SAIDI	196	350	213	181	196	180	199	140	122	126	102
CAIDI	171	242	175	166	163	169	179	158	130	137	123
PSI/Duke											
SAIFI	1.36	1.22	1.21	1.27	1.32	1.23	1.26	1.3	1.32	1.27	1.29
SAIDI	134	127	124	138	136	133	146	133	138	146	149
CAIDI	98	103	102	109	103	109	116	102	104	115	115
IPL											
SAIFI	1.03	0.79	0.71	0.90	1.07	0.76	1.04	0.94	1.04	0.86	0.82
SAIDI	74	66	53	67	105	47	81	81	71	75	57
CAIDI	72	83	75	74	98	62	78	86	68	88	70
Vectren											
SAIFI	1.46	1.27	1.12	1.68	1.51	1.23	1.42	1.2	1.02	1.43	1.07
SAIDI	164	111	107	137	151	89	133	110	90	137	83
CAIDI	107	87	95	82	100	72	94	92	88	96	78
I&M											
SAIFI	1.12	0.95	1.25	1.00	1.12	1.11	1.12	0.83	0.74	0.99	0.91
SAIDI	179	129	194	171	147	139	144	90	111	154	137
CAIDI	159	135	156	171	131	126	129	109	151	156	151
Notes SAIFI: System Average Interruption Frequency Index; (total # of customer interruptions) / (total # of customers) SAIDI: System Average Interruption Duration Index; (duration or time of service interruptions) / (total # of customers) CAIDI: Customer Average Interruption Duration Index; (SAIDI) / (SAIFI) *Major events are storms or weather events that are more destructive than normal storm patterns. The same definition of "major event" is not used by all utilities. **NIPSCO's 2007 report updated values for 2004-2006 based on accepted industry standard IEEE Std 1366 - the values above reflect these revisions.											

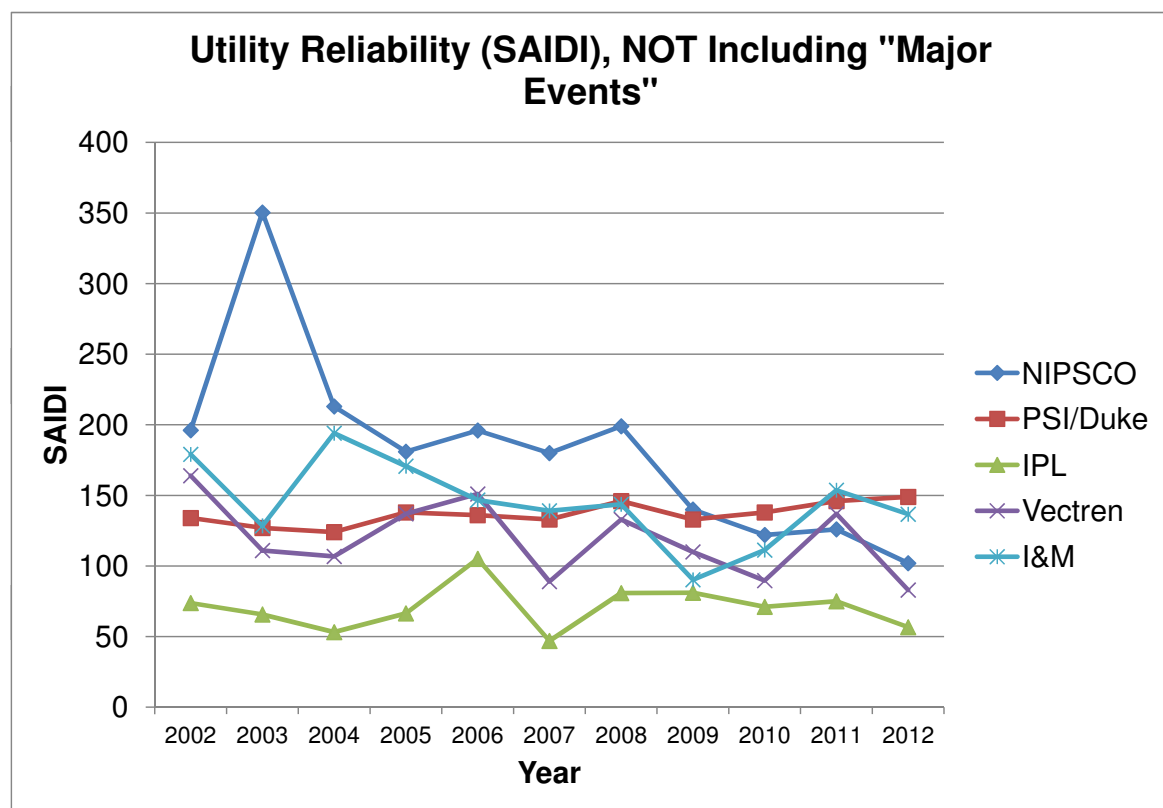
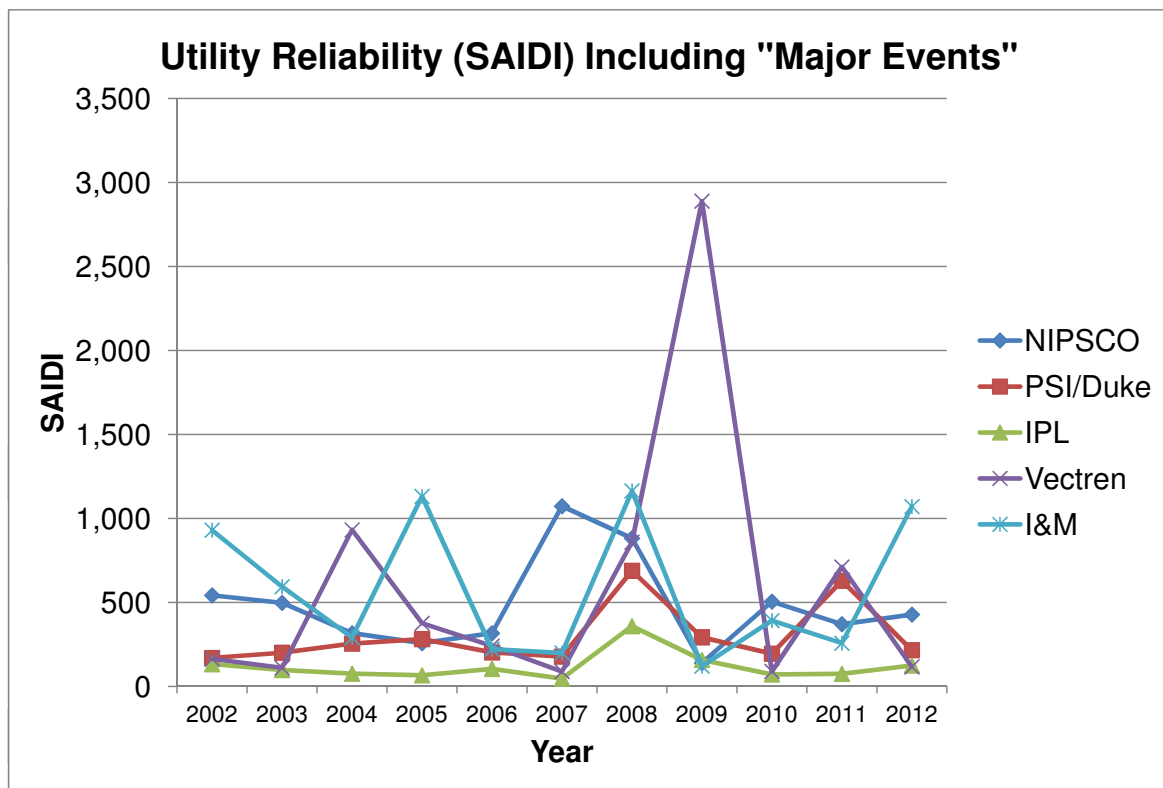
Utility Reliability (CAIDI) Including "Major Events"



Utility Reliability (CAIDI) NOT Including "Major Events"







Comparison of 2012 Indices with 2002-2011 Average Indices (Without Major Events)				
	2012	2002-2011 Avg.	2012 Diff Vs Avg	2012 % Diff Vs Avg
NIPSCO*				
SAIFI	0.83	1.10	-0.27	-25%
SAIDI	102	190	-88	-46%
CAIDI	123	169	-46	-27%
PSI/Duke				
SAIFI	1.29	1.28	0.01	1%
SAIDI	149	136	14	10%
CAIDI	115	106	9	8%
IPL				
SAIFI	0.82	0.91	-0.09	-10%
SAIDI	57	72	-15	-21%
CAIDI	70	78	-9	-11%
Vectren				
SAIFI	1.07	1.33	-0.26	-20%
SAIDI	83	123	-40	-32%
CAIDI	78	91	-14	-15%
I&M				
SAIFI	0.91	1.02	-0.12	-11%
SAIDI	137	146	-9	-6%
CAIDI	151	142	9	6%
*NIPSCO's 2007 report updated values for 2004-2006 based on accepted industry standard IEEE Std 1366. The averages above reflect these revisions.				



STATE OF CONNECTICUT

DEPARTMENT OF PUBLIC UTILITY CONTROL
TEN FRANKLIN SQUARE
NEW BRITAIN, CT 06051

**DOCKET NO. 11-04-11 DPUC 2011 ANNUAL REPORT TO THE GENERAL
ASSEMBLY ON ELECTRIC DISTRIBUTION COMPANY
SYSTEM RELIABILITY**

June 8, 2011

By the following Commissioners:

Kevin M. DelGobbo
Anna M. Ficeto
John W. Betkoski, III

DECISION

DECISION

I. INTRODUCTION

A. SUMMARY

General Statutes of Connecticut (Conn. Gen. Stat.) §16-245y(a) requires each electric distribution company to report reliability data to the Department of Public Utility Control (Department) for the prior 12 months in terms of System Average Interruption Duration Index and System Average Interruption Frequency Index by October 1 of each year. The Department is then required to report the data for each electric and electric distribution company and for the State as a whole to the joint standing committee of the General Assembly having cognizance of matters relating to energy, by the following January 1. This report covers calendar year 2010. The Department finds that reliability in the State has not declined since Public Act 98-28, An Act Concerning Electric Restructuring, was enacted. CL&P's overall reliability has improved since 1998. UI's reliability has declined slightly according to measures of reliability; however, it is still excellent compared to many other utilities. On a state-wide basis, reliability has improved since 1998.

B. CONDUCT OF THE PROCEEDING

By letter dated March 31, 2011, The United Illuminating Company (UI) provided its annual reliability data to the Department. By letter dated March 31, 2011, The Connecticut Light and Power Company (CL&P) provided its annual reliability data.

No hearing is required on this matter, and none was held. The data provided by UI and CL&P were not contested.

C. PARTIES AND INTERVENORS

The Department recognized the following as participants in this proceeding: The Connecticut Light and Power Company, P. O. Box 270, Hartford, CT 06141-0270; The United Illuminating Company, P. O. Box 1564, New Haven, CT 06506-0901; and the Office of Consumer Counsel, Ten Franklin Square, New Britain, CT 06051.

II. DEPARTMENT ANALYSIS

A. IMPLEMENTATION OF CONN. GEN. STAT. §16-245Y(A)

Conn. Gen. Stat. §16-245y(a) requires the Department to submit reliability data, in terms of the System Average Interruption Duration Index (SAIDI) and System Average Interruption Frequency Index (SAIFI), to the Legislature by January 1 of each year. SAIDI is defined as the sum of customer interruptions in the preceding 12-month period, in minutes, divided by the average number of customers served during that period. Conn. Gen. Stat. §16-245y(a). SAIFI is defined as the total number of customers interrupted in the prior 12-month period divided by the average number of customers served during this period. Id. SAIDI can be viewed as the average outage

duration experienced by all customers on an electric distribution company's system, and SAIFI can be viewed as the average outage frequency on an electric distribution company's system. Lower SAIDI and SAIFI numbers reflect better reliability performance in terms of outage duration and frequency. Both SAIDI and SAIFI are required by statute to exclude outages attributable to major storms, scheduled outages, and outages caused by customer equipment, each as determined by the Department. Conn. Gen. Stat. §16-245y(a)(1).

Conn. Gen. Stat. §16-245y(a) requires the electric distribution companies to report reliability statistics to the Department by October 1 each year. The Department currently receives the Transmission and Distribution Reliability Performance Reports (TDRP Reports) on or about March 31 of each year. The TDRP Reports contain comprehensive data regarding outages and reliability from each utility for the prior calendar year. These reports provide valuable information regarding the factors that affect reliability and the effectiveness of reliability initiatives by the electric distribution companies.

In this report, the Department exceeds the requirements of Conn. Gen. Stat. §16-245y(a) by including data for both SAIDI and SAIFI with and without major storms plus information on the causes of outages. This will provide the Legislature with insight into the circumstances that affect the reliability data the Department reports to the Legislature.

Conn. Gen. Stat. §16-245y(a)(1) requires the Department to exclude major storms from the SAIDI and SAIFI data. Traditionally, the Department has emphasized reliability data excluding major storms, since major storms have a large effect on reliability data and can cause large year-to-year variations. Further, the electric distribution companies have limited influence over the reliability of the system under major storm conditions. Some factors under the control of the electric distribution companies can certainly improve performance of the distribution system under major storm conditions; however, the impact of major storms on overhead distribution system reliability data are significant regardless of the design or operation of that system.

For the purpose of determining reliability trends of the distribution system, the Department believes it is correct to exclude major storms from the reliability data. However, the Department also examines reliability data including major storms, since this data reflects the ultimate reliability seen by consumers. Also, since reliability of the system under major storm conditions is not entirely out of the control of the electric distribution companies, it is proper to consider major storm conditions when considering the adequacy of the overall design, operation, and maintenance of the distribution system. Therefore, the Department includes SAIDI and SAIFI data both with and without major storms in its annual report to the Legislature, even though the statutes only consider data excluding major storms.

The Department defines "major storm" based on the following statistical criterion: whenever the number of trouble locations (that result in outages) exceeds the 98.5 percentile of the trouble location frequency over the preceding four years, a major storm will be declared and all interruptions during the major storm period, or that began in that period, are excluded from the non-storm SAIDI and SAIFI calculations. Therefore, the

definition is not based on meteorological criteria, but solely on the impact a weather event has on the distribution system. It should be noted that this does not eliminate the effects of weather on a distribution company's reliability data; rather, it just excludes the most significant storms. The data is still affected to a high degree by annual variations in weather, particularly the severity of winter weather.

The Department further notes that weather is not the only factor to be considered when examining reliability data. Singular events, such as a large transmission disturbance, can have a significant effect on the reliability statistics. The Department considers the effects of such events when determining whether changes in the reliability statistics truly reflect a change in reliability, and whether such a change is reasonably within the control of a distribution company.

Traditionally, the Department has used a four-year average of reliability data excluding major storms to determine reliability trends. The Department has used this measure after considering two competing concerns. First, annual variations in weather, such as frequent minor storms that are not classified as major storms, can significantly affect reliability data. Second, to capture recent changes in reliability data or trends in reliability, the time period should not be too long. The Department believes a four year period is a reasonable compromise of these two concerns. The Department therefore includes reliability data for a four year period in its annual report to the Legislature. Additionally, the Department includes data for the four years ending in 1998, so that current reliability may be compared to reliability statistics that were current when Public Act 98-28, An Act Concerning Electric Industry Restructuring (the Act), was passed into law. This is also consistent with Conn. Gen. Stat. §16-244i(d), which states that the Department shall ensure that the quality and reliability of service are the same or better than levels that existed on July 1, 1998.

B. DESCRIPTION OF THE UTILITIES

CL&P covers 87% of the geographic area of Connecticut and serves approximately 1.2 million customers. CL&P TDRP Report for 2010, p. 2. CL&P's service territory includes urban, suburban, and rural areas, as well as an extensive amount of wooded and hilly terrain. Id. The rural area and high density of trees in much of CL&P's territory can have a significant effect on CL&P's distribution system, both in terms of the design of many of the circuits and the performance of the circuits that traverse such areas.

UI covers 7% of the geographic area of Connecticut and serves approximately 322,000 customers. UI's service territory includes predominantly urban and suburban areas, with one small rural area in Easton. UI TDRP Report for 2010, p. 4.

The remaining 6% of the territory of Connecticut is served by municipal utilities, which are not required to report SAIDI and SAIFI data to the Department.

C. RELIABILITY STATISTICS

1. The Connecticut Light and Power Company

Reliability statistics for CL&P as of year-end 2010 are as follows.

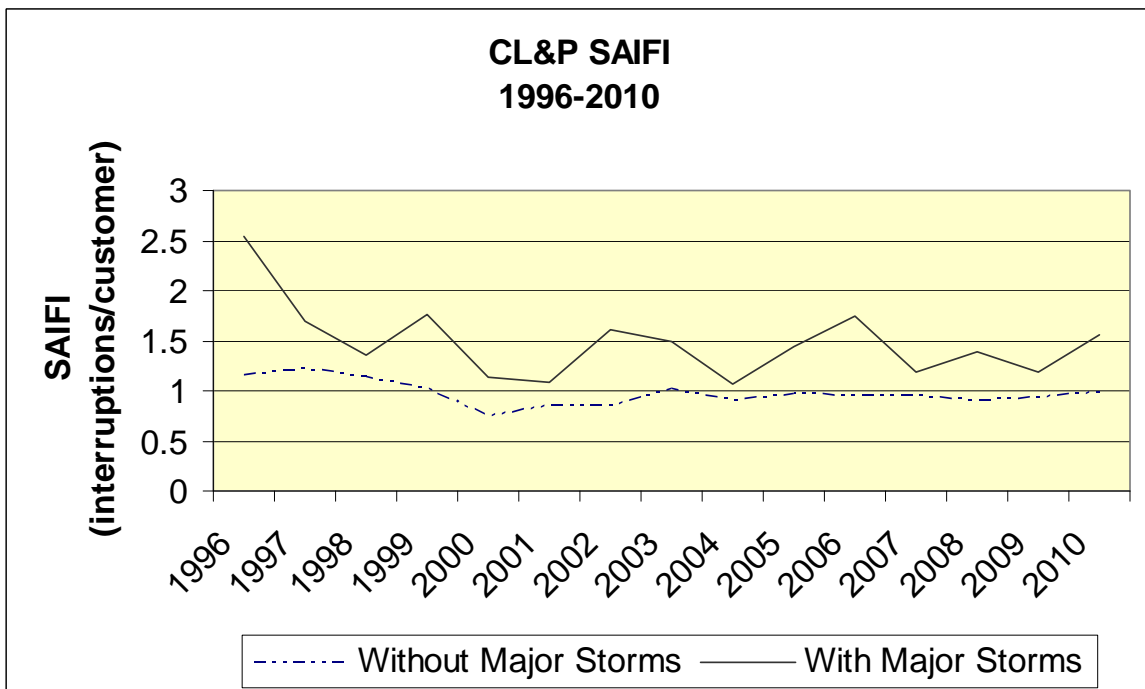
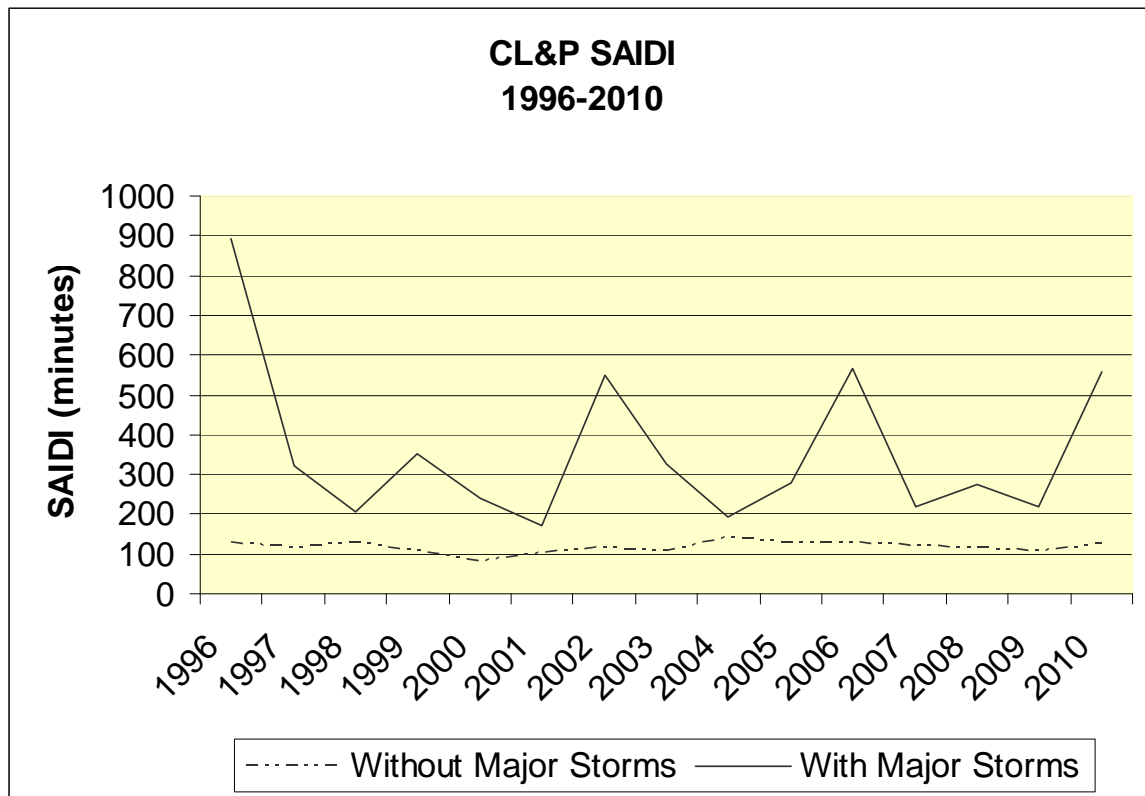
CL&P Reliability Data¹

	<u>Without Major Storms</u>		<u>With Major Storms</u>	
	<u>SAIDI</u>	<u>SAIFI</u>	<u>SAIDI</u>	<u>SAIFI</u>
1996	130	1.16	893	2.54
1997	116	1.22	320	1.69
1998	129	1.14	205	1.35
1999	107	1.02	352	1.77
2000	81	0.75	240	1.14
2001	102	0.84	171	1.09
2002	114	0.85	548	1.61
2003	107	1.02	328	1.49
2004	140	0.89	191	1.06
2005	127	0.97	280	1.44
2006	129	0.95	566	1.75
2007	119	0.95	220	1.19
2008	116	0.90	275	1.39
2009	107	0.83	200	1.12
2010	125	0.98	558	1.56
2007-2010 Average	117	0.92	313	1.32
1995-1998 Average ²	132	1.22	484	1.96

CL&P TDRP Report for 2010, p. 4; Decision dated December 1, 1999, in Docket No. 99-06-12, DPUC 1999 Annual Report to the General Assembly on Electric Distribution Company Reliability, p. 4. The SAIDI and SAIFI indices are shown graphically below.

¹ Data excluding major storms also excludes customer caused outages and scheduled outages, as required by Conn. Gen. Stat. §16-245y.

² As stated previously, the Department includes the four-year average ending 1998 in conjunction with Conn. Gen. Stat. §16-244i.



CL&P's overall reliability has improved since 1998, as evidenced by the generally lower SAIDI and SAIFI numbers during that time. Furthermore, the most recent four-year average reliability statistics are all improved over the 1995-1998 averages. The Department notes that all four measures of reliability declined in 2010, and it will closely monitor these indices in the future to ensure that it does not become a trend.

The following major storms in CL&P's service territory in 2010 met the Department's major storm definition criterion:

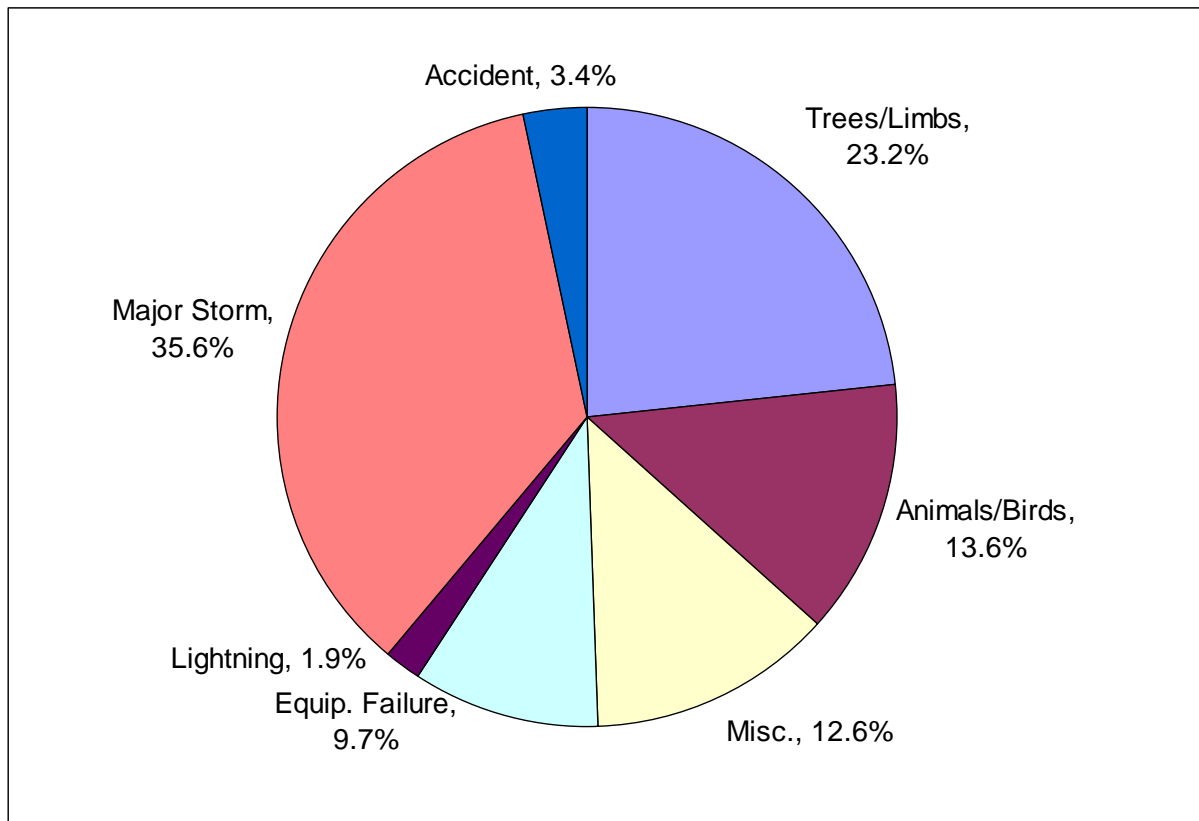
- On January 25, 2010 a rain and wind storm resulted in a total of 130,133 customer-hours interrupted;
- On March 13-15, 2010 a rain and wind storm resulted in a total of 5,893,552 customer-hours interrupted;³
- On April 29-30, 2010 a wind storm resulted in a total of 164,926 customer-hours interrupted;
- On May 8-9, 2010 a wind storm resulted in a total of 211,306 customer-hours interrupted;
- On May 27, 2010 thunderstorms resulted in a total of 226,778 customer-hours interrupted;
- On July 21, 2010 a tornado and thunderstorms resulted in a total of 706,213 customer-hours interrupted;
- On October 1, 2010 a rain and wind storm resulted in a total of 182,429 customer-hours interrupted;
- On December 1, 2010 a rain and wind storm resulted in a total of 200,852 customer-hours interrupted; and
- On December 26-27, 2010 a blizzard resulted in a total of 513,770 customer-hours interrupted.

CL&P TDRP Report for 2010, Appendix 7.

³ The Department investigated the performance of CL&P and UI during this storm and stated its findings and conclusions in its Decision dated December 1, 2010 in Docket No. 10-03-08, Investigation of the Service Response and Communications of The Connecticut Light and Power Company (CL&P) and The United Illuminating Company (UI) following the Outages from the Severe Weather over the Period of March 12 through March 14, 2010.

The following chart provides data on the causes of outages in CL&P's service territory in 2010.⁴ CL&P TDRP Report for 2010, p. 6.

2010 CL&P Outage Causes



⁴ See Appendix A for information on the causes of outages.

2. The United Illuminating Company

Reliability statistics for The United Illuminating Company as of year-end 2010 are as follows.

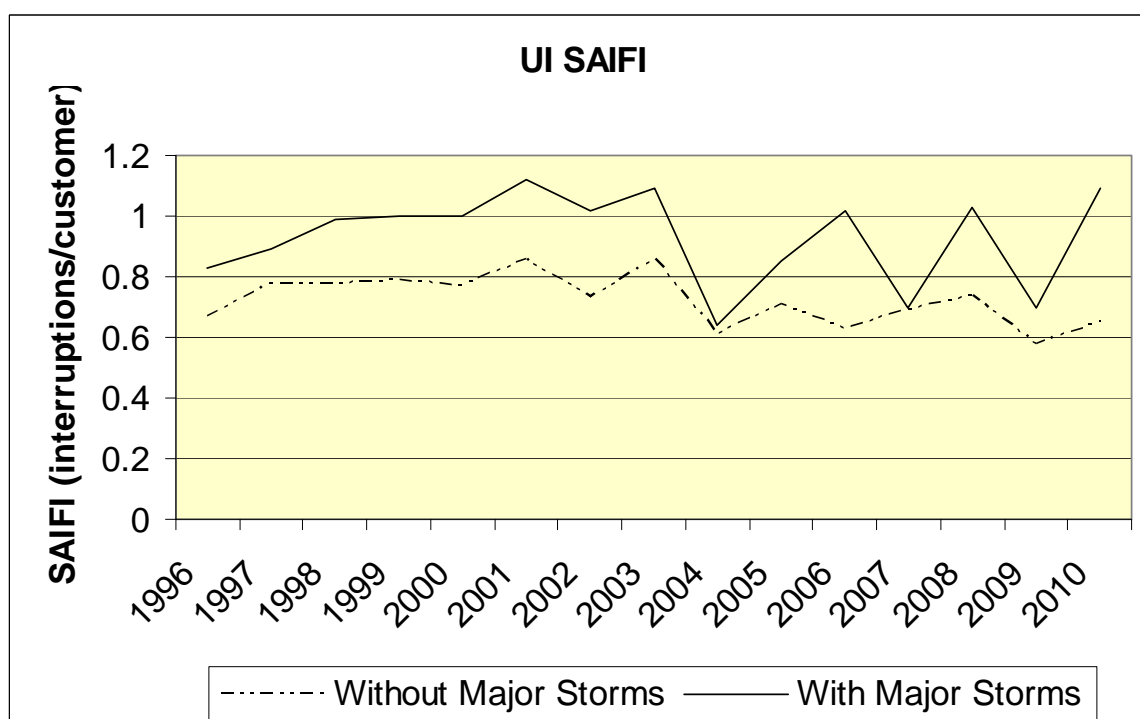
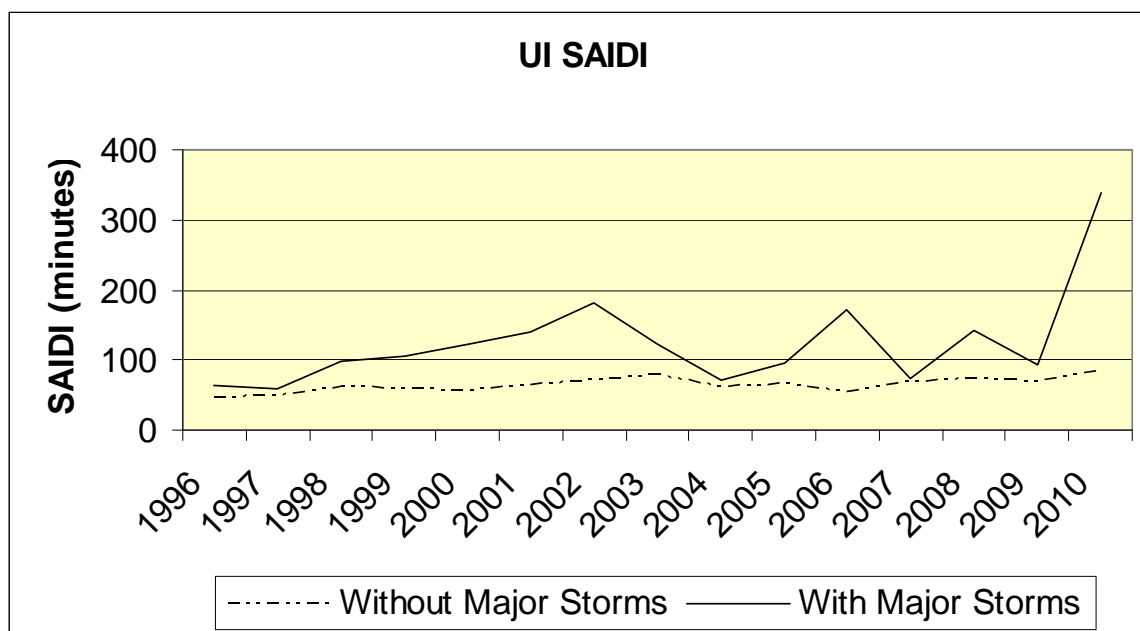
UI Reliability Data⁵

	<u>Without Major Storms</u>		<u>With Major Storms</u>	
	<u>SAIDI</u>	<u>SAIFI</u>	<u>SAIDI</u>	<u>SAIFI</u>
1996	46	0.67	64	0.83
1997	48	0.78	60	0.89
1998	61	0.78	97	0.99
1999	58	0.79	106	1.00
2000	57	0.77	122	1.00
2001	63	0.86	140	1.12
2002	70	0.73	182	1.02
2003	79	0.86	122	1.09
2004	62	0.61	72	0.64
2005	66	0.71	96	0.85
2006	54	0.63	173	1.02
2007	69	0.69	74	0.70
2008	73	0.74	143	1.03
2009	68	0.58	94	0.70
2010	85	0.65	338	1.09
2007-2010 Average	74	0.67	162	0.88
1995-1998 Average ⁶	52	0.77	71	0.90

UI TDRP Report for 2010, pp. 12 and 13; Decision dated December 1, 1999, in Docket No. 99-06-12, DPUC 1999 Annual Report to the General Assembly on Electric Distribution Company Reliability, p. 7. The SAIDI and SAIFI indices are shown graphically below.

⁵ Data excluding major storms also excludes customer caused outages and scheduled outages, as required by Conn. Gen. Stats. §16-245y.

⁶ As stated previously, the Department includes the four-year average ending 1998 in conjunction with Conn. Gen. Stat. §16-244i.



UI's average outage duration has increased since 1998 and its average outage frequency has shown some improvement overall. UI states that its average outage duration has trended higher over the years because of changes in work rules and priorities that emphasize public and worker safety, at the expense of outage restoration activities. Furthermore, its 2010 non-storm SAIDI was strongly impacted by two significant storms that did not meet the major storm criteria. These storms occurred on July 21 and September 22, 2010, and together contributed 15 minutes to non-storm SAIDI. Finally, UI states that 2010 was unusual in its number of so-called "active days"

during which UI's line crews were unusually busy restoring from outages, and provided statistical evidence to support this assertion. UI TDRP Report for 2010, pp. 6-7.

The Department notes that UI's non-storm SAIDI reached a historical low in 1996 and 1997, which makes comparisons to that time difficult. SAIDI's recent values have been approximately the same as prior to 1996. Much of the variation in outage statistics can be attributed to annual differences in weather patterns as discussed in Section II.A above, and may be further affected by other operational events in the course of a year. The Department concludes that UI's reliability has declined slightly since 1998. Although SAIDI has increased somewhat since 1996 and 1997, UI's reliability is very good in comparison to most electric utilities in the U.S.

The following major storms in UI's service territory in 2010 met the Department's major storm definition criterion:

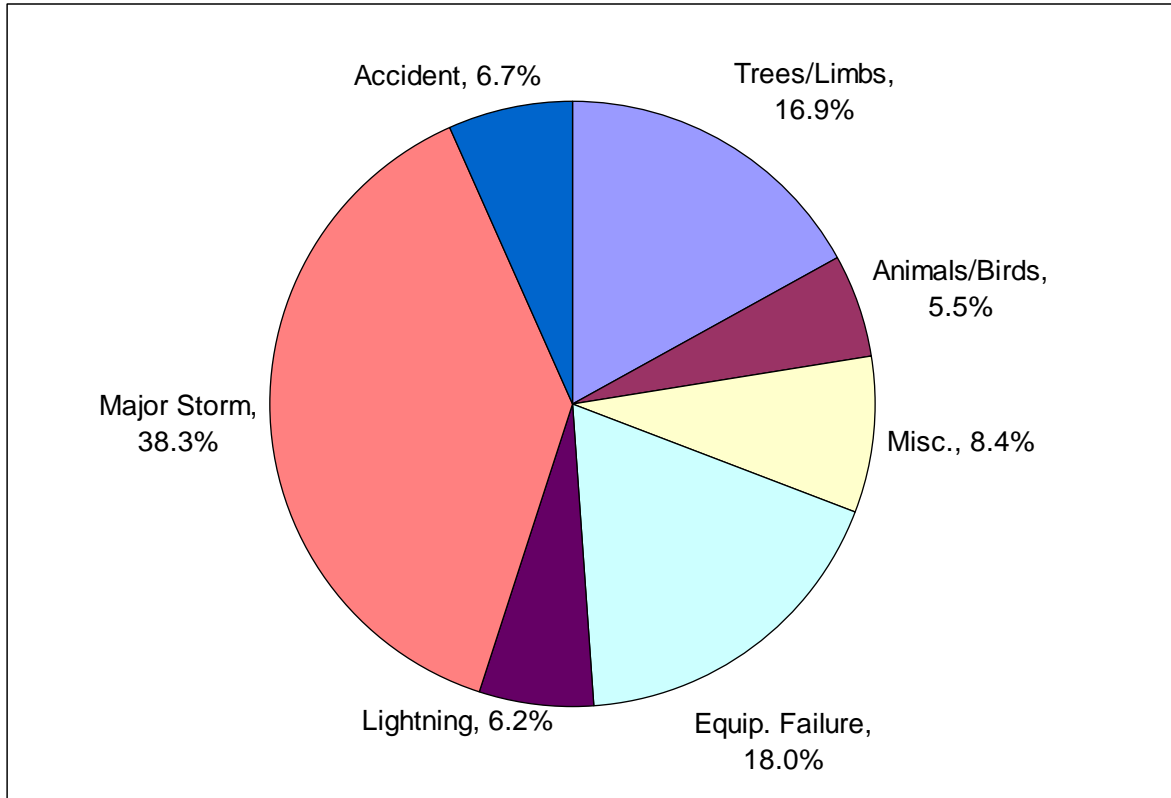
- On January 25, 2010 a heavy wind and rain event resulted in a total of 36,070 meter hours interrupted;
- On March 13-15, 2010 a heavy wind and rain event resulted in a total of 407,885 meter hours interrupted;⁷
- On May 8, 2010 a heavy wind/rain/lightning event resulted in a total of 27,107 meter hours interrupted;
- On May 27, 2010 a heavy wind/rain event/lightning event resulted in a total of 22,448 meter hours interrupted;
- On June 24-25, 2010 a heavy wind/rain/lightning event resulted in a total of 757,752 meter hours interrupted;
- On July 6, 2010 heat wave resulted in a total of 6,693 meter hours interrupted;
- On July 19, 2010 lightning storm resulted in a total of 19,160 meter hours interrupted;
- On October 1, 2010 a heavy wind and rain event resulted in a total of 27,212 meter hours interrupted;
- On December 1, 2010 an heavy wind and rain event resulted in a total of 15,768 meter hours interrupted; and
- On December 26-28, 2010 an heavy wind and snow event resulted in a total of 36,858 meter hours interrupted.

⁷ The Department investigated the performance of CL&P and UI during this storm and stated its findings and conclusions in its Decision dated December 1, 2010 in Docket No. 10-03-08, Investigation of the Service Response and Communications of The Connecticut Light and Power Company (CL&P) and The United Illuminating Company (UI) following the Outages from the Severe Weather over the Period of March 12 through March 14, 2010.

UI TDRP Report for 2010, Appendix 7.

The following chart provides data on the causes of outages in UI's service territory in 2010.⁸ UI TDRP Report for 2010, p. 11.

2010 UI Outage Causes



⁸ See Appendix A for information on the causes of outages.

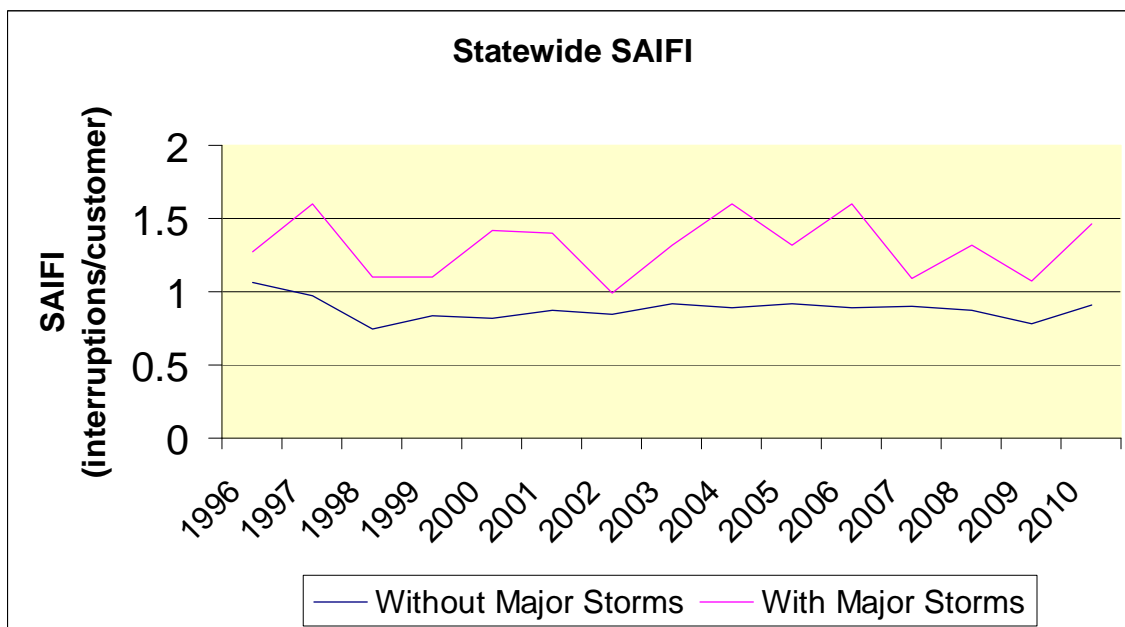
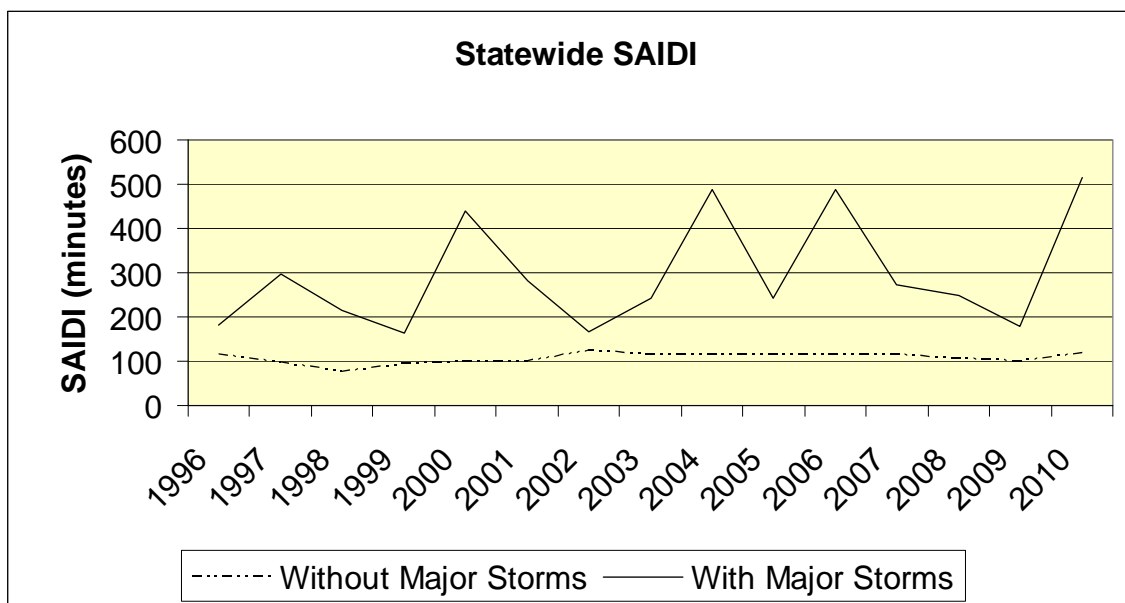
3. State-wide Reliability Indices

Conn. Gen. Stat. §16-245y(a) requires the Department to include state-wide SAIDI and SAIFI data in its report to the Legislature, excluding outage statistics attributable to major storms, customer caused outages and scheduled outages. The following chart shows state-wide SAIDI and SAIFI data that combines data from UI and CL&P, using a weighted average by customer count and the SAIDI and SAIFI data provided by each electric distribution company.

State-wide Reliability Indices

	<u>Without Major Storms</u>		<u>With Major Storms</u>	
	<u>SAIDI</u>	<u>SAIFI</u>	<u>SAIDI</u>	<u>SAIFI</u>
1998	114	1.06	181	1.27
1999	96	0.97	298	1.60
2000	76	0.75	214	1.10
2001	94	0.84	164	1.10
2002	101	0.82	438	1.42
2003	101	0.87	282	1.40
2004	125	0.85	168	0.99
2005	115	0.92	243	1.32
2006	114	0.89	487	1.60
2007	109	0.90	191	1.09
2008	107	0.87	249	1.32
2009	99	0.78	179	1.07
2010	117	0.91	514	1.46
2007-2010 Average	108	0.86	283	1.23
1995-1998 Average	116	1.13	401	1.75

The data exclude the approximately 6% of the State that falls within the service territories of the municipal utilities. The SAIDI and SAIFI indices are shown graphically below.



As demonstrated by the above data, state-wide reliability, excluding major storms, has improved since 1998. All four year average reliability indices demonstrate improvement over the indices during the 1995-1998 time frame.

III. CONCLUSION

The Department finds that reliability in the State has not declined since Public Act 98-28, An Act Concerning Electric Restructuring, was enacted. CL&P's overall reliability has improved since 1998. UI's reliability has declined slightly according to measures of reliability; however, it is still excellent compared to many other utilities. On a state-wide basis, reliability has improved since 1998.

Appendix A

Explanations of Outage Cause Categories

Power Supply-	Outages caused by the operation of the electric transmission and distribution system in conjunction with other electric distribution companies, such as Independent System Operator-imposed load shedding or loss of a transmission line owned by another electric distribution company.
Scheduled-	Outages caused by intentionally de-energizing facilities serving customers for the purpose of apparatus change-out, conversion, maintenance, relocation/extension, permanent repair, or customer request.
Major Storm-	Outages associated with weather events that meet the Department-approved major storm criterion.
Customer Caused-	Any interruption caused by customer-owned equipment failure or customer operation.
Animal/Bird Contact-	Any interruption caused by animals or birds contacting energized facilities.
Lightning-	Any interruption caused by lightning affecting energized facilities.
Accident-	Any interruption caused by an employee error, or by a vehicle or foreign object contacting a structure, guy, or enclosure.
Equipment Failure-	Any interruption caused by the failure of a component of the electric distribution company's transmission or distribution system.
Tree/Limb Contact-	Any interruption caused by vegetation contacting energized facilities, other than those felled by customers or employees.
Miscellaneous/ Unknown -	Any interruption caused by an electrical overload, an interruption for which the cause is indeterminate, or miscellaneous causes not included in other categories.

**DOCKET NO. 11-04-11 DPUC 2011 ANNUAL REPORT TO THE GENERAL
ASSEMBLY ON ELECTRIC DISTRIBUTION COMPANY
SYSTEM RELIABILITY**

This Decision is adopted by the following Commissioners:

Kevin M. DeGobbo

Anna M. Ficeto

John W. Betkoski, III

CERTIFICATE OF SERVICE

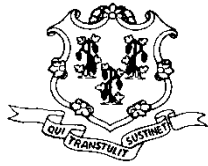
The foregoing is a true and correct copy of the Decision issued by the Department of Public Utility Control, State of Connecticut, and was forwarded by Certified Mail to all parties of record in this proceeding on the date indicated.



Kimberley J. Santopietro
Executive Secretary
Department of Public Utility Control

June 13, 2011

Date



STATE OF CONNECTICUT

**AUTHORITY OF ENERGY AND ENVIRONMENTAL PROTECTION
PUBLIC UTILITIES REGULATORY AUTHORITY
TEN FRANKLIN SQUARE
NEW BRITAIN, CT 06051**

**DOCKET NO. 12-04-10 PURA 2012 ANNUAL REPORT TO THE GENERAL
ASSEMBLY ON ELECTRIC DISTRIBUTION COMPANY
SYSTEM RELIABILITY**

May 30, 2012

By the following Directors:

John W. Betkoski, III
Arthur H. House

DECISION

DECISION

I. INTRODUCTION

A. SUMMARY

General Statutes of Connecticut §16-245y(a) requires each electric distribution company to report reliability data to the Public Utilities Regulatory Authority for the prior 12 months in terms of System Average Interruption Duration Index and System Average Interruption Frequency Index by October 1 of each year. The Public Utilities Regulatory Authority is then required to report the data for each electric and electric distribution company and for the State as a whole to the joint standing committee of the General Assembly having cognizance of matters relating to energy, by the following January 1. This report covers calendar year 2011.

B. CONDUCT OF THE PROCEEDING

By letter dated March 30, 2012, The United Illuminating Company (UI) provided its annual reliability data to the Public Utilities Regulatory Authority (Authority). By letter dated March 30, 2012, The Connecticut Light and Power Company (CL&P) provided its annual reliability data.

No hearing is required on this matter, and none was held. The data provided by UI and CL&P were not contested.

C. PARTICIPANTS

The Authority recognized the following as participants in this proceeding: The Connecticut Light and Power Company, P. O. Box 270, Hartford, CT 06141-0270; The United Illuminating Company, P. O. Box 1564, New Haven, CT 06506-0901; and the Office of Consumer Counsel, Ten Franklin Square, New Britain, CT 06051.

II. AUTHORITY ANALYSIS

A. IMPLEMENTATION OF CONN. GEN. STAT. §16-245Y(A)

The General Statutes of Connecticut (Conn. Gen. Stat.) §16-245y(a) requires the Authority to submit reliability data, in terms of the System Average Interruption Duration Index (SAIDI) and System Average Interruption Frequency Index (SAIFI), to the Legislature by January 1 of each year. SAIDI is defined as the sum of customer interruptions in the preceding 12-month period, in minutes, divided by the average number of customers served during that period. Conn. Gen. Stat. §16-245y(a). SAIFI is defined as the total number of customers interrupted in the prior 12-month period divided by the average number of customers served during this period. *Id.* SAIDI can be viewed as the average outage duration experienced by all customers on an electric distribution company's system, and SAIFI can be viewed as the average outage frequency on an electric distribution company's system. Lower SAIDI and SAIFI numbers reflect better reliability performance in terms of outage duration and frequency.

Both SAIDI and SAIFI are required by statute to exclude outages attributable to major storms, scheduled outages, and outages caused by customer equipment, each as determined by the Authority. Conn. Gen. Stat. §16-245y(a)(1).

Conn. Gen. Stat. §16-245y(a) requires the electric distribution companies to report reliability statistics to the Authority by October 1 each year. The Authority currently receives the Transmission and Distribution Reliability Performance Reports (TDRP Reports) on or about March 31 of each year. The TDRP Reports contain comprehensive data regarding outages and reliability from each utility for the prior calendar year. These reports provide valuable information regarding the factors that affect reliability and the effectiveness of reliability initiatives by the electric distribution companies.

In this report, the Authority exceeds the requirements of Conn. Gen. Stat. §16-245y(a) by including data for both SAIDI and SAIFI with and without major storms plus information on the causes of outages. This will provide the Legislature with insight into the circumstances that affect the reliability data the Authority reports to the Legislature.

Conn. Gen. Stat. §16-245y(a)(1) requires the Authority to exclude major storms from the SAIDI and SAIFI data. Traditionally, the Authority has emphasized reliability data excluding major storms, since major storms have a large effect on reliability data and can cause large year-to-year variations. Further, the electric distribution companies have limited influence over the reliability of the system under major storm conditions. Some factors under the control of the electric distribution companies can certainly improve performance of the distribution system under major storm conditions; however, the impact of major storms on overhead distribution system reliability data are significant regardless of the design or operation of that system.

For the purpose of determining reliability trends of the distribution system, the Authority believes it is correct to exclude major storms from the reliability data. However, the Authority also examines reliability data including major storms, since this data reflects the ultimate reliability seen by consumers. Also, since reliability of the system under major storm conditions is not entirely out of the control of the electric distribution companies, it is proper to consider major storm conditions when considering the adequacy of the overall design, operation, and maintenance of the distribution system. Therefore, the Authority includes SAIDI and SAIFI data both with and without major storms in its annual report to the Legislature, even though the statutes only consider data excluding major storms.

The Authority defines “major storm” based on the following statistical criterion: whenever the number of trouble locations (that result in outages) exceeds the 98.5 percentile of the trouble location frequency over the preceding four years, a major storm will be declared and all interruptions during the major storm period, or that began in that period, are excluded from the non-storm SAIDI and SAIFI calculations. Therefore, the definition is not based on meteorological criteria, but solely on the impact a weather event has on the distribution system. It should be noted that this does not eliminate the effects of weather on a distribution company’s reliability data; rather, it just excludes the

most significant storms. The data is still affected to a high degree by annual variations in weather, particularly the severity of winter weather.

The Authority further notes that weather is not the only factor to be considered when examining reliability data. Singular events, such as a large transmission disturbance, can have a significant effect on the reliability statistics. The Authority considers the effects of such events when determining whether changes in the reliability statistics truly reflect a change in reliability, and whether such a change is reasonably within the control of a distribution company.

Traditionally, the Authority has used a four-year average of reliability data excluding major storms to determine reliability trends. The Authority has used this measure after considering two competing concerns. First, annual variations in weather, such as frequent minor storms that are not classified as major storms, can significantly affect reliability data. Second, to capture recent changes in reliability data or trends in reliability, the time period should not be too long. The Authority believes a four-year period is a reasonable compromise of these two concerns. The Authority includes data for the four years ending in 1998, so that current reliability may be compared to reliability statistics that were current when Public Act 98-28, An Act Concerning Electric Industry Restructuring (the Act), was passed into law.

B. DESCRIPTION OF THE UTILITIES

CL&P covers 87% of the geographic area of Connecticut and serves approximately 1.2 million customers. CL&P TDRP Report for 2011, p. 2. CL&P's service territory includes urban, suburban, and rural areas, as well as an extensive amount of wooded and hilly terrain. *Id.* The rural area and high density of trees in much of CL&P's territory can have a significant effect on CL&P's distribution system, both in terms of the design of many of the circuits and the performance of the circuits that traverse such areas.

UI covers 7% of the geographic area of Connecticut and serves approximately 320,000 customers. UI's service territory includes predominantly urban and suburban areas, with one small rural area in Easton. UI TDRP Report for 2011, p. 4.

The remaining 6% of the territory of Connecticut is served by municipal utilities, which are not required to report SAIDI and SAIFI data to the Authority.

C. RELIABILITY STATISTICS

1. The Connecticut Light and Power Company

Reliability statistics for CL&P as of year-end 2011 are as follows.

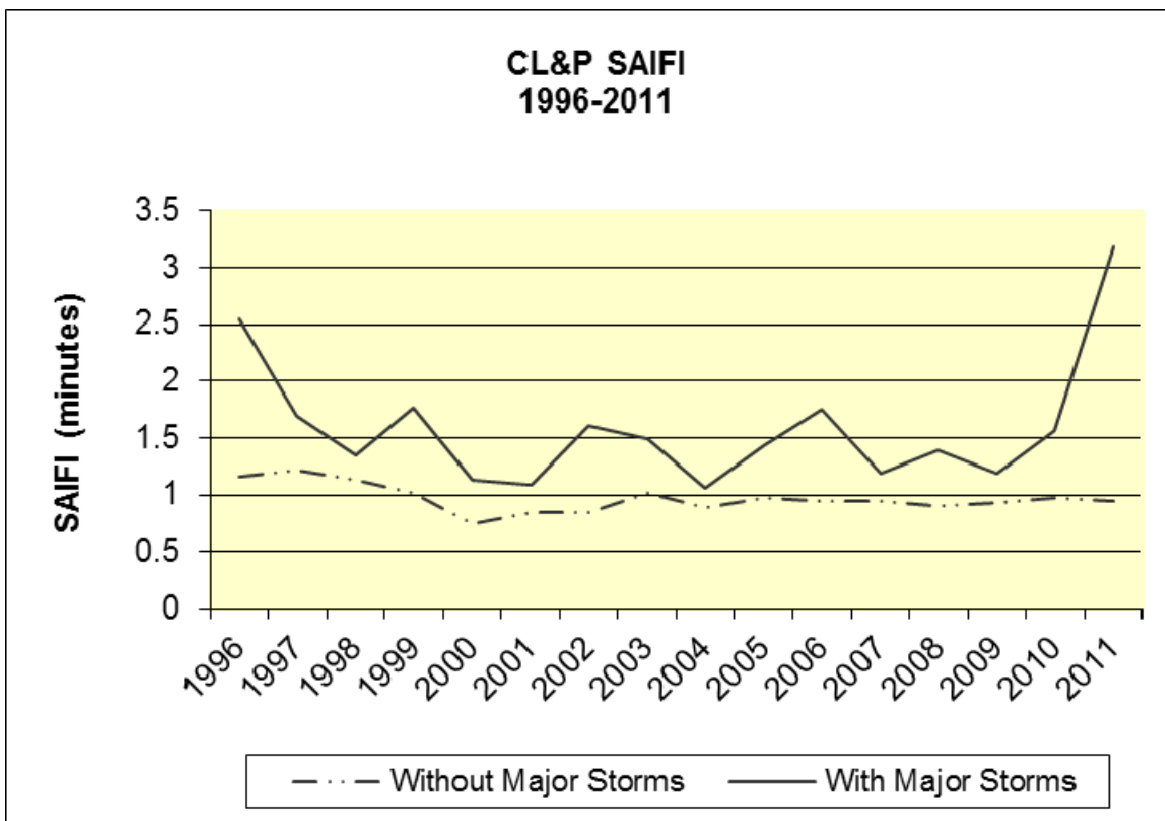
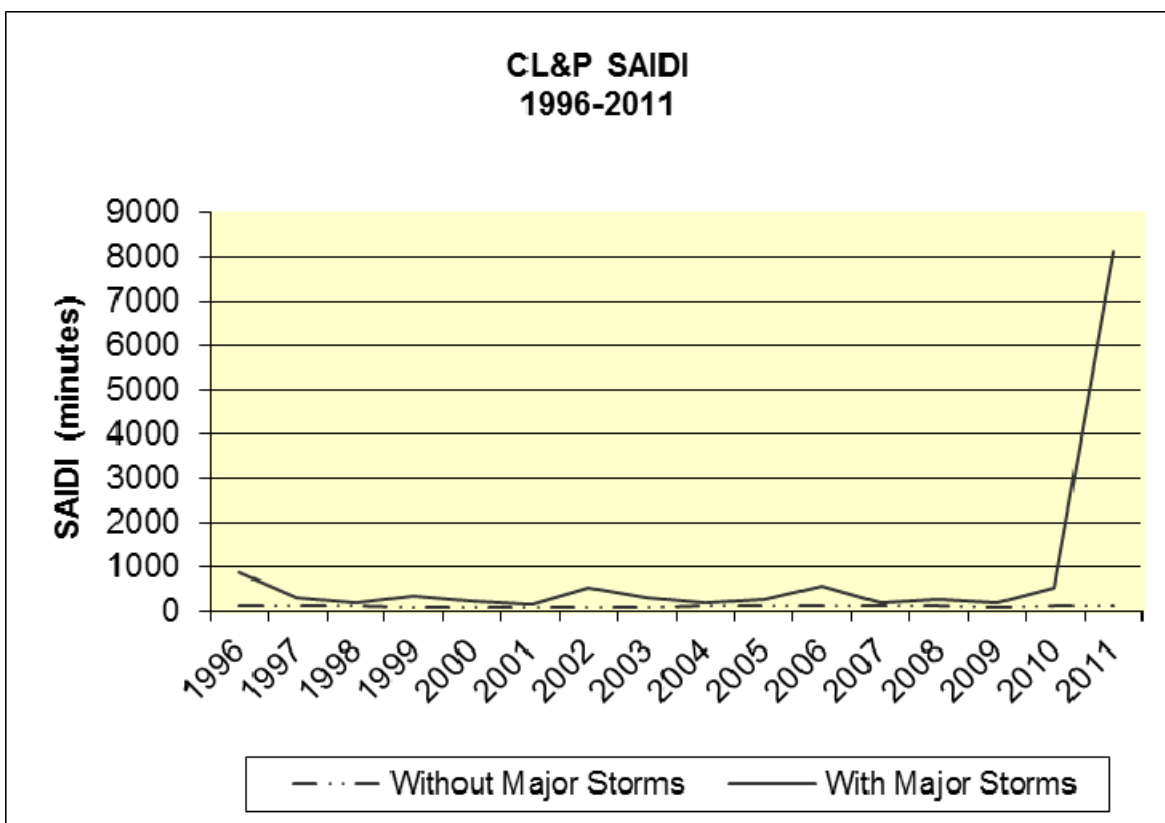
CL&P Reliability Data¹

	<u>Without Major Storms</u>		<u>With Major Storms</u>	
	<u>SAIDI</u>	<u>SAIFI</u>	<u>SAIDI</u>	<u>SAIFI</u>
1996	130	1.16	893	2.54
1997	116	1.22	320	1.69
1998	129	1.14	205	1.35
1999	107	1.02	352	1.77
2000	81	0.75	240	1.14
2001	102	0.84	171	1.09
2002	114	0.85	548	1.61
2003	107	1.02	328	1.49
2004	140	0.89	191	1.06
2005	127	0.97	280	1.44
2006	129	0.95	566	1.75
2007	119	0.95	220	1.19
2008	116	0.90	275	1.39
2009	107	0.83	200	1.12
2010	125	0.98	558	1.56
2011	133	0.94	8279	3.15
1995-1998 Average ²	132	1.22	484	1.96

CL&P TDRP Report for 2011, p. 4; Decision dated December 1, 1999, in Docket No. 99-06-12, DPUC 1999 Annual Report to the General Assembly on Electric Distribution Company Reliability, p. 4. The SAIDI and SAIFI indices are shown graphically below.

¹ Data excluding major storms also excludes customer caused outages and scheduled outages, as required by Conn. Gen. Stat. §16-245y.

² As stated previously, the Authority includes the four-year average ending 1998 in conjunction with Conn. Gen. Stat. §16-244i.



The Authority notes the extremely poor reliability performance in 2011, which is attributable to the occurrence of Tropical Storm Irene in late August of 2011 and a “Nor’Easter” that produced heavy wet snow in late October of 2011. The Authority is investigating the effects of these storms on the electric, gas, telecommunications and water infrastructure of the State in Docket No. 11-09-09, PURA Investigation of Public Service Companies' Response to 2011 Storms.

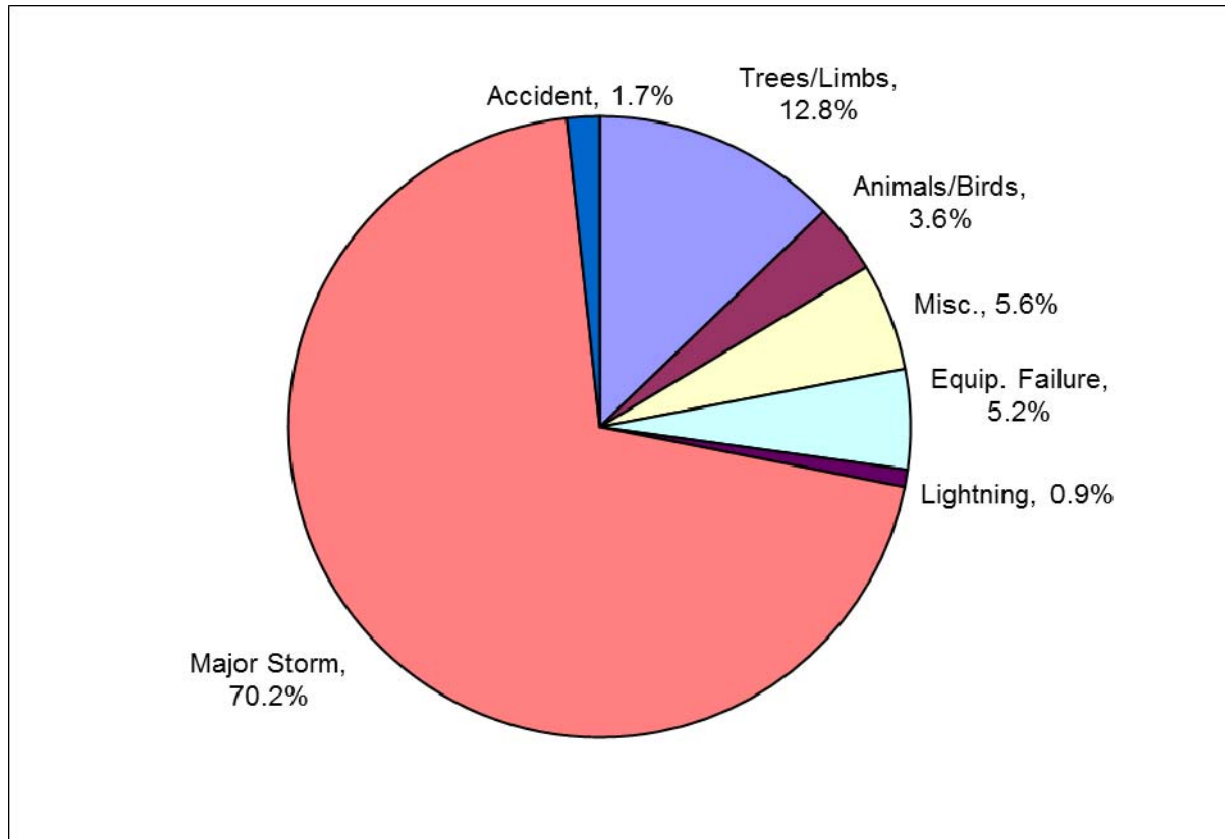
The following storms in CL&P’s service territory in 2011 met the Authority’s major storm definition criterion:

- On February 19, 2011, high winds resulted in a total of 122,466 customer-hours interrupted;
- On June 9, 2011, thunderstorms resulted in a total of 2,623,866 customer-hours interrupted;
- On August 27-September 6, 2011, Tropical Storm Irene resulted in a total of 57,604,440 customer-hours interrupted;
- On October 29-November 8, 2011, a Nor’easter resulted in a total of 107,050,251 customer-hours interrupted;
- On December 8, 2011, heavy rain and high winds resulted in a total of 190,677 customer-hours interrupted.

CL&P TDRP Report for 2011, Appendix 7.

The following chart provides data on the causes of outages in CL&P's service territory in 2011.³ CL&P TDRP Report for 2011, p. 6.

2011 CL&P Outage Causes



³ See Appendix A for information on the causes of outages.

2. The United Illuminating Company

Reliability statistics for The United Illuminating Company as of year-end 2011 are as follows.

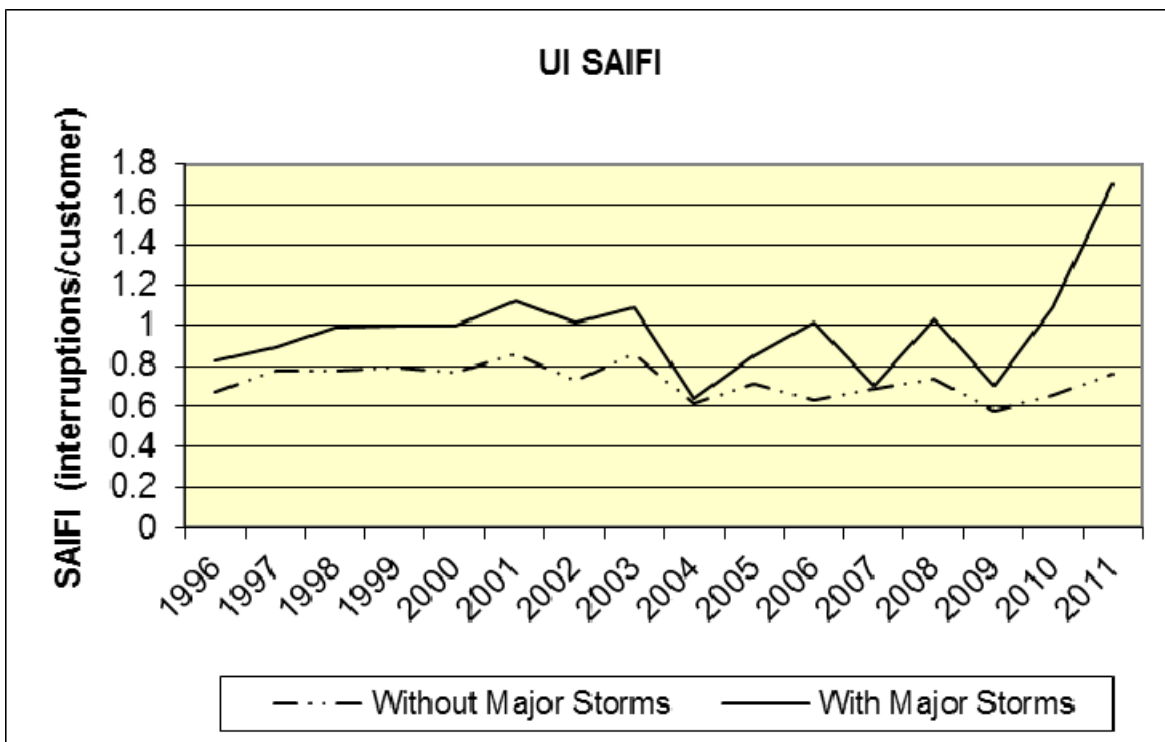
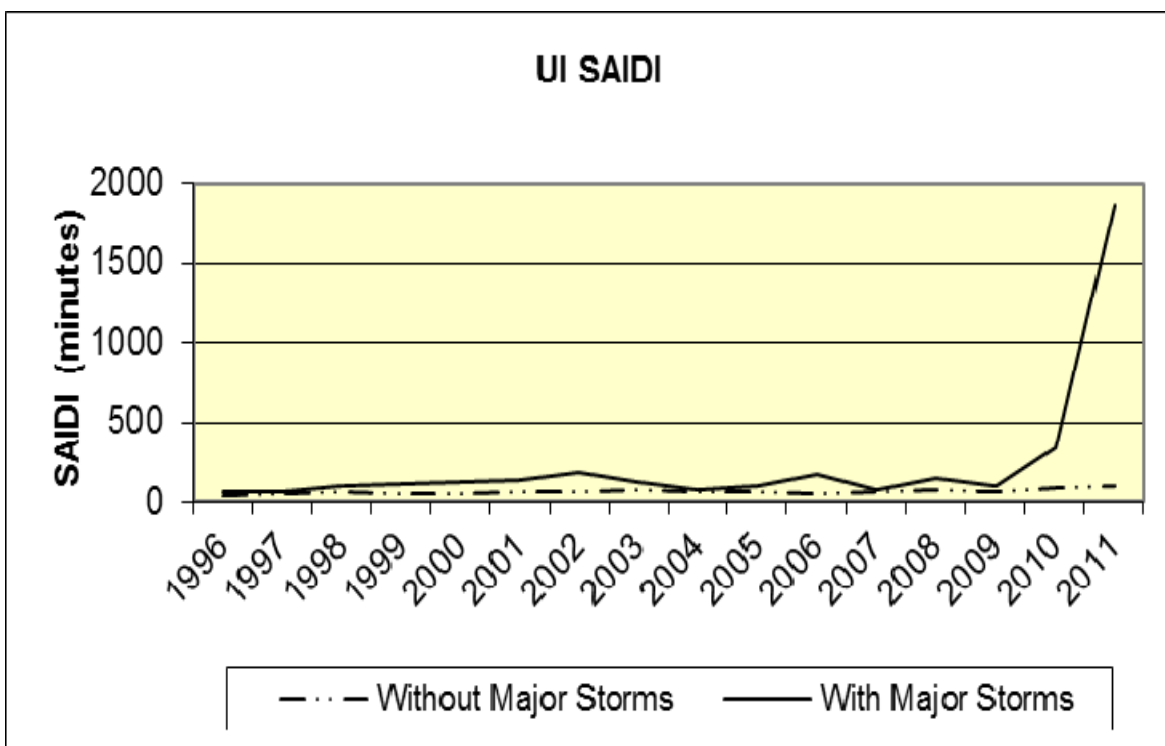
UI Reliability Data⁴

	<u>Without Major Storms</u>		<u>With Major Storms</u>	
	<u>SAIDI</u>	<u>SAIFI</u>	<u>SAIDI</u>	<u>SAIFI</u>
1996	46	0.67	64	0.83
1997	48	0.78	60	0.89
1998	61	0.78	97	0.99
1999	58	0.79	106	1.00
2000	57	0.77	122	1.00
2001	63	0.86	140	1.12
2002	70	0.73	182	1.02
2003	79	0.86	122	1.09
2004	62	0.61	72	0.64
2005	66	0.71	96	0.85
2006	54	0.63	173	1.02
2007	69	0.69	74	0.70
2008	73	0.74	143	1.03
2009	68	0.58	94	0.70
2010	85	0.65	338	1.09
2011	101	0.76	1871	1.70
1995-1998 Average ⁵	52	0.77	71	0.90

UI TDRP Report for 2011, pp. 9 and 10; Decision dated December 1, 1999, in Docket No. 99-06-12, DPUC 1999 Annual Report to the General Assembly on Electric Distribution Company Reliability, p. 7. The SAIDI and SAIFI indices are shown graphically below.

⁴ Data excluding major storms also excludes customer caused outages and scheduled outages, as required by Conn. Gen. Stats. §16-245y.

⁵ As stated previously, the Authority includes the four-year average ending 1998 in conjunction with Conn. Gen. Stat. §16-244i.



The Authority notes the extremely poor reliability performance in 2011, which is attributable to the occurrence of Tropical Storm Irene in late August of 2011 and a “Nor’Easter” that produced heavy wet snow in late October of 2011. The Authority is investigating the effects of these storms on the electric, gas, telecommunications and water infrastructure of the State in Docket No. 11-09-09.

The following major storms in UI's service territory in 2011 met the Authority's major storm definition criterion:

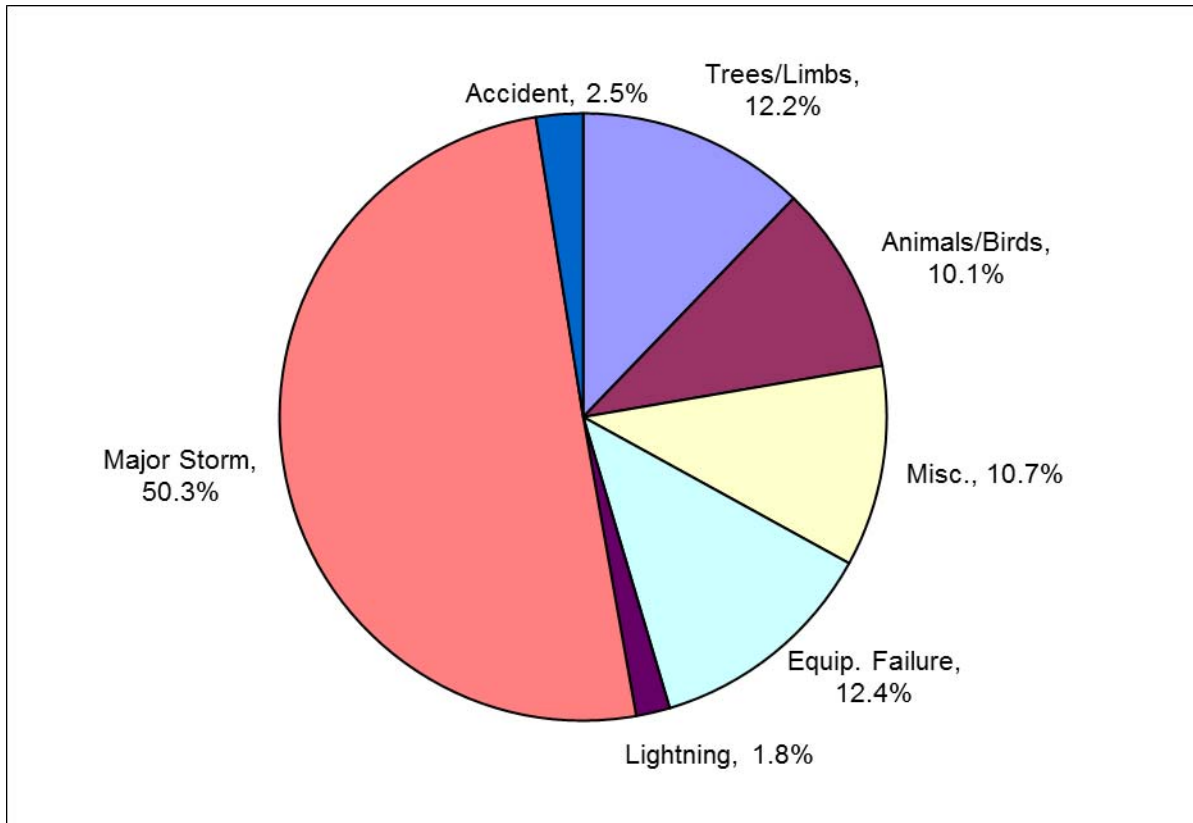
- On January 18, 2011, a heavy snow and ice event resulted in a total of 19,798 meter hours interrupted;
- On February 2, 2011, a freezing rain event resulted in a total of 18,177 meter hours interrupted;
- On June 9, 2011, a lightning storm resulted in a total of 109,292 meter hours interrupted;
- On July 22, 2011, excessive heat resulted in a total of 7,136 meter hours interrupted;
- On August 1, 2011, a lightning storm resulted in a total of 24,550 meter hours interrupted;
- On August 29-September 2, 2011, a Tropical Storm Irene resulted in a total of 8,579,929 meter hours interrupted;
- On October 29-October 31, 2011, a Nor'easter resulted in a total of 693,723 meter hours interrupted.

UI TDRP Report for 2011, Appendix 7.

The following chart provides data on the causes of outages in UI's service territory in 2011.⁶ UI TDRP Report for 2011, p. 11.

⁶ See Appendix A for information on the causes of outages.

2011 UI Outage Causes



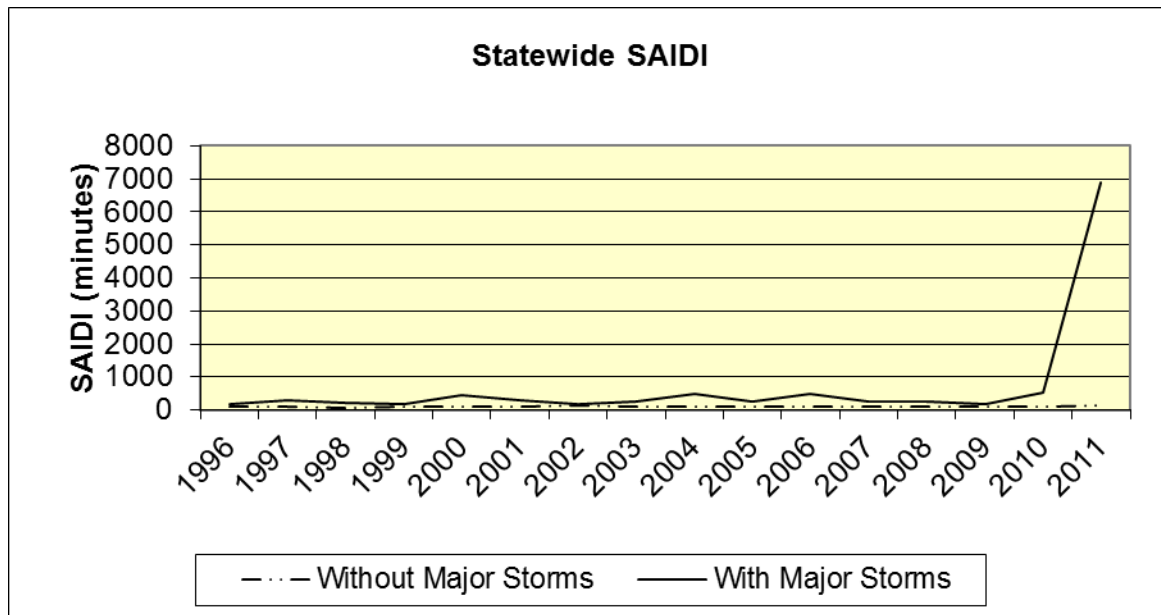
3. State-wide Reliability Indices

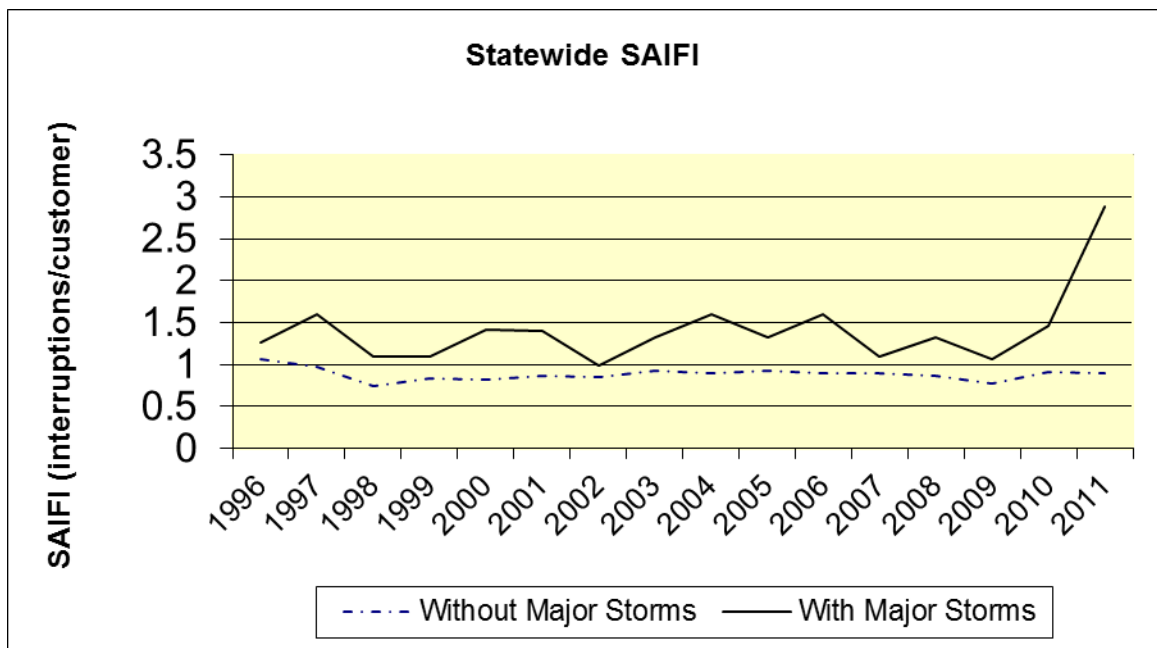
Conn. Gen. Stat. §16-245y(a) requires the Authority to include state-wide SAIDI and SAIFI data in its report to the Legislature, excluding outage statistics attributable to major storms, customer caused outages and scheduled outages. The following chart shows state-wide SAIDI and SAIFI data that combines data from UI and CL&P, using a weighted average by customer count and the SAIDI and SAIFI data provided by each electric distribution company.

State-wide Reliability Indices

	<u>Without Major Storms</u>		<u>With Major Storms</u>	
	<u>SAIDI</u>	<u>SAIFI</u>	<u>SAIDI</u>	<u>SAIFI</u>
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2008	107	0.87	249	1.32
2009	99	0.78	179	1.07
2010	117	0.91	514	1.46
2011	127	0.90	6891	2.88
1995-1998 Average	116	1.13	401	1.75

The data exclude the approximately 6% of the State that falls within the service territories of the municipal utilities. The SAIDI and SAIFI indices are shown graphically below.





III. CONCLUSION

The Authority concludes its report on Electric Distribution Company reliability for calendar year 2011.

Appendix A

Explanations of Outage Cause Categories

Power Supply-	Outages caused by the operation of the electric transmission and distribution system in conjunction with other electric distribution companies, such as Independent System Operator-imposed load shedding or loss of a transmission line owned by another electric distribution company.
Scheduled-	Outages caused by intentionally de-energizing facilities serving customers for the purpose of apparatus change-out, conversion, maintenance, relocation/extension, permanent repair, or customer request.
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Tree/Limb Contact-	Any interruption caused by vegetation contacting energized facilities, other than those felled by customers or employees.
Miscellaneous/ Unknown -	Any interruption caused by an electrical overload, an interruption for which the cause is indeterminate, or miscellaneous causes not included in other categories.

The Authority is an affirmative action/equal opportunity employer and service provider. In conformance with the Americans with Disabilities Act (ADA), the Authority makes every effort to provide equally effective services for persons with disabilities. Individuals with disabilities who need this information in an alternative format to allow them to benefit and/or participate in the agency's programs and services, should call 860-424-3035 or e-mail the ADA Coordinator, at DEP.aaoffice@ct.gov. Persons who are hearing impaired should call the State of Connecticut relay number 711. Requests for accommodations must be made at least two weeks prior to the meeting date (Emphasis added).

**DOCKET NO. 12-04-10 PURA 2012 ANNUAL REPORT TO THE GENERAL
ASSEMBLY ON ELECTRIC DISTRIBUTION COMPANY
SYSTEM RELIABILITY**

This Decision is adopted by the following Directors:

John W. Betkoski, III

Arthur H. House

CERTIFICATE OF SERVICE

The foregoing is a true and correct copy of the Decision issued by the Public Utilities Regulatory Authority, State of Connecticut, and was forwarded by Certified Mail to all parties of record in this proceeding on the date indicated.



Kimberley J. Santopietro
Authority of Energy and Environmental Protection
Executive Secretary
Public Utilities Regulatory Authority

May 30, 2012

Date



STATE OF CONNECTICUT

**PUBLIC UTILITIES REGULATORY AUTHORITY
TEN FRANKLIN SQUARE
NEW BRITAIN, CT 06051**

**DOCKET NO. 13-07-01 DPUC 2013 ANNUAL REPORT TO THE GENERAL
ASSEMBLY ON ELECTRIC DISTRIBUTION COMPANY
SYSTEM RELIABILITY**

August 21, 2013

By the following Commissioners:

Arthur H. House
John W. Betkoski, III
Michael A. Caron

Lead Staff: J. Buckingham
Legal Advisor: R. Luysterborghs

DECISION

DECISION

I. INTRODUCTION

A. SUMMARY

General Statutes of Connecticut §16-245y(a) requires each electric distribution company to report reliability data to the Public Utilities Regulatory Authority for the prior 12 months in terms of System Average Interruption Duration Index and System Average Interruption Frequency Index by October 1 of each year. The Public Utilities Regulatory Authority is then required to report the data for each electric distribution company and for the State as a whole to the joint standing committee of the General Assembly having cognizance of matters relating to energy, by the following January 1. This report covers calendar year 2012.

B. CONDUCT OF THE PROCEEDING

By letter dated March 28, 2013, The United Illuminating Company (UI) provided its annual reliability data to the Public Utilities Regulatory Authority (Authority). By letter dated March 27, 2013, The Connecticut Light and Power Company (CL&P) provided its annual reliability data.

No hearing is required on this matter, and none was held. The data provided by UI and CL&P were not contested.

C. PARTICIPANTS

The Authority recognized the following as participants in this proceeding: The Connecticut Light and Power Company, P. O. Box 270, Hartford, CT 06141-0270; The United Illuminating Company, P. O. Box 1564, New Haven, CT 06506-0901; and the Office of Consumer Counsel, Ten Franklin Square, New Britain, CT 06051.

II. AUTHORITY ANALYSIS

A. IMPLEMENTATION OF CONN. GEN. STAT. §16-245Y(A)

The General Statutes of Connecticut (Conn. Gen. Stat.) §16-245y(a) requires the Authority to submit reliability data, in terms of the System Average Interruption Duration Index (SAIDI) and System Average Interruption Frequency Index (SAIFI), to the Legislature by January 1 of each year. SAIDI is defined as the sum of customer interruptions in the preceding 12-month period, in minutes, divided by the average number of customers served during that period. Conn. Gen. Stat. §16-245y(a). SAIFI is defined as the total number of customers interrupted in the prior 12-month period divided by the average number of customers served during this period. *Id.* SAIDI can be viewed as the average outage duration experienced by all customers on an electric distribution company's system, and SAIFI can be viewed as the average outage frequency on an electric distribution company's (EDC's) system. Lower SAIDI and

SAIFI numbers reflect better reliability performance in terms of outage duration and frequency. Both SAIDI and SAIFI are required by statute to exclude outages attributable to major storms, scheduled outages, and outages caused by customer equipment, each as determined by the Authority. Conn. Gen. Stat. §16-245y(a)(1).

Conn. Gen. Stat. §16-245y(a) requires the EDCs to report reliability statistics to the Authority by October 1 each year. The Authority currently receives the Transmission and Distribution Reliability Performance Reports (TDRP Reports) on or about March 31 of each year. The TDRP Reports contain comprehensive data regarding outages and reliability from each utility for the prior calendar year. These reports provide valuable information regarding the factors that affect reliability and the effectiveness of reliability initiatives by the EDCs.

In this report, the Authority exceeds the requirements of Conn. Gen. Stat. §16-245y(a) by including data for both SAIDI and SAIFI with and without major storms plus information on the causes of outages. This will provide the Legislature with insight into the circumstances that affect the reliability data the Authority reports to the Legislature.

Conn. Gen. Stat. §16-245y(a)(1) requires the Authority to exclude major storms from the SAIDI and SAIFI data. Traditionally, the Authority has emphasized reliability data excluding major storms, since major storms have a large effect on reliability data and can cause large year-to-year variations. Further, the EDCs have limited influence over the reliability of the system under major storm conditions. Some factors under the control of the EDCs can certainly improve performance of the distribution system under major storm conditions; however, the impact of major storms on overhead distribution system reliability data are significant regardless of the design or operation of that system.

For the purpose of determining reliability trends of the distribution system, the Authority believes it is correct to exclude major storms from the reliability data. However, the Authority also examines reliability data including major storms, since this data reflects the ultimate reliability seen by consumers. Also, since reliability of the system under major storm conditions is not entirely out of the control of the EDCs, it is proper to consider major storm conditions when considering the adequacy of the overall design, operation, and maintenance of the distribution system. Therefore, the Authority includes SAIDI and SAIFI data both with and without major storms in its annual report to the Legislature, even though the statutes only consider data excluding major storms.

The Authority defines “major storm” based on the following statistical criterion: whenever the number of trouble locations (that result in outages) exceeds the 98.5 percentile of the trouble location frequency over the preceding four years, a major storm will be declared and all interruptions during the major storm period, or that began in that period, are excluded from the non-storm SAIDI and SAIFI calculations. Therefore, the definition is not based on meteorological criteria, but solely on the impact a weather event has on the distribution system. It should be noted that this does not eliminate the effects of weather on a distribution company’s reliability data; rather, it just excludes the most significant storms. The data is still affected to a high degree by annual variations in weather, particularly the severity of winter weather.

The Authority further notes that weather is not the only factor to be considered when examining reliability data. Singular events, such as a large transmission disturbance, can have a significant effect on the reliability statistics. The Authority considers the effects of such events when determining whether changes in the reliability statistics truly reflect a change in reliability, and whether such a change is reasonably within the control of a distribution company.

Traditionally, the Authority has used a four-year average of reliability data excluding major storms to determine reliability trends. The Authority has used this measure after considering two competing concerns. First, annual variations in weather, such as frequent minor storms that are not classified as major storms, can significantly affect reliability data. Second, to capture recent changes in reliability data or trends in reliability, the time period should not be too long. The Authority believes a four-year period is a reasonable compromise of these two concerns. The Authority includes data for the four years ending in 1998, so that current reliability may be compared to reliability statistics that were current when Public Act 98-28, An Act Concerning Electric Industry Restructuring (the Act), was passed into law.

B. DESCRIPTION OF THE UTILITIES

CL&P covers 87% of the geographic area of Connecticut and serves approximately 1.2 million customers. CL&P TDRP Report for 2012, p. 2. CL&P's service territory includes urban, suburban, and rural areas, as well as an extensive amount of wooded and hilly terrain. *Id.* The rural area and high density of trees in much of CL&P's territory can have a significant effect on CL&P's distribution system, both in terms of the design of many of the circuits and the performance of the circuits that traverse such areas.

UI covers 7% of the geographic area of Connecticut and serves approximately 320,000 customers. UI's service territory includes predominantly urban and suburban areas, with one small rural area in Easton. UI TDRP Report for 2012, p. 3.

The remaining 6% of the territory of Connecticut is served by municipal utilities, which are not required to report SAIDI and SAIFI data to the Authority.

C. RELIABILITY STATISTICS

1. The Connecticut Light and Power Company

Reliability statistics for CL&P as of year-end 2012 are as follows.

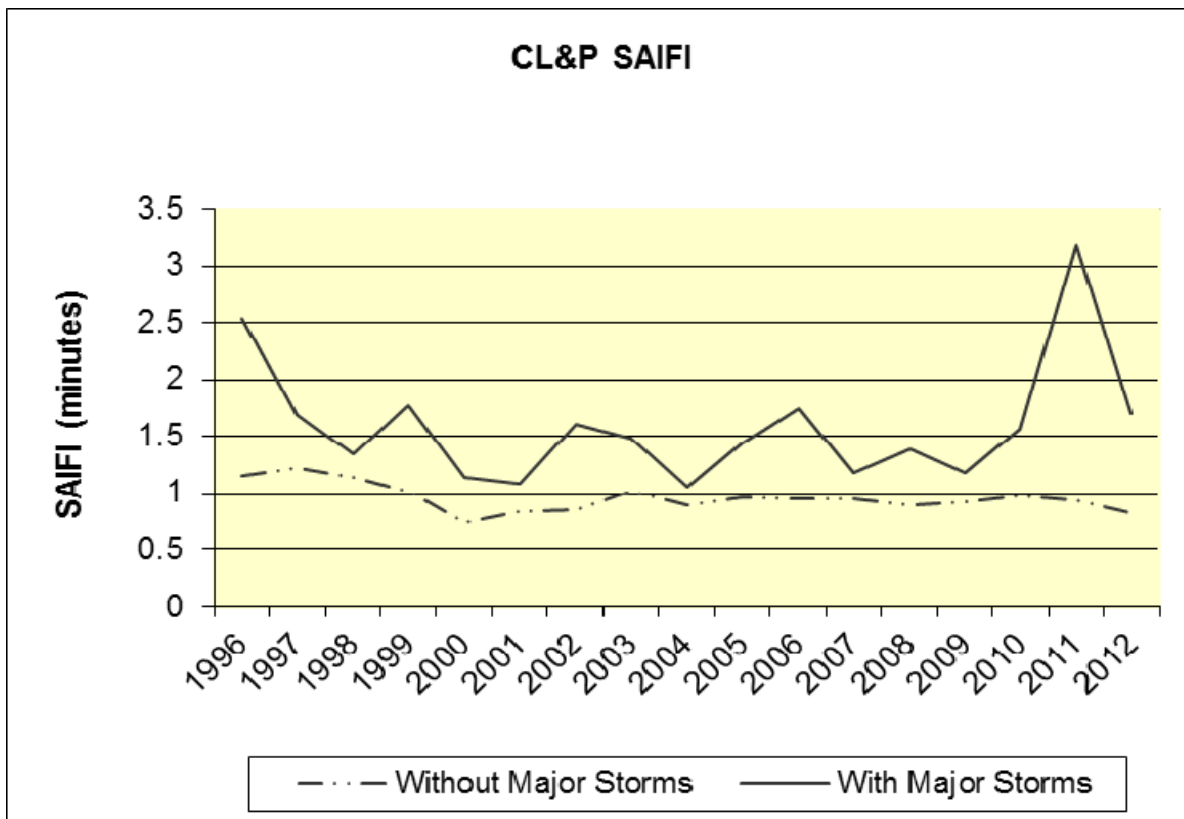
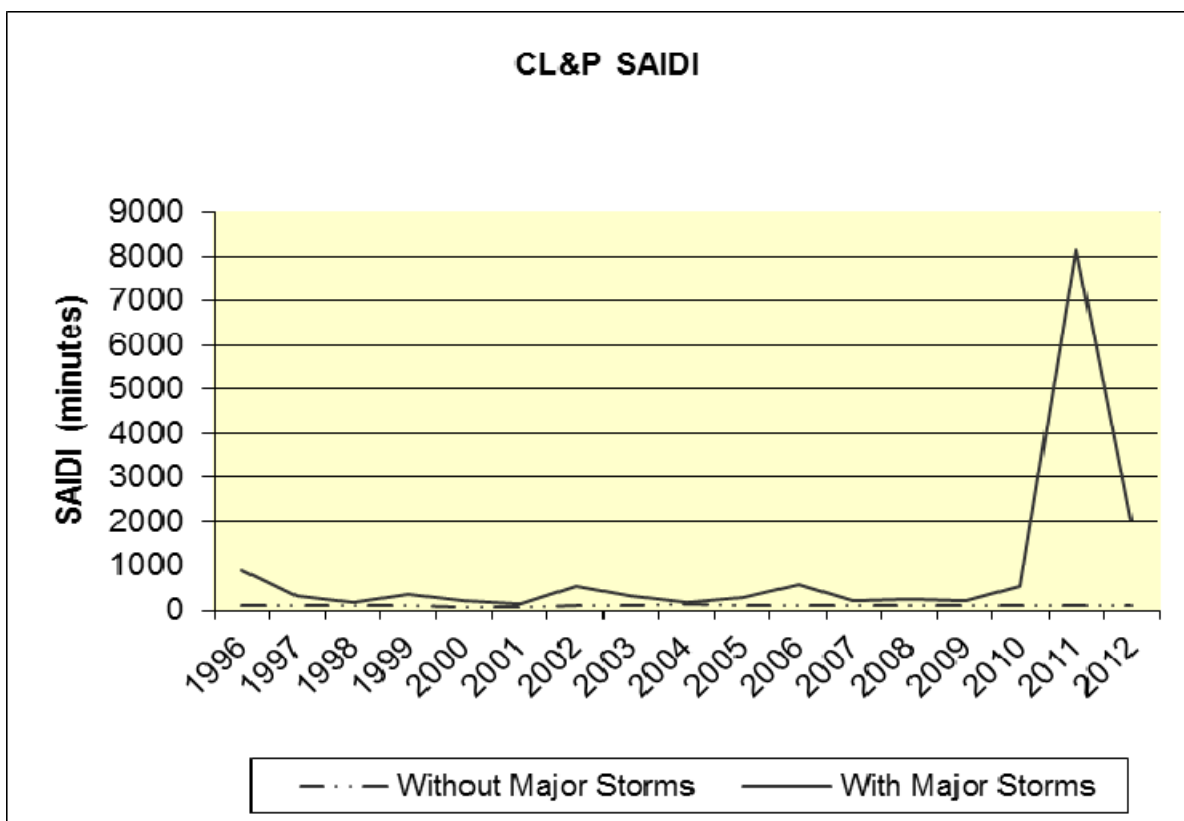
CL&P Reliability Data¹

	<u>Without Major Storms</u>		<u>With Major Storms</u>	
	<u>SAIDI</u>	<u>SAIFI</u>	<u>SAIDI</u>	<u>SAIFI</u>
1996	130	1.16	893	2.54
1997	116	1.22	320	1.69
1998	129	1.14	205	1.35
1999	107	1.02	352	1.77
2000	81	0.75	240	1.14
2001	102	0.84	171	1.09
2002	114	0.85	548	1.61
2003	107	1.02	328	1.49
2004	140	0.89	191	1.06
2005	127	0.97	280	1.44
2006	129	0.95	566	1.75
2007	119	0.95	220	1.19
2008	116	0.90	275	1.39
2009	107	0.83	200	1.12
2010	125	0.98	558	1.56
2011	133	0.94	8279	3.15
2012	104	0.83	2058	1.70
1995-1998 Average ²	132	1.22	484	1.96

CL&P TDRP Report for 2012, p. 4; Decision dated December 1, 1999, in Docket No. 99-06-12, DPUC 1999 Annual Report to the General Assembly on Electric Distribution Company Reliability, p. 4. The SAIDI and SAIFI indices are shown graphically below.

¹ Data excluding major storms also excludes customer caused outages and scheduled outages, as required by Conn. Gen. Stat. §16-245y.

² As stated previously, the Authority includes the four-year average ending 1998 in conjunction with Conn. Gen. Stat. §16-244i.



The Authority notes the extremely poor reliability performance in 2012, which is attributable to the occurrence of Tropical Storm Sandy in late October. The Authority is investigating the effects of this storm on the electric infrastructure of the State in Docket No. 12-11-07, PURA Investigation into the Performance of Connecticut's Electric Distribution Companies and Gas Companies in Restoring Service Following Storm Sandy.

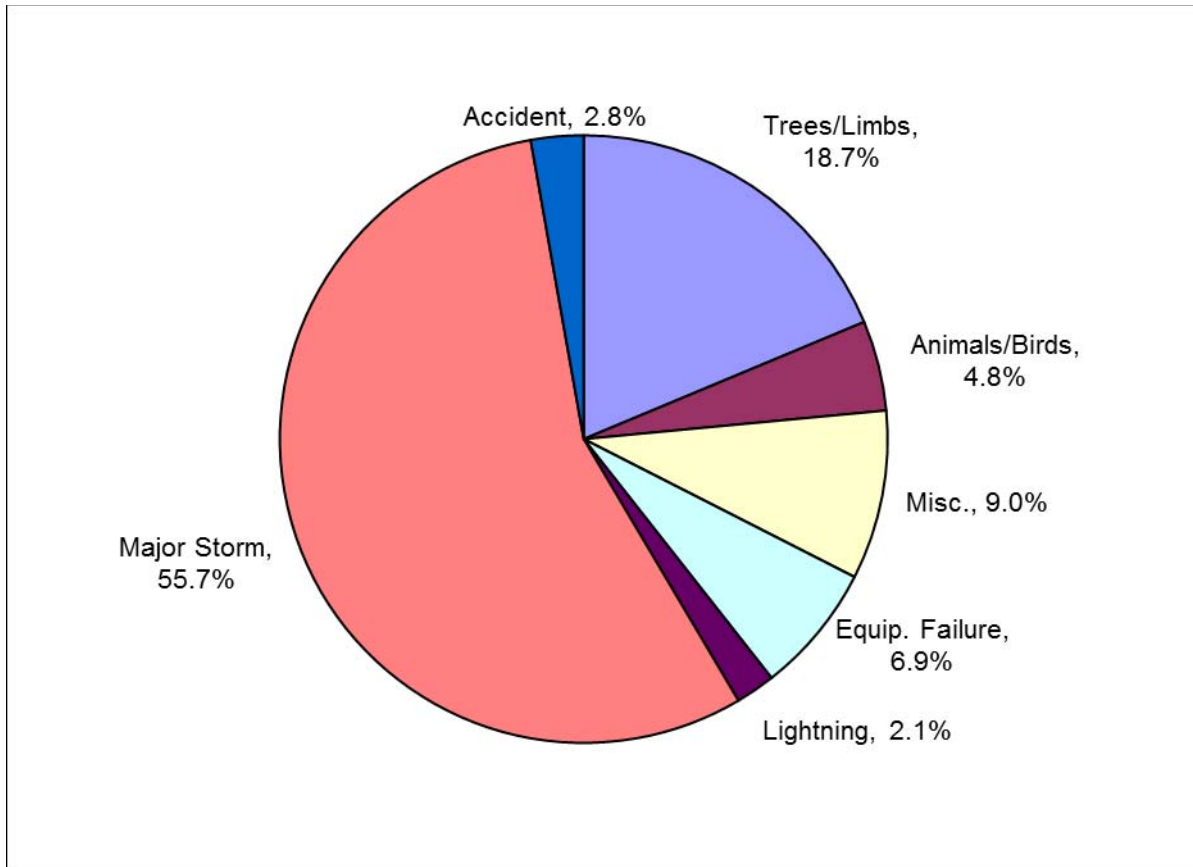
The following storms in CL&P's service territory in 2012 met the Authority's major storm definition criterion:

- On June 22, 2012, thunderstorms resulted in a total of 264,428 customer-hours interrupted;
- On July 18, 2012, thunderstorms resulted in a total of 225,401 customer-hours interrupted;
- On September 18, 2012, heavy rain and wind resulted in a total of 509,305 customer-hours interrupted;
- On October 29 - November 3, 2012, Storm Sandy resulted in a total of 39,007,419 customer-hours interrupted; and
- On November 7, 2012, snow and wind resulted in a total of 51,437 customer-hours interrupted.

CL&P TDRP Report for 2012, Appendix 7.

The following chart provides data on the causes of outages in CL&P's service territory in 2012.³ CL&P TDRP Report for 2012, p. 6.

2012 CL&P Outage Causes



³ See Appendix A for information on the causes of outages.

2. The United Illuminating Company

Reliability statistics for The United Illuminating Company as of year-end 2012 are as follows.

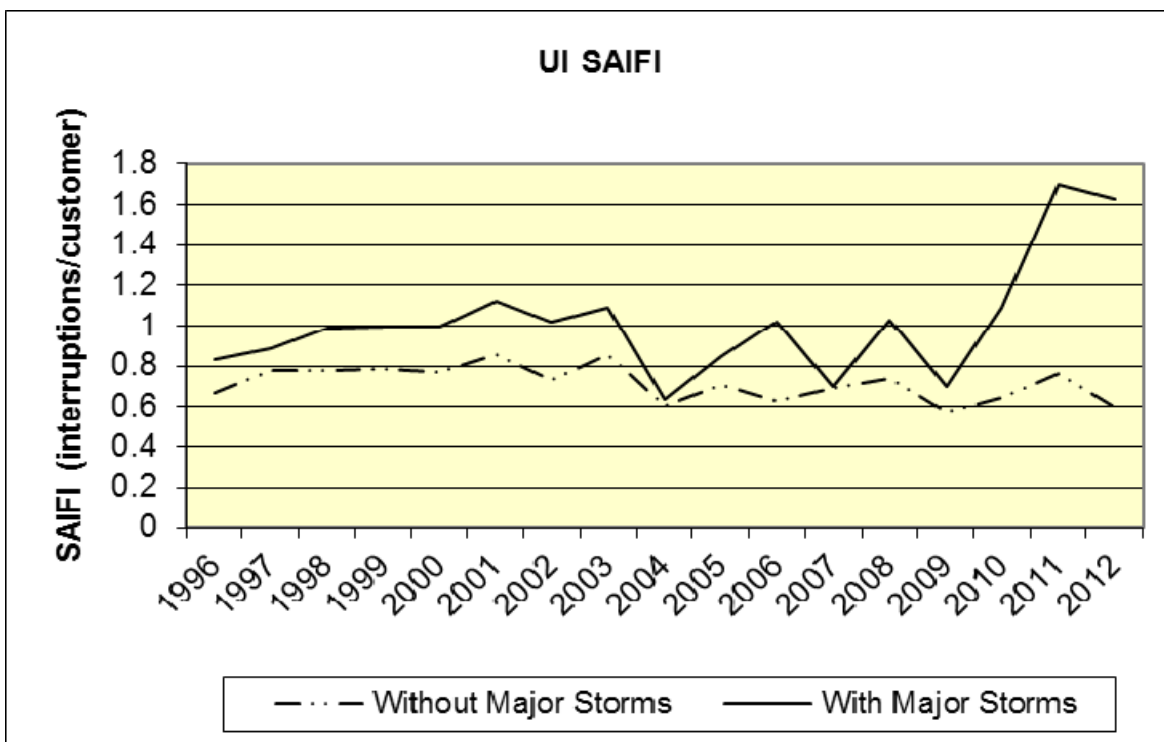
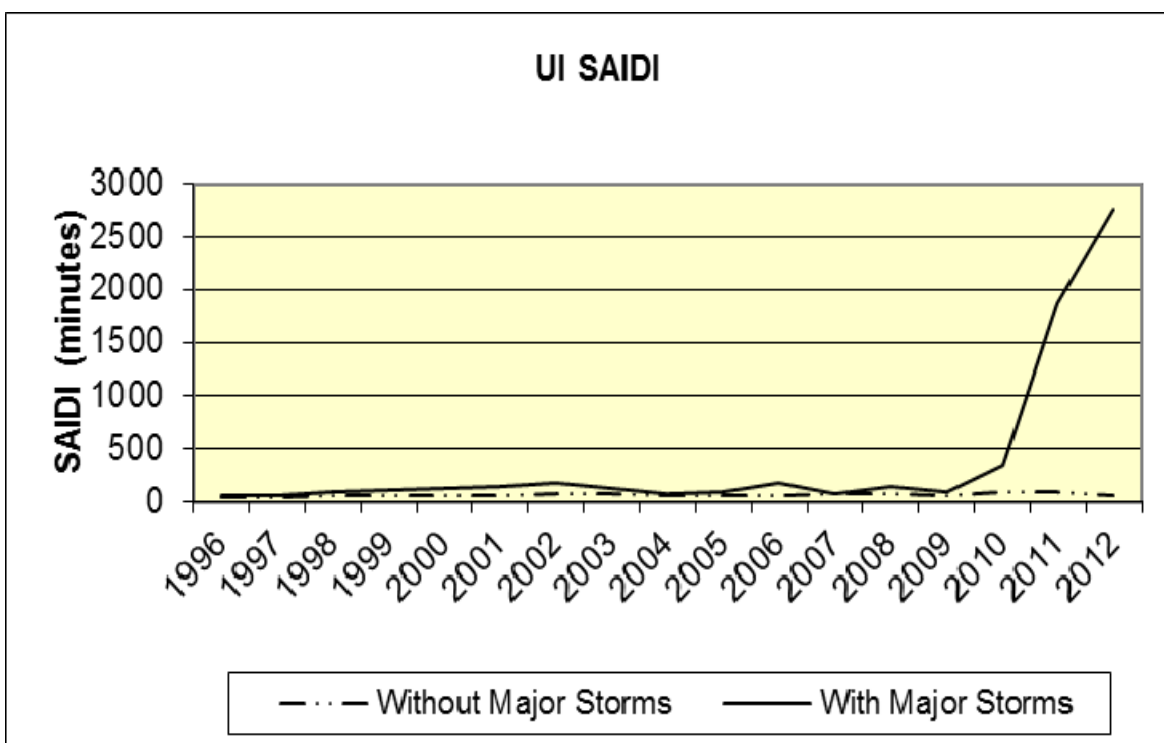
UI Reliability Data⁴

	<u>Without Major Storms</u>		<u>With Major Storms</u>	
	<u>SAIDI</u>	<u>SAIFI</u>	<u>SAIDI</u>	<u>SAIFI</u>
1996	46	0.67	64	0.83
1997	48	0.78	60	0.89
1998	61	0.78	97	0.99
1999	58	0.79	106	1.00
2000	57	0.77	122	1.00
2001	63	0.86	140	1.12
2002	70	0.73	182	1.02
2003	79	0.86	122	1.09
2004	62	0.61	72	0.64
2005	66	0.71	96	0.85
2006	54	0.63	173	1.02
2007	69	0.69	74	0.70
2008	73	0.74	143	1.03
2009	68	0.58	94	0.70
2010	85	0.65	338	1.09
2011	101	0.76	1871	1.70
2012	59	0.60	2763	1.63
1995-1998 Average ⁵	52	0.77	71	0.90

UI TDRP Report for 2012, pp. 5-7; Decision dated December 1, 1999, in Docket No. 99-06-12, DPUC 1999 Annual Report to the General Assembly on Electric Distribution Company Reliability, p. 7. The SAIDI and SAIFI indices are shown graphically below.

⁴ Data excluding major storms also excludes customer caused outages and scheduled outages, as required by Conn. Gen. Stat. §16-245y.

⁵ As stated previously, the Authority includes the four-year average ending 1998 in conjunction with Conn. Gen. Stat. §16-244i.



The Authority notes the extremely poor reliability performance in 2012, which is attributable to the occurrence of Tropical Storm Sandy in late October. The Authority is investigating the effects of this storm on the electric infrastructure of the State in Docket No. 12-11-07.

The following major storms in UI's service territory in 2012 met the Authority's major storm definition criterion:

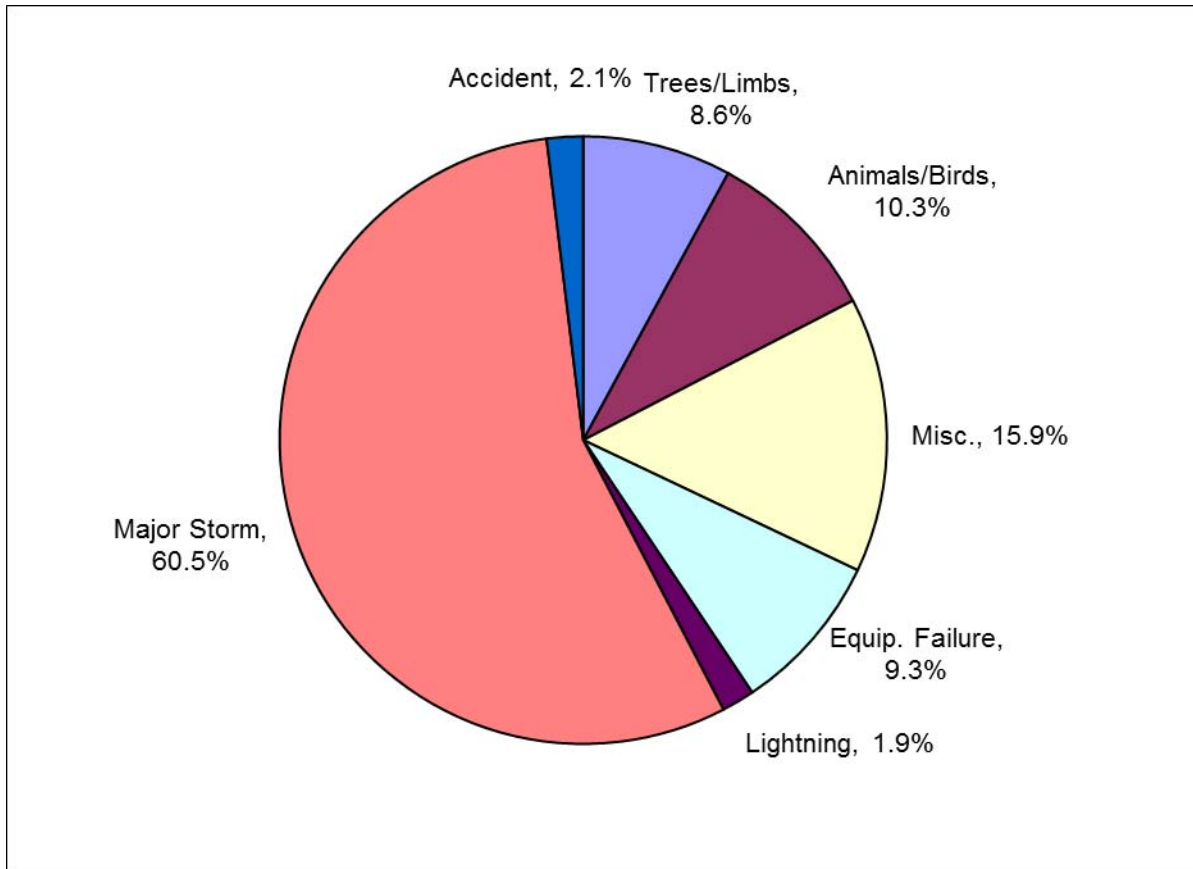
- On July 26, 2012, thunderstorms resulted in a total of 35,725 meter-hours interrupted;
- On September 18, 2012, thunderstorms resulted in a total of 79,076 meter-hours interrupted;
- On October 29 – November 6, 2012, Storm Sandy resulted in a total of 14,215,106 meter-hours interrupted; and
- On November 7, 2012, heavy winds and snow resulted in a total of 44,575 meter-hours interrupted.

UI TDRP Report for 2012, Appendix 7.

The following chart provides data on the causes of outages in UI's service territory in 2012.⁶ UI TDRP Report for 2012, p. 9.

⁶ See Appendix A for information on the causes of outages.

2012 UI Outage Causes



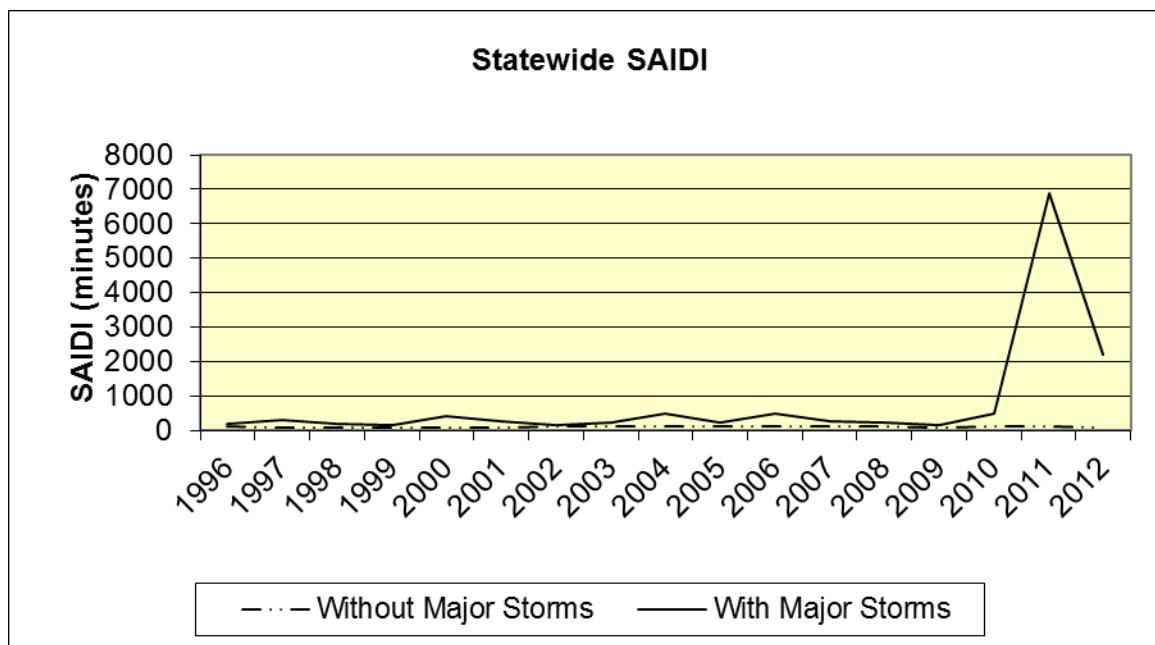
3. State-wide Reliability Indices

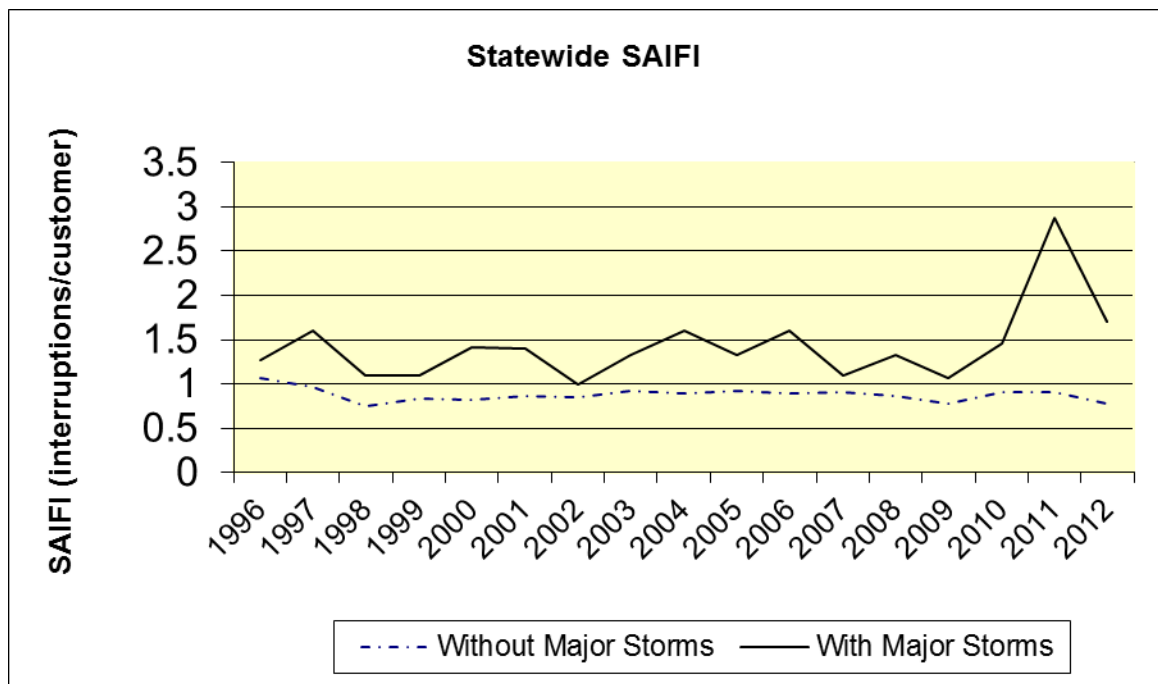
Conn. Gen. Stat. §16-245y(a) requires the Authority to include state-wide SAIDI and SAIFI data in its report to the Legislature, excluding outage statistics attributable to major storms, customer caused outages and scheduled outages. The following chart shows state-wide SAIDI and SAIFI data that combines data from UI and CL&P, using a weighted average by customer count and the SAIDI and SAIFI data provided by each EDC.

State-wide Reliability Indices

	<u>Without Major Storms</u>		<u>With Major Storms</u>	
	<u>SAIDI</u>	<u>SAIFI</u>	<u>SAIDI</u>	<u>SAIFI</u>
1998	114	1.06	181	1.27
1999	96	0.97	298	1.60
2000	76	0.75	214	1.10
2001	94	0.84	164	1.10
2002	101	0.82	438	1.42
2003	101	0.87	282	1.40
2004	125	0.85	168	0.99
2005	115	0.92	243	1.32
2006	114	0.89	487	1.60
2007	109	0.90	191	1.09
2008	107	0.87	249	1.32
2009	99	0.78	179	1.07
2010	117	0.91	514	1.46
2011	127	0.90	6891	2.88
2012	95	0.78	2199	1.69
1995-1998 Average	116	1.13	401	1.75

The data exclude the approximately 6% of the State that falls within the service territories of the municipal utilities. The SAIDI and SAIFI indices are shown graphically below.





III. CONCLUSION

The Authority concludes its report on Electric Distribution Company reliability for calendar year 2012.

Appendix A

Explanations of Outage Cause Categories

Power Supply-	Outages caused by the operation of the electric transmission and distribution system in conjunction with other EDCs, such as Independent System Operator-imposed load shedding or loss of a transmission line owned by another electric distribution company.
Scheduled-	Outages caused by intentionally de-energizing facilities serving customers for the purpose of apparatus change-out, conversion, maintenance, relocation/extension, permanent repair, or customer request.
Major Storm-	Outages associated with weather events that meet the Authority-approved major storm criterion.
Customer Caused-	Any interruption caused by customer-owned equipment failure or customer operation.
Animal/Bird Contact-	Any interruption caused by animals or birds contacting energized facilities.
Lightning-	Any interruption caused by lightning affecting energized facilities.
Accident-	Any interruption caused by an employee error, or by a vehicle or foreign object contacting a structure, guy, or enclosure.
Equipment Failure-	Any interruption caused by the failure of a component of the electric distribution company's transmission or distribution system.
Tree/Limb Contact-	Any interruption caused by vegetation contacting energized facilities, other than those felled by customers or employees.
Miscellaneous/ Unknown -	Any interruption caused by an electrical overload, an interruption for which the cause is indeterminate, or miscellaneous causes not included in other categories.

The Connecticut Department of Energy and Environmental Protection is an Affirmative Action/Equal Opportunity Employer that is committed to requirements of the Americans with Disabilities Act. Any person with a disability who may need information in an alternative format may contact the agency's ADA Coordinator at 860-424-3194, or at deep.hrmed@ct.gov. Any person with limited proficiency in English, who may need information in another language, may contact the agency's Title VI Coordinator at 860-424-3035, or at deep.aaoffice@ct.gov. Any person with a hearing impairment may call the State of Connecticut relay number – 711. Discrimination complaints may be filed with DEEP's Title VI Coordinator. Requests for accommodations must be made at least two weeks prior to any agency hearing, program or event.

**DOCKET NO. 13-07-01 DPUC 2013 ANNUAL REPORT TO THE GENERAL
ASSEMBLY ON ELECTRIC DISTRIBUTION COMPANY
SYSTEM RELIABILITY**

This Decision is adopted by the following Commissioners:

Arthur H. House

John W. Betkoski, III

Michael A. Caron

CERTIFICATE OF SERVICE

The foregoing is a true and correct copy of the Decision issued by the Public Utilities Regulatory Authority, State of Connecticut, and was forwarded by Certified Mail to all parties of record in this proceeding on the date indicated.



August 26, 2013

Nicholas E. Neeley
Acting Executive Secretary
Public Utilities Regulatory Authority

Date

Customers Served

Yr	WMECO
1997	205,958
1998	206,984
1999	208,306
2000	209,291
2001	210,578
2002	211,707
2003	212,823
2004	213,417
2005	214,235
2006	215,833
2007	216,715
2008	217,787
2009	214,372
2010	211,121
2011	212,476

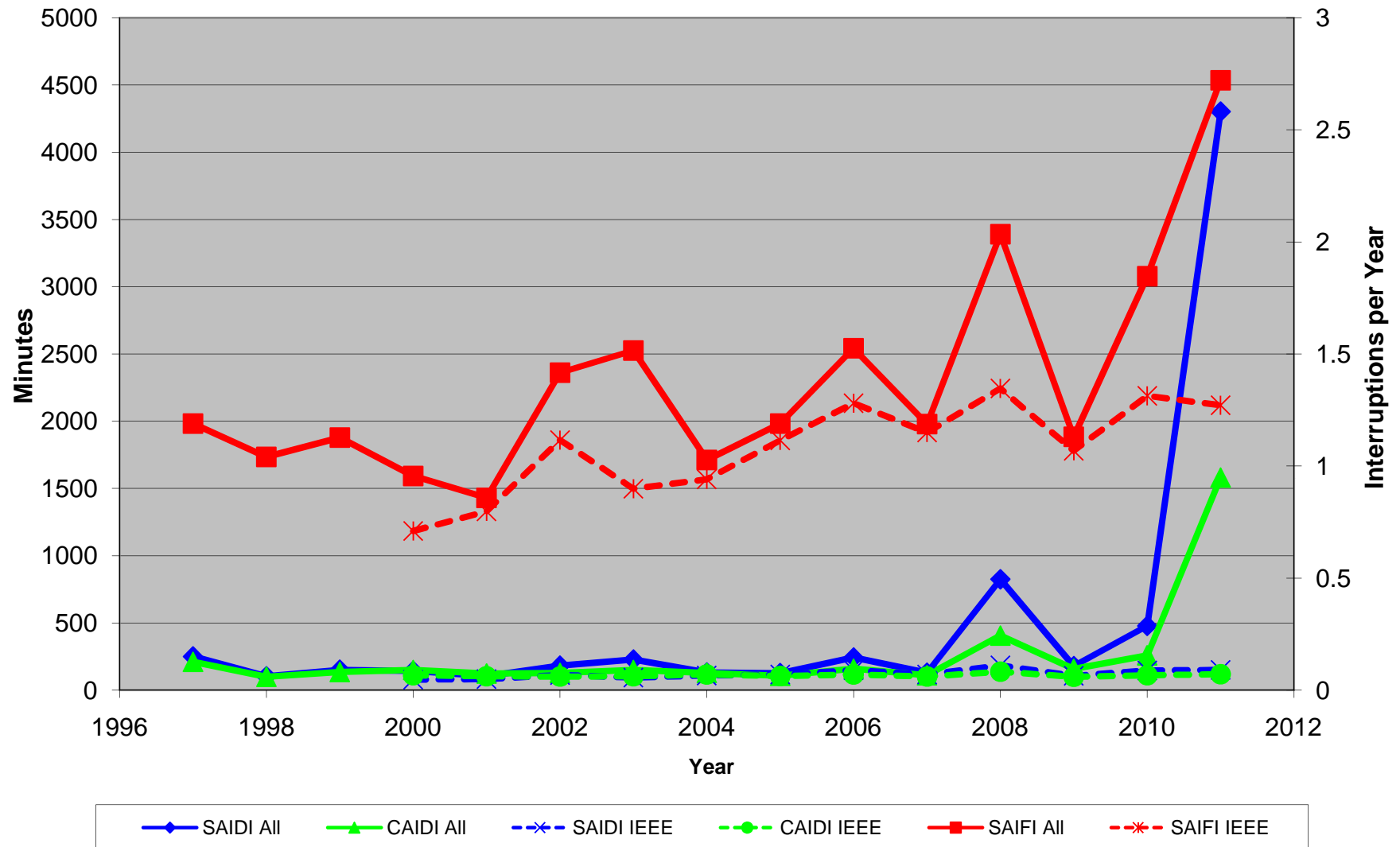
Start Year	1997
Stop Year	2011

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
SAIDI All	251.28	104.18	152.43	144.18	106.31	182.86	228.49	132.18	127.61	243.84	131.27	825.55	179.89	478.9	4303.02
SAIFI All	1.189	1.041	1.127	0.956	0.858	1.417	1.515	1.027	1.189	1.526	1.187	2.034	1.13	1.847	2.721
CAIDI All	211.25	100.06	135.30	150.79	123.89	129.09	150.83	128.72	107.32	159.79	110.54	405.84	159.21	259.3	1581.16
SAIDI IEEE				77.98	81.94	112.37	92.78	108.61	116.19	148.36	116.56	184.14	105.75	146.04	150.73
SAIFI IEEE				0.710	0.798	1.116	0.899	0.940	1.114	1.280	1.149	1.346	1.068	1.313	1.271
CAIDI IEEE				109.88	102.71	100.67	103.26	115.53	104.29	115.95	101.46	136.85	99.05	111.23	118.57
alpha				-2.755	-2.815	-2.817	-2.734	-2.714	-2.694	-2.601	-2.524		-2.407699146	-2.33822	-2.21179
beta				1.998	2.015	2.002	1.981	2.005	1.999	1.972	1.996		2.024483898	1.95284	2.0074
e(a+2.5b) = Tmed				9.379	9.235	8.926	9.200	9.969	9.996	10.255	11.781	11.601	14.204	12.729	16.555
Number of MEDs				4	1	5	6	2	1	3	1	10	1	5	11
Number of Zero Days	16	31	18	18	19	12	10	19	17	13	6	4	9	10	5
CMI_All	51,752,271	21,562,932	31,752,925	30,176,620	22,386,249	38,712,711	48,627,130	28,210,215	27,337,512	52,628,068	28,447,341	179,794,607	38,564,099	101,105,316	914,290,115
CI_All	244,983	215,496	234,682	200,118	180,689	299,893	322,398	219,162	254,719	329,362	257,348	443,023	242,214	389,920	578,241
CMI_IEEE				16,320,315	17,254,767	23,789,133	19,746,586	23,179,855	24,891,735	32,021,621	25,260,733	40,102,842	22,668,972	30,833,155	32,026,498
CI_IEEE				148,529	168,000	236,314	191,227	200,634	238,680	276,175	248,984	293,051	228,872	277,206	270,099

Revision with formulas

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
SAIDI All	251.28	104.18	152.43	144.18	106.31	182.86	228.49	132.18	127.61	243.84	131.27	825.55	179.89	478.9	4303.03
SAIFI All	1.189	1.041	1.127	0.956	0.858	1.417	1.515	1.027	1.189	1.526	1.187	2.067	1.13	1.847	2.721
CAIDI All	211.25	100.06	135.30	150.79	123.89	129.09	150.83	128.72	107.32	159.79	110.54	405.84	159.21	259.3	1581.16
SAIDI IEEE				77.98	81.94	112.37	92.78	108.61	116.19	148.36	116.56	184.14	105.75	146.04	150.73
SAIFI IEEE				0.710	0.798	1.116	0.899	0.940	1.114	1.280	1.149	1.367	1.068	1.313	1.271
CAIDI IEEE				109.88	102.71	100.67	103.26	115.53	104.29	115.95	101.46	136.85	99.05	111.23	118.57
alpha				-2.755	-2.815	-2.817	-2.734	-2.714	-2.694	-2.601	-2.524		-2.407699146	-2.33822	-2.21179
beta				1.998	2.015	2.002	1.981	2.005	1.999	1.972	1.996		2.024483898	1.95284	2.0074
e(a+2.5b) = Tmed				9.379	9.235	8.926	9.200	9.969	9.996	10.255	11.781	11.601	14.204	12.729	16.555
Number of MEDs				4	1	5	6	2	1	3	1	10	1	5	11
Number of Zero Days	16	31	18	18	19	12	10	19	17	13	6	4	9	10	5
CMI_All	51,752,271	21,562,932	31,752,925	30,176,620	22,386,249	38,712,711	48,627,130	28,210,215	27,337,512	52,628,068	28,447,341	179,794,607	38,564,099	101,105,316	914,290,115
CI_All	244,983	215,496	234,682	200,118	180,689	299,893	322,398	219,162	254,719	329,362	257,348	443,023	242,214	389,920	578,241
CMI_IEEE				16,320,315	17,254,767	23,789,133	19,746,586	23,179,855	24,891,735	32,021,621	25,260,733	40,102,842	22,668,972	30,833,155	32,026,498
CI_IEEE				148,529	168,000	236,314	191,227	200,634	238,680	276,175	248,984	293,051	228,872	277,206	270,099

WMECO



Count of Date		TMED Ind	
Year	MED		Grand Total
1997	350		350
1998	335		335
1999	348		348
2000	344	4	348
2001	346	1	347
2002	349	5	354
2003	350	6	356
2004	345	2	347
2005	348	1	349
2006	349	3	352
2007	358	1	359
2008	351	10	361
2009	355	1	356
2010	350	5	355
2011	349	11	360
Grand Total	5227	50	5277

Date	Year	Events	CI	CMI	SAIDI	ln(SAIDI)	TMED Ind
02/01/1997	1997	3	150	21,054	0.1022	-2.28	
03/01/1997	1997	3	220	73,649	0.3576	-1.03	
05/01/1997	1997	1	10	3,080	0.0150	-4.20	
06/01/1997	1997	3	49	4,654	0.0226	-3.79	
07/01/1997	1997	7	356	23,034	0.1118	-2.19	
08/01/1997	1997	21	1,063	118,665	0.5762	-0.55	
09/01/1997	1997	2	17	4,210	0.0204	-3.89	
10/01/1997	1997	7	154	11,280	0.0548	-2.90	
11/01/1997	1997	3	9	1,498	0.0073	-4.92	
12/01/1997	1997	2	181	6,297	0.0306	-3.49	
13/01/1997	1997	2	37	2,051	0.0100	-4.61	
14/01/1997	1997	7	544	33,952	0.1648	-1.80	
15/01/1997	1997	4	546	120,896	0.5870	-0.53	
16/01/1997	1997	7	1,865	195,684	0.9501	-0.05	
17/01/1997	1997	7	576	53,928	0.2618	-1.34	
18/01/1997	1997	3	17	1,551	0.0075	-4.89	
19/01/1997	1997	2	2	185	0.0009	-7.02	
20/01/1997	1997	2	29	3,153	0.0153	-4.18	
21/01/1997	1997	7	512	101,654	0.4936	-0.71	
22/01/1997	1997	3	305	46,740	0.2269	-1.48	
23/01/1997	1997	4	78	19,348	0.0939	-2.37	
24/01/1997	1997	3	59	4,165	0.0202	-3.90	
25/01/1997	1997	13	913	117,351	0.5698	-0.56	
26/01/1997	1997	3	22	3,622	0.0176	-4.04	
27/01/1997	1997	2	32	430	0.0021	-6.17	
28/01/1997	1997	5	101	10,600	0.0515	-2.97	
29/01/1997	1997	2	9	525	0.0025	-5.97	
30/01/1997	1997	2	154	47,795	0.2321	-1.46	
31/01/1997	1997	1	46	1,978	0.0096	-4.65	
01/02/1997	1997	3	3,281	155,902	0.7570	-0.28	
02/02/1997	1997	4	33	7,020	0.0341	-3.38	
04/02/1997	1997	2	141	22,852	0.1110	-2.20	
05/02/1997	1997	7	207	15,064	0.0731	-2.62	
06/02/1997	1997	7	1,666	91,146	0.4425	-0.82	
07/02/1997	1997	9	712	167,680	0.8141	-0.21	
08/02/1997	1997	1	25	3,050	0.0148	-4.21	
09/02/1997	1997	7	11	2,622	0.0127	-4.36	
10/02/1997	1997	2	4	360	0.0017	-6.35	
11/02/1997	1997	2	85	4,159	0.0202	-3.90	
12/02/1997	1997	3	46	5,626	0.0273	-3.60	
13/02/1997	1997	6	237	14,221	0.0690	-2.67	
14/02/1997	1997	8	466	40,477	0.1965	-1.63	
15/02/1997	1997	1	500	30,000	0.1457	-1.93	
16/02/1997	1997	3	308	24,992	0.1213	-2.11	
17/02/1997	1997	1	167	23,380	0.1135	-2.18	
18/02/1997	1997	5	1,258	25,516	0.1239	-2.09	
19/02/1997	1997	5	300	20,148	0.0978	-2.32	
20/02/1997	1997	17	1,867	185,279	0.8996	-0.11	
22/02/1997	1997	27	3,528	384,141	1.8651	0.62	
23/02/1997	1997	5	3,162	77,636	0.3770	-0.98	
24/02/1997	1997	3	153	1,667	0.0081	-4.82	
25/02/1997	1997	3	8	562	0.0027	-5.90	
26/02/1997	1997	4	39	2,642	0.0128	-4.36	
27/02/1997	1997	4	69	3,915	0.0190	-3.96	
28/02/1997	1997	2	6	920	0.0045	-5.41	
01/03/1997	1997	2	87	7,935	0.0385	-3.26	
02/03/1997	1997	7	143	15,151	0.0736	-2.61	
03/03/1997	1997	3	63	4,170	0.0202	-3.90	
04/03/1997	1997	4	201	15,860	0.0770	-2.56	
05/03/1997	1997	2	65	4,300	0.0209	-3.87	
06/03/1997	1997	99	9,130	2,133,412	10.3585	2.34	
07/03/1997	1997	13	630	84,576	0.4106	-0.89	
08/03/1997	1997	4	78	10,689	0.0519	-2.96	
09/03/1997	1997	2	4	1,181	0.0057	-5.16	
10/03/1997	1997	7	483	27,190	0.1320	-2.02	
12/03/1997	1997	1	14	672	0.0033	-5.73	
13/03/1997	1997	1	1	97	0.0005	-7.66	

14/03/1997	1997	7	1,037	84,941	0.4124	-0.89
15/03/1997	1997	17	958	74,109	0.3598	-1.02
16/03/1997	1997	1	33	1,122	0.0054	-5.21
17/03/1997	1997	3	5	431	0.0021	-6.17
18/03/1997	1997	2	31	1,055	0.0051	-5.27
19/03/1997	1997	2	1,060	28,875	0.1402	-1.96
20/03/1997	1997	5	1,157	68,393	0.3321	-1.10
21/03/1997	1997	9	5,336	121,777	0.5913	-0.53
22/03/1997	1997	1	575	116,725	0.5667	-0.57
23/03/1997	1997	3	28	4,198	0.0204	-3.89
24/03/1997	1997	3	482	41,614	0.2021	-1.60
25/03/1997	1997	1	1	112	0.0005	-7.52
26/03/1997	1997	11	1,128	122,732	0.5959	-0.52
27/03/1997	1997	3	3	356	0.0017	-6.36
28/03/1997	1997	5	73	5,006	0.0243	-3.72
30/03/1997	1997	2	2	158	0.0008	-7.17
31/03/1997	1997	162	33,109	20,343,833	98.7766	4.59
01/04/1997	1997	315	24,726	10,798,745	52.4318	3.96
02/04/1997	1997	160	2,269	1,250,420	6.0712	1.80
03/04/1997	1997	50	4,270	946,829	4.5972	1.53
04/04/1997	1997	6	154	19,392	0.0942	-2.36
05/04/1997	1997	12	350	44,172	0.2145	-1.54
06/04/1997	1997	3	4	711	0.0035	-5.67
07/04/1997	1997	4	284	15,530	0.0754	-2.58
08/04/1997	1997	3	26	1,295	0.0063	-5.07
09/04/1997	1997	4	67	10,151	0.0493	-3.01
11/04/1997	1997	5	112	8,281	0.0402	-3.21
12/04/1997	1997	6	203	9,659	0.0469	-3.06
13/04/1997	1997	1	14	1,036	0.0050	-5.29
14/04/1997	1997	4	15	1,270	0.0062	-5.09
15/04/1997	1997	4	14	2,554	0.0124	-4.39
16/04/1997	1997	4	43	5,628	0.0273	-3.60
17/04/1997	1997	6	54	3,797	0.0184	-3.99
18/04/1997	1997	3	182	4,979	0.0242	-3.72
19/04/1997	1997	4	709	35,537	0.1725	-1.76
20/04/1997	1997	1	64	3,328	0.0162	-4.13
21/04/1997	1997	3	148	44,436	0.2158	-1.53
22/04/1997	1997	2	35	2,793	0.0136	-4.30
23/04/1997	1997	2	23	1,798	0.0087	-4.74
24/04/1997	1997	5	1,058	11,904	0.0578	-2.85
25/04/1997	1997	1	1	152	0.0007	-7.21
26/04/1997	1997	5	100	6,017	0.0292	-3.53
27/04/1997	1997	7	14	1,658	0.0081	-4.82
28/04/1997	1997	8	1,024	53,904	0.2617	-1.34
29/04/1997	1997	3	298	18,176	0.0883	-2.43
30/04/1997	1997	4	42	6,909	0.0335	-3.39
01/05/1997	1997	9	87	13,948	0.0677	-2.69
02/05/1997	1997	7	356	81,408	0.3953	-0.93
03/05/1997	1997	6	528	69,343	0.3367	-1.09
04/05/1997	1997	4	24	3,885	0.0189	-3.97
05/05/1997	1997	8	794	10,469	0.0508	-2.98
06/05/1997	1997	7	596	24,997	0.1214	-2.11
07/05/1997	1997	5	43	4,087	0.0198	-3.92
08/05/1997	1997	4	13	1,386	0.0067	-5.00
09/05/1997	1997	2	10	594	0.0029	-5.85
10/05/1997	1997	3	11	537	0.0026	-5.95
11/05/1997	1997	3	46	2,384	0.0116	-4.46
12/05/1997	1997	10	1,248	67,808	0.3292	-1.11
13/05/1997	1997	3	88	6,904	0.0335	-3.40
14/05/1997	1997	1	1	256	0.0012	-6.69
15/05/1997	1997	3	19	1,019	0.0049	-5.31
16/05/1997	1997	13	287	35,742	0.1735	-1.75
17/05/1997	1997	2	19	1,601	0.0078	-4.86
18/05/1997	1997	1	68	6,664	0.0324	-3.43
19/05/1997	1997	4	705	30,035	0.1458	-1.93
20/05/1997	1997	3	233	23,566	0.1144	-2.17
22/05/1997	1997	8	123	7,266	0.0353	-3.34
23/05/1997	1997	4	29	4,132	0.0201	-3.91

24/05/1997	1997	2	148	7,736	0.0376	-3.28
26/05/1997	1997	3	134	12,365	0.0600	-2.81
27/05/1997	1997	3	130	19,015	0.0923	-2.38
28/05/1997	1997	3	1,165	45,309	0.2200	-1.51
29/05/1997	1997	4	138	16,042	0.0779	-2.55
30/05/1997	1997	4	62	5,525	0.0268	-3.62
31/05/1997	1997	8	801	64,379	0.3126	-1.16
01/06/1997	1997	4	141	26,901	0.1306	-2.04
02/06/1997	1997	6	1,191	71,050	0.3450	-1.06
03/06/1997	1997	4	104	7,954	0.0386	-3.25
04/06/1997	1997	1	1	27	0.0001	-8.94
05/06/1997	1997	5	38	3,881	0.0188	-3.97
06/06/1997	1997	2	68	5,102	0.0248	-3.70
09/06/1997	1997	4	40	4,210	0.0204	-3.89
10/06/1997	1997	8	341	40,877	0.1985	-1.62
11/06/1997	1997	10	1,897	129,449	0.6285	-0.46
12/06/1997	1997	12	964	79,439	0.3857	-0.95
13/06/1997	1997	4	27	1,517	0.0074	-4.91
14/06/1997	1997	11	387	31,998	0.1554	-1.86
15/06/1997	1997	6	243	54,372	0.2640	-1.33
16/06/1997	1997	6	204	18,023	0.0875	-2.44
17/06/1997	1997	8	271	26,578	0.1290	-2.05
18/06/1997	1997	5	551	76,461	0.3712	-0.99
19/06/1997	1997	5	65	6,382	0.0310	-3.47
20/06/1997	1997	3	1,818	86,986	0.4223	-0.86
21/06/1997	1997	9	2,868	130,929	0.6357	-0.45
22/06/1997	1997	4	1,171	69,035	0.3352	-1.09
23/06/1997	1997	7	286	20,195	0.0981	-2.32
24/06/1997	1997	2	54	2,948	0.0143	-4.25
25/06/1997	1997	8	170	55,490	0.2694	-1.31
26/06/1997	1997	10	133	16,397	0.0796	-2.53
27/06/1997	1997	5	1,194	180,747	0.8776	-0.13
28/06/1997	1997	6	706	105,635	0.5129	-0.67
29/06/1997	1997	4	181	14,078	0.0684	-2.68
30/06/1997	1997	5	108	5,368	0.0261	-3.65
01/07/1997	1997	10	623	152,108	0.7385	-0.30
02/07/1997	1997	7	37	2,880	0.0140	-4.27
03/07/1997	1997	51	8,180	928,802	4.5097	1.51
04/07/1997	1997	12	274	95,201	0.4622	-0.77
05/07/1997	1997	2	4	1,387	0.0067	-5.00
06/07/1997	1997	1	28	2,212	0.0107	-4.53
07/07/1997	1997	25	3,419	662,541	3.2169	1.17
08/07/1997	1997	22	1,901	246,692	1.1978	0.18
09/07/1997	1997	87	6,513	1,288,539	6.2563	1.83
10/07/1997	1997	19	1,943	137,463	0.6674	-0.40
11/07/1997	1997	9	63	10,046	0.0488	-3.02
12/07/1997	1997	5	1,246	109,382	0.5311	-0.63
13/07/1997	1997	4	351	22,860	0.1110	-2.20
14/07/1997	1997	11	797	65,070	0.3159	-1.15
15/07/1997	1997	20	860	85,526	0.4153	-0.88
16/07/1997	1997	7	511	79,045	0.3838	-0.96
17/07/1997	1997	19	2,150	183,460	0.8908	-0.12
18/07/1997	1997	8	1,171	112,584	0.5466	-0.60
19/07/1997	1997	9	550	37,842	0.1837	-1.69
20/07/1997	1997	4	291	27,735	0.1347	-2.00
21/07/1997	1997	7	269	21,898	0.1063	-2.24
22/07/1997	1997	8	755	48,401	0.2350	-1.45
23/07/1997	1997	6	549	48,458	0.2353	-1.45
24/07/1997	1997	5	1,935	104,205	0.5060	-0.68
25/07/1997	1997	4	561	39,644	0.1925	-1.65
26/07/1997	1997	8	167	37,969	0.1844	-1.69
27/07/1997	1997	35	2,817	569,607	2.7656	1.02
28/07/1997	1997	11	789	93,111	0.4521	-0.79
29/07/1997	1997	5	794	30,294	0.1471	-1.92
30/07/1997	1997	8	637	35,452	0.1721	-1.76
31/07/1997	1997	4	112	12,461	0.0605	-2.81
01/08/1997	1997	5	295	21,436	0.1041	-2.26
02/08/1997	1997	9	1,223	259,016	1.2576	0.23

03/08/1997	1997	11	1,778	91,788	0.4457	-0.81
04/08/1997	1997	2	71	8,019	0.0389	-3.25
05/08/1997	1997	7	95	7,153	0.0347	-3.36
06/08/1997	1997	5	64	5,886	0.0286	-3.56
07/08/1997	1997	3	277	22,927	0.1113	-2.20
08/08/1997	1997	5	1,919	29,509	0.1433	-1.94
09/08/1997	1997	9	1,205	81,910	0.3977	-0.92
10/08/1997	1997	1	17	187	0.0009	-7.00
11/08/1997	1997	11	334	38,683	0.1878	-1.67
12/08/1997	1997	7	1,711	117,146	0.5688	-0.56
13/08/1997	1997	8	4,106	198,075	0.9617	-0.04
14/08/1997	1997	2	7	804	0.0039	-5.55
15/08/1997	1997	4	423	27,451	0.1333	-2.02
16/08/1997	1997	28	543	165,900	0.8055	-0.22
17/08/1997	1997	6	358	36,297	0.1762	-1.74
18/08/1997	1997	5	153	16,926	0.0822	-2.50
19/08/1997	1997	3	32	3,389	0.0165	-4.11
20/08/1997	1997	5	73	7,809	0.0379	-3.27
21/08/1997	1997	4	78	18,023	0.0875	-2.44
22/08/1997	1997	10	384	48,548	0.2357	-1.45
23/08/1997	1997	2	25	1,128	0.0055	-5.21
24/08/1997	1997	5	239	23,698	0.1151	-2.16
25/08/1997	1997	2	9	455	0.0022	-6.12
26/08/1997	1997	2	2	817	0.0040	-5.53
27/08/1997	1997	2	35	2,485	0.0121	-4.42
28/08/1997	1997	6	34	3,391	0.0165	-4.11
29/08/1997	1997	4	20	4,045	0.0196	-3.93
30/08/1997	1997	1	2	188	0.0009	-7.00
01/09/1997	1997	2	113	10,142	0.0492	-3.01
02/09/1997	1997	4	5,541	193,378	0.9389	-0.06
03/09/1997	1997	11	462	37,493	0.1820	-1.70
04/09/1997	1997	1	1	95	0.0005	-7.68
05/09/1997	1997	2	4	380	0.0018	-6.30
06/09/1997	1997	4	88	5,238	0.0254	-3.67
07/09/1997	1997	3	480	18,868	0.0916	-2.39
08/09/1997	1997	4	490	35,946	0.1745	-1.75
09/09/1997	1997	2	80	8,880	0.0431	-3.14
10/09/1997	1997	2	175	13,360	0.0649	-2.74
11/09/1997	1997	5	41	3,431	0.0167	-4.09
12/09/1997	1997	1	17	612	0.0030	-5.82
13/09/1997	1997	4	446	71,349	0.3464	-1.06
14/09/1997	1997	3	108	12,840	0.0623	-2.78
15/09/1997	1997	2	1,791	72,858	0.3538	-1.04
16/09/1997	1997	4	61	8,193	0.0398	-3.22
17/09/1997	1997	4	122	10,532	0.0511	-2.97
18/09/1997	1997	4	144	12,842	0.0624	-2.77
19/09/1997	1997	1	1	103	0.0005	-7.60
20/09/1997	1997	11	1,369	123,262	0.5985	-0.51
21/09/1997	1997	2	119	31,897	0.1549	-1.87
22/09/1997	1997	7	467	81,594	0.3962	-0.93
23/09/1997	1997	1	1	211	0.0010	-6.88
24/09/1997	1997	4	105	7,657	0.0372	-3.29
25/09/1997	1997	1	3	249	0.0012	-6.72
26/09/1997	1997	2	583	68,717	0.3336	-1.10
27/09/1997	1997	3	147	10,245	0.0497	-3.00
29/09/1997	1997	18	2,950	169,179	0.8214	-0.20
30/09/1997	1997	2	7	453	0.0022	-6.12
01/10/1997	1997	6	115	13,344	0.0648	-2.74
02/10/1997	1997	7	770	22,800	0.1107	-2.20
03/10/1997	1997	5	663	48,300	0.2345	-1.45
04/10/1997	1997	2	214	7,073	0.0343	-3.37
05/10/1997	1997	11	862	150,133	0.7289	-0.32
06/10/1997	1997	3	148	11,273	0.0547	-2.91
07/10/1997	1997	2	2	180	0.0009	-7.04
08/10/1997	1997	1	2	308	0.0015	-6.51
09/10/1997	1997	2	62	2,108	0.0102	-4.58
10/10/1997	1997	5	123	40,360	0.1960	-1.63
11/10/1997	1997	5	76	5,607	0.0272	-3.60

12/10/1997	1997	7	690	56,565	0.2746	-1.29
13/10/1997	1997	1	2	196	0.0010	-6.96
14/10/1997	1997	1	17	1,938	0.0094	-4.67
15/10/1997	1997	6	115	11,774	0.0572	-2.86
16/10/1997	1997	2	3	355	0.0017	-6.36
17/10/1997	1997	3	1,283	72,541	0.3522	-1.04
18/10/1997	1997	4	69	6,993	0.0340	-3.38
19/10/1997	1997	4	62	5,122	0.0249	-3.69
20/10/1997	1997	6	86	3,234	0.0157	-4.15
21/10/1997	1997	5	173	8,808	0.0428	-3.15
22/10/1997	1997	9	460	73,046	0.3547	-1.04
23/10/1997	1997	1	20	1,580	0.0077	-4.87
24/10/1997	1997	6	233	18,086	0.0878	-2.43
25/10/1997	1997	5	91	10,972	0.0533	-2.93
26/10/1997	1997	8	1,035	34,788	0.1689	-1.78
27/10/1997	1997	10	219	17,750	0.0862	-2.45
28/10/1997	1997	7	225	18,509	0.0899	-2.41
29/10/1997	1997	5	215	19,161	0.0930	-2.37
31/10/1997	1997	2	100	4,391	0.0213	-3.85
01/11/1997	1997	38	2,500	626,882	3.0437	1.11
02/11/1997	1997	16	1,153	77,076	0.3742	-0.98
03/11/1997	1997	4	35	3,622	0.0176	-4.04
04/11/1997	1997	9	100	25,033	0.1215	-2.11
05/11/1997	1997	2	11	805	0.0039	-5.54
07/11/1997	1997	2	67	3,327	0.0162	-4.13
08/11/1997	1997	4	40	2,550	0.0124	-4.39
09/11/1997	1997	18	2,846	99,135	0.4813	-0.73
10/11/1997	1997	2	64	7,247	0.0352	-3.35
11/11/1997	1997	4	91	6,092	0.0296	-3.52
12/11/1997	1997	5	670	19,313	0.0938	-2.37
13/11/1997	1997	7	724	23,557	0.1144	-2.17
14/11/1997	1997	5	939	192,333	0.9338	-0.07
15/11/1997	1997	1	6	378	0.0018	-6.30
16/11/1997	1997	2	24	3,064	0.0149	-4.21
17/11/1997	1997	3	133	11,139	0.0541	-2.92
18/11/1997	1997	14	670	45,762	0.2222	-1.50
19/11/1997	1997	9	457	26,540	0.1289	-2.05
20/11/1997	1997	1	24	1,440	0.0070	-4.96
21/11/1997	1997	4	52	2,686	0.0130	-4.34
22/11/1997	1997	17	658	93,616	0.4545	-0.79
23/11/1997	1997	13	272	60,091	0.2918	-1.23
24/11/1997	1997	15	1,781	84,239	0.4090	-0.89
25/11/1997	1997	4	83	5,668	0.0275	-3.59
26/11/1997	1997	4	45	4,112	0.0200	-3.91
27/11/1997	1997	35	4,819	799,832	3.8835	1.36
28/11/1997	1997	7	41	8,887	0.0431	-3.14
29/11/1997	1997	1	1	130	0.0006	-7.37
30/11/1997	1997	5	362	22,491	0.1092	-2.21
01/12/1997	1997	5	36	5,153	0.0250	-3.69
02/12/1997	1997	7	184	41,421	0.2011	-1.60
03/12/1997	1997	2	68	2,228	0.0108	-4.53
04/12/1997	1997	1	41	4,428	0.0215	-3.84
05/12/1997	1997	6	500	36,702	0.1782	-1.72
06/12/1997	1997	4	559	38,310	0.1860	-1.68
07/12/1997	1997	2	16	1,924	0.0093	-4.67
08/12/1997	1997	5	78	6,066	0.0295	-3.52
09/12/1997	1997	3	130	15,909	0.0772	-2.56
10/12/1997	1997	2	7	1,003	0.0049	-5.32
11/12/1997	1997	3	3	355	0.0017	-6.36
12/12/1997	1997	4	5	537	0.0026	-5.95
13/12/1997	1997	5	414	36,392	0.1767	-1.73
14/12/1997	1997	6	103	7,334	0.0356	-3.34
15/12/1997	1997	1	1	179	0.0009	-7.05
16/12/1997	1997	4	69	7,505	0.0364	-3.31
17/12/1997	1997	3	50	1,373	0.0067	-5.01
18/12/1997	1997	3	67	2,704	0.0131	-4.33
19/12/1997	1997	2	86	5,386	0.0262	-3.64
20/12/1997	1997	1	29	870	0.0042	-5.47

21/12/1997	1997	1	128	15,360	0.0746	-2.60
22/12/1997	1997	1	4	152	0.0007	-7.21
23/12/1997	1997	4	332	46,799	0.2272	-1.48
24/12/1997	1997	1	13	260	0.0013	-6.67
25/12/1997	1997	11	200	17,894	0.0869	-2.44
26/12/1997	1997	3	87	3,362	0.0163	-4.12
27/12/1997	1997	3	90	6,443	0.0313	-3.46
28/12/1997	1997	1	3	375	0.0018	-6.31
29/12/1997	1997	5	1,262	117,194	0.5690	-0.56
30/12/1997	1997	5	133	30,209	0.1467	-1.92
31/12/1997	1997	4	74	11,966	0.0581	-2.85
01/01/1998	1998	2	939	125,292	0.6053	-0.50
02/01/1998	1998	2	2,358	173,205	0.8368	-0.18
03/01/1998	1998	2	12	952	0.0046	-5.38
04/01/1998	1998	5	795	98,193	0.4744	-0.75
07/01/1998	1998	7	2,509	269,570	1.3024	0.26
08/01/1998	1998	2	385	20,749	0.1002	-2.30
09/01/1998	1998	3	69	6,773	0.0327	-3.42
10/01/1998	1998	3	21	2,234	0.0108	-4.53
11/01/1998	1998	2	54	3,080	0.0149	-4.21
12/01/1998	1998	2	68	3,745	0.0181	-4.01
14/01/1998	1998	1	48	3,120	0.0151	-4.19
15/01/1998	1998	4	387	105,643	0.5104	-0.67
16/01/1998	1998	3	142	28,120	0.1359	-2.00
17/01/1998	1998	2	91	6,302	0.0304	-3.49
18/01/1998	1998	3	68	3,246	0.0157	-4.16
19/01/1998	1998	2	2	326	0.0016	-6.45
22/01/1998	1998	5	60	3,193	0.0154	-4.17
23/01/1998	1998	2	335	44,485	0.2149	-1.54
24/01/1998	1998	11	333	62,007	0.2996	-1.21
25/01/1998	1998	3	49	3,269	0.0158	-4.15
26/01/1998	1998	12	1,196	315,771	1.5256	0.42
28/01/1998	1998	1	1	282	0.0014	-6.60
29/01/1998	1998	2	36	1,688	0.0082	-4.81
30/01/1998	1998	5	173	7,111	0.0344	-3.37
31/01/1998	1998	8	485	47,144	0.2278	-1.48
01/02/1998	1998	5	1,628	88,438	0.4273	-0.85
02/02/1998	1998	3	1,096	73,026	0.3528	-1.04
03/02/1998	1998	1	134	12,060	0.0583	-2.84
05/02/1998	1998	2	127	8,414	0.0407	-3.20
08/02/1998	1998	4	189	39,950	0.1930	-1.65
09/02/1998	1998	5	47	3,064	0.0148	-4.21
11/02/1998	1998	5	188	30,966	0.1496	-1.90
12/02/1998	1998	11	2,180	404,601	1.9547	0.67
13/02/1998	1998	1	6	480	0.0023	-6.07
15/02/1998	1998	1	31	620	0.0030	-5.81
16/02/1998	1998	1	62	7,006	0.0338	-3.39
17/02/1998	1998	5	120	4,064	0.0196	-3.93
18/02/1998	1998	18	348	78,106	0.3774	-0.97
19/02/1998	1998	1	4	836	0.0040	-5.51
20/02/1998	1998	4	5,521	172,918	0.8354	-0.18
21/02/1998	1998	4	51	10,480	0.0506	-2.98
22/02/1998	1998	3	233	14,889	0.0719	-2.63
24/02/1998	1998	5	841	58,564	0.2829	-1.26
25/02/1998	1998	5	94	4,997	0.0241	-3.72
26/02/1998	1998	2	204	17,535	0.0847	-2.47
27/02/1998	1998	1	36	1,404	0.0068	-4.99
28/02/1998	1998	2	945	50,083	0.2420	-1.42
01/03/1998	1998	10	7,216	515,631	2.4912	0.91
02/03/1998	1998	6	128	19,223	0.0929	-2.38
03/03/1998	1998	2	56	5,216	0.0252	-3.68
04/03/1998	1998	4	1,100	118,388	0.5720	-0.56
06/03/1998	1998	4	116	17,736	0.0857	-2.46
07/03/1998	1998	1	5	595	0.0029	-5.85
09/03/1998	1998	26	1,185	125,492	0.6063	-0.50
10/03/1998	1998	10	1,196	77,821	0.3760	-0.98
11/03/1998	1998	3	7	1,091	0.0053	-5.25
12/03/1998	1998	2	120	6,034	0.0292	-3.54

13/03/1998	1998	4	33	3,016	0.0146	-4.23
14/03/1998	1998	2	102	16,128	0.0779	-2.55
16/03/1998	1998	2	6	531	0.0026	-5.97
17/03/1998	1998	5	45	4,349	0.0210	-3.86
19/03/1998	1998	13	255	33,558	0.1621	-1.82
20/03/1998	1998	13	484	76,517	0.3697	-1.00
21/03/1998	1998	1	5	715	0.0035	-5.67
23/03/1998	1998	3	185	17,845	0.0862	-2.45
24/03/1998	1998	2	6	2,183	0.0105	-4.55
26/03/1998	1998	1	18	522	0.0025	-5.98
27/03/1998	1998	4	49	2,897	0.0140	-4.27
28/03/1998	1998	5	44	4,267	0.0206	-3.88
29/03/1998	1998	2	2	305	0.0015	-6.52
30/03/1998	1998	5	131	15,934	0.0770	-2.56
31/03/1998	1998	4	147	10,788	0.0521	-2.95
01/04/1998	1998	4	594	24,868	0.1201	-2.12
02/04/1998	1998	3	96	12,027	0.0581	-2.85
03/04/1998	1998	1	1	152	0.0007	-7.22
04/04/1998	1998	2	79	5,058	0.0244	-3.71
06/04/1998	1998	5	764	62,076	0.2999	-1.20
07/04/1998	1998	6	244	10,302	0.0498	-3.00
09/04/1998	1998	2	4,005	212,316	1.0258	0.03
10/04/1998	1998	1	2	224	0.0011	-6.83
11/04/1998	1998	2	4	729	0.0035	-5.65
12/04/1998	1998	3	439	35,440	0.1712	-1.76
13/04/1998	1998	3	101	10,501	0.0507	-2.98
14/04/1998	1998	2	50	3,518	0.0170	-4.07
17/04/1998	1998	2	1,220	110,108	0.5320	-0.63
18/04/1998	1998	3	6	1,266	0.0061	-5.10
19/04/1998	1998	1	94	5,264	0.0254	-3.67
20/04/1998	1998	1	5	1,550	0.0075	-4.89
21/04/1998	1998	3	382	63,986	0.3091	-1.17
22/04/1998	1998	2	12	1,600	0.0077	-4.86
23/04/1998	1998	10	1,576	93,671	0.4526	-0.79
24/04/1998	1998	5	1,888	356,366	1.7217	0.54
25/04/1998	1998	5	45	2,968	0.0143	-4.24
27/04/1998	1998	3	3	426	0.0021	-6.19
28/04/1998	1998	3	1,348	8,933	0.0432	-3.14
29/04/1998	1998	1	1	369	0.0018	-6.33
30/04/1998	1998	10	2,197	107,798	0.5208	-0.65
01/05/1998	1998	1	10	1,280	0.0062	-5.09
02/05/1998	1998	2	10	1,847	0.0089	-4.72
03/05/1998	1998	3	769	102,740	0.4964	-0.70
04/05/1998	1998	3	27	1,121	0.0054	-5.22
05/05/1998	1998	3	90	16,077	0.0777	-2.56
06/05/1998	1998	9	115	15,833	0.0765	-2.57
07/05/1998	1998	3	19	1,968	0.0095	-4.66
09/05/1998	1998	1	1	80	0.0004	-7.86
10/05/1998	1998	4	153	17,227	0.0832	-2.49
11/05/1998	1998	12	769	101,785	0.4918	-0.71
12/05/1998	1998	5	55	7,436	0.0359	-3.33
13/05/1998	1998	7	394	112,585	0.5439	-0.61
14/05/1998	1998	3	244	41,035	0.1983	-1.62
15/05/1998	1998	2	16	2,360	0.0114	-4.47
16/05/1998	1998	4	206	13,541	0.0654	-2.73
17/05/1998	1998	7	657	29,285	0.1415	-1.96
18/05/1998	1998	5	296	23,041	0.1113	-2.20
19/05/1998	1998	5	132	9,071	0.0438	-3.13
20/05/1998	1998	22	1,190	124,927	0.6036	-0.50
21/05/1998	1998	2	18	2,160	0.0104	-4.56
22/05/1998	1998	5	523	34,488	0.1666	-1.79
24/05/1998	1998	7	484	53,327	0.2576	-1.36
25/05/1998	1998	5	252	16,166	0.0781	-2.55
26/05/1998	1998	4	107	30,323	0.1465	-1.92
28/05/1998	1998	9	1,294	63,688	0.3077	-1.18
29/05/1998	1998	42	4,168	322,604	1.5586	0.44
30/05/1998	1998	12	168	21,828	0.1055	-2.25
31/05/1998	1998	126	11,118	2,574,397	12.4377	2.52

01/06/1998	1998	70	9,372	958,876	4.6326	1.53
02/06/1998	1998	9	1,124	157,274	0.7598	-0.27
03/06/1998	1998	22	3,273	383,516	1.8529	0.62
04/06/1998	1998	16	1,366	56,634	0.2736	-1.30
05/06/1998	1998	5	248	27,382	0.1323	-2.02
06/06/1998	1998	7	833	47,871	0.2313	-1.46
07/06/1998	1998	8	1,319	87,954	0.4249	-0.86
08/06/1998	1998	7	913	129,937	0.6278	-0.47
09/06/1998	1998	11	1,620	116,046	0.5607	-0.58
10/06/1998	1998	3	98	6,125	0.0296	-3.52
11/06/1998	1998	5	132	8,901	0.0430	-3.15
12/06/1998	1998	4	127	8,885	0.0429	-3.15
13/06/1998	1998	16	1,071	96,390	0.4657	-0.76
14/06/1998	1998	8	291	42,869	0.2071	-1.57
15/06/1998	1998	9	1,143	38,903	0.1880	-1.67
16/06/1998	1998	15	280	65,695	0.3174	-1.15
17/06/1998	1998	12	869	71,713	0.3465	-1.06
18/06/1998	1998	13	319	54,730	0.2644	-1.33
19/06/1998	1998	33	5,208	568,301	2.7456	1.01
20/06/1998	1998	31	6,594	345,962	1.6714	0.51
21/06/1998	1998	5	67	5,608	0.0271	-3.61
22/06/1998	1998	6	169	11,888	0.0574	-2.86
23/06/1998	1998	4	1,551	26,954	0.1302	-2.04
24/06/1998	1998	6	17	4,245	0.0205	-3.89
25/06/1998	1998	14	850	93,036	0.4495	-0.80
26/06/1998	1998	8	399	51,501	0.2488	-1.39
27/06/1998	1998	6	349	39,991	0.1932	-1.64
28/06/1998	1998	4	246	29,614	0.1431	-1.94
29/06/1998	1998	9	1,125	60,305	0.2914	-1.23
30/06/1998	1998	16	1,092	112,574	0.5439	-0.61
01/07/1998	1998	9	378	48,776	0.2357	-1.45
02/07/1998	1998	4	149	9,346	0.0452	-3.10
03/07/1998	1998	3	40	3,908	0.0189	-3.97
04/07/1998	1998	7	145	18,572	0.0897	-2.41
05/07/1998	1998	13	377	47,227	0.2282	-1.48
06/07/1998	1998	4	59	7,581	0.0366	-3.31
07/07/1998	1998	1	40	6,240	0.0301	-3.50
08/07/1998	1998	4	127	12,973	0.0627	-2.77
09/07/1998	1998	3	174	11,358	0.0549	-2.90
10/07/1998	1998	4	56	4,314	0.0208	-3.87
11/07/1998	1998	5	211	19,467	0.0941	-2.36
12/07/1998	1998	4	67	2,987	0.0144	-4.24
13/07/1998	1998	4	97	6,946	0.0336	-3.39
14/07/1998	1998	5	214	13,913	0.0672	-2.70
15/07/1998	1998	16	1,769	138,472	0.6690	-0.40
16/07/1998	1998	10	135	17,222	0.0832	-2.49
17/07/1998	1998	26	3,742	933,150	4.5083	1.51
19/07/1998	1998	7	87	10,906	0.0527	-2.94
20/07/1998	1998	32	2,226	340,548	1.6453	0.50
21/07/1998	1998	6	367	29,592	0.1430	-1.95
22/07/1998	1998	12	1,237	60,656	0.2930	-1.23
23/07/1998	1998	18	2,060	183,017	0.8842	-0.12
24/07/1998	1998	9	320	26,392	0.1275	-2.06
25/07/1998	1998	4	61	4,825	0.0233	-3.76
26/07/1998	1998	3	12	1,218	0.0059	-5.14
27/07/1998	1998	1	4	720	0.0035	-5.66
28/07/1998	1998	12	1,857	134,853	0.6515	-0.43
29/07/1998	1998	6	1,587	154,157	0.7448	-0.29
30/07/1998	1998	6	295	22,570	0.1090	-2.22
31/07/1998	1998	8	489	46,268	0.2235	-1.50
01/08/1998	1998	3	85	3,786	0.0183	-4.00
02/08/1998	1998	2	555	46,500	0.2247	-1.49
03/08/1998	1998	4	69	2,871	0.0139	-4.28
04/08/1998	1998	6	270	16,584	0.0801	-2.52
05/08/1998	1998	8	164	13,453	0.0650	-2.73
06/08/1998	1998	3	586	9,236	0.0446	-3.11
07/08/1998	1998	4	6	1,355	0.0065	-5.03
08/08/1998	1998	7	371	50,066	0.2419	-1.42

09/08/1998	1998	4	47	2,699	0.0130	-4.34
10/08/1998	1998	8	474	62,016	0.2996	-1.21
11/08/1998	1998	16	1,874	385,713	1.8635	0.62
12/08/1998	1998	4	40	3,870	0.0187	-3.98
13/08/1998	1998	5	1,130	64,129	0.3098	-1.17
14/08/1998	1998	3	93	5,570	0.0269	-3.62
15/08/1998	1998	2	3	224	0.0011	-6.83
16/08/1998	1998	8	1,912	153,931	0.7437	-0.30
17/08/1998	1998	11	3,423	467,866	2.2604	0.82
18/08/1998	1998	7	233	14,567	0.0704	-2.65
19/08/1998	1998	3	1,803	92,139	0.4452	-0.81
20/08/1998	1998	1	26	1,430	0.0069	-4.97
21/08/1998	1998	3	27	3,229	0.0156	-4.16
22/08/1998	1998	4	104	5,908	0.0285	-3.56
23/08/1998	1998	3	3	459	0.0022	-6.11
24/08/1998	1998	30	417	57,682	0.2787	-1.28
25/08/1998	1998	7	284	43,490	0.2101	-1.56
26/08/1998	1998	6	138	15,798	0.0763	-2.57
27/08/1998	1998	3	411	81,630	0.3944	-0.93
28/08/1998	1998	5	82	7,710	0.0372	-3.29
29/08/1998	1998	2	10	1,659	0.0080	-4.83
30/08/1998	1998	6	179	54,501	0.2633	-1.33
31/08/1998	1998	14	508	43,164	0.2085	-1.57
01/09/1998	1998	2	76	4,241	0.0205	-3.89
02/09/1998	1998	4	44	12,043	0.0582	-2.84
03/09/1998	1998	3	94	4,770	0.0230	-3.77
04/09/1998	1998	3	240	37,963	0.1834	-1.70
05/09/1998	1998	3	110	15,888	0.0768	-2.57
07/09/1998	1998	17	288	58,157	0.2810	-1.27
08/09/1998	1998	6	323	34,421	0.1663	-1.79
09/09/1998	1998	4	435	40,852	0.1974	-1.62
10/09/1998	1998	7	209	22,522	0.1088	-2.22
11/09/1998	1998	2	18	1,314	0.0063	-5.06
12/09/1998	1998	2	36	9,616	0.0465	-3.07
13/09/1998	1998	3	75	6,620	0.0320	-3.44
14/09/1998	1998	8	638	87,985	0.4251	-0.86
15/09/1998	1998	27	9,976	613,698	2.9650	1.09
16/09/1998	1998	20	1,642	230,004	1.1112	0.11
17/09/1998	1998	3	46	5,053	0.0244	-3.71
18/09/1998	1998	3	276	167,078	0.8072	-0.21
19/09/1998	1998	2	21	2,237	0.0108	-4.53
20/09/1998	1998	6	64	7,782	0.0376	-3.28
22/09/1998	1998	8	253	23,745	0.1147	-2.17
23/09/1998	1998	18	619	61,982	0.2995	-1.21
24/09/1998	1998	2	3	429	0.0021	-6.18
25/09/1998	1998	3	108	8,367	0.0404	-3.21
26/09/1998	1998	1	5	1,225	0.0059	-5.13
27/09/1998	1998	12	1,358	87,437	0.4224	-0.86
28/09/1998	1998	8	304	32,331	0.1562	-1.86
29/09/1998	1998	5	53	4,400	0.0213	-3.85
30/09/1998	1998	5	2,226	218,858	1.0574	0.06
01/10/1998	1998	76	8,914	830,481	4.0123	1.39
02/10/1998	1998	8	162	8,470	0.0409	-3.20
03/10/1998	1998	5	20	1,321	0.0064	-5.05
04/10/1998	1998	1	93	8,556	0.0413	-3.19
05/10/1998	1998	5	121	12,416	0.0600	-2.81
06/10/1998	1998	8	171	14,730	0.0712	-2.64
07/10/1998	1998	8	134	3,793	0.0183	-4.00
08/10/1998	1998	18	1,732	125,875	0.6081	-0.50
09/10/1998	1998	8	175	18,439	0.0891	-2.42
10/10/1998	1998	4	285	28,688	0.1386	-1.98
11/10/1998	1998	10	165	18,275	0.0883	-2.43
12/10/1998	1998	5	850	122,956	0.5940	-0.52
13/10/1998	1998	2	380	27,442	0.1326	-2.02
14/10/1998	1998	14	343	40,564	0.1960	-1.63
15/10/1998	1998	6	183	13,624	0.0658	-2.72
16/10/1998	1998	6	203	31,822	0.1537	-1.87
17/10/1998	1998	7	195	14,225	0.0687	-2.68

18/10/1998	1998	7	186	29,722	0.1436	-1.94
19/10/1998	1998	7	342	68,881	0.3328	-1.10
20/10/1998	1998	5	409	32,176	0.1555	-1.86
21/10/1998	1998	4	113	10,896	0.0526	-2.94
22/10/1998	1998	2	11	738	0.0036	-5.64
23/10/1998	1998	2	63	1,277	0.0062	-5.09
24/10/1998	1998	4	1,298	89,855	0.4341	-0.83
25/10/1998	1998	6	503	49,468	0.2390	-1.43
26/10/1998	1998	12	431	43,006	0.2078	-1.57
27/10/1998	1998	3	23	1,204	0.0058	-5.15
28/10/1998	1998	2	62	6,223	0.0301	-3.50
29/10/1998	1998	6	95	8,108	0.0392	-3.24
30/10/1998	1998	5	70	6,649	0.0321	-3.44
31/10/1998	1998	5	73	7,690	0.0372	-3.29
01/11/1998	1998	2	232	9,636	0.0466	-3.07
02/11/1998	1998	2	64	2,672	0.0129	-4.35
03/11/1998	1998	2	381	35,036	0.1693	-1.78
04/11/1998	1998	3	89	3,443	0.0166	-4.10
05/11/1998	1998	6	228	11,733	0.0567	-2.87
06/11/1998	1998	4	224	13,036	0.0630	-2.76
07/11/1998	1998	7	1,425	207,936	1.0046	0.00
08/11/1998	1998	5	358	18,652	0.0901	-2.41
09/11/1998	1998	5	53	3,824	0.0185	-3.99
10/11/1998	1998	6	184	10,525	0.0508	-2.98
11/11/1998	1998	13	978	76,659	0.3704	-0.99
12/11/1998	1998	3	73	5,776	0.0279	-3.58
13/11/1998	1998	5	98	11,278	0.0545	-2.91
14/11/1998	1998	9	2,526	60,200	0.2908	-1.23
15/11/1998	1998	6	1,355	166,721	0.8055	-0.22
16/11/1998	1998	2	27	1,104	0.0053	-5.23
17/11/1998	1998	2	34	666	0.0032	-5.74
18/11/1998	1998	5	60	1,540	0.0074	-4.90
19/11/1998	1998	3	47	3,713	0.0179	-4.02
20/11/1998	1998	3	233	17,879	0.0864	-2.45
21/11/1998	1998	3	152	6,285	0.0304	-3.49
22/11/1998	1998	6	103	7,755	0.0375	-3.28
23/11/1998	1998	9	375	19,183	0.0927	-2.38
24/11/1998	1998	2	130	2,810	0.0136	-4.30
25/11/1998	1998	2	56	4,416	0.0213	-3.85
26/11/1998	1998	6	191	20,321	0.0982	-2.32
27/11/1998	1998	6	167	20,215	0.0977	-2.33
28/11/1998	1998	3	236	12,769	0.0617	-2.79
29/11/1998	1998	5	2,752	148,436	0.7171	-0.33
30/11/1998	1998	3	56	4,862	0.0235	-3.75
01/12/1998	1998	29	2,051	123,518	0.5968	-0.52
02/12/1998	1998	3	85	3,639	0.0176	-4.04
03/12/1998	1998	3	23	722	0.0035	-5.66
04/12/1998	1998	4	519	49,524	0.2393	-1.43
05/12/1998	1998	3	371	17,021	0.0822	-2.50
06/12/1998	1998	2	6	507	0.0024	-6.01
07/12/1998	1998	6	495	39,208	0.1894	-1.66
08/12/1998	1998	7	1,067	28,436	0.1374	-1.98
09/12/1998	1998	5	75	8,037	0.0388	-3.25
10/12/1998	1998	4	633	58,680	0.2835	-1.26
11/12/1998	1998	2	196	12,272	0.0593	-2.83
12/12/1998	1998	7	1,878	211,747	1.0230	0.02
13/12/1998	1998	3	32	1,126	0.0054	-5.21
14/12/1998	1998	2	10	1,895	0.0092	-4.69
15/12/1998	1998	3	26	2,047	0.0099	-4.62
16/12/1998	1998	3	154	24,403	0.1179	-2.14
17/12/1998	1998	2	189	12,987	0.0627	-2.77
18/12/1998	1998	1	6	210	0.0010	-6.89
19/12/1998	1998	4	582	118,592	0.5730	-0.56
20/12/1998	1998	1	24	840	0.0041	-5.51
21/12/1998	1998	6	1,719	77,145	0.3727	-0.99
22/12/1998	1998	25	1,340	109,101	0.5271	-0.64
23/12/1998	1998	4	24	1,848	0.0089	-4.72
25/12/1998	1998	4	275	18,272	0.0883	-2.43

26/12/1998	1998	1	1	175	0.0008	-7.08
27/12/1998	1998	3	971	59,104	0.2855	-1.25
28/12/1998	1998	5	524	34,888	0.1686	-1.78
29/12/1998	1998	3	10	713	0.0034	-5.67
30/12/1998	1998	13	380	44,464	0.2148	-1.54
31/12/1998	1998	4	41	4,534	0.0219	-3.82
01/01/1999	1999	5	744	152,303	0.7312	-0.31
02/01/1999	1999	7	1,132	62,274	0.2990	-1.21
03/01/1999	1999	25	3,010	346,521	1.6635	0.51
04/01/1999	1999	3	27	6,924	0.0332	-3.40
05/01/1999	1999	2	100	13,475	0.0647	-2.74
06/01/1999	1999	8	272	35,652	0.1712	-1.77
07/01/1999	1999	1	15	960	0.0046	-5.38
08/01/1999	1999	1	1	65	0.0003	-8.07
09/01/1999	1999	9	973	160,253	0.7693	-0.26
11/01/1999	1999	2	390	24,471	0.1175	-2.14
12/01/1999	1999	4	327	22,112	0.1062	-2.24
13/01/1999	1999	3	66	3,054	0.0147	-4.22
14/01/1999	1999	4	80	10,021	0.0481	-3.03
15/01/1999	1999	10	918	217,035	1.0419	0.04
16/01/1999	1999	8	773	202,718	0.9732	-0.03
17/01/1999	1999	3	349	36,379	0.1746	-1.75
18/01/1999	1999	19	414	83,506	0.4009	-0.91
19/01/1999	1999	10	36	4,305	0.0207	-3.88
20/01/1999	1999	2	249	10,860	0.0521	-2.95
21/01/1999	1999	2	17	1,298	0.0062	-5.08
22/01/1999	1999	4	19	1,933	0.0093	-4.68
23/01/1999	1999	5	30	3,747	0.0180	-4.02
24/01/1999	1999	8	67	8,239	0.0396	-3.23
25/01/1999	1999	4	40	6,261	0.0301	-3.50
26/01/1999	1999	2	1,732	79,562	0.3819	-0.96
27/01/1999	1999	2	35	4,599	0.0221	-3.81
28/01/1999	1999	9	418	27,715	0.1330	-2.02
30/01/1999	1999	8	146	7,859	0.0377	-3.28
31/01/1999	1999	2	6	1,695	0.0081	-4.81
01/02/1999	1999	4	515	41,211	0.1978	-1.62
02/02/1999	1999	9	889	121,468	0.5831	-0.54
03/02/1999	1999	1	1	31	0.0001	-8.81
04/02/1999	1999	3	44	7,325	0.0352	-3.35
05/02/1999	1999	7	174	10,260	0.0493	-3.01
06/02/1999	1999	2	8	1,674	0.0080	-4.82
07/02/1999	1999	4	341	29,769	0.1429	-1.95
09/02/1999	1999	1	2	262	0.0013	-6.68
10/02/1999	1999	3	129	23,596	0.1133	-2.18
11/02/1999	1999	3	769	184,976	0.8880	-0.12
12/02/1999	1999	4	84	4,719	0.0227	-3.79
13/02/1999	1999	3	17	1,313	0.0063	-5.07
14/02/1999	1999	1	1	165	0.0008	-7.14
15/02/1999	1999	2	9	279	0.0013	-6.62
16/02/1999	1999	4	14	1,578	0.0076	-4.88
17/02/1999	1999	1	1	21	0.0001	-9.20
18/02/1999	1999	5	64	3,775	0.0181	-4.01
19/02/1999	1999	3	137	10,454	0.0502	-2.99
20/02/1999	1999	1	12	708	0.0034	-5.68
21/02/1999	1999	1	18	810	0.0039	-5.55
22/02/1999	1999	3	753	32,726	0.1571	-1.85
23/02/1999	1999	3	197	13,116	0.0630	-2.77
24/02/1999	1999	4	36	2,211	0.0106	-4.55
27/02/1999	1999	8	56	6,033	0.0290	-3.54
28/02/1999	1999	5	27	2,865	0.0138	-4.29
01/03/1999	1999	6	1,635	82,556	0.3963	-0.93
02/03/1999	1999	5	180	15,324	0.0736	-2.61
03/03/1999	1999	10	3,687	90,927	0.4365	-0.83
04/03/1999	1999	37	4,870	937,804	4.5020	1.50
05/03/1999	1999	3	36	7,753	0.0372	-3.29
06/03/1999	1999	3	191	13,247	0.0636	-2.76
07/03/1999	1999	4	34	3,970	0.0191	-3.96
08/03/1999	1999	2	31	2,393	0.0115	-4.47

09/03/1999	1999	3	19	3,279	0.0157	-4.15
10/03/1999	1999	3	26	1,835	0.0088	-4.73
11/03/1999	1999	1	63	5,922	0.0284	-3.56
12/03/1999	1999	6	1,775	78,140	0.3751	-0.98
13/03/1999	1999	1	54	3,780	0.0181	-4.01
14/03/1999	1999	3	34	3,634	0.0174	-4.05
15/03/1999	1999	23	1,023	50,765	0.2437	-1.41
16/03/1999	1999	5	136	32,564	0.1563	-1.86
17/03/1999	1999	3	33	2,310	0.0111	-4.50
18/03/1999	1999	2	83	3,567	0.0171	-4.07
19/03/1999	1999	4	613	43,733	0.2099	-1.56
20/03/1999	1999	5	578	51,410	0.2468	-1.40
21/03/1999	1999	5	1,506	71,013	0.3409	-1.08
22/03/1999	1999	19	1,616	189,693	0.9106	-0.09
23/03/1999	1999	8	386	22,970	0.1103	-2.20
24/03/1999	1999	1	6	1,140	0.0055	-5.21
25/03/1999	1999	2	5	1,577	0.0076	-4.88
27/03/1999	1999	7	83	7,073	0.0340	-3.38
28/03/1999	1999	5	75	6,036	0.0290	-3.54
29/03/1999	1999	1	28	8,064	0.0387	-3.25
30/03/1999	1999	3	113	9,671	0.0464	-3.07
31/03/1999	1999	7	1,511	72,544	0.3483	-1.05
01/04/1999	1999	2	159	6,229	0.0299	-3.51
02/04/1999	1999	7	147	12,532	0.0602	-2.81
03/04/1999	1999	6	1,075	113,801	0.5463	-0.60
04/04/1999	1999	1	1	71	0.0003	-7.98
05/04/1999	1999	1	5	190	0.0009	-7.00
06/04/1999	1999	3	145	17,148	0.0823	-2.50
07/04/1999	1999	3	30	5,200	0.0250	-3.69
08/04/1999	1999	17	937	48,281	0.2318	-1.46
09/04/1999	1999	3	37	1,101	0.0053	-5.24
10/04/1999	1999	3	93	7,516	0.0361	-3.32
11/04/1999	1999	11	2,029	374,950	1.8000	0.59
12/04/1999	1999	3	1,685	17,971	0.0863	-2.45
13/04/1999	1999	8	373	23,217	0.1115	-2.19
14/04/1999	1999	4	23	4,656	0.0224	-3.80
15/04/1999	1999	12	3,567	281,364	1.3507	0.30
16/04/1999	1999	3	143	20,781	0.0998	-2.30
17/04/1999	1999	4	194	12,446	0.0597	-2.82
18/04/1999	1999	7	189	14,975	0.0719	-2.63
19/04/1999	1999	1	1	225	0.0011	-6.83
21/04/1999	1999	4	291	17,588	0.0844	-2.47
22/04/1999	1999	2	23	1,477	0.0071	-4.95
23/04/1999	1999	1	2	290	0.0014	-6.58
24/04/1999	1999	7	164	11,864	0.0570	-2.87
25/04/1999	1999	2	16	1,491	0.0072	-4.94
26/04/1999	1999	5	92	11,180	0.0537	-2.92
27/04/1999	1999	1	40	8,720	0.0419	-3.17
28/04/1999	1999	1	1	91	0.0004	-7.74
29/04/1999	1999	2	2	279	0.0013	-6.62
30/04/1999	1999	4	54	4,209	0.0202	-3.90
01/05/1999	1999	1	1	110	0.0005	-7.55
02/05/1999	1999	4	115	5,903	0.0283	-3.56
03/05/1999	1999	7	112	8,066	0.0387	-3.25
04/05/1999	1999	5	314	18,932	0.0909	-2.40
05/05/1999	1999	9	177	15,551	0.0747	-2.59
06/05/1999	1999	4	741	29,171	0.1400	-1.97
07/05/1999	1999	2	11	962	0.0046	-5.38
08/05/1999	1999	11	2,766	424,530	2.0380	0.71
09/05/1999	1999	6	77	12,021	0.0577	-2.85
10/05/1999	1999	2	66	7,643	0.0367	-3.31
11/05/1999	1999	2	27	1,434	0.0069	-4.98
12/05/1999	1999	7	761	83,281	0.3998	-0.92
13/05/1999	1999	2	1,757	17,570	0.0843	-2.47
16/05/1999	1999	2	22	616	0.0030	-5.82
17/05/1999	1999	3	135	13,241	0.0636	-2.76
18/05/1999	1999	2	31	782	0.0038	-5.58
19/05/1999	1999	13	1,094	120,676	0.5793	-0.55

20/05/1999	1999	10	797	54,483	0.2616	-1.34
22/05/1999	1999	1	1	229	0.0011	-6.81
23/05/1999	1999	2	26	2,900	0.0139	-4.27
24/05/1999	1999	4	174	11,636	0.0559	-2.88
25/05/1999	1999	20	1,184	130,379	0.6259	-0.47
26/05/1999	1999	3	317	10,734	0.0515	-2.97
27/05/1999	1999	2	28	10,151	0.0487	-3.02
28/05/1999	1999	1	18	2,736	0.0131	-4.33
29/05/1999	1999	6	658	95,314	0.4576	-0.78
30/05/1999	1999	3	51	4,290	0.0206	-3.88
31/05/1999	1999	4	899	65,253	0.3133	-1.16
01/06/1999	1999	3	133	52,079	0.2500	-1.39
02/06/1999	1999	3	169	70,606	0.3390	-1.08
03/06/1999	1999	8	1,727	122,898	0.5900	-0.53
04/06/1999	1999	6	98	10,711	0.0514	-2.97
05/06/1999	1999	4	170	6,937	0.0333	-3.40
06/06/1999	1999	6	54	4,908	0.0236	-3.75
07/06/1999	1999	14	255	29,182	0.1401	-1.97
08/06/1999	1999	6	192	20,084	0.0964	-2.34
09/06/1999	1999	12	611	56,146	0.2695	-1.31
10/06/1999	1999	9	1,382	105,042	0.5043	-0.68
11/06/1999	1999	11	1,491	79,730	0.3828	-0.96
12/06/1999	1999	3	2,942	181,978	0.8736	-0.14
13/06/1999	1999	7	1,245	20,715	0.0994	-2.31
14/06/1999	1999	8	549	48,015	0.2305	-1.47
15/06/1999	1999	13	185	10,516	0.0505	-2.99
16/06/1999	1999	4	29	2,585	0.0124	-4.39
17/06/1999	1999	4	28	2,100	0.0101	-4.60
18/06/1999	1999	14	2,297	102,134	0.4903	-0.71
19/06/1999	1999	7	241	26,783	0.1286	-2.05
20/06/1999	1999	3	115	8,661	0.0416	-3.18
21/06/1999	1999	3	15	1,065	0.0051	-5.28
22/06/1999	1999	6	600	142,660	0.6849	-0.38
23/06/1999	1999	4	33	3,558	0.0171	-4.07
24/06/1999	1999	17	2,143	146,233	0.7020	-0.35
25/06/1999	1999	4	54	1,968	0.0094	-4.66
26/06/1999	1999	1	25	1,125	0.0054	-5.22
27/06/1999	1999	2	123	39,195	0.1882	-1.67
28/06/1999	1999	56	6,356	650,074	3.1208	1.14
29/06/1999	1999	87	5,628	1,182,758	5.6780	1.74
30/06/1999	1999	17	1,804	248,693	1.1939	0.18
01/07/1999	1999	8	53	3,985	0.0191	-3.96
02/07/1999	1999	7	88	5,346	0.0257	-3.66
03/07/1999	1999	6	168	19,291	0.0926	-2.38
04/07/1999	1999	37	4,574	478,572	2.2974	0.83
05/07/1999	1999	65	869	169,482	0.8136	-0.21
06/07/1999	1999	118	4,153	1,317,554	6.3251	1.84
07/07/1999	1999	29	480	77,387	0.3715	-0.99
08/07/1999	1999	8	101	10,929	0.0525	-2.95
09/07/1999	1999	6	406	33,936	0.1629	-1.81
10/07/1999	1999	6	106	10,788	0.0518	-2.96
11/07/1999	1999	2	230	21,400	0.1027	-2.28
12/07/1999	1999	3	144	17,592	0.0845	-2.47
13/07/1999	1999	10	828	38,723	0.1859	-1.68
14/07/1999	1999	3	75	10,663	0.0512	-2.97
15/07/1999	1999	5	1,025	58,727	0.2819	-1.27
16/07/1999	1999	10	54	15,248	0.0732	-2.61
17/07/1999	1999	13	211	50,947	0.2446	-1.41
18/07/1999	1999	31	533	64,026	0.3074	-1.18
19/07/1999	1999	11	703	141,509	0.6793	-0.39
20/07/1999	1999	3	37	3,470	0.0167	-4.09
21/07/1999	1999	5	107	8,456	0.0406	-3.20
22/07/1999	1999	3	15	1,496	0.0072	-4.94
23/07/1999	1999	3	211	55,062	0.2643	-1.33
24/07/1999	1999	10	550	41,212	0.1978	-1.62
25/07/1999	1999	5	180	39,202	0.1882	-1.67
26/07/1999	1999	2	8	1,633	0.0078	-4.85
27/07/1999	1999	8	68	4,607	0.0221	-3.81

28/07/1999	1999	7	373	24,140	0.1159	-2.16
29/07/1999	1999	17	574	144,352	0.6930	-0.37
30/07/1999	1999	10	551	43,098	0.2069	-1.58
31/07/1999	1999	7	132	12,290	0.0590	-2.83
01/08/1999	1999	15	210	23,636	0.1135	-2.18
02/08/1999	1999	13	2,917	490,719	2.3558	0.86
03/08/1999	1999	5	540	57,257	0.2749	-1.29
04/08/1999	1999	7	264	37,170	0.1784	-1.72
05/08/1999	1999	4	79	6,381	0.0306	-3.49
06/08/1999	1999	6	300	35,509	0.1705	-1.77
07/08/1999	1999	6	91	12,264	0.0589	-2.83
08/08/1999	1999	10	1,433	249,216	1.1964	0.18
09/08/1999	1999	6	141	8,655	0.0415	-3.18
10/08/1999	1999	5	231	9,676	0.0465	-3.07
11/08/1999	1999	4	567	32,416	0.1556	-1.86
12/08/1999	1999	5	255	31,874	0.1530	-1.88
13/08/1999	1999	7	271	24,096	0.1157	-2.16
14/08/1999	1999	35	4,497	235,903	1.1325	0.12
15/08/1999	1999	15	1,074	105,486	0.5064	-0.68
16/08/1999	1999	3	90	3,985	0.0191	-3.96
17/08/1999	1999	4	33	8,758	0.0420	-3.17
18/08/1999	1999	10	386	39,839	0.1913	-1.65
19/08/1999	1999	1	1	115	0.0006	-7.50
20/08/1999	1999	4	65	4,748	0.0228	-3.78
21/08/1999	1999	7	779	61,485	0.2952	-1.22
22/08/1999	1999	8	986	48,441	0.2325	-1.46
23/08/1999	1999	4	118	12,916	0.0620	-2.78
24/08/1999	1999	5	946	58,752	0.2820	-1.27
25/08/1999	1999	10	8,005	870,305	4.1780	1.43
26/08/1999	1999	1	22	1,584	0.0076	-4.88
27/08/1999	1999	19	665	76,596	0.3677	-1.00
28/08/1999	1999	6	24	3,538	0.0170	-4.08
29/08/1999	1999	3	160	11,074	0.0532	-2.93
30/08/1999	1999	2	199	7,176	0.0344	-3.37
31/08/1999	1999	1	2	206	0.0010	-6.92
01/09/1999	1999	9	1,600	47,273	0.2269	-1.48
02/09/1999	1999	2	25	9,395	0.0451	-3.10
03/09/1999	1999	1	6	996	0.0048	-5.34
04/09/1999	1999	2	75	9,154	0.0439	-3.12
05/09/1999	1999	22	6,798	367,577	1.7646	0.57
06/09/1999	1999	10	395	59,342	0.2849	-1.26
07/09/1999	1999	8	117	20,880	0.1002	-2.30
08/09/1999	1999	12	290	31,368	0.1506	-1.89
09/09/1999	1999	1	3	126	0.0006	-7.41
10/09/1999	1999	37	2,043	303,395	1.4565	0.38
11/09/1999	1999	7	80	11,764	0.0565	-2.87
12/09/1999	1999	7	1,583	158,857	0.7626	-0.27
13/09/1999	1999	2	1,337	85,592	0.4109	-0.89
15/09/1999	1999	8	1,321	116,525	0.5594	-0.58
16/09/1999	1999	149	14,512	3,840,202	18.4354	2.91
17/09/1999	1999	148	9,276	1,980,607	9.5082	2.25
18/09/1999	1999	26	308	40,174	0.1929	-1.65
19/09/1999	1999	3	34	9,585	0.0460	-3.08
20/09/1999	1999	3	923	24,433	0.1173	-2.14
21/09/1999	1999	10	856	47,365	0.2274	-1.48
22/09/1999	1999	9	1,010	101,178	0.4857	-0.72
23/09/1999	1999	7	287	26,553	0.1275	-2.06
24/09/1999	1999	8	901	57,402	0.2756	-1.29
25/09/1999	1999	4	255	32,944	0.1582	-1.84
27/09/1999	1999	2	2	164	0.0008	-7.15
28/09/1999	1999	10	770	40,937	0.1965	-1.63
29/09/1999	1999	3	46	4,523	0.0217	-3.83
30/09/1999	1999	19	369	40,926	0.1965	-1.63
01/10/1999	1999	3	49	8,950	0.0430	-3.15
02/10/1999	1999	4	89	9,830	0.0472	-3.05
04/10/1999	1999	3	354	41,345	0.1985	-1.62
05/10/1999	1999	3	11	590	0.0028	-5.87
06/10/1999	1999	3	39	5,404	0.0259	-3.65

07/10/1999	1999	5	32	2,309	0.0111	-4.50
08/10/1999	1999	9	1,784	271,389	1.3028	0.26
09/10/1999	1999	8	305	13,650	0.0655	-2.73
10/10/1999	1999	4	17	2,530	0.0121	-4.41
11/10/1999	1999	2	82	5,125	0.0246	-3.70
12/10/1999	1999	4	169	21,476	0.1031	-2.27
13/10/1999	1999	5	76	4,176	0.0200	-3.91
14/10/1999	1999	52	5,995	763,439	3.6650	1.30
15/10/1999	1999	4	57	4,484	0.0215	-3.84
16/10/1999	1999	3	232	17,396	0.0835	-2.48
17/10/1999	1999	5	435	48,076	0.2308	-1.47
18/10/1999	1999	12	1,008	65,651	0.3152	-1.15
19/10/1999	1999	3	42	2,786	0.0134	-4.31
20/10/1999	1999	5	564	30,570	0.1468	-1.92
21/10/1999	1999	5	69	12,384	0.0595	-2.82
22/10/1999	1999	10	97	5,087	0.0244	-3.71
23/10/1999	1999	9	781	42,865	0.2058	-1.58
24/10/1999	1999	1	67	5,829	0.0280	-3.58
25/10/1999	1999	3	18	2,234	0.0107	-4.54
26/10/1999	1999	10	202	22,701	0.1090	-2.22
27/10/1999	1999	22	438	57,141	0.2743	-1.29
28/10/1999	1999	3	94	3,986	0.0191	-3.96
29/10/1999	1999	3	48	4,617	0.0222	-3.81
31/10/1999	1999	2	54	4,294	0.0206	-3.88
01/11/1999	1999	1	1	177	0.0008	-7.07
02/11/1999	1999	76	7,036	1,701,002	8.1659	2.10
03/11/1999	1999	50	1,482	276,672	1.3282	0.28
04/11/1999	1999	4	204	18,891	0.0907	-2.40
05/11/1999	1999	11	213	12,472	0.0599	-2.82
06/11/1999	1999	8	1,853	98,306	0.4719	-0.75
07/11/1999	1999	6	536	50,490	0.2424	-1.42
08/11/1999	1999	4	22	1,358	0.0065	-5.03
09/11/1999	1999	10	440	35,884	0.1723	-1.76
10/11/1999	1999	9	1,181	136,391	0.6548	-0.42
11/11/1999	1999	1	52	1,768	0.0085	-4.77
12/11/1999	1999	5	144	8,205	0.0394	-3.23
13/11/1999	1999	1	1	59	0.0003	-8.17
15/11/1999	1999	6	595	55,464	0.2663	-1.32
16/11/1999	1999	3	100	8,657	0.0416	-3.18
17/11/1999	1999	4	514	70,082	0.3364	-1.09
18/11/1999	1999	3	774	97,521	0.4682	-0.76
19/11/1999	1999	5	253	42,775	0.2053	-1.58
20/11/1999	1999	4	851	64,209	0.3082	-1.18
21/11/1999	1999	3	178	7,847	0.0377	-3.28
22/11/1999	1999	4	29	1,120	0.0054	-5.23
23/11/1999	1999	2	22	2,724	0.0131	-4.34
24/11/1999	1999	3	108	14,217	0.0683	-2.68
25/11/1999	1999	2	73	3,773	0.0181	-4.01
26/11/1999	1999	5	245	26,450	0.1270	-2.06
27/11/1999	1999	6	1,179	174,582	0.8381	-0.18
28/11/1999	1999	6	503	38,785	0.1862	-1.68
29/11/1999	1999	4	44	6,199	0.0298	-3.51
30/11/1999	1999	3	112	6,022	0.0289	-3.54
01/12/1999	1999	6	3,707	207,471	0.9960	0.00
02/12/1999	1999	3	195	10,377	0.0498	-3.00
03/12/1999	1999	5	325	16,580	0.0796	-2.53
04/12/1999	1999	4	78	4,850	0.0233	-3.76
05/12/1999	1999	3	284	21,238	0.1020	-2.28
07/12/1999	1999	3	460	28,256	0.1356	-2.00
08/12/1999	1999	3	138	9,932	0.0477	-3.04
09/12/1999	1999	3	28	2,735	0.0131	-4.33
10/12/1999	1999	16	3,020	357,990	1.7186	0.54
11/12/1999	1999	142	4,885	3,339,553	16.0320	2.77
12/12/1999	1999	43	2,305	232,373	1.1155	0.11
13/12/1999	1999	16	369	74,229	0.3563	-1.03
14/12/1999	1999	16	1,209	47,703	0.2290	-1.47
15/12/1999	1999	9	76	9,592	0.0460	-3.08
16/12/1999	1999	6	86	7,562	0.0363	-3.32

17/12/1999	1999	2	6	506	0.0024	-6.02
18/12/1999	1999	2	20	2,524	0.0121	-4.41
19/12/1999	1999	3	116	8,019	0.0385	-3.26
20/12/1999	1999	1	71	14,271	0.0685	-2.68
21/12/1999	1999	10	1,630	54,950	0.2638	-1.33
22/12/1999	1999	5	749	6,422	0.0308	-3.48
23/12/1999	1999	9	872	143,554	0.6891	-0.37
24/12/1999	1999	1	34	3,944	0.0189	-3.97
25/12/1999	1999	8	662	138,823	0.6664	-0.41
26/12/1999	1999	2	7	1,022	0.0049	-5.32
28/12/1999	1999	4	188	6,922	0.0332	-3.40
29/12/1999	1999	3	30	10,577	0.0508	-2.98
30/12/1999	1999	3	97	5,210	0.0250	-3.69
31/12/1999	1999	7	1,216	169,777	0.8150	-0.20
01/01/2000	2000	1	1	277	0.0013	-6.63
02/01/2000	2000	1	10	850	0.0041	-5.51
03/01/2000	2000	4	65	1,813	0.0087	-4.75
04/01/2000	2000	11	752	140,392	0.6708	-0.40
05/01/2000	2000	5	323	43,719	0.2089	-1.57
07/01/2000	2000	2	284	13,000	0.0621	-2.78
08/01/2000	2000	10	682	51,484	0.2460	-1.40
09/01/2000	2000	2	15	1,300	0.0062	-5.08
10/01/2000	2000	3	502	6,117	0.0292	-3.53
11/01/2000	2000	1	305	39,955	0.1909	-1.66
12/01/2000	2000	20	511	56,483	0.2699	-1.31
13/01/2000	2000	3	7	551	0.0026	-5.94
14/01/2000	2000	1	1	71	0.0003	-7.99
15/01/2000	2000	4	162	54,340	0.2596	-1.35
16/01/2000	2000	2	38	5,606	0.0268	-3.62
17/01/2000	2000	4	135	8,669	0.0414	-3.18
18/01/2000	2000	5	168	17,834	0.0852	-2.46
20/01/2000	2000	1	1	59	0.0003	-8.17
21/01/2000	2000	1	1	148	0.0007	-7.25
22/01/2000	2000	4	73	6,299	0.0301	-3.50
23/01/2000	2000	4	1,353	96,667	0.4619	-0.77
24/01/2000	2000	4	219	22,059	0.1054	-2.25
25/01/2000	2000	2	11	1,122	0.0054	-5.23
26/01/2000	2000	2	30	2,835	0.0135	-4.30
27/01/2000	2000	1	101	4,747	0.0227	-3.79
29/01/2000	2000	2	46	6,648	0.0318	-3.45
30/01/2000	2000	2	28	1,174	0.0056	-5.18
31/01/2000	2000	1	84	7,224	0.0345	-3.37
01/02/2000	2000	2	47	2,403	0.0115	-4.47
02/02/2000	2000	1	1	36	0.0002	-8.67
03/02/2000	2000	1	5	2,070	0.0099	-4.62
04/02/2000	2000	2	94	8,003	0.0382	-3.26
05/02/2000	2000	3	1,277	186,476	0.8910	-0.12
07/02/2000	2000	2	107	8,546	0.0408	-3.20
08/02/2000	2000	3	3	221	0.0011	-6.85
09/02/2000	2000	1	2	550	0.0026	-5.94
10/02/2000	2000	3	6	346	0.0017	-6.41
11/02/2000	2000	5	315	59,386	0.2837	-1.26
12/02/2000	2000	1	1	249	0.0012	-6.73
13/02/2000	2000	4	193	31,229	0.1492	-1.90
14/02/2000	2000	17	2,176	187,034	0.8937	-0.11
15/02/2000	2000	1	1	758	0.0036	-5.62
16/02/2000	2000	2	22	1,155	0.0055	-5.20
17/02/2000	2000	2	6	513	0.0025	-6.01
18/02/2000	2000	2	66	16,146	0.0771	-2.56
19/02/2000	2000	3	5	1,228	0.0059	-5.14
20/02/2000	2000	1	16	1,824	0.0087	-4.74
21/02/2000	2000	3	17	2,240	0.0107	-4.54
23/02/2000	2000	6	193	23,065	0.1102	-2.21
24/02/2000	2000	3	27	19,118	0.0913	-2.39
25/02/2000	2000	9	539	94,401	0.4511	-0.80
26/02/2000	2000	2	4	1,252	0.0060	-5.12
27/02/2000	2000	1	67	16,482	0.0788	-2.54
28/02/2000	2000	5	43	6,957	0.0332	-3.40

29/02/2000	2000	4	13	1,435	0.0069	-4.98
01/03/2000	2000	4	45	5,561	0.0266	-3.63
02/03/2000	2000	1	36	1,872	0.0089	-4.72
05/03/2000	2000	4	819	262,231	1.2529	0.23
06/03/2000	2000	2	49	3,844	0.0184	-4.00
07/03/2000	2000	4	20	1,486	0.0071	-4.95
08/03/2000	2000	1	157	49,455	0.2363	-1.44
09/03/2000	2000	7	674	74,035	0.3537	-1.04
10/03/2000	2000	5	597	12,882	0.0616	-2.79
11/03/2000	2000	54	5,324	3,732,476	17.8339	2.88 MED
12/03/2000	2000	88	4,041	1,818,609	8.6894	2.16
13/03/2000	2000	22	1,333	70,333	0.3361	-1.09
14/03/2000	2000	5	46	6,707	0.0320	-3.44
15/03/2000	2000	6	286	51,575	0.2464	-1.40
16/03/2000	2000	2	5	621	0.0030	-5.82
17/03/2000	2000	9	216	15,313	0.0732	-2.62
18/03/2000	2000	4	17	1,701	0.0081	-4.81
19/03/2000	2000	2	53	20,457	0.0977	-2.33
20/03/2000	2000	8	772	116,685	0.5575	-0.58
22/03/2000	2000	2	5	865	0.0041	-5.49
23/03/2000	2000	5	53	3,337	0.0159	-4.14
24/03/2000	2000	1	1	21	0.0001	-9.21
25/03/2000	2000	3	98	3,718	0.0178	-4.03
26/03/2000	2000	1	26	2,496	0.0119	-4.43
27/03/2000	2000	2	44	2,012	0.0096	-4.64
28/03/2000	2000	5	203	7,005	0.0335	-3.40
29/03/2000	2000	4	75	12,220	0.0584	-2.84
30/03/2000	2000	2	47	2,484	0.0119	-4.43
31/03/2000	2000	3	115	5,863	0.0280	-3.58
01/04/2000	2000	6	385	35,262	0.1685	-1.78
02/04/2000	2000	4	344	32,105	0.1534	-1.87
03/04/2000	2000	5	133	9,832	0.0470	-3.06
04/04/2000	2000	6	225	11,636	0.0556	-2.89
05/04/2000	2000	2	19	1,514	0.0072	-4.93
06/04/2000	2000	4	682	48,209	0.2303	-1.47
07/04/2000	2000	6	1,075	48,955	0.2339	-1.45
08/04/2000	2000	68	16,655	1,987,797	9.4978	2.25 MED
09/04/2000	2000	27	2,903	187,394	0.8954	-0.11
10/04/2000	2000	5	65	8,863	0.0423	-3.16
11/04/2000	2000	3	3	317	0.0015	-6.49
12/04/2000	2000	4	202	18,495	0.0884	-2.43
13/04/2000	2000	2	11	873	0.0042	-5.48
14/04/2000	2000	3	478	20,508	0.0980	-2.32
15/04/2000	2000	4	100	8,752	0.0418	-3.17
16/04/2000	2000	2	37	2,384	0.0114	-4.47
17/04/2000	2000	1	160	8,800	0.0420	-3.17
18/04/2000	2000	11	450	35,526	0.1697	-1.77
19/04/2000	2000	1	83	3,652	0.0174	-4.05
20/04/2000	2000	2	11	3,796	0.0181	-4.01
21/04/2000	2000	1	21	10,941	0.0523	-2.95
22/04/2000	2000	4	88	7,950	0.0380	-3.27
23/04/2000	2000	3	89	2,490	0.0119	-4.43
24/04/2000	2000	6	60	6,365	0.0304	-3.49
25/04/2000	2000	4	1,807	92,378	0.4414	-0.82
26/04/2000	2000	2	1,413	87,534	0.4182	-0.87
27/04/2000	2000	5	184	24,343	0.1163	-2.15
28/04/2000	2000	2	134	8,693	0.0415	-3.18
29/04/2000	2000	4	21	6,958	0.0332	-3.40
30/04/2000	2000	2	27	3,470	0.0166	-4.10
01/05/2000	2000	3	10	2,110	0.0101	-4.60
02/05/2000	2000	2	2	198	0.0009	-6.96
03/05/2000	2000	2	21	1,073	0.0051	-5.27
04/05/2000	2000	1	15	1,905	0.0091	-4.70
05/05/2000	2000	5	58	2,843	0.0136	-4.30
06/05/2000	2000	4	171	34,823	0.1664	-1.79
07/05/2000	2000	15	1,401	181,789	0.8686	-0.14
08/05/2000	2000	7	772	103,350	0.4938	-0.71
09/05/2000	2000	6	203	48,611	0.2323	-1.46

10/05/2000	2000	47	1,748	210,054	1.0036	0.00
11/05/2000	2000	6	28	2,954	0.0141	-4.26
12/05/2000	2000	10	902	61,670	0.2947	-1.22
13/05/2000	2000	5	388	35,844	0.1713	-1.76
14/05/2000	2000	1	6	336	0.0016	-6.43
15/05/2000	2000	6	186	12,379	0.0591	-2.83
16/05/2000	2000	2	7	627	0.0030	-5.81
17/05/2000	2000	3	23	783	0.0037	-5.59
18/05/2000	2000	65	9,959	2,104,703	10.0563	2.31 MED
19/05/2000	2000	20	160	44,194	0.2112	-1.56
20/05/2000	2000	7	1,522	83,298	0.3980	-0.92
21/05/2000	2000	7	141	20,131	0.0962	-2.34
22/05/2000	2000	1	47	2,256	0.0108	-4.53
23/05/2000	2000	2	2	515	0.0025	-6.01
24/05/2000	2000	32	3,827	296,321	1.4158	0.35
25/05/2000	2000	6	207	18,242	0.0872	-2.44
26/05/2000	2000	7	92	6,905	0.0330	-3.41
27/05/2000	2000	5	642	86,959	0.4155	-0.88
28/05/2000	2000	5	391	54,653	0.2611	-1.34
29/05/2000	2000	3	25	2,177	0.0104	-4.57
30/05/2000	2000	6	100	7,991	0.0382	-3.27
31/05/2000	2000	7	508	35,152	0.1680	-1.78
01/06/2000	2000	4	88	10,873	0.0520	-2.96
02/06/2000	2000	133	19,651	6,031,329	28.8179	3.36 MED
03/06/2000	2000	27	478	78,272	0.3740	-0.98
04/06/2000	2000	8	382	62,391	0.2981	-1.21
05/06/2000	2000	11	347	77,370	0.3697	-1.00
06/06/2000	2000	20	2,964	180,961	0.8646	-0.15
07/06/2000	2000	8	131	6,103	0.0292	-3.53
08/06/2000	2000	2	56	4,449	0.0213	-3.85
09/06/2000	2000	7	148	13,085	0.0625	-2.77
10/06/2000	2000	2	11	3,119	0.0149	-4.21
11/06/2000	2000	13	1,622	151,848	0.7255	-0.32
12/06/2000	2000	8	1,843	211,586	1.0110	0.01
13/06/2000	2000	9	514	86,104	0.4114	-0.89
14/06/2000	2000	5	118	12,095	0.0578	-2.85
15/06/2000	2000	3	116	12,362	0.0591	-2.83
16/06/2000	2000	15	642	71,788	0.3430	-1.07
17/06/2000	2000	11	501	53,454	0.2554	-1.36
18/06/2000	2000	5	201	24,594	0.1175	-2.14
19/06/2000	2000	4	147	7,237	0.0346	-3.36
20/06/2000	2000	3	33	3,657	0.0175	-4.05
21/06/2000	2000	12	478	55,949	0.2673	-1.32
22/06/2000	2000	18	1,024	68,914	0.3293	-1.11
23/06/2000	2000	7	67	13,394	0.0640	-2.75
24/06/2000	2000	9	372	31,007	0.1482	-1.91
25/06/2000	2000	17	992	86,407	0.4129	-0.88
26/06/2000	2000	18	1,431	127,262	0.6081	-0.50
27/06/2000	2000	19	1,448	140,534	0.6715	-0.40
28/06/2000	2000	2	7	903	0.0043	-5.45
29/06/2000	2000	15	1,609	145,715	0.6962	-0.36
30/06/2000	2000	2	4	644	0.0031	-5.78
01/07/2000	2000	5	97	6,808	0.0325	-3.43
02/07/2000	2000	11	217	21,920	0.1047	-2.26
03/07/2000	2000	8	209	20,086	0.0960	-2.34
04/07/2000	2000	10	123	8,899	0.0425	-3.16
05/07/2000	2000	3	39	2,346	0.0112	-4.49
06/07/2000	2000	5	198	15,440	0.0738	-2.61
07/07/2000	2000	2	34	4,634	0.0221	-3.81
08/07/2000	2000	5	291	37,263	0.1780	-1.73
09/07/2000	2000	7	398	43,942	0.2100	-1.56
10/07/2000	2000	4	140	20,669	0.0988	-2.32
11/07/2000	2000	5	244	11,256	0.0538	-2.92
12/07/2000	2000	9	180	9,923	0.0474	-3.05
13/07/2000	2000	7	79	10,212	0.0488	-3.02
14/07/2000	2000	7	1,735	210,459	1.0056	0.01
15/07/2000	2000	20	648	164,645	0.7867	-0.24
16/07/2000	2000	7	216	18,403	0.0879	-2.43

17/07/2000	2000	11	170	17,279	0.0826	-2.49
18/07/2000	2000	8	135	27,633	0.1320	-2.02
19/07/2000	2000	7	138	9,794	0.0468	-3.06
20/07/2000	2000	4	61	5,402	0.0258	-3.66
21/07/2000	2000	4	170	16,745	0.0800	-2.53
22/07/2000	2000	5	21	4,983	0.0238	-3.74
23/07/2000	2000	6	164	11,572	0.0553	-2.90
24/07/2000	2000	1	2	162	0.0008	-7.16
25/07/2000	2000	4	56	16,579	0.0792	-2.54
26/07/2000	2000	5	72	6,998	0.0334	-3.40
27/07/2000	2000	8	420	34,953	0.1670	-1.79
28/07/2000	2000	1	1	96	0.0005	-7.69
29/07/2000	2000	1	16	2,656	0.0127	-4.37
30/07/2000	2000	8	2,342	302,345	1.4446	0.37
31/07/2000	2000	4	1,338	70,732	0.3380	-1.08
01/08/2000	2000	8	69	4,766	0.0228	-3.78
02/08/2000	2000	2	170	34,418	0.1645	-1.81
03/08/2000	2000	27	2,604	154,289	0.7372	-0.30
04/08/2000	2000	14	518	43,531	0.2080	-1.57
05/08/2000	2000	2	47	4,251	0.0203	-3.90
06/08/2000	2000	8	1,065	92,801	0.4434	-0.81
07/08/2000	2000	9	201	17,865	0.0854	-2.46
08/08/2000	2000	8	1,504	232,093	1.1089	0.10
09/08/2000	2000	15	3,745	314,248	1.5015	0.41
10/08/2000	2000	10	1,062	80,947	0.3868	-0.95
11/08/2000	2000	18	2,455	223,570	1.0682	0.07
12/08/2000	2000	5	109	4,046	0.0193	-3.95
13/08/2000	2000	9	103	4,910	0.0235	-3.75
14/08/2000	2000	9	194	53,355	0.2549	-1.37
15/08/2000	2000	5	180	20,215	0.0966	-2.34
16/08/2000	2000	22	731	130,358	0.6229	-0.47
17/08/2000	2000	3	54	2,637	0.0126	-4.37
18/08/2000	2000	3	396	26,292	0.1256	-2.07
19/08/2000	2000	2	108	5,679	0.0271	-3.61
20/08/2000	2000	6	225	14,062	0.0672	-2.70
21/08/2000	2000	5	45	2,438	0.0116	-4.45
22/08/2000	2000	3	3	674	0.0032	-5.74
23/08/2000	2000	4	112	15,058	0.0719	-2.63
24/08/2000	2000	2	47	2,427	0.0116	-4.46
27/08/2000	2000	3	450	50,867	0.2430	-1.41
28/08/2000	2000	4	81	6,770	0.0323	-3.43
29/08/2000	2000	1	52	4,732	0.0226	-3.79
30/08/2000	2000	1	16	1,328	0.0063	-5.06
31/08/2000	2000	5	130	12,988	0.0621	-2.78
01/09/2000	2000	8	1,490	88,913	0.4248	-0.86
02/09/2000	2000	33	1,457	198,043	0.9463	-0.06
03/09/2000	2000	7	3,007	191,547	0.9152	-0.09
04/09/2000	2000	3	21	3,335	0.0159	-4.14
06/09/2000	2000	5	60	4,510	0.0215	-3.84
07/09/2000	2000	1	26	2,288	0.0109	-4.52
08/09/2000	2000	2	39	3,482	0.0166	-4.10
10/09/2000	2000	3	120	8,260	0.0395	-3.23
11/09/2000	2000	4	185	14,665	0.0701	-2.66
12/09/2000	2000	4	28	1,758	0.0084	-4.78
13/09/2000	2000	9	573	64,615	0.3087	-1.18
14/09/2000	2000	3	158	11,259	0.0538	-2.92
15/09/2000	2000	5	568	40,835	0.1951	-1.63
16/09/2000	2000	3	178	15,428	0.0737	-2.61
17/09/2000	2000	10	552	71,245	0.3404	-1.08
18/09/2000	2000	1	1	59	0.0003	-8.17
19/09/2000	2000	5	438	40,723	0.1946	-1.64
20/09/2000	2000	3	75	11,011	0.0526	-2.94
21/09/2000	2000	6	232	6,469	0.0309	-3.48
22/09/2000	2000	2	2	168	0.0008	-7.13
23/09/2000	2000	2	644	48,139	0.2300	-1.47
24/09/2000	2000	10	1,059	149,810	0.7158	-0.33
25/09/2000	2000	2	113	6,349	0.0303	-3.50
26/09/2000	2000	7	3,874	159,013	0.7598	-0.27

27/09/2000	2000	6	207	89,204	0.4262	-0.85
28/09/2000	2000	3	153	6,922	0.0331	-3.41
29/09/2000	2000	1	1	49	0.0002	-8.36
30/09/2000	2000	1	237	38,394	0.1834	-1.70
01/10/2000	2000	4	8	1,576	0.0075	-4.89
02/10/2000	2000	4	72	1,629	0.0078	-4.86
03/10/2000	2000	2	39	5,165	0.0247	-3.70
04/10/2000	2000	10	949	77,205	0.3689	-1.00
05/10/2000	2000	5	188	14,390	0.0688	-2.68
06/10/2000	2000	7	233	49,807	0.2380	-1.44
07/10/2000	2000	5	203	15,997	0.0764	-2.57
08/10/2000	2000	3	63	4,091	0.0195	-3.93
09/10/2000	2000	1	1	60	0.0003	-8.16
11/10/2000	2000	4	65	6,960	0.0333	-3.40
12/10/2000	2000	1	14	294	0.0014	-6.57
13/10/2000	2000	6	1,476	25,930	0.1239	-2.09
14/10/2000	2000	3	162	8,299	0.0397	-3.23
15/10/2000	2000	4	45	2,033	0.0097	-4.63
16/10/2000	2000	1	66	1,452	0.0069	-4.97
18/10/2000	2000	7	296	50,828	0.2429	-1.42
19/10/2000	2000	6	354	14,347	0.0686	-2.68
20/10/2000	2000	3	19	1,957	0.0094	-4.67
21/10/2000	2000	2	6	1,144	0.0055	-5.21
22/10/2000	2000	1	30	1,500	0.0072	-4.94
23/10/2000	2000	6	464	62,066	0.2966	-1.22
24/10/2000	2000	1	126	10,332	0.0494	-3.01
25/10/2000	2000	3	7	280	0.0013	-6.62
26/10/2000	2000	5	39	4,938	0.0236	-3.75
27/10/2000	2000	3	17	3,422	0.0164	-4.11
28/10/2000	2000	17	579	50,370	0.2407	-1.42
29/10/2000	2000	2	23	4,227	0.0202	-3.90
30/10/2000	2000	2	17	918	0.0044	-5.43
31/10/2000	2000	1	2	1,914	0.0091	-4.69
01/11/2000	2000	3	26	9,364	0.0447	-3.11
02/11/2000	2000	3	118	5,035	0.0241	-3.73
03/11/2000	2000	2	11	780	0.0037	-5.59
04/11/2000	2000	3	1,946	148,300	0.7086	-0.34
05/11/2000	2000	1	33	2,508	0.0120	-4.42
06/11/2000	2000	2	20	1,333	0.0064	-5.06
07/11/2000	2000	3	4	1,069	0.0051	-5.28
08/11/2000	2000	4	74	4,813	0.0230	-3.77
09/11/2000	2000	3	39	3,345	0.0160	-4.14
10/11/2000	2000	6	166	12,696	0.0607	-2.80
11/11/2000	2000	1	38	1,824	0.0087	-4.74
12/11/2000	2000	3	31	4,795	0.0229	-3.78
13/11/2000	2000	3	2,301	91,441	0.4369	-0.83
14/11/2000	2000	10	1,506	328,580	1.5700	0.45
15/11/2000	2000	3	2,450	74,153	0.3543	-1.04
16/11/2000	2000	4	113	6,073	0.0290	-3.54
17/11/2000	2000	3	209	13,812	0.0660	-2.72
18/11/2000	2000	3	49	1,385	0.0066	-5.02
19/11/2000	2000	7	445	19,970	0.0954	-2.35
20/11/2000	2000	4	1,153	118,917	0.5682	-0.57
21/11/2000	2000	3	555	52,121	0.2490	-1.39
22/11/2000	2000	5	339	53,786	0.2570	-1.36
23/11/2000	2000	5	270	24,080	0.1151	-2.16
24/11/2000	2000	2	88	7,073	0.0338	-3.39
25/11/2000	2000	1	16	6,064	0.0290	-3.54
26/11/2000	2000	7	416	109,581	0.5236	-0.65
27/11/2000	2000	3	79	5,581	0.0267	-3.62
28/11/2000	2000	1	11	1,243	0.0059	-5.13
29/11/2000	2000	6	667	43,525	0.2080	-1.57
30/11/2000	2000	3	1,307	287,688	1.3746	0.32
01/12/2000	2000	2	82	5,243	0.0251	-3.69
02/12/2000	2000	1	37	6,364	0.0304	-3.49
03/12/2000	2000	16	727	101,660	0.4857	-0.72
04/12/2000	2000	6	1,870	88,578	0.4232	-0.86
05/12/2000	2000	3	121	5,886	0.0281	-3.57

07/12/2000	2000	3	67	9,462	0.0452	-3.10
08/12/2000	2000	2	43	3,834	0.0183	-4.00
09/12/2000	2000	1	6	906	0.0043	-5.44
10/12/2000	2000	2	85	7,752	0.0370	-3.30
11/12/2000	2000	3	46	6,332	0.0303	-3.50
12/12/2000	2000	82	6,218	707,674	3.3813	1.22
14/12/2000	2000	2	1,900	137,832	0.6586	-0.42
15/12/2000	2000	7	65	10,172	0.0486	-3.02
16/12/2000	2000	8	1,003	269,017	1.2854	0.25
17/12/2000	2000	94	8,145	1,190,753	5.6895	1.74
18/12/2000	2000	23	447	85,143	0.4068	-0.90
19/12/2000	2000	2	9	570	0.0027	-5.91
20/12/2000	2000	3	72	4,380	0.0209	-3.87
21/12/2000	2000	3	20	2,757	0.0132	-4.33
22/12/2000	2000	1	1	71	0.0003	-7.99
23/12/2000	2000	7	113	10,029	0.0479	-3.04
25/12/2000	2000	1	32	2,592	0.0124	-4.39
26/12/2000	2000	3	116	7,887	0.0377	-3.28
27/12/2000	2000	5	134	12,297	0.0588	-2.83
29/12/2000	2000	6	1,328	104,823	0.5008	-0.69
30/12/2000	2000	5	114	15,431	0.0737	-2.61
31/12/2000	2000	1	181	27,693	0.1323	-2.02
01/01/2001	2001	6	107	5,332	0.0253	-3.68
02/01/2001	2001	1	9	162	0.0008	-7.17
03/01/2001	2001	2	60	2,042	0.0097	-4.64
04/01/2001	2001	5	625	60,177	0.2858	-1.25
05/01/2001	2001	2	85	5,661	0.0269	-3.62
06/01/2001	2001	3	126	8,409	0.0399	-3.22
07/01/2001	2001	4	567	40,244	0.1911	-1.65
08/01/2001	2001	6	387	25,727	0.1222	-2.10
09/01/2001	2001	1	59	1,180	0.0056	-5.18
10/01/2001	2001	2	200	8,405	0.0399	-3.22
11/01/2001	2001	3	56	3,468	0.0165	-4.11
12/01/2001	2001	1	1	286	0.0014	-6.60
13/01/2001	2001	3	67	5,567	0.0264	-3.63
14/01/2001	2001	3	97	6,093	0.0289	-3.54
15/01/2001	2001	5	155	36,173	0.1718	-1.76
16/01/2001	2001	6	114	15,942	0.0757	-2.58
17/01/2001	2001	2	129	6,115	0.0290	-3.54
18/01/2001	2001	3	47	1,056	0.0050	-5.30
19/01/2001	2001	2	122	9,966	0.0473	-3.05
20/01/2001	2001	1	2	288	0.0014	-6.59
21/01/2001	2001	5	136	15,800	0.0750	-2.59
22/01/2001	2001	2	860	53,840	0.2557	-1.36
23/01/2001	2001	7	982	93,699	0.4450	-0.81
24/01/2001	2001	4	62	4,335	0.0206	-3.88
25/01/2001	2001	2	260	20,270	0.0963	-2.34
26/01/2001	2001	3	916	80,816	0.3838	-0.96
28/01/2001	2001	2	5	581	0.0028	-5.89
29/01/2001	2001	1	1	179	0.0009	-7.07
30/01/2001	2001	6	710	243,708	1.1573	0.15
31/01/2001	2001	1	5	575	0.0027	-5.90
01/02/2001	2001	2	16	1,400	0.0066	-5.01
02/02/2001	2001	6	617	54,882	0.2606	-1.34
04/02/2001	2001	1	14	1,232	0.0059	-5.14
05/02/2001	2001	10	523	70,348	0.3341	-1.10
06/02/2001	2001	6	189	14,643	0.0695	-2.67
07/02/2001	2001	2	8	645	0.0031	-5.79
08/02/2001	2001	2	42	12,563	0.0597	-2.82
09/02/2001	2001	3	454	67,157	0.3189	-1.14
10/02/2001	2001	84	5,335	689,903	3.2762	1.19
11/02/2001	2001	15	715	106,095	0.5038	-0.69
12/02/2001	2001	2	5	416	0.0020	-6.23
13/02/2001	2001	4	175	22,380	0.1063	-2.24
14/02/2001	2001	5	114	25,304	0.1202	-2.12
15/02/2001	2001	3	104	7,995	0.0380	-3.27
16/02/2001	2001	2	3	647	0.0031	-5.79
17/02/2001	2001	7	2,545	235,209	1.1170	0.11

18/02/2001	2001	5	90	12,844	0.0610	-2.80
20/02/2001	2001	5	89	5,794	0.0275	-3.59
21/02/2001	2001	2	627	5,097	0.0242	-3.72
22/02/2001	2001	1	1	60	0.0003	-8.16
23/02/2001	2001	5	907	99,903	0.4744	-0.75
24/02/2001	2001	2	6	493	0.0023	-6.06
25/02/2001	2001	12	1,975	232,005	1.1018	0.10
26/02/2001	2001	2	113	8,228	0.0391	-3.24
27/02/2001	2001	6	17	2,387	0.0113	-4.48
28/02/2001	2001	1	2	268	0.0013	-6.67
02/03/2001	2001	1	1	177	0.0008	-7.08
04/03/2001	2001	1	7	889	0.0042	-5.47
05/03/2001	2001	2	9	767	0.0036	-5.62
06/03/2001	2001	2	2	252	0.0012	-6.73
07/03/2001	2001	5	61	13,327	0.0633	-2.76
08/03/2001	2001	3	191	27,863	0.1323	-2.02
09/03/2001	2001	15	303	60,797	0.2887	-1.24
10/03/2001	2001	24	463	98,848	0.4694	-0.76
11/03/2001	2001	7	1,016	55,633	0.2642	-1.33
12/03/2001	2001	7	707	27,696	0.1315	-2.03
13/03/2001	2001	2	4	477	0.0023	-6.09
14/03/2001	2001	6	200	24,170	0.1148	-2.16
15/03/2001	2001	4	34	2,668	0.0127	-4.37
16/03/2001	2001	1	10	1,130	0.0054	-5.23
17/03/2001	2001	1	1	105	0.0005	-7.60
18/03/2001	2001	6	1,549	57,915	0.2750	-1.29
19/03/2001	2001	2	2	73	0.0003	-7.97
20/03/2001	2001	2	5	782	0.0037	-5.60
21/03/2001	2001	5	218	36,999	0.1757	-1.74
22/03/2001	2001	15	1,043	401,337	1.9059	0.64
23/03/2001	2001	2	110	9,832	0.0467	-3.06
24/03/2001	2001	6	192	13,607	0.0646	-2.74
26/03/2001	2001	3	29	2,054	0.0098	-4.63
27/03/2001	2001	2	33	596	0.0028	-5.87
28/03/2001	2001	2	52	4,345	0.0206	-3.88
30/03/2001	2001	57	1,250	219,233	1.0411	0.04
31/03/2001	2001	10	922	63,209	0.3002	-1.20
01/04/2001	2001	3	38	14,275	0.0678	-2.69
03/04/2001	2001	14	702	66,347	0.3151	-1.15
04/04/2001	2001	1	5	225	0.0011	-6.84
05/04/2001	2001	2	3	481	0.0023	-6.08
07/04/2001	2001	5	43	5,977	0.0284	-3.56
08/04/2001	2001	11	741	62,514	0.2969	-1.21
09/04/2001	2001	3	422	13,556	0.0644	-2.74
10/04/2001	2001	2	44	3,567	0.0169	-4.08
11/04/2001	2001	3	70	4,320	0.0205	-3.89
13/04/2001	2001	4	109	32,010	0.1520	-1.88
14/04/2001	2001	14	1,433	115,530	0.5486	-0.60
15/04/2001	2001	5	688	63,794	0.3029	-1.19
16/04/2001	2001	2	17	8,069	0.0383	-3.26
17/04/2001	2001	2	45	13,659	0.0649	-2.74
19/04/2001	2001	8	110	8,855	0.0421	-3.17
20/04/2001	2001	7	347	37,576	0.1784	-1.72
21/04/2001	2001	5	1,882	398,497	1.8924	0.64
22/04/2001	2001	13	533	59,365	0.2819	-1.27
23/04/2001	2001	4	71	6,679	0.0317	-3.45
24/04/2001	2001	8	44	7,057	0.0335	-3.40
26/04/2001	2001	2	105	5,741	0.0273	-3.60
27/04/2001	2001	1	2	186	0.0009	-7.03
28/04/2001	2001	5	310	49,614	0.2356	-1.45
29/04/2001	2001	5	935	88,727	0.4213	-0.86
30/04/2001	2001	1	4	348	0.0017	-6.41
01/05/2001	2001	2	7	831	0.0039	-5.53
02/05/2001	2001	3	31	2,679	0.0127	-4.36
03/05/2001	2001	3	94	12,346	0.0586	-2.84
04/05/2001	2001	3	10	1,802	0.0086	-4.76
05/05/2001	2001	12	238	30,787	0.1462	-1.92
06/05/2001	2001	5	209	14,837	0.0705	-2.65

07/05/2001	2001	4	155	18,535	0.0880	-2.43
08/05/2001	2001	2	11	946	0.0045	-5.41
10/05/2001	2001	2	9	1,311	0.0062	-5.08
11/05/2001	2001	4	5	570	0.0027	-5.91
12/05/2001	2001	7	68	12,537	0.0595	-2.82
13/05/2001	2001	2	16	3,024	0.0144	-4.24
14/05/2001	2001	3	17	1,406	0.0067	-5.01
15/05/2001	2001	9	973	57,646	0.2738	-1.30
16/05/2001	2001	3	29	6,832	0.0324	-3.43
17/05/2001	2001	2	11	1,750	0.0083	-4.79
18/05/2001	2001	9	567	59,664	0.2833	-1.26
19/05/2001	2001	1	811	45,416	0.2157	-1.53
20/05/2001	2001	4	347	54,058	0.2567	-1.36
21/05/2001	2001	2	45	20,880	0.0992	-2.31
22/05/2001	2001	13	730	94,940	0.4509	-0.80
23/05/2001	2001	15	1,132	46,669	0.2216	-1.51
24/05/2001	2001	8	484	69,339	0.3293	-1.11
25/05/2001	2001	6	153	11,823	0.0561	-2.88
26/05/2001	2001	10	2,057	200,571	0.9525	-0.05
27/05/2001	2001	5	39	5,810	0.0276	-3.59
28/05/2001	2001	12	492	37,573	0.1784	-1.72
29/05/2001	2001	3	12	4,667	0.0222	-3.81
30/05/2001	2001	16	730	85,196	0.4046	-0.90
31/05/2001	2001	3	16	1,358	0.0064	-5.04
01/06/2001	2001	9	762	74,460	0.3536	-1.04
02/06/2001	2001	11	182	32,447	0.1541	-1.87
03/06/2001	2001	16	1,044	107,802	0.5119	-0.67
04/06/2001	2001	3	771	62,345	0.2961	-1.22
05/06/2001	2001	4	133	9,047	0.0430	-3.15
06/06/2001	2001	3	1,041	25,032	0.1189	-2.13
07/06/2001	2001	9	188	19,263	0.0915	-2.39
08/06/2001	2001	3	373	16,168	0.0768	-2.57
09/06/2001	2001	4	1,671	66,442	0.3155	-1.15
10/06/2001	2001	6	118	13,281	0.0631	-2.76
11/06/2001	2001	11	260	20,540	0.0975	-2.33
12/06/2001	2001	4	48	5,631	0.0267	-3.62
13/06/2001	2001	16	280	35,858	0.1703	-1.77
14/06/2001	2001	4	102	13,194	0.0627	-2.77
15/06/2001	2001	6	35	1,688	0.0080	-4.83
16/06/2001	2001	10	411	30,768	0.1461	-1.92
17/06/2001	2001	18	1,407	143,791	0.6828	-0.38
18/06/2001	2001	11	3,012	252,995	1.2014	0.18
19/06/2001	2001	8	1,174	32,160	0.1527	-1.88
20/06/2001	2001	12	978	153,917	0.7309	-0.31
21/06/2001	2001	12	228	19,136	0.0909	-2.40
22/06/2001	2001	7	484	52,795	0.2507	-1.38
23/06/2001	2001	4	30	2,810	0.0133	-4.32
24/06/2001	2001	6	55	9,230	0.0438	-3.13
25/06/2001	2001	7	97	11,664	0.0554	-2.89
26/06/2001	2001	2	63	3,525	0.0167	-4.09
27/06/2001	2001	10	2,594	197,762	0.9391	-0.06
28/06/2001	2001	7	501	30,733	0.1459	-1.92
29/06/2001	2001	11	1,454	91,412	0.4341	-0.83
30/06/2001	2001	92	12,689	5,131,482	24.3686	3.19 MED
01/07/2001	2001	73	4,534	976,209	4.6359	1.53
02/07/2001	2001	18	361	98,572	0.4681	-0.76
03/07/2001	2001	13	186	11,089	0.0527	-2.94
04/07/2001	2001	9	295	24,516	0.1164	-2.15
05/07/2001	2001	6	356	51,224	0.2433	-1.41
06/07/2001	2001	6	100	7,822	0.0371	-3.29
07/07/2001	2001	8	379	36,995	0.1757	-1.74
08/07/2001	2001	19	1,428	121,133	0.5752	-0.55
09/07/2001	2001	8	91	9,427	0.0448	-3.11
10/07/2001	2001	61	2,795	506,994	2.4076	0.88
11/07/2001	2001	20	1,341	69,822	0.3316	-1.10
12/07/2001	2001	3	3	250	0.0012	-6.74
13/07/2001	2001	3	85	5,152	0.0245	-3.71
14/07/2001	2001	3	27	5,062	0.0240	-3.73

15/07/2001	2001	7	525	87,995	0.4179	-0.87
16/07/2001	2001	2	9	598	0.0028	-5.86
17/07/2001	2001	12	1,624	56,600	0.2688	-1.31
18/07/2001	2001	1	3	201	0.0010	-6.95
19/07/2001	2001	2	31	2,605	0.0124	-4.39
20/07/2001	2001	3	38	2,504	0.0119	-4.43
21/07/2001	2001	2	113	7,780	0.0369	-3.30
22/07/2001	2001	2	5	283	0.0013	-6.61
23/07/2001	2001	8	712	34,822	0.1654	-1.80
24/07/2001	2001	17	551	37,125	0.1763	-1.74
25/07/2001	2001	39	1,056	282,537	1.3417	0.29
26/07/2001	2001	8	288	25,295	0.1201	-2.12
27/07/2001	2001	8	337	22,841	0.1085	-2.22
28/07/2001	2001	4	248	19,123	0.0908	-2.40
29/07/2001	2001	4	253	42,032	0.1996	-1.61
30/07/2001	2001	4	126	12,003	0.0570	-2.86
31/07/2001	2001	10	123	10,861	0.0516	-2.96
01/08/2001	2001	11	932	69,340	0.3293	-1.11
02/08/2001	2001	11	424	34,643	0.1645	-1.80
03/08/2001	2001	29	3,450	306,976	1.4578	0.38
04/08/2001	2001	43	1,633	347,429	1.6499	0.50
05/08/2001	2001	14	7,497	539,623	2.5626	0.94
06/08/2001	2001	15	243	25,875	0.1229	-2.10
07/08/2001	2001	40	618	66,360	0.3151	-1.15
08/08/2001	2001	29	1,799	124,048	0.5891	-0.53
09/08/2001	2001	42	778	198,751	0.9438	-0.06
10/08/2001	2001	20	896	112,009	0.5319	-0.63
11/08/2001	2001	6	135	10,005	0.0475	-3.05
12/08/2001	2001	9	189	18,854	0.0895	-2.41
13/08/2001	2001	5	98	9,273	0.0440	-3.12
14/08/2001	2001	1	1	141	0.0007	-7.31
15/08/2001	2001	3	17	6,464	0.0307	-3.48
16/08/2001	2001	6	169	7,653	0.0363	-3.31
17/08/2001	2001	5	91	3,820	0.0181	-4.01
18/08/2001	2001	8	94	11,636	0.0553	-2.90
19/08/2001	2001	2	88	8,402	0.0399	-3.22
20/08/2001	2001	8	421	45,166	0.2145	-1.54
21/08/2001	2001	6	42	8,429	0.0400	-3.22
22/08/2001	2001	1	56	2,408	0.0114	-4.47
23/08/2001	2001	4	200	58,552	0.2781	-1.28
24/08/2001	2001	5	363	36,225	0.1720	-1.76
25/08/2001	2001	1	12	924	0.0044	-5.43
26/08/2001	2001	4	46	3,524	0.0167	-4.09
27/08/2001	2001	6	74	23,800	0.1130	-2.18
28/08/2001	2001	11	841	65,715	0.3121	-1.16
29/08/2001	2001	3	275	4,813	0.0229	-3.78
30/08/2001	2001	2	2	106	0.0005	-7.59
31/08/2001	2001	2	53	12,346	0.0586	-2.84
01/09/2001	2001	7	243	16,593	0.0788	-2.54
02/09/2001	2001	6	75	9,475	0.0450	-3.10
03/09/2001	2001	3	29	15,549	0.0738	-2.61
04/09/2001	2001	16	306	19,708	0.0936	-2.37
05/09/2001	2001	4	210	20,575	0.0977	-2.33
06/09/2001	2001	6	86	9,249	0.0439	-3.13
07/09/2001	2001	3	332	23,512	0.1117	-2.19
10/09/2001	2001	7	629	99,212	0.4711	-0.75
11/09/2001	2001	6	213	8,675	0.0412	-3.19
12/09/2001	2001	3	44	2,896	0.0138	-4.29
13/09/2001	2001	7	103	8,839	0.0420	-3.17
14/09/2001	2001	8	585	53,279	0.2530	-1.37
15/09/2001	2001	6	389	26,574	0.1262	-2.07
16/09/2001	2001	2	62	2,060	0.0098	-4.63
17/09/2001	2001	4	27	3,818	0.0181	-4.01
18/09/2001	2001	3	61	1,850	0.0088	-4.73
19/09/2001	2001	3	988	37,478	0.1780	-1.73
20/09/2001	2001	6	205	15,697	0.0745	-2.60
21/09/2001	2001	11	768	81,256	0.3859	-0.95
22/09/2001	2001	4	608	47,349	0.2249	-1.49

23/09/2001	2001	11	707	121,614	0.5775	-0.55
24/09/2001	2001	6	1,091	302,297	1.4356	0.36
25/09/2001	2001	15	831	42,080	0.1998	-1.61
26/09/2001	2001	4	14	2,197	0.0104	-4.56
27/09/2001	2001	9	1,430	91,867	0.4363	-0.83
28/09/2001	2001	7	478	67,949	0.3227	-1.13
29/09/2001	2001	4	65	8,388	0.0398	-3.22
30/09/2001	2001	3	1,859	279,520	1.3274	0.28
01/10/2001	2001	7	96	15,051	0.0715	-2.64
02/10/2001	2001	2	7	2,716	0.0129	-4.35
03/10/2001	2001	7	126	16,746	0.0795	-2.53
04/10/2001	2001	1	1	244	0.0012	-6.76
05/10/2001	2001	6	86	2,395	0.0114	-4.48
06/10/2001	2001	15	776	75,716	0.3596	-1.02
07/10/2001	2001	13	3,358	639,371	3.0363	1.11
08/10/2001	2001	6	82	4,974	0.0236	-3.75
09/10/2001	2001	4	78	6,541	0.0311	-3.47
10/10/2001	2001	4	45	1,782	0.0085	-4.77
11/10/2001	2001	4	102	14,532	0.0690	-2.67
12/10/2001	2001	4	2,793	145,890	0.6928	-0.37
13/10/2001	2001	1	5	385	0.0018	-6.30
14/10/2001	2001	42	816	146,082	0.6937	-0.37
15/10/2001	2001	13	812	78,343	0.3720	-0.99
16/10/2001	2001	4	24	2,127	0.0101	-4.60
17/10/2001	2001	18	2,482	88,428	0.4199	-0.87
18/10/2001	2001	15	1,423	32,385	0.1538	-1.87
19/10/2001	2001	5	132	9,478	0.0450	-3.10
20/10/2001	2001	5	203	20,161	0.0957	-2.35
21/10/2001	2001	9	402	16,954	0.0805	-2.52
22/10/2001	2001	5	166	11,048	0.0525	-2.95
23/10/2001	2001	2	130	9,718	0.0461	-3.08
24/10/2001	2001	6	57	3,316	0.0157	-4.15
25/10/2001	2001	12	1,319	102,409	0.4863	-0.72
26/10/2001	2001	6	400	19,371	0.0920	-2.39
27/10/2001	2001	4	141	7,113	0.0338	-3.39
28/10/2001	2001	6	108	5,501	0.0261	-3.64
29/10/2001	2001	4	393	21,853	0.1038	-2.27
30/10/2001	2001	8	340	36,435	0.1730	-1.75
31/10/2001	2001	12	1,337	82,338	0.3910	-0.94
01/11/2001	2001	14	920	265,884	1.2626	0.23
02/11/2001	2001	2	107	10,531	0.0500	-3.00
03/11/2001	2001	7	1,748	99,389	0.4720	-0.75
04/11/2001	2001	6	53	5,539	0.0263	-3.64
05/11/2001	2001	9	171	19,302	0.0917	-2.39
06/11/2001	2001	5	1,020	56,058	0.2662	-1.32
07/11/2001	2001	8	2,896	131,023	0.6222	-0.47
08/11/2001	2001	5	48	4,729	0.0225	-3.80
09/11/2001	2001	9	136	10,412	0.0494	-3.01
10/11/2001	2001	10	3,517	270,786	1.2859	0.25
11/11/2001	2001	3	177	11,240	0.0534	-2.93
12/11/2001	2001	2	23	2,554	0.0121	-4.41
13/11/2001	2001	6	598	24,599	0.1168	-2.15
14/11/2001	2001	7	612	60,329	0.2865	-1.25
15/11/2001	2001	3	151	6,463	0.0307	-3.48
16/11/2001	2001	6	682	93,625	0.4446	-0.81
17/11/2001	2001	7	676	50,216	0.2385	-1.43
18/11/2001	2001	10	1,145	113,056	0.5369	-0.62
19/11/2001	2001	5	117	4,944	0.0235	-3.75
20/11/2001	2001	2	110	6,656	0.0316	-3.45
21/11/2001	2001	3	41	1,091	0.0052	-5.26
22/11/2001	2001	12	1,475	153,380	0.7284	-0.32
23/11/2001	2001	3	37	1,432	0.0068	-4.99
24/11/2001	2001	3	913	107,992	0.5128	-0.67
25/11/2001	2001	5	328	37,735	0.1792	-1.72
26/11/2001	2001	7	1,327	173,672	0.8247	-0.19
27/11/2001	2001	3	64	7,968	0.0378	-3.27
28/11/2001	2001	1	51	9,537	0.0453	-3.09
29/11/2001	2001	2	14	1,856	0.0088	-4.73

30/11/2001	2001	5	2,022	110,882	0.5266	-0.64
01/12/2001	2001	6	68	10,994	0.0522	-2.95
02/12/2001	2001	4	147	7,714	0.0366	-3.31
03/12/2001	2001	3	352	7,969	0.0378	-3.27
04/12/2001	2001	5	242	32,266	0.1532	-1.88
05/12/2001	2001	1	56	1,288	0.0061	-5.10
06/12/2001	2001	6	163	10,644	0.0505	-2.98
07/12/2001	2001	4	121	6,356	0.0302	-3.50
08/12/2001	2001	3	62	2,615	0.0124	-4.39
09/12/2001	2001	6	35	3,747	0.0178	-4.03
12/12/2001	2001	2	24	2,940	0.0140	-4.27
13/12/2001	2001	3	10	647	0.0031	-5.79
14/12/2001	2001	4	23	3,005	0.0143	-4.25
15/12/2001	2001	5	1,068	133,605	0.6345	-0.45
16/12/2001	2001	2	786	18,321	0.0870	-2.44
17/12/2001	2001	8	152	26,960	0.1280	-2.06
18/12/2001	2001	15	3,874	167,504	0.7954	-0.23
19/12/2001	2001	2	79	8,433	0.0400	-3.22
20/12/2001	2001	9	609	56,282	0.2673	-1.32
21/12/2001	2001	1	1	74	0.0004	-7.95
22/12/2001	2001	9	46	4,654	0.0221	-3.81
23/12/2001	2001	6	224	14,255	0.0677	-2.69
24/12/2001	2001	3	188	10,514	0.0499	-3.00
25/12/2001	2001	3	152	4,783	0.0227	-3.78
27/12/2001	2001	2	56	9,722	0.0462	-3.08
28/12/2001	2001	2	49	2,273	0.0108	-4.53
29/12/2001	2001	3	3	407	0.0019	-6.25
30/12/2001	2001	4	164	10,971	0.0521	-2.95
31/12/2001	2001	1	80	3,760	0.0179	-4.03
01/01/2002	2002	6	1,587	110,103	0.5201	-0.65
02/01/2002	2002	1	1	383	0.0018	-6.31
03/01/2002	2002	5	109	6,851	0.0324	-3.43
04/01/2002	2002	2	68	3,961	0.0187	-3.98
05/01/2002	2002	6	223	10,946	0.0517	-2.96
06/01/2002	2002	5	412	36,010	0.1701	-1.77
07/01/2002	2002	10	2,092	127,760	0.6035	-0.51
08/01/2002	2002	3	21	3,492	0.0165	-4.10
09/01/2002	2002	3	61	4,591	0.0217	-3.83
10/01/2002	2002	1	289	13,583	0.0642	-2.75
11/01/2002	2002	9	182	9,036	0.0427	-3.15
12/01/2002	2002	2	399	33,633	0.1589	-1.84
13/01/2002	2002	40	7,539	911,120	4.3037	1.46
14/01/2002	2002	5	161	7,858	0.0371	-3.29
15/01/2002	2002	8	298	19,519	0.0922	-2.38
16/01/2002	2002	6	137	11,316	0.0535	-2.93
17/01/2002	2002	4	640	14,841	0.0701	-2.66
18/01/2002	2002	4	50	1,541	0.0073	-4.92
19/01/2002	2002	4	108	8,501	0.0402	-3.22
20/01/2002	2002	4	59	8,181	0.0386	-3.25
21/01/2002	2002	1	5	70	0.0003	-8.01
22/01/2002	2002	5	41	3,107	0.0147	-4.22
23/01/2002	2002	7	257	29,745	0.1405	-1.96
24/01/2002	2002	2	16	1,140	0.0054	-5.22
25/01/2002	2002	2	590	194,320	0.9179	-0.09
26/01/2002	2002	7	391	37,416	0.1767	-1.73
28/01/2002	2002	4	154	7,511	0.0355	-3.34
29/01/2002	2002	4	173	8,533	0.0403	-3.21
30/01/2002	2002	2	24	2,037	0.0096	-4.64
31/01/2002	2002	1	107	10,593	0.0500	-3.00
01/02/2002	2002	49	5,980	658,559	3.1107	1.13
02/02/2002	2002	30	1,651	169,250	0.7995	-0.22
03/02/2002	2002	1	65	5,070	0.0239	-3.73
04/02/2002	2002	1	170	6,630	0.0313	-3.46
05/02/2002	2002	2	302	12,326	0.0582	-2.84
06/02/2002	2002	3	87	3,932	0.0186	-3.99
07/02/2002	2002	13	897	65,296	0.3084	-1.18
08/02/2002	2002	3	298	24,588	0.1161	-2.15
09/02/2002	2002	3	90	4,044	0.0191	-3.96

10/02/2002	2002	7	478	58,952	0.2785	-1.28
11/02/2002	2002	8	1,334	119,806	0.5659	-0.57
12/02/2002	2002	10	259	54,005	0.2551	-1.37
14/02/2002	2002	4	61	5,442	0.0257	-3.66
15/02/2002	2002	5	332	21,887	0.1034	-2.27
16/02/2002	2002	2	10	1,070	0.0051	-5.29
17/02/2002	2002	2	963	79,111	0.3737	-0.98
18/02/2002	2002	5	84	3,160	0.0149	-4.20
19/02/2002	2002	5	135	4,547	0.0215	-3.84
20/02/2002	2002	3	28	2,081	0.0098	-4.62
21/02/2002	2002	3	16	2,599	0.0123	-4.40
22/02/2002	2002	1	5	190	0.0009	-7.02
23/02/2002	2002	2	40	8,204	0.0388	-3.25
24/02/2002	2002	3	271	21,778	0.1029	-2.27
25/02/2002	2002	1	66	4,158	0.0196	-3.93
27/02/2002	2002	5	945	29,383	0.1388	-1.97
28/02/2002	2002	7	554	24,590	0.1162	-2.15
01/03/2002	2002	3	6	590	0.0028	-5.88
02/03/2002	2002	5	618	41,937	0.1981	-1.62
03/03/2002	2002	9	419	47,815	0.2259	-1.49
04/03/2002	2002	3	115	6,460	0.0305	-3.49
05/03/2002	2002	2	32	2,656	0.0125	-4.38
09/03/2002	2002	3	267	72,155	0.3408	-1.08
10/03/2002	2002	27	1,220	160,553	0.7584	-0.28
11/03/2002	2002	4	179	22,298	0.1053	-2.25
12/03/2002	2002	2	16	2,661	0.0126	-4.38
13/03/2002	2002	1	5	510	0.0024	-6.03
14/03/2002	2002	7	206	12,383	0.0585	-2.84
15/03/2002	2002	1	49	2,254	0.0106	-4.54
16/03/2002	2002	1	157	16,956	0.0801	-2.52
17/03/2002	2002	3	27	1,794	0.0085	-4.77
18/03/2002	2002	6	239	14,688	0.0694	-2.67
19/03/2002	2002	2	74	10,108	0.0477	-3.04
20/03/2002	2002	42	2,834	328,940	1.5538	0.44
21/03/2002	2002	27	2,264	150,267	0.7098	-0.34
22/03/2002	2002	12	303	24,172	0.1142	-2.17
23/03/2002	2002	2	2	167	0.0008	-7.14
24/03/2002	2002	1	30	1,710	0.0081	-4.82
25/03/2002	2002	2	2	81	0.0004	-7.87
26/03/2002	2002	8	874	38,549	0.1821	-1.70
27/03/2002	2002	4	47	2,167	0.0102	-4.58
28/03/2002	2002	3	169	16,163	0.0763	-2.57
29/03/2002	2002	2	43	1,470	0.0069	-4.97
30/03/2002	2002	2	102	4,194	0.0198	-3.92
01/04/2002	2002	1	12	876	0.0041	-5.49
02/04/2002	2002	1	207	3,933	0.0186	-3.99
03/04/2002	2002	4	1,260	143,588	0.6782	-0.39
04/04/2002	2002	3	1,815	123,791	0.5847	-0.54
05/04/2002	2002	3	153	15,447	0.0730	-2.62
06/04/2002	2002	4	147	14,329	0.0677	-2.69
07/04/2002	2002	4	71	2,021	0.0095	-4.65
08/04/2002	2002	4	19	5,789	0.0273	-3.60
09/04/2002	2002	2	608	12,794	0.0604	-2.81
10/04/2002	2002	8	2,485	126,990	0.5998	-0.51
12/04/2002	2002	4	705	29,844	0.1410	-1.96
13/04/2002	2002	7	292	38,008	0.1795	-1.72
14/04/2002	2002	4	970	256,135	1.2099	0.19
15/04/2002	2002	4	81	5,942	0.0281	-3.57
16/04/2002	2002	9	290	33,126	0.1565	-1.85
17/04/2002	2002	4	291	25,205	0.1191	-2.13
18/04/2002	2002	4	12	1,052	0.0050	-5.30
19/04/2002	2002	27	1,214	102,804	0.4856	-0.72
20/04/2002	2002	2	14	1,133	0.0054	-5.23
21/04/2002	2002	1	111	50,172	0.2370	-1.44
22/04/2002	2002	1	1	71	0.0003	-8.00
23/04/2002	2002	5	4,994	134,406	0.6349	-0.45
25/04/2002	2002	4	983	31,848	0.1504	-1.89
26/04/2002	2002	3	406	23,107	0.1091	-2.22

27/04/2002	2002	7	481	30,949	0.1462	-1.92
28/04/2002	2002	6	33	7,902	0.0373	-3.29
29/04/2002	2002	1	1	41	0.0002	-8.55
30/04/2002	2002	2	94	3,870	0.0183	-4.00
01/05/2002	2002	5	56	4,518	0.0213	-3.85
02/05/2002	2002	4	81	6,487	0.0306	-3.49
03/05/2002	2002	70	3,801	619,524	2.9263	1.07
04/05/2002	2002	1	1	213	0.0010	-6.90
05/05/2002	2002	9	139	12,869	0.0608	-2.80
06/05/2002	2002	10	1,372	167,659	0.7919	-0.23
07/05/2002	2002	3	105	6,152	0.0291	-3.54
08/05/2002	2002	3	33	2,775	0.0131	-4.33
09/05/2002	2002	7	123	22,828	0.1078	-2.23
10/05/2002	2002	6	100	4,246	0.0201	-3.91
11/05/2002	2002	8	1,137	179,990	0.8502	-0.16
12/05/2002	2002	8	2,722	126,961	0.5997	-0.51
13/05/2002	2002	9	98	12,076	0.0570	-2.86
14/05/2002	2002	12	724	126,364	0.5969	-0.52
15/05/2002	2002	16	743	45,822	0.2164	-1.53
16/05/2002	2002	5	692	37,266	0.1760	-1.74
17/05/2002	2002	4	197	13,432	0.0634	-2.76
18/05/2002	2002	36	2,730	304,136	1.4366	0.36
19/05/2002	2002	3	3	178	0.0008	-7.08
20/05/2002	2002	3	39	5,033	0.0238	-3.74
21/05/2002	2002	4	126	6,026	0.0285	-3.56
22/05/2002	2002	2	2	430	0.0020	-6.20
23/05/2002	2002	2	15	1,075	0.0051	-5.28
24/05/2002	2002	4	625	26,265	0.1241	-2.09
25/05/2002	2002	10	306	17,298	0.0817	-2.50
26/05/2002	2002	5	157	16,042	0.0758	-2.58
27/05/2002	2002	4	110	14,658	0.0692	-2.67
28/05/2002	2002	8	259	30,803	0.1455	-1.93
29/05/2002	2002	2	843	93,270	0.4406	-0.82
30/05/2002	2002	5	129	13,745	0.0649	-2.73
31/05/2002	2002	58	7,906	1,423,157	6.7223	1.91
01/06/2002	2002	21	849	242,137	1.1437	0.13
02/06/2002	2002	24	2,294	100,153	0.4731	-0.75
03/06/2002	2002	23	10,050	806,829	3.8111	1.34
04/06/2002	2002	7	194	20,419	0.0964	-2.34
05/06/2002	2002	21	1,063	83,288	0.3934	-0.93
06/06/2002	2002	19	1,576	113,371	0.5355	-0.62
07/06/2002	2002	9	190	15,050	0.0711	-2.64
08/06/2002	2002	4	141	21,366	0.1009	-2.29
09/06/2002	2002	13	1,100	94,044	0.4442	-0.81
10/06/2002	2002	6	81	8,850	0.0418	-3.17
11/06/2002	2002	8	280	24,549	0.1160	-2.15
12/06/2002	2002	10	1,650	158,471	0.7485	-0.29
13/06/2002	2002	5	122	15,769	0.0745	-2.60
14/06/2002	2002	10	148	14,538	0.0687	-2.68
15/06/2002	2002	4	145	11,648	0.0550	-2.90
16/06/2002	2002	9	568	88,418	0.4176	-0.87
17/06/2002	2002	9	854	91,997	0.4345	-0.83
18/06/2002	2002	4	350	25,320	0.1196	-2.12
19/06/2002	2002	1	2	68	0.0003	-8.04
20/06/2002	2002	6	142	22,650	0.1070	-2.24
21/06/2002	2002	7	374	39,329	0.1858	-1.68
22/06/2002	2002	2	260	13,764	0.0650	-2.73
23/06/2002	2002	21	2,183	279,403	1.3198	0.28
24/06/2002	2002	7	190	17,187	0.0812	-2.51
25/06/2002	2002	10	2,148	102,382	0.4836	-0.73
26/06/2002	2002	13	251	42,135	0.1990	-1.61
27/06/2002	2002	30	2,376	235,118	1.1106	0.10
28/06/2002	2002	10	170	11,537	0.0545	-2.91
29/06/2002	2002	7	1,246	64,500	0.3047	-1.19
30/06/2002	2002	5	106	12,837	0.0606	-2.80
01/07/2002	2002	10	231	22,444	0.1060	-2.24
02/07/2002	2002	24	421	57,088	0.2697	-1.31
03/07/2002	2002	61	2,923	461,143	2.1782	0.78

04/07/2002	2002	41	5,706	1,065,123	5.0311	1.62
05/07/2002	2002	13	465	64,855	0.3063	-1.18
06/07/2002	2002	15	1,350	190,314	0.8989	-0.11
07/07/2002	2002	10	224	16,005	0.0756	-2.58
08/07/2002	2002	10	245	18,513	0.0874	-2.44
09/07/2002	2002	5	85	7,762	0.0367	-3.31
10/07/2002	2002	4	21	10,072	0.0476	-3.05
11/07/2002	2002	12	1,132	61,763	0.2917	-1.23
12/07/2002	2002	4	40	2,786	0.0132	-4.33
13/07/2002	2002	5	100	12,173	0.0575	-2.86
14/07/2002	2002	4	626	166,336	0.7857	-0.24
15/07/2002	2002	5	252	22,266	0.1052	-2.25
16/07/2002	2002	6	45	4,922	0.0232	-3.76
17/07/2002	2002	10	133	6,450	0.0305	-3.49
18/07/2002	2002	13	610	72,856	0.3441	-1.07
19/07/2002	2002	27	517	55,699	0.2631	-1.34
20/07/2002	2002	11	236	20,406	0.0964	-2.34
21/07/2002	2002	9	580	96,813	0.4573	-0.78
22/07/2002	2002	6	384	60,494	0.2857	-1.25
23/07/2002	2002	107	6,835	631,051	2.9808	1.09
24/07/2002	2002	15	269	20,130	0.0951	-2.35
25/07/2002	2002	7	187	12,729	0.0601	-2.81
26/07/2002	2002	9	113	17,700	0.0836	-2.48
27/07/2002	2002	5	1,913	141,268	0.6673	-0.40
28/07/2002	2002	3	32	3,852	0.0182	-4.01
29/07/2002	2002	12	337	33,059	0.1562	-1.86
30/07/2002	2002	2	78	5,058	0.0239	-3.73
31/07/2002	2002	5	330	18,427	0.0870	-2.44
01/08/2002	2002	7	35	3,673	0.0173	-4.05
02/08/2002	2002	94	13,222	2,595,748	12.2610	2.51 MED
03/08/2002	2002	23	1,179	452,718	2.1384	0.76
04/08/2002	2002	8	99	4,633	0.0219	-3.82
05/08/2002	2002	15	2,103	174,856	0.8259	-0.19
06/08/2002	2002	12	1,652	156,312	0.7383	-0.30
07/08/2002	2002	9	269	18,187	0.0859	-2.45
08/08/2002	2002	6	78	5,179	0.0245	-3.71
09/08/2002	2002	4	301	37,620	0.1777	-1.73
10/08/2002	2002	10	524	36,943	0.1745	-1.75
11/08/2002	2002	6	110	7,273	0.0344	-3.37
12/08/2002	2002	16	239	19,547	0.0923	-2.38
13/08/2002	2002	36	3,052	372,137	1.7578	0.56
14/08/2002	2002	27	471	40,720	0.1923	-1.65
15/08/2002	2002	7	53	6,663	0.0315	-3.46
16/08/2002	2002	18	1,918	223,489	1.0557	0.05
17/08/2002	2002	7	64	8,520	0.0402	-3.21
18/08/2002	2002	31	418	52,019	0.2457	-1.40
19/08/2002	2002	10	141	10,559	0.0499	-3.00
20/08/2002	2002	12	388	31,650	0.1495	-1.90
21/08/2002	2002	4	198	12,828	0.0606	-2.80
22/08/2002	2002	3	3	349	0.0016	-6.41
23/08/2002	2002	5	57	10,695	0.0505	-2.99
24/08/2002	2002	12	1,363	76,354	0.3607	-1.02
25/08/2002	2002	5	858	17,563	0.0830	-2.49
26/08/2002	2002	3	11	2,592	0.0122	-4.40
27/08/2002	2002	2	95	5,130	0.0242	-3.72
28/08/2002	2002	5	621	24,785	0.1171	-2.14
29/08/2002	2002	17	1,273	83,477	0.3943	-0.93
30/08/2002	2002	7	232	34,748	0.1641	-1.81
31/08/2002	2002	4	36	6,100	0.0288	-3.55
02/09/2002	2002	5	224	21,406	0.1011	-2.29
03/09/2002	2002	3	47	6,386	0.0302	-3.50
04/09/2002	2002	12	824	172,968	0.8170	-0.20
05/09/2002	2002	3	70	6,955	0.0329	-3.42
06/09/2002	2002	3	51	9,452	0.0446	-3.11
07/09/2002	2002	5	236	25,662	0.1212	-2.11
08/09/2002	2002	6	1,802	90,752	0.4287	-0.85
09/09/2002	2002	3	45	2,388	0.0113	-4.48
10/09/2002	2002	8	103	19,927	0.0941	-2.36

11/09/2002	2002	151	12,509	2,950,201	13.9353	2.63 MED
12/09/2002	2002	36	248	62,901	0.2971	-1.21
13/09/2002	2002	10	402	33,202	0.1568	-1.85
14/09/2002	2002	6	208	17,955	0.0848	-2.47
15/09/2002	2002	10	861	152,448	0.7201	-0.33
16/09/2002	2002	28	3,986	265,088	1.2521	0.22
17/09/2002	2002	7	219	34,012	0.1607	-1.83
18/09/2002	2002	5	135	30,207	0.1427	-1.95
19/09/2002	2002	3	4,001	69,835	0.3299	-1.11
20/09/2002	2002	3	97	29,587	0.1398	-1.97
21/09/2002	2002	4	158	14,441	0.0682	-2.69
22/09/2002	2002	4	100	6,079	0.0287	-3.55
23/09/2002	2002	7	2,950	147,710	0.6977	-0.36
24/09/2002	2002	5	176	6,873	0.0325	-3.43
25/09/2002	2002	7	224	10,054	0.0475	-3.05
26/09/2002	2002	9	4,053	167,793	0.7926	-0.23
27/09/2002	2002	8	1,000	59,109	0.2792	-1.28
28/09/2002	2002	8	565	242,357	1.1448	0.14
29/09/2002	2002	4	181	10,320	0.0487	-3.02
30/09/2002	2002	3	26	1,766	0.0083	-4.79
01/10/2002	2002	7	398	33,249	0.1571	-1.85
02/10/2002	2002	9	640	16,905	0.0799	-2.53
03/10/2002	2002	8	976	197,209	0.9315	-0.07
04/10/2002	2002	3	129	8,492	0.0401	-3.22
05/10/2002	2002	4	252	21,906	0.1035	-2.27
06/10/2002	2002	5	85	7,091	0.0335	-3.40
07/10/2002	2002	3	22	1,417	0.0067	-5.01
08/10/2002	2002	4	63	3,329	0.0157	-4.15
09/10/2002	2002	5	222	14,206	0.0671	-2.70
10/10/2002	2002	3	212	4,132	0.0195	-3.94
11/10/2002	2002	7	122	9,672	0.0457	-3.09
12/10/2002	2002	15	823	83,809	0.3959	-0.93
13/10/2002	2002	6	166	4,309	0.0204	-3.89
14/10/2002	2002	8	859	30,783	0.1454	-1.93
15/10/2002	2002	4	42	4,874	0.0230	-3.77
16/10/2002	2002	18	3,078	104,197	0.4922	-0.71
17/10/2002	2002	15	3,083	305,362	1.4424	0.37
18/10/2002	2002	5	1,463	36,674	0.1732	-1.75
19/10/2002	2002	6	144	8,654	0.0409	-3.20
20/10/2002	2002	3	795	98,060	0.4632	-0.77
21/10/2002	2002	9	414	49,710	0.2348	-1.45
22/10/2002	2002	3	121	24,057	0.1136	-2.17
23/10/2002	2002	6	138	9,901	0.0468	-3.06
24/10/2002	2002	2	27	2,934	0.0139	-4.28
25/10/2002	2002	4	54	2,637	0.0125	-4.39
26/10/2002	2002	13	1,827	105,261	0.4972	-0.70
27/10/2002	2002	11	364	27,594	0.1303	-2.04
28/10/2002	2002	4	96	4,921	0.0232	-3.76
30/10/2002	2002	1	16	784	0.0037	-5.60
31/10/2002	2002	3	51	3,106	0.0147	-4.22
01/11/2002	2002	11	200	12,892	0.0609	-2.80
02/11/2002	2002	8	162	11,493	0.0543	-2.91
03/11/2002	2002	5	61	3,953	0.0187	-3.98
04/11/2002	2002	7	45	3,206	0.0151	-4.19
05/11/2002	2002	4	1,359	99,294	0.4690	-0.76
06/11/2002	2002	63	5,498	1,124,982	5.3139	1.67
07/11/2002	2002	7	324	25,086	0.1185	-2.13
08/11/2002	2002	10	316	18,149	0.0857	-2.46
09/11/2002	2002	10	1,542	248,440	1.1735	0.16
10/11/2002	2002	10	235	31,854	0.1505	-1.89
11/11/2002	2002	11	119	13,094	0.0618	-2.78
12/11/2002	2002	7	109	18,786	0.0887	-2.42
13/11/2002	2002	3	46	2,061	0.0097	-4.63
14/11/2002	2002	6	422	99,604	0.4705	-0.75
15/11/2002	2002	11	423	21,930	0.1036	-2.27
16/11/2002	2002	5	31	3,349	0.0158	-4.15
17/11/2002	2002	75	7,623	2,502,645	11.8213	2.47 MED
18/11/2002	2002	129	8,262	4,199,010	19.8341	2.99 MED

19/11/2002	2002	46	2,276	268,674	1.2691	0.24
20/11/2002	2002	17	567	103,314	0.4880	-0.72
21/11/2002	2002	9	148	15,156	0.0716	-2.64
22/11/2002	2002	7	28	1,983	0.0094	-4.67
23/11/2002	2002	25	1,304	99,971	0.4722	-0.75
24/11/2002	2002	13	4,226	272,631	1.2878	0.25
25/11/2002	2002	3	53	4,127	0.0195	-3.94
26/11/2002	2002	2	2	224	0.0011	-6.85
27/11/2002	2002	1	12	3,192	0.0151	-4.19
28/11/2002	2002	3	39	1,898	0.0090	-4.71
29/11/2002	2002	2	182	27,830	0.1315	-2.03
30/11/2002	2002	5	174	13,861	0.0655	-2.73
01/12/2002	2002	7	1,779	206,622	0.9760	-0.02
02/12/2002	2002	2	164	9,814	0.0464	-3.07
03/12/2002	2002	4	334	47,097	0.2225	-1.50
04/12/2002	2002	2	91	1,321	0.0062	-5.08
05/12/2002	2002	5	208	6,846	0.0323	-3.43
06/12/2002	2002	1	884	40,664	0.1921	-1.65
07/12/2002	2002	13	2,782	191,589	0.9050	-0.10
08/12/2002	2002	3	8	544	0.0026	-5.96
09/12/2002	2002	5	52	4,509	0.0213	-3.85
10/12/2002	2002	2	36	7,167	0.0339	-3.39
11/12/2002	2002	14	1,804	331,940	1.5679	0.45
12/12/2002	2002	128	21,963	2,675,974	12.6400	2.54 MED
13/12/2002	2002	2	16	684	0.0032	-5.74
14/12/2002	2002	8	1,773	210,408	0.9939	-0.01
15/12/2002	2002	4	31	3,150	0.0149	-4.21
16/12/2002	2002	5	436	7,139	0.0337	-3.39
17/12/2002	2002	9	785	47,873	0.2261	-1.49
18/12/2002	2002	9	2,050	104,077	0.4916	-0.71
19/12/2002	2002	3	32	2,498	0.0118	-4.44
20/12/2002	2002	11	249	35,424	0.1673	-1.79
21/12/2002	2002	2	16	1,148	0.0054	-5.22
22/12/2002	2002	6	1,060	109,701	0.5182	-0.66
23/12/2002	2002	5	11	636	0.0030	-5.81
24/12/2002	2002	3	117	9,911	0.0468	-3.06
25/12/2002	2002	11	1,530	209,318	0.9887	-0.01
26/12/2002	2002	8	104	8,795	0.0415	-3.18
27/12/2002	2002	8	189	20,190	0.0954	-2.35
28/12/2002	2002	2	33	1,522	0.0072	-4.94
29/12/2002	2002	4	17	1,444	0.0068	-4.99
30/12/2002	2002	2	43	635	0.0030	-5.81
31/12/2002	2002	1	1	37	0.0002	-8.65
01/01/2003	2003	6	297	32,737	0.1538	-1.87
02/01/2003	2003	6	36	8,500	0.0399	-3.22
03/01/2003	2003	9	545	46,407	0.2181	-1.52
04/01/2003	2003	10	106	16,927	0.0795	-2.53
05/01/2003	2003	2	6	1,016	0.0048	-5.34
06/01/2003	2003	2	13	2,151	0.0101	-4.59
07/01/2003	2003	8	128	18,739	0.0880	-2.43
08/01/2003	2003	11	128	25,317	0.1190	-2.13
09/01/2003	2003	21	382	62,586	0.2941	-1.22
10/01/2003	2003	4	405	65,777	0.3091	-1.17
11/01/2003	2003	1	1	770	0.0036	-5.62
12/01/2003	2003	5	1,570	174,660	0.8207	-0.20
13/01/2003	2003	3	10	2,631	0.0124	-4.39
14/01/2003	2003	3	33	1,440	0.0068	-5.00
15/01/2003	2003	5	951	218,999	1.0290	0.03
16/01/2003	2003	3	53	3,602	0.0169	-4.08
17/01/2003	2003	9	2,620	189,089	0.8885	-0.12
18/01/2003	2003	4	441	114,890	0.5398	-0.62
19/01/2003	2003	4	222	27,903	0.1311	-2.03
20/01/2003	2003	8	221	20,491	0.0963	-2.34
21/01/2003	2003	5	116	8,980	0.0422	-3.17
22/01/2003	2003	4	50	17,070	0.0802	-2.52
23/01/2003	2003	6	415	40,801	0.1917	-1.65
24/01/2003	2003	3	49	3,511	0.0165	-4.10
25/01/2003	2003	3	1,768	131,901	0.6198	-0.48

26/01/2003	2003	1	291	26,772	0.1258	-2.07
27/01/2003	2003	3	16	769	0.0036	-5.62
28/01/2003	2003	3	63	9,673	0.0455	-3.09
29/01/2003	2003	3	582	30,591	0.1437	-1.94
30/01/2003	2003	5	1,307	33,364	0.1568	-1.85
31/01/2003	2003	3	24	8,657	0.0407	-3.20
01/02/2003	2003	2	42	3,362	0.0158	-4.15
02/02/2003	2003	8	1,840	141,144	0.6632	-0.41
03/02/2003	2003	7	1,170	67,885	0.3190	-1.14
04/02/2003	2003	13	499	68,046	0.3197	-1.14
05/02/2003	2003	6	313	11,922	0.0560	-2.88
06/02/2003	2003	1	26	2,600	0.0122	-4.40
07/02/2003	2003	1	56	9,688	0.0455	-3.09
08/02/2003	2003	2	6	3,483	0.0164	-4.11
09/02/2003	2003	6	69	5,515	0.0259	-3.65
10/02/2003	2003	1	1	47	0.0002	-8.42
11/02/2003	2003	1	1	92	0.0004	-7.75
12/02/2003	2003	3	25	1,773	0.0083	-4.79
14/02/2003	2003	7	1,599	53,941	0.2535	-1.37
15/02/2003	2003	3	135	16,985	0.0798	-2.53
16/02/2003	2003	4	19	1,918	0.0090	-4.71
17/02/2003	2003	7	69	9,957	0.0468	-3.06
18/02/2003	2003	3	30	2,720	0.0128	-4.36
19/02/2003	2003	5	140	7,758	0.0365	-3.31
20/02/2003	2003	1	1	316	0.0015	-6.51
21/02/2003	2003	6	40	3,601	0.0169	-4.08
22/02/2003	2003	8	1,274	383,551	1.8022	0.59
23/02/2003	2003	28	2,585	624,717	2.9354	1.08
24/02/2003	2003	10	950	133,826	0.6288	-0.46
25/02/2003	2003	2	6	858	0.0040	-5.51
26/02/2003	2003	3	96	7,378	0.0347	-3.36
27/02/2003	2003	1	17	833	0.0039	-5.54
28/02/2003	2003	3	65	8,614	0.0405	-3.21
01/03/2003	2003	1	1	64	0.0003	-8.11
02/03/2003	2003	8	494	31,554	0.1483	-1.91
03/03/2003	2003	2	51	2,084	0.0098	-4.63
04/03/2003	2003	5	11	1,428	0.0067	-5.00
05/03/2003	2003	2	20	1,580	0.0074	-4.90
07/03/2003	2003	1	6	354	0.0017	-6.40
08/03/2003	2003	5	596	109,391	0.5140	-0.67
09/03/2003	2003	2	16	990	0.0047	-5.37
10/03/2003	2003	6	252	10,645	0.0500	-3.00
11/03/2003	2003	5	79	21,227	0.0997	-2.31
12/03/2003	2003	4	268	16,027	0.0753	-2.59
13/03/2003	2003	4	90	13,101	0.0616	-2.79
14/03/2003	2003	1	1	34	0.0002	-8.74
16/03/2003	2003	11	987	177,755	0.8352	-0.18
17/03/2003	2003	2	334	99,736	0.4686	-0.76
18/03/2003	2003	5	42	1,906	0.0090	-4.72
19/03/2003	2003	3	50	4,103	0.0193	-3.95
20/03/2003	2003	4	544	46,810	0.2199	-1.51
21/03/2003	2003	11	812	151,854	0.7135	-0.34
22/03/2003	2003	3	85	9,767	0.0459	-3.08
23/03/2003	2003	3	233	30,034	0.1411	-1.96
24/03/2003	2003	5	793	21,935	0.1031	-2.27
25/03/2003	2003	1	4	196	0.0009	-6.99
26/03/2003	2003	2	834	49,713	0.2336	-1.45
27/03/2003	2003	4	24	3,033	0.0143	-4.25
28/03/2003	2003	6	536	8,572	0.0403	-3.21
29/03/2003	2003	12	2,105	146,274	0.6873	-0.37
30/03/2003	2003	2	25	4,389	0.0206	-3.88
31/03/2003	2003	10	50	7,786	0.0366	-3.31
01/04/2003	2003	5	1,399	66,500	0.3125	-1.16
02/04/2003	2003	3	185	20,037	0.0941	-2.36
03/04/2003	2003	4	118	11,041	0.0519	-2.96
04/04/2003	2003	11	3,874	214,419	1.0075	0.01
05/04/2003	2003	3	65	4,400	0.0207	-3.88
06/04/2003	2003	13	357	99,244	0.4663	-0.76

07/04/2003	2003	3	26	856	0.0040	-5.52
08/04/2003	2003	7	95	12,013	0.0564	-2.87
09/04/2003	2003	4	38	1,366	0.0064	-5.05
10/04/2003	2003	3	99	5,480	0.0257	-3.66
11/04/2003	2003	8	526	65,465	0.3076	-1.18
12/04/2003	2003	2	16	2,668	0.0125	-4.38
13/04/2003	2003	1	23	736	0.0035	-5.67
14/04/2003	2003	4	19	2,359	0.0111	-4.50
15/04/2003	2003	6	29	5,109	0.0240	-3.73
16/04/2003	2003	6	1,423	88,044	0.4137	-0.88
17/04/2003	2003	1	82	11,562	0.0543	-2.91
18/04/2003	2003	3	47	2,100	0.0099	-4.62
19/04/2003	2003	6	136	2,364	0.0111	-4.50
20/04/2003	2003	5	695	44,925	0.2111	-1.56
21/04/2003	2003	3	222	27,639	0.1299	-2.04
22/04/2003	2003	7	908	72,005	0.3383	-1.08
23/04/2003	2003	1	28	1,484	0.0070	-4.97
24/04/2003	2003	7	1,706	194,873	0.9157	-0.09
25/04/2003	2003	2	80	1,735	0.0082	-4.81
26/04/2003	2003	13	1,740	79,982	0.3758	-0.98
27/04/2003	2003	6	189	13,521	0.0635	-2.76
28/04/2003	2003	4	17	2,177	0.0102	-4.58
29/04/2003	2003	2	65	3,346	0.0157	-4.15
30/04/2003	2003	1	54	1,728	0.0081	-4.81
01/05/2003	2003	5	837	68,242	0.3207	-1.14
02/05/2003	2003	9	1,025	112,272	0.5275	-0.64
03/05/2003	2003	8	575	19,742	0.0928	-2.38
04/05/2003	2003	2	25	1,620	0.0076	-4.88
05/05/2003	2003	7	242	15,827	0.0744	-2.60
07/05/2003	2003	3	250	24,916	0.1171	-2.14
08/05/2003	2003	8	1,473	152,388	0.7160	-0.33
09/05/2003	2003	10	134	16,861	0.0792	-2.54
10/05/2003	2003	3	24	415	0.0019	-6.24
11/05/2003	2003	13	1,319	113,955	0.5354	-0.62
12/05/2003	2003	10	1,123	43,578	0.2048	-1.59
13/05/2003	2003	2	124	6,032	0.0283	-3.56
14/05/2003	2003	2	7	546	0.0026	-5.97
15/05/2003	2003	4	261	5,686	0.0267	-3.62
16/05/2003	2003	4	467	15,684	0.0737	-2.61
17/05/2003	2003	3	165	14,528	0.0683	-2.68
18/05/2003	2003	5	242	11,709	0.0550	-2.90
19/05/2003	2003	1	57	2,793	0.0131	-4.33
20/05/2003	2003	4	29	2,295	0.0108	-4.53
21/05/2003	2003	5	158	5,751	0.0270	-3.61
22/05/2003	2003	4	85	8,909	0.0419	-3.17
23/05/2003	2003	3	48	3,400	0.0160	-4.14
24/05/2003	2003	1	5	355	0.0017	-6.40
25/05/2003	2003	4	58	6,126	0.0288	-3.55
26/05/2003	2003	7	41	3,553	0.0167	-4.09
27/05/2003	2003	6	255	8,059	0.0379	-3.27
28/05/2003	2003	12	253	18,040	0.0848	-2.47
29/05/2003	2003	6	488	86,291	0.4055	-0.90
30/05/2003	2003	1	34	2,516	0.0118	-4.44
31/05/2003	2003	3	141	12,617	0.0593	-2.83
01/06/2003	2003	5	137	17,441	0.0820	-2.50
02/06/2003	2003	5	54	4,383	0.0206	-3.88
03/06/2003	2003	4	125	8,590	0.0404	-3.21
04/06/2003	2003	14	2,561	324,409	1.5243	0.42
05/06/2003	2003	1	6	6,468	0.0304	-3.49
06/06/2003	2003	4	173	13,155	0.0618	-2.78
07/06/2003	2003	7	490	10,698	0.0503	-2.99
08/06/2003	2003	12	229	41,673	0.1958	-1.63
09/06/2003	2003	8	193	13,153	0.0618	-2.78
10/06/2003	2003	4	86	3,552	0.0167	-4.09
11/06/2003	2003	5	733	68,472	0.3217	-1.13
12/06/2003	2003	7	138	10,086	0.0474	-3.05
13/06/2003	2003	10	1,363	51,864	0.2437	-1.41
14/06/2003	2003	18	870	220,478	1.0360	0.04

15/06/2003	2003	8	228	14,306	0.0672	-2.70
16/06/2003	2003	4	312	23,752	0.1116	-2.19
17/06/2003	2003	5	118	4,553	0.0214	-3.84
18/06/2003	2003	5	299	13,954	0.0656	-2.72
19/06/2003	2003	4	100	6,299	0.0296	-3.52
20/06/2003	2003	7	219	17,719	0.0833	-2.49
21/06/2003	2003	8	2,800	148,960	0.6999	-0.36
22/06/2003	2003	12	180	34,828	0.1636	-1.81
23/06/2003	2003	37	4,337	720,990	3.3877	1.22
24/06/2003	2003	19	2,754	201,103	0.9449	-0.06
25/06/2003	2003	7	202	15,822	0.0743	-2.60
26/06/2003	2003	33	713	105,224	0.4944	-0.70
27/06/2003	2003	6	142	7,903	0.0371	-3.29
28/06/2003	2003	8	238	22,760	0.1069	-2.24
29/06/2003	2003	4	31	2,829	0.0133	-4.32
30/06/2003	2003	3	192	11,160	0.0524	-2.95
01/07/2003	2003	4	1,721	101,940	0.4790	-0.74
02/07/2003	2003	10	1,176	128,718	0.6048	-0.50
03/07/2003	2003	3	159	12,489	0.0587	-2.84
04/07/2003	2003	4	86	6,849	0.0322	-3.44
05/07/2003	2003	6	317	28,257	0.1328	-2.02
06/07/2003	2003	6	66	5,930	0.0279	-3.58
07/07/2003	2003	10	672	47,318	0.2223	-1.50
08/07/2003	2003	12	473	58,265	0.2738	-1.30
09/07/2003	2003	9	139	8,097	0.0380	-3.27
10/07/2003	2003	4	67	4,994	0.0235	-3.75
11/07/2003	2003	4	376	21,281	0.1000	-2.30
12/07/2003	2003	11	1,310	85,285	0.4007	-0.91
13/07/2003	2003	5	96	7,589	0.0357	-3.33
14/07/2003	2003	7	386	27,395	0.1287	-2.05
15/07/2003	2003	4	514	35,854	0.1685	-1.78
16/07/2003	2003	14	1,139	116,594	0.5478	-0.60
17/07/2003	2003	13	1,064	75,091	0.3528	-1.04
18/07/2003	2003	4	1,657	86,592	0.4069	-0.90
19/07/2003	2003	4	425	9,912	0.0466	-3.07
20/07/2003	2003	4	80	11,505	0.0541	-2.92
21/07/2003	2003	36	8,072	3,175,244	14.9196	2.70 MED
22/07/2003	2003	31	1,347	196,028	0.9211	-0.08
23/07/2003	2003	11	860	158,980	0.7470	-0.29
24/07/2003	2003	10	595	69,313	0.3257	-1.12
25/07/2003	2003	6	764	35,382	0.1663	-1.79
26/07/2003	2003	2	46	2,093	0.0098	-4.62
27/07/2003	2003	10	320	15,332	0.0720	-2.63
28/07/2003	2003	7	78	7,185	0.0338	-3.39
29/07/2003	2003	4	12	1,760	0.0083	-4.80
30/07/2003	2003	2	6	561	0.0026	-5.94
31/07/2003	2003	7	377	64,983	0.3053	-1.19
01/08/2003	2003	7	88	14,853	0.0698	-2.66
02/08/2003	2003	10	416	51,921	0.2440	-1.41
03/08/2003	2003	14	664	72,193	0.3392	-1.08
04/08/2003	2003	11	3,908	134,693	0.6329	-0.46
05/08/2003	2003	8	88	8,275	0.0389	-3.25
06/08/2003	2003	8	637	68,749	0.3230	-1.13
07/08/2003	2003	9	128	9,569	0.0450	-3.10
09/08/2003	2003	3	7	401	0.0019	-6.27
10/08/2003	2003	8	351	59,035	0.2774	-1.28
11/08/2003	2003	10	321	39,866	0.1873	-1.67
12/08/2003	2003	15	1,564	129,017	0.6062	-0.50
13/08/2003	2003	17	244	20,833	0.0979	-2.32
14/08/2003	2003	71	49,753	4,754,543	22.3404	3.11 MED
15/08/2003	2003	12	254	35,397	0.1663	-1.79
16/08/2003	2003	21	5,783	410,015	1.9266	0.66
17/08/2003	2003	8	176	11,022	0.0518	-2.96
18/08/2003	2003	8	315	20,568	0.0966	-2.34
19/08/2003	2003	5	121	16,297	0.0766	-2.57
20/08/2003	2003	9	632	81,874	0.3847	-0.96
21/08/2003	2003	4	171	11,045	0.0519	-2.96
22/08/2003	2003	13	1,253	113,919	0.5353	-0.62

23/08/2003	2003	7	2,338	93,296	0.4384	-0.82
24/08/2003	2003	11	829	77,284	0.3631	-1.01
25/08/2003	2003	6	162	63,206	0.2970	-1.21
26/08/2003	2003	1	11	803	0.0038	-5.58
27/08/2003	2003	6	113	11,895	0.0559	-2.88
28/08/2003	2003	3	195	28,435	0.1336	-2.01
29/08/2003	2003	2	11	539	0.0025	-5.98
30/08/2003	2003	4	77	3,529	0.0166	-4.10
31/08/2003	2003	1	2	212	0.0010	-6.91
01/09/2003	2003	3	379	32,460	0.1525	-1.88
02/09/2003	2003	10	79	9,963	0.0468	-3.06
03/09/2003	2003	6	64	5,469	0.0257	-3.66
04/09/2003	2003	13	652	61,646	0.2897	-1.24
05/09/2003	2003	5	62	5,217	0.0245	-3.71
06/09/2003	2003	3	322	43,496	0.2044	-1.59
07/09/2003	2003	2	3	853	0.0040	-5.52
08/09/2003	2003	5	75	15,222	0.0715	-2.64
09/09/2003	2003	5	1,992	110,649	0.5199	-0.65
10/09/2003	2003	2	7	462	0.0022	-6.13
11/09/2003	2003	8	1,114	51,048	0.2399	-1.43
12/09/2003	2003	4	223	9,610	0.0452	-3.10
13/09/2003	2003	2	4	323	0.0015	-6.49
14/09/2003	2003	8	2,208	161,765	0.7601	-0.27
15/09/2003	2003	9	913	37,016	0.1739	-1.75
16/09/2003	2003	14	647	50,624	0.2379	-1.44
17/09/2003	2003	2	7	908	0.0043	-5.46
18/09/2003	2003	5	1,154	61,145	0.2873	-1.25
19/09/2003	2003	40	6,409	665,307	3.1261	1.14
20/09/2003	2003	4	267	11,303	0.0531	-2.94
21/09/2003	2003	7	150	26,080	0.1225	-2.10
22/09/2003	2003	4	51	5,240	0.0246	-3.70
23/09/2003	2003	19	4,910	344,749	1.6199	0.48
24/09/2003	2003	4	29	5,267	0.0247	-3.70
25/09/2003	2003	8	224	32,758	0.1539	-1.87
26/09/2003	2003	4	540	18,904	0.0888	-2.42
27/09/2003	2003	2	28	2,878	0.0135	-4.30
28/09/2003	2003	5	64	8,395	0.0394	-3.23
29/09/2003	2003	5	136	15,581	0.0732	-2.61
30/09/2003	2003	5	63	3,579	0.0168	-4.09
01/10/2003	2003	3	19	1,530	0.0072	-4.94
02/10/2003	2003	6	899	210,210	0.9877	-0.01
03/10/2003	2003	13	500	46,887	0.2203	-1.51
04/10/2003	2003	11	1,419	275,038	1.2923	0.26
05/10/2003	2003	3	208	8,245	0.0387	-3.25
07/10/2003	2003	2	141	7,922	0.0372	-3.29
08/10/2003	2003	6	232	11,814	0.0555	-2.89
09/10/2003	2003	5	347	87,619	0.4117	-0.89
10/10/2003	2003	3	23	1,059	0.0050	-5.30
11/10/2003	2003	8	3,566	310,501	1.4590	0.38
12/10/2003	2003	6	761	41,921	0.1970	-1.62
13/10/2003	2003	6	170	14,828	0.0697	-2.66
14/10/2003	2003	3	12	997	0.0047	-5.36
15/10/2003	2003	140	13,548	3,406,396	16.0058	2.77 MED
16/10/2003	2003	57	1,104	260,608	1.2245	0.20
17/10/2003	2003	4	10	1,317	0.0062	-5.09
18/10/2003	2003	10	969	59,072	0.2776	-1.28
19/10/2003	2003	3	158	2,552	0.0120	-4.42
20/10/2003	2003	3	94	11,630	0.0546	-2.91
21/10/2003	2003	9	1,390	95,012	0.4464	-0.81
22/10/2003	2003	5	186	7,166	0.0337	-3.39
23/10/2003	2003	7	135	48,890	0.2297	-1.47
24/10/2003	2003	5	292	10,673	0.0501	-2.99
25/10/2003	2003	8	496	27,494	0.1292	-2.05
26/10/2003	2003	6	516	17,780	0.0835	-2.48
27/10/2003	2003	24	2,070	193,454	0.9090	-0.10
28/10/2003	2003	10	929	185,491	0.8716	-0.14
29/10/2003	2003	13	2,384	452,328	2.1254	0.75
30/10/2003	2003	7	550	73,291	0.3444	-1.07

31/10/2003	2003	4	43	7,711	0.0362	-3.32
01/11/2003	2003	3	90	24,592	0.1156	-2.16
02/11/2003	2003	12	251	15,678	0.0737	-2.61
03/11/2003	2003	6	1,274	174,866	0.8216	-0.20
04/11/2003	2003	1	40	7,600	0.0357	-3.33
05/11/2003	2003	2	93	8,722	0.0410	-3.19
06/11/2003	2003	10	2,843	139,717	0.6565	-0.42
07/11/2003	2003	2	110	9,082	0.0427	-3.15
08/11/2003	2003	6	1,468	284,189	1.3353	0.29
09/11/2003	2003	3	4	686	0.0032	-5.74
10/11/2003	2003	5	1,616	124,745	0.5861	-0.53
11/11/2003	2003	9	338	25,411	0.1194	-2.13
12/11/2003	2003	9	896	40,546	0.1905	-1.66
13/11/2003	2003	110	11,632	5,752,899	27.0314	3.30 MED
14/11/2003	2003	185	9,922	3,830,086	17.9966	2.89 MED
15/11/2003	2003	65	784	744,807	3.4997	1.25
16/11/2003	2003	26	450	75,271	0.3537	-1.04
17/11/2003	2003	17	1,567	194,621	0.9145	-0.09
18/11/2003	2003	7	407	104,630	0.4916	-0.71
19/11/2003	2003	22	1,089	73,794	0.3467	-1.06
20/11/2003	2003	19	1,900	211,090	0.9919	-0.01
21/11/2003	2003	6	111	7,418	0.0349	-3.36
22/11/2003	2003	8	286	28,341	0.1332	-2.02
23/11/2003	2003	7	283	13,843	0.0650	-2.73
24/11/2003	2003	7	65	5,451	0.0256	-3.66
25/11/2003	2003	9	577	30,936	0.1454	-1.93
26/11/2003	2003	7	991	71,616	0.3365	-1.09
27/11/2003	2003	9	314	13,926	0.0654	-2.73
28/11/2003	2003	6	11	1,028	0.0048	-5.33
29/11/2003	2003	39	1,742	365,318	1.7165	0.54
30/11/2003	2003	8	268	15,826	0.0744	-2.60
01/12/2003	2003	3	31	1,850	0.0087	-4.75
02/12/2003	2003	1	2	546	0.0026	-5.97
03/12/2003	2003	6	1,227	55,868	0.2625	-1.34
04/12/2003	2003	4	135	16,143	0.0759	-2.58
06/12/2003	2003	4	484	231,477	1.0877	0.08
08/12/2003	2003	6	1,626	91,423	0.4296	-0.84
09/12/2003	2003	11	1,033	80,955	0.3804	-0.97
10/12/2003	2003	7	427	110,900	0.5211	-0.65
11/12/2003	2003	18	2,139	256,990	1.2075	0.19
12/12/2003	2003	39	2,533	608,495	2.8592	1.05
13/12/2003	2003	7	213	9,814	0.0461	-3.08
15/12/2003	2003	61	38,244	7,961,376	37.4084	3.62 MED
16/12/2003	2003	3	114	7,293	0.0343	-3.37
17/12/2003	2003	15	2,451	187,363	0.8804	-0.13
18/12/2003	2003	7	316	18,824	0.0884	-2.43
19/12/2003	2003	4	55	2,985	0.0140	-4.27
20/12/2003	2003	3	27	2,208	0.0104	-4.57
21/12/2003	2003	3	55	3,623	0.0170	-4.07
22/12/2003	2003	2	41	2,929	0.0138	-4.29
23/12/2003	2003	5	65	4,409	0.0207	-3.88
24/12/2003	2003	3	39	2,301	0.0108	-4.53
25/12/2003	2003	4	75	9,887	0.0465	-3.07
26/12/2003	2003	1	8	168	0.0008	-7.14
27/12/2003	2003	2	212	8,574	0.0403	-3.21
28/12/2003	2003	5	120	7,260	0.0341	-3.38
29/12/2003	2003	6	246	19,530	0.0918	-2.39
30/12/2003	2003	1	12	552	0.0026	-5.95
31/12/2003	2003	4	592	17,138	0.0805	-2.52
01/01/2004	2004	2	297	16,635	0.0779	-2.55
02/01/2004	2004	3	21	1,158	0.0054	-5.22
03/01/2004	2004	4	355	7,506	0.0352	-3.35
04/01/2004	2004	2	72	8,085	0.0379	-3.27
05/01/2004	2004	1	90	1,530	0.0072	-4.94
06/01/2004	2004	2	177	16,734	0.0784	-2.55
07/01/2004	2004	1	4	164	0.0008	-7.17
09/01/2004	2004	9	1,687	173,265	0.8119	-0.21
10/01/2004	2004	3	8	1,894	0.0089	-4.72

11/01/2004	2004	2	8	405	0.0019	-6.27
12/01/2004	2004	3	76	9,265	0.0434	-3.14
13/01/2004	2004	8	4,145	130,429	0.6111	-0.49
14/01/2004	2004	4	481	26,792	0.1255	-2.08
15/01/2004	2004	6	136	19,594	0.0918	-2.39
16/01/2004	2004	6	914	32,064	0.1502	-1.90
17/01/2004	2004	5	160	21,770	0.1020	-2.28
19/01/2004	2004	4	746	69,996	0.3280	-1.11
20/01/2004	2004	9	3,133	481,603	2.2566	0.81
21/01/2004	2004	2	119	6,285	0.0294	-3.53
22/01/2004	2004	4	339	19,313	0.0905	-2.40
23/01/2004	2004	5	388	225,799	1.0580	0.06
24/01/2004	2004	3	1,965	161,197	0.7553	-0.28
25/01/2004	2004	3	68	5,001	0.0234	-3.75
26/01/2004	2004	1	5	610	0.0029	-5.86
27/01/2004	2004	4	29	4,130	0.0194	-3.94
28/01/2004	2004	1	2	104	0.0005	-7.63
29/01/2004	2004	2	36	2,114	0.0099	-4.61
30/01/2004	2004	3	3	559	0.0026	-5.94
31/01/2004	2004	3	30	5,382	0.0252	-3.68
03/02/2004	2004	4	1,789	89,585	0.4198	-0.87
04/02/2004	2004	8	69	10,363	0.0486	-3.03
05/02/2004	2004	2	1,924	209,711	0.9826	-0.02
06/02/2004	2004	15	1,867	339,553	1.5910	0.46
07/02/2004	2004	10	637	58,532	0.2743	-1.29
08/02/2004	2004	4	74	2,857	0.0134	-4.31
09/02/2004	2004	5	100	6,710	0.0314	-3.46
10/02/2004	2004	13	937	142,575	0.6681	-0.40
11/02/2004	2004	8	717	210,303	0.9854	-0.01
12/02/2004	2004	9	1,372	91,091	0.4268	-0.85
13/02/2004	2004	2	2	242	0.0011	-6.78
15/02/2004	2004	6	1,716	88,596	0.4151	-0.88
17/02/2004	2004	3	51	4,853	0.0227	-3.78
18/02/2004	2004	4	414	71,277	0.3340	-1.10
19/02/2004	2004	2	51	5,856	0.0274	-3.60
20/02/2004	2004	4	123	19,403	0.0909	-2.40
21/02/2004	2004	4	502	37,150	0.1741	-1.75
22/02/2004	2004	2	74	3,049	0.0143	-4.25
23/02/2004	2004	6	282	8,166	0.0383	-3.26
24/02/2004	2004	4	75	3,240	0.0152	-4.19
26/02/2004	2004	3	67	6,185	0.0290	-3.54
27/02/2004	2004	2	26	4,140	0.0194	-3.94
28/02/2004	2004	4	240	12,659	0.0593	-2.82
29/02/2004	2004	2	39	1,830	0.0086	-4.76
01/03/2004	2004	7	74	4,300	0.0201	-3.90
02/03/2004	2004	9	1,254	52,308	0.2451	-1.41
03/03/2004	2004	2	345	18,649	0.0874	-2.44
04/03/2004	2004	3	33	2,682	0.0126	-4.38
06/03/2004	2004	9	896	55,190	0.2586	-1.35
07/03/2004	2004	2	71	6,240	0.0292	-3.53
09/03/2004	2004	2	12	1,025	0.0048	-5.34
11/03/2004	2004	3	191	8,857	0.0415	-3.18
12/03/2004	2004	3	70	4,741	0.0222	-3.81
13/03/2004	2004	4	28	11,047	0.0518	-2.96
14/03/2004	2004	3	41	4,325	0.0203	-3.90
15/03/2004	2004	6	795	20,718	0.0971	-2.33
16/03/2004	2004	5	44	1,358	0.0064	-5.06
17/03/2004	2004	2	10	1,185	0.0056	-5.19
18/03/2004	2004	4	198	8,762	0.0411	-3.19
19/03/2004	2004	2	2	523	0.0025	-6.01
20/03/2004	2004	4	103	6,660	0.0312	-3.47
21/03/2004	2004	4	98	7,754	0.0363	-3.32
22/03/2004	2004	2	24	576	0.0027	-5.91
23/03/2004	2004	7	1,849	291,926	1.3679	0.31
24/03/2004	2004	5	74	8,515	0.0399	-3.22
25/03/2004	2004	1	40	1,560	0.0073	-4.92
26/03/2004	2004	8	1,451	68,999	0.3233	-1.13
27/03/2004	2004	8	1,264	232,334	1.0886	0.08

28/03/2004	2004	5	378	23,776	0.1114	-2.19
29/03/2004	2004	5	26	1,140	0.0053	-5.23
30/03/2004	2004	3	166	20,990	0.0984	-2.32
31/03/2004	2004	9	274	39,567	0.1854	-1.69
01/04/2004	2004	6	1,246	63,081	0.2956	-1.22
02/04/2004	2004	4	127	14,244	0.0667	-2.71
03/04/2004	2004	5	579	62,470	0.2927	-1.23
04/04/2004	2004	5	39	2,290	0.0107	-4.53
05/04/2004	2004	16	840	118,495	0.5552	-0.59
06/04/2004	2004	5	73	8,470	0.0397	-3.23
07/04/2004	2004	1	1	136	0.0006	-7.36
08/04/2004	2004	3	7	703	0.0033	-5.72
10/04/2004	2004	10	2,725	216,953	1.0166	0.02
11/04/2004	2004	4	252	7,497	0.0351	-3.35
12/04/2004	2004	3	47	2,235	0.0105	-4.56
13/04/2004	2004	4	77	7,664	0.0359	-3.33
14/04/2004	2004	5	694	65,592	0.3073	-1.18
15/04/2004	2004	7	1,073	61,607	0.2887	-1.24
16/04/2004	2004	2	90	3,230	0.0151	-4.19
17/04/2004	2004	2	37	4,461	0.0209	-3.87
18/04/2004	2004	4	102	7,675	0.0360	-3.33
19/04/2004	2004	11	922	104,434	0.4893	-0.71
20/04/2004	2004	5	24	3,201	0.0150	-4.20
21/04/2004	2004	6	277	71,825	0.3365	-1.09
22/04/2004	2004	5	50	15,490	0.0726	-2.62
23/04/2004	2004	5	284	13,849	0.0649	-2.74
24/04/2004	2004	2	39	7,290	0.0342	-3.38
25/04/2004	2004	4	20	5,146	0.0241	-3.73
26/04/2004	2004	3	3	94	0.0004	-7.73
27/04/2004	2004	4	9	1,149	0.0054	-5.22
28/04/2004	2004	1	1	83	0.0004	-7.85
29/04/2004	2004	6	38	2,794	0.0131	-4.34
30/04/2004	2004	5	105	26,325	0.1234	-2.09
01/05/2004	2004	4	174	37,834	0.1773	-1.73
03/05/2004	2004	1	1	98	0.0005	-7.69
04/05/2004	2004	7	306	33,535	0.1571	-1.85
05/05/2004	2004	4	558	131,288	0.6152	-0.49
06/05/2004	2004	2	2	348	0.0016	-6.42
07/05/2004	2004	7	121	16,865	0.0790	-2.54
08/05/2004	2004	1	44	3,168	0.0148	-4.21
09/05/2004	2004	4	37	6,566	0.0308	-3.48
10/05/2004	2004	7	63	6,538	0.0306	-3.49
11/05/2004	2004	2	47	2,394	0.0112	-4.49
12/05/2004	2004	15	3,035	238,139	1.1158	0.11
13/05/2004	2004	3	50	17,980	0.0842	-2.47
14/05/2004	2004	5	109	15,172	0.0711	-2.64
15/05/2004	2004	27	1,867	371,563	1.7410	0.55
16/05/2004	2004	4	904	15,181	0.0711	-2.64
17/05/2004	2004	7	458	50,701	0.2376	-1.44
18/05/2004	2004	10	358	69,146	0.3240	-1.13
19/05/2004	2004	4	53	3,612	0.0169	-4.08
20/05/2004	2004	18	1,237	101,737	0.4767	-0.74
21/05/2004	2004	5	511	138,163	0.6474	-0.43
22/05/2004	2004	2	8	1,710	0.0080	-4.83
23/05/2004	2004	9	69	5,980	0.0280	-3.57
24/05/2004	2004	45	5,151	597,700	2.8006	1.03
25/05/2004	2004	16	93	11,572	0.0542	-2.91
26/05/2004	2004	3	28	6,396	0.0300	-3.51
27/05/2004	2004	9	167	17,895	0.0838	-2.48
28/05/2004	2004	5	1,124	122,092	0.5721	-0.56
29/05/2004	2004	13	379	83,802	0.3927	-0.93
30/05/2004	2004	7	43	3,074	0.0144	-4.24
31/05/2004	2004	7	233	21,938	0.1028	-2.28
01/06/2004	2004	12	306	34,940	0.1637	-1.81
02/06/2004	2004	8	397	71,370	0.3344	-1.10
03/06/2004	2004	2	30	9,168	0.0430	-3.15
04/06/2004	2004	5	169	13,101	0.0614	-2.79
05/06/2004	2004	13	149	9,534	0.0447	-3.11

06/06/2004	2004	4	230	27,451	0.1286	-2.05
07/06/2004	2004	6	364	51,242	0.2401	-1.43
08/06/2004	2004	4	59	5,047	0.0236	-3.74
09/06/2004	2004	29	813	112,562	0.5274	-0.64
10/06/2004	2004	14	205	13,983	0.0655	-2.73
11/06/2004	2004	9	977	126,700	0.5937	-0.52
12/06/2004	2004	10	285	31,518	0.1477	-1.91
13/06/2004	2004	5	143	11,671	0.0547	-2.91
14/06/2004	2004	1	49	2,205	0.0103	-4.57
15/06/2004	2004	6	112	10,718	0.0502	-2.99
16/06/2004	2004	4	419	51,888	0.2431	-1.41
17/06/2004	2004	11	1,085	218,555	1.0241	0.02
18/06/2004	2004	9	358	45,985	0.2155	-1.53
19/06/2004	2004	5	139	14,307	0.0670	-2.70
20/06/2004	2004	4	54	6,349	0.0297	-3.51
21/06/2004	2004	5	98	16,625	0.0779	-2.55
22/06/2004	2004	9	195	11,638	0.0545	-2.91
23/06/2004	2004	9	3,216	173,922	0.8149	-0.20
24/06/2004	2004	4	128	18,189	0.0852	-2.46
25/06/2004	2004	9	448	59,762	0.2800	-1.27
26/06/2004	2004	13	1,385	96,648	0.4529	-0.79
27/06/2004	2004	13	330	23,951	0.1122	-2.19
29/06/2004	2004	7	698	59,177	0.2773	-1.28
30/06/2004	2004	4	1,930	67,916	0.3182	-1.14
01/07/2004	2004	36	5,781	595,982	2.7926	1.03
02/07/2004	2004	40	5,475	616,984	2.8910	1.06
03/07/2004	2004	8	243	24,893	0.1166	-2.15
04/07/2004	2004	7	335	38,738	0.1815	-1.71
05/07/2004	2004	24	2,526	424,374	1.9885	0.69
06/07/2004	2004	24	1,018	294,111	1.3781	0.32
07/07/2004	2004	5	11	1,557	0.0073	-4.92
08/07/2004	2004	12	1,779	228,980	1.0729	0.07
09/07/2004	2004	8	69	7,915	0.0371	-3.29
10/07/2004	2004	4	40	6,396	0.0300	-3.51
11/07/2004	2004	2	9	2,151	0.0101	-4.60
12/07/2004	2004	2	7	708	0.0033	-5.71
13/07/2004	2004	8	1,953	48,090	0.2253	-1.49
14/07/2004	2004	3	114	3,398	0.0159	-4.14
15/07/2004	2004	10	1,469	73,812	0.3459	-1.06
16/07/2004	2004	6	30	8,160	0.0382	-3.26
17/07/2004	2004	7	595	140,730	0.6594	-0.42
18/07/2004	2004	4	203	16,305	0.0764	-2.57
19/07/2004	2004	11	506	109,613	0.5136	-0.67
20/07/2004	2004	11	1,235	101,000	0.4733	-0.75
21/07/2004	2004	6	146	11,950	0.0560	-2.88
22/07/2004	2004	8	63	7,022	0.0329	-3.41
23/07/2004	2004	10	674	54,931	0.2574	-1.36
24/07/2004	2004	3	50	3,245	0.0152	-4.19
25/07/2004	2004	2	194	15,518	0.0727	-2.62
26/07/2004	2004	7	445	81,707	0.3829	-0.96
27/07/2004	2004	8	101	9,656	0.0452	-3.10
28/07/2004	2004	7	1,095	128,649	0.6028	-0.51
29/07/2004	2004	4	241	22,527	0.1056	-2.25
30/07/2004	2004	7	149	17,534	0.0822	-2.50
31/07/2004	2004	9	166	21,420	0.1004	-2.30
01/08/2004	2004	24	1,077	151,566	0.7102	-0.34
02/08/2004	2004	9	300	31,440	0.1473	-1.92
03/08/2004	2004	7	561	45,376	0.2126	-1.55
04/08/2004	2004	6	438	11,808	0.0553	-2.89
05/08/2004	2004	1	10	370	0.0017	-6.36
06/08/2004	2004	1	1,309	60,214	0.2821	-1.27
07/08/2004	2004	10	952	121,684	0.5702	-0.56
08/08/2004	2004	6	329	30,153	0.1413	-1.96
09/08/2004	2004	7	94	25,159	0.1179	-2.14
10/08/2004	2004	3	85	12,198	0.0572	-2.86
11/08/2004	2004	11	994	188,932	0.8853	-0.12
12/08/2004	2004	10	213	19,975	0.0936	-2.37
13/08/2004	2004	7	77	13,082	0.0613	-2.79

14/08/2004	2004	7	218	70,357	0.3297	-1.11
15/08/2004	2004	14	1,213	106,108	0.4972	-0.70
16/08/2004	2004	13	414	86,901	0.4072	-0.90
17/08/2004	2004	12	1,298	243,927	1.1430	0.13
18/08/2004	2004	9	699	51,826	0.2428	-1.42
19/08/2004	2004	3	70	5,978	0.0280	-3.58
20/08/2004	2004	46	7,189	2,401,479	11.2525	2.42 MED
21/08/2004	2004	65	4,675	1,551,040	7.2676	1.98
22/08/2004	2004	4	94	4,460	0.0209	-3.87
23/08/2004	2004	10	1,162	122,527	0.5741	-0.55
24/08/2004	2004	7	351	73,873	0.3461	-1.06
25/08/2004	2004	8	359	31,496	0.1476	-1.91
26/08/2004	2004	2	12	130	0.0006	-7.40
27/08/2004	2004	4	55	5,756	0.0270	-3.61
28/08/2004	2004	11	1,276	117,351	0.5499	-0.60
29/08/2004	2004	14	695	55,713	0.2611	-1.34
30/08/2004	2004	14	829	149,535	0.7007	-0.36
31/08/2004	2004	23	4,932	168,602	0.7900	-0.24
01/09/2004	2004	5	572	24,562	0.1151	-2.16
02/09/2004	2004	4	784	49,324	0.2311	-1.46
03/09/2004	2004	7	166	13,477	0.0631	-2.76
04/09/2004	2004	3	42	7,446	0.0349	-3.36
05/09/2004	2004	5	37	3,073	0.0144	-4.24
06/09/2004	2004	3	36	3,586	0.0168	-4.09
07/09/2004	2004	8	1,187	39,166	0.1835	-1.70
08/09/2004	2004	5	237	23,615	0.1107	-2.20
09/09/2004	2004	27	3,109	342,712	1.6058	0.47
10/09/2004	2004	8	126	8,731	0.0409	-3.20
11/09/2004	2004	5	137	17,298	0.0811	-2.51
12/09/2004	2004	2	322	3,191	0.0150	-4.20
13/09/2004	2004	13	2,007	473,091	2.2167	0.80
14/09/2004	2004	2	26	3,060	0.0143	-4.24
15/09/2004	2004	1	1	101	0.0005	-7.66
16/09/2004	2004	5	484	47,641	0.2232	-1.50
17/09/2004	2004	4	21	3,424	0.0160	-4.13
18/09/2004	2004	27	3,080	610,895	2.8624	1.05
19/09/2004	2004	19	2,843	329,472	1.5438	0.43
20/09/2004	2004	6	194	24,172	0.1133	-2.18
21/09/2004	2004	3	153	9,909	0.0464	-3.07
22/09/2004	2004	4	286	25,574	0.1198	-2.12
23/09/2004	2004	6	203	20,304	0.0951	-2.35
24/09/2004	2004	5	57	13,800	0.0647	-2.74
25/09/2004	2004	5	581	18,520	0.0868	-2.44
27/09/2004	2004	4	51	6,544	0.0307	-3.48
28/09/2004	2004	8	176	21,500	0.1007	-2.30
29/09/2004	2004	13	238	38,090	0.1785	-1.72
30/09/2004	2004	8	167	9,219	0.0432	-3.14
01/10/2004	2004	3	125	3,181	0.0149	-4.21
02/10/2004	2004	1	1	184	0.0009	-7.06
03/10/2004	2004	1	1	37	0.0002	-8.66
04/10/2004	2004	4	1,363	121,522	0.5694	-0.56
05/10/2004	2004	2	2	170	0.0008	-7.14
06/10/2004	2004	3	23	2,967	0.0139	-4.28
07/10/2004	2004	6	716	20,136	0.0944	-2.36
08/10/2004	2004	2	15	1,681	0.0079	-4.84
09/10/2004	2004	3	42	2,055	0.0096	-4.64
10/10/2004	2004	7	1,598	66,408	0.3112	-1.17
11/10/2004	2004	5	264	37,565	0.1760	-1.74
12/10/2004	2004	5	113	7,851	0.0368	-3.30
13/10/2004	2004	4	74	9,697	0.0454	-3.09
14/10/2004	2004	7	917	50,159	0.2350	-1.45
15/10/2004	2004	8	271	21,226	0.0995	-2.31
16/10/2004	2004	8	230	8,357	0.0392	-3.24
17/10/2004	2004	2	104	7,840	0.0367	-3.30
18/10/2004	2004	1	36	2,160	0.0101	-4.59
19/10/2004	2004	6	795	76,932	0.3605	-1.02
20/10/2004	2004	6	230	92,040	0.4313	-0.84
21/10/2004	2004	1	1	94	0.0004	-7.73

22/10/2004	2004	2	59	10,970	0.0514	-2.97
23/10/2004	2004	4	215	22,269	0.1043	-2.26
24/10/2004	2004	3	52	4,345	0.0204	-3.89
25/10/2004	2004	6	11	780	0.0037	-5.61
26/10/2004	2004	5	125	16,794	0.0787	-2.54
27/10/2004	2004	2	56	17,526	0.0821	-2.50
28/10/2004	2004	5	623	55,302	0.2591	-1.35
29/10/2004	2004	3	77	5,044	0.0236	-3.75
30/10/2004	2004	4	99	6,676	0.0313	-3.46
31/10/2004	2004	9	270	39,531	0.1852	-1.69
01/11/2004	2004	3	116	8,155	0.0382	-3.26
02/11/2004	2004	4	37	6,727	0.0315	-3.46
03/11/2004	2004	12	348	40,990	0.1921	-1.65
04/11/2004	2004	4	961	121,444	0.5690	-0.56
05/11/2004	2004	113	8,593	1,602,050	7.5067	2.02
06/11/2004	2004	7	3,077	41,819	0.1959	-1.63
07/11/2004	2004	6	64	20,021	0.0938	-2.37
08/11/2004	2004	6	379	31,435	0.1473	-1.92
09/11/2004	2004	2	265	27,777	0.1302	-2.04
10/11/2004	2004	7	1,461	149,252	0.6993	-0.36
11/11/2004	2004	3	79	7,073	0.0331	-3.41
12/11/2004	2004	2	394	82,966	0.3888	-0.94
13/11/2004	2004	2	2	90	0.0004	-7.77
14/11/2004	2004	4	320	49,981	0.2342	-1.45
15/11/2004	2004	1	62	39,494	0.1851	-1.69
16/11/2004	2004	11	1,323	343,793	1.6109	0.48
17/11/2004	2004	2	6	310	0.0015	-6.53
18/11/2004	2004	1	2	232	0.0011	-6.82
19/11/2004	2004	4	408	64,545	0.3024	-1.20
20/11/2004	2004	4	684	33,130	0.1552	-1.86
21/11/2004	2004	10	404	59,686	0.2797	-1.27
22/11/2004	2004	1	1	80	0.0004	-7.89
24/11/2004	2004	2	16	2,144	0.0100	-4.60
25/11/2004	2004	22	1,580	91,388	0.4282	-0.85
26/11/2004	2004	3	13	1,055	0.0049	-5.31
27/11/2004	2004	4	34	2,413	0.0113	-4.48
28/11/2004	2004	21	4,299	552,817	2.5903	0.95
29/11/2004	2004	2	314	16,378	0.0767	-2.57
01/12/2004	2004	102	11,339	2,628,881	12.3180	2.51 MED
02/12/2004	2004	53	1,365	342,664	1.6056	0.47
03/12/2004	2004	13	147	21,521	0.1008	-2.29
04/12/2004	2004	1	432	6,480	0.0304	-3.49
05/12/2004	2004	7	3,404	65,892	0.3087	-1.18
06/12/2004	2004	5	312	32,588	0.1527	-1.88
07/12/2004	2004	46	3,128	416,320	1.9507	0.67
08/12/2004	2004	24	1,191	191,480	0.8972	-0.11
09/12/2004	2004	4	141	14,543	0.0681	-2.69
10/12/2004	2004	12	993	101,021	0.4734	-0.75
12/12/2004	2004	4	403	33,338	0.1562	-1.86
13/12/2004	2004	4	40	7,704	0.0361	-3.32
15/12/2004	2004	3	41	3,384	0.0159	-4.14
16/12/2004	2004	4	89	9,296	0.0436	-3.13
17/12/2004	2004	2	94	3,655	0.0171	-4.07
18/12/2004	2004	6	262	34,010	0.1594	-1.84
19/12/2004	2004	3	34	3,986	0.0187	-3.98
20/12/2004	2004	5	171	17,134	0.0803	-2.52
21/12/2004	2004	5	888	151,426	0.7095	-0.34
22/12/2004	2004	3	75	9,531	0.0447	-3.11
23/12/2004	2004	37	1,900	294,489	1.3799	0.32
24/12/2004	2004	6	1,767	126,962	0.5949	-0.52
25/12/2004	2004	4	359	47,787	0.2239	-1.50
26/12/2004	2004	2	137	7,547	0.0354	-3.34
27/12/2004	2004	5	70	21,387	0.1002	-2.30
29/12/2004	2004	3	229	19,624	0.0920	-2.39
30/12/2004	2004	4	130	9,820	0.0460	-3.08
31/12/2004	2004	2	11	624	0.0029	-5.83
01/01/2005	2005	9	2,194	109,881	0.5129	-0.67
02/01/2005	2005	3	19	1,662	0.0078	-4.86

03/01/2005	2005	3	70	4,631	0.0216	-3.83
04/01/2005	2005	11	1,161	128,044	0.5977	-0.51
05/01/2005	2005	1	1	17	0.0001	-9.44
06/01/2005	2005	2	12	1,687	0.0079	-4.84
07/01/2005	2005	2	2	557	0.0026	-5.95
08/01/2005	2005	11	3,024	414,268	1.9337	0.66
09/01/2005	2005	8	838	47,046	0.2196	-1.52
10/01/2005	2005	3	76	6,358	0.0297	-3.52
11/01/2005	2005	10	2,136	63,035	0.2942	-1.22
12/01/2005	2005	12	161	23,800	0.1111	-2.20
13/01/2005	2005	14	1,025	88,715	0.4141	-0.88
14/01/2005	2005	18	530	75,169	0.3509	-1.05
15/01/2005	2005	6	482	7,678	0.0358	-3.33
18/01/2005	2005	3	26	6,319	0.0295	-3.52
20/01/2005	2005	2	612	36,294	0.1694	-1.78
21/01/2005	2005	2	20	1,558	0.0073	-4.92
23/01/2005	2005	7	948	94,608	0.4416	-0.82
24/01/2005	2005	2	33	3,789	0.0177	-4.03
25/01/2005	2005	11	173	21,653	0.1011	-2.29
26/01/2005	2005	2	3	484	0.0023	-6.09
27/01/2005	2005	1	54	18,306	0.0854	-2.46
28/01/2005	2005	2	43	8,210	0.0383	-3.26
29/01/2005	2005	2	11	833	0.0039	-5.55
30/01/2005	2005	4	124	5,908	0.0276	-3.59
31/01/2005	2005	6	426	19,501	0.0910	-2.40
01/02/2005	2005	4	762	51,484	0.2403	-1.43
02/02/2005	2005	5	145	10,653	0.0497	-3.00
03/02/2005	2005	2	40	4,575	0.0214	-3.85
04/02/2005	2005	2	2	228	0.0011	-6.85
05/02/2005	2005	2	15	1,305	0.0061	-5.10
06/02/2005	2005	2	209	24,585	0.1148	-2.16
08/02/2005	2005	3	261	22,419	0.1046	-2.26
09/02/2005	2005	3	159	51,775	0.2417	-1.42
10/02/2005	2005	14	2,068	130,403	0.6087	-0.50
11/02/2005	2005	5	438	45,493	0.2124	-1.55
13/02/2005	2005	1	68	3,536	0.0165	-4.10
14/02/2005	2005	4	22	1,239	0.0058	-5.15
15/02/2005	2005	7	143	8,601	0.0401	-3.22
16/02/2005	2005	4	16	1,190	0.0056	-5.19
17/02/2005	2005	2	137	40,521	0.1891	-1.67
18/02/2005	2005	1	1	175	0.0008	-7.11
19/02/2005	2005	4	43	14,439	0.0674	-2.70
20/02/2005	2005	1	1	440	0.0021	-6.19
21/02/2005	2005	3	14	2,757	0.0129	-4.35
22/02/2005	2005	4	752	228,403	1.0661	0.06
23/02/2005	2005	7	183	10,076	0.0470	-3.06
24/02/2005	2005	1	23	4,876	0.0228	-3.78
25/02/2005	2005	3	38	10,959	0.0512	-2.97
26/02/2005	2005	2	549	35,175	0.1642	-1.81
27/02/2005	2005	1	14	812	0.0038	-5.58
28/02/2005	2005	3	846	134,466	0.6277	-0.47
02/03/2005	2005	1	1	174	0.0008	-7.12
05/03/2005	2005	2	28	6,512	0.0304	-3.49
06/03/2005	2005	2	12	1,406	0.0066	-5.03
07/03/2005	2005	6	1,888	289,133	1.3496	0.30
08/03/2005	2005	20	519	78,517	0.3665	-1.00
09/03/2005	2005	6	268	23,841	0.1113	-2.20
10/03/2005	2005	5	2,032	117,580	0.5488	-0.60
11/03/2005	2005	6	689	88,495	0.4131	-0.88
12/03/2005	2005	6	299	44,043	0.2056	-1.58
13/03/2005	2005	6	251	21,579	0.1007	-2.30
14/03/2005	2005	4	31	1,360	0.0063	-5.06
15/03/2005	2005	1	30	2,700	0.0126	-4.37
16/03/2005	2005	6	104	7,347	0.0343	-3.37
18/03/2005	2005	2	47	17,934	0.0837	-2.48
19/03/2005	2005	1	1	161	0.0008	-7.19
20/03/2005	2005	5	415	25,117	0.1172	-2.14
21/03/2005	2005	1	5	380	0.0018	-6.33

22/03/2005	2005	3	26	1,450	0.0068	-5.00
23/03/2005	2005	2	1,486	19,648	0.0917	-2.39
24/03/2005	2005	7	2,638	345,770	1.6140	0.48
25/03/2005	2005	1	12	516	0.0024	-6.03
26/03/2005	2005	4	25	2,441	0.0114	-4.47
27/03/2005	2005	3	16	752	0.0035	-5.65
28/03/2005	2005	8	834	46,360	0.2164	-1.53
29/03/2005	2005	4	80	9,762	0.0456	-3.09
30/03/2005	2005	5	565	17,984	0.0839	-2.48
31/03/2005	2005	3	37	1,615	0.0075	-4.89
01/04/2005	2005	2	162	8,532	0.0398	-3.22
02/04/2005	2005	12	2,871	351,861	1.6424	0.50
03/04/2005	2005	12	807	67,196	0.3137	-1.16
04/04/2005	2005	2	2	123	0.0006	-7.46
05/04/2005	2005	4	32	6,432	0.0300	-3.51
06/04/2005	2005	4	95	4,145	0.0193	-3.95
07/04/2005	2005	1	133	39,767	0.1856	-1.68
08/04/2005	2005	3	39	1,959	0.0091	-4.69
09/04/2005	2005	4	123	1,730	0.0081	-4.82
10/04/2005	2005	2	228	21,336	0.0996	-2.31
11/04/2005	2005	2	34	7,470	0.0349	-3.36
12/04/2005	2005	4	1,767	72,977	0.3406	-1.08
13/04/2005	2005	6	328	28,715	0.1340	-2.01
14/04/2005	2005	2	20	733	0.0034	-5.68
15/04/2005	2005	2	551	27,384	0.1278	-2.06
16/04/2005	2005	1	6	204	0.0010	-6.96
17/04/2005	2005	5	58	6,018	0.0281	-3.57
18/04/2005	2005	6	330	18,448	0.0861	-2.45
19/04/2005	2005	5	191	21,386	0.0998	-2.30
20/04/2005	2005	5	147	7,829	0.0365	-3.31
21/04/2005	2005	5	455	54,819	0.2559	-1.36
22/04/2005	2005	2	112	2,050	0.0096	-4.65
23/04/2005	2005	6	631	56,888	0.2655	-1.33
24/04/2005	2005	10	230	21,753	0.1015	-2.29
25/04/2005	2005	2	292	39,022	0.1821	-1.70
26/04/2005	2005	8	105	10,399	0.0485	-3.03
27/04/2005	2005	10	59	11,015	0.0514	-2.97
28/04/2005	2005	2	519	6,478	0.0302	-3.50
29/04/2005	2005	1	13	2,002	0.0093	-4.67
01/05/2005	2005	3	111	12,190	0.0569	-2.87
02/05/2005	2005	2	49	17,024	0.0795	-2.53
03/05/2005	2005	3	90	24,835	0.1159	-2.15
05/05/2005	2005	5	44	2,451	0.0114	-4.47
06/05/2005	2005	3	30	4,116	0.0192	-3.95
07/05/2005	2005	1	53	20,670	0.0965	-2.34
08/05/2005	2005	9	193	14,848	0.0693	-2.67
09/05/2005	2005	4	110	11,749	0.0548	-2.90
10/05/2005	2005	2	21	2,758	0.0129	-4.35
12/05/2005	2005	7	294	43,738	0.2042	-1.59
13/05/2005	2005	4	66	29,440	0.1374	-1.98
14/05/2005	2005	4	253	22,111	0.1032	-2.27
15/05/2005	2005	7	804	53,209	0.2484	-1.39
16/05/2005	2005	6	146	10,208	0.0476	-3.04
17/05/2005	2005	3	84	10,956	0.0511	-2.97
18/05/2005	2005	1	1	106	0.0005	-7.61
19/05/2005	2005	1	27	3,375	0.0158	-4.15
21/05/2005	2005	3	35	3,494	0.0163	-4.12
22/05/2005	2005	6	105	4,309	0.0201	-3.91
23/05/2005	2005	3	2,073	49,951	0.2332	-1.46
24/05/2005	2005	2	42	2,493	0.0116	-4.45
25/05/2005	2005	12	1,258	91,116	0.4253	-0.85
26/05/2005	2005	10	208	11,443	0.0534	-2.93
27/05/2005	2005	10	814	101,289	0.4728	-0.75
28/05/2005	2005	6	62	15,356	0.0717	-2.64
29/05/2005	2005	5	252	14,496	0.0677	-2.69
30/05/2005	2005	6	70	6,497	0.0303	-3.50
31/05/2005	2005	11	1,945	135,543	0.6327	-0.46
01/06/2005	2005	1	2	154	0.0007	-7.24

02/06/2005	2005	3	133	2,939	0.0137	-4.29
03/06/2005	2005	1	6	1,008	0.0047	-5.36
04/06/2005	2005	4	411	33,818	0.1579	-1.85
05/06/2005	2005	8	118	18,721	0.0874	-2.44
06/06/2005	2005	20	1,248	106,709	0.4981	-0.70
07/06/2005	2005	7	200	61,838	0.2886	-1.24
08/06/2005	2005	16	817	70,001	0.3267	-1.12
09/06/2005	2005	10	111	23,826	0.1112	-2.20
10/06/2005	2005	5	123	21,132	0.0986	-2.32
11/06/2005	2005	22	3,230	208,819	0.9747	-0.03
12/06/2005	2005	22	842	81,502	0.3804	-0.97
13/06/2005	2005	17	418	36,781	0.1717	-1.76
14/06/2005	2005	25	2,008	132,871	0.6202	-0.48
15/06/2005	2005	12	3,099	230,240	1.0747	0.07
16/06/2005	2005	21	2,577	122,891	0.5736	-0.56
17/06/2005	2005	21	1,029	107,144	0.5001	-0.69
18/06/2005	2005	9	191	22,654	0.1057	-2.25
19/06/2005	2005	19	1,671	174,082	0.8126	-0.21
20/06/2005	2005	5	75	2,351	0.0110	-4.51
21/06/2005	2005	2	2,144	190,767	0.8905	-0.12
22/06/2005	2005	6	476	77,077	0.3598	-1.02
23/06/2005	2005	6	228	40,538	0.1892	-1.66
24/06/2005	2005	9	642	50,604	0.2362	-1.44
25/06/2005	2005	9	561	60,312	0.2815	-1.27
26/06/2005	2005	48	2,795	363,540	1.6969	0.53
27/06/2005	2005	21	4,182	210,263	0.9815	-0.02
28/06/2005	2005	16	869	62,921	0.2937	-1.23
29/06/2005	2005	126	16,039	2,445,777	11.4163	2.44 MED
30/06/2005	2005	22	797	59,867	0.2794	-1.27
01/07/2005	2005	14	720	67,181	0.3136	-1.16
02/07/2005	2005	10	436	68,907	0.3216	-1.13
03/07/2005	2005	6	562	57,287	0.2674	-1.32
04/07/2005	2005	11	1,533	163,956	0.7653	-0.27
05/07/2005	2005	9	2,550	137,135	0.6401	-0.45
06/07/2005	2005	8	171	13,810	0.0645	-2.74
07/07/2005	2005	13	472	84,886	0.3962	-0.93
08/07/2005	2005	6	978	112,147	0.5235	-0.65
09/07/2005	2005	5	142	19,949	0.0931	-2.37
10/07/2005	2005	16	266	36,944	0.1724	-1.76
11/07/2005	2005	16	539	37,350	0.1743	-1.75
12/07/2005	2005	9	313	32,124	0.1499	-1.90
13/07/2005	2005	3	55	4,864	0.0227	-3.79
14/07/2005	2005	12	911	72,902	0.3403	-1.08
15/07/2005	2005	13	219	22,307	0.1041	-2.26
16/07/2005	2005	11	330	40,042	0.1869	-1.68
17/07/2005	2005	5	638	91,677	0.4279	-0.85
18/07/2005	2005	38	3,495	469,391	2.1910	0.78
19/07/2005	2005	29	2,416	346,704	1.6183	0.48
20/07/2005	2005	7	49	4,076	0.0190	-3.96
21/07/2005	2005	7	574	99,787	0.4658	-0.76
22/07/2005	2005	47	7,247	1,395,778	6.5152	1.87
23/07/2005	2005	15	1,150	61,867	0.2888	-1.24
24/07/2005	2005	10	434	70,269	0.3280	-1.11
25/07/2005	2005	5	82	10,011	0.0467	-3.06
26/07/2005	2005	4	41	3,166	0.0148	-4.21
27/07/2005	2005	34	2,995	266,980	1.2462	0.22
28/07/2005	2005	2	5	774	0.0036	-5.62
29/07/2005	2005	7	601	35,940	0.1678	-1.79
30/07/2005	2005	6	369	14,956	0.0698	-2.66
31/07/2005	2005	9	965	13,310	0.0621	-2.78
01/08/2005	2005	11	751	112,740	0.5262	-0.64
02/08/2005	2005	7	207	22,852	0.1067	-2.24
03/08/2005	2005	12	575	61,883	0.2889	-1.24
04/08/2005	2005	12	1,444	120,166	0.5609	-0.58
05/08/2005	2005	26	2,827	320,392	1.4955	0.40
06/08/2005	2005	6	615	42,059	0.1963	-1.63
07/08/2005	2005	7	1,527	182,306	0.8510	-0.16
08/08/2005	2005	3	122	5,838	0.0273	-3.60

09/08/2005	2005	6	518	66,299	0.3095	-1.17
10/08/2005	2005	9	533	55,606	0.2596	-1.35
11/08/2005	2005	2	2	239	0.0011	-6.80
12/08/2005	2005	5	973	143,345	0.6691	-0.40
13/08/2005	2005	28	546	155,831	0.7274	-0.32
14/08/2005	2005	106	7,218	1,795,748	8.3821	2.13
15/08/2005	2005	30	534	58,406	0.2726	-1.30
16/08/2005	2005	7	1,175	101,429	0.4734	-0.75
17/08/2005	2005	6	16	6,534	0.0305	-3.49
18/08/2005	2005	6	227	27,752	0.1295	-2.04
19/08/2005	2005	2	135	5,276	0.0246	-3.70
20/08/2005	2005	6	626	65,526	0.3059	-1.18
21/08/2005	2005	3	24	2,036	0.0095	-4.66
22/08/2005	2005	3	74	20,065	0.0937	-2.37
23/08/2005	2005	4	539	23,745	0.1108	-2.20
24/08/2005	2005	3	24	7,616	0.0355	-3.34
25/08/2005	2005	2	25	1,089	0.0051	-5.28
26/08/2005	2005	5	44	7,381	0.0345	-3.37
27/08/2005	2005	5	223	13,189	0.0616	-2.79
28/08/2005	2005	11	621	46,796	0.2184	-1.52
29/08/2005	2005	10	472	60,653	0.2831	-1.26
30/08/2005	2005	4	72	8,384	0.0391	-3.24
31/08/2005	2005	49	7,419	449,264	2.0971	0.74
01/09/2005	2005	6	23	2,300	0.0107	-4.53
02/09/2005	2005	3	60	5,851	0.0273	-3.60
03/09/2005	2005	2	52	3,131	0.0146	-4.23
04/09/2005	2005	3	1,136	51,374	0.2398	-1.43
05/09/2005	2005	6	188	22,678	0.1059	-2.25
06/09/2005	2005	7	155	16,855	0.0787	-2.54
08/09/2005	2005	6	170	12,433	0.0580	-2.85
09/09/2005	2005	1	1	74	0.0003	-7.97
10/09/2005	2005	1	84	3,024	0.0141	-4.26
11/09/2005	2005	1	46	3,174	0.0148	-4.21
12/09/2005	2005	6	1,138	209,043	0.9758	-0.02
13/09/2005	2005	4	15	2,168	0.0101	-4.59
14/09/2005	2005	6	308	39,554	0.1846	-1.69
15/09/2005	2005	11	750	103,044	0.4810	-0.73
16/09/2005	2005	4	802	59,725	0.2788	-1.28
17/09/2005	2005	20	2,866	313,249	1.4622	0.38
18/09/2005	2005	10	1,481	232,906	1.0872	0.08
19/09/2005	2005	8	251	19,223	0.0897	-2.41
20/09/2005	2005	2	118	16,792	0.0784	-2.55
21/09/2005	2005	8	616	86,894	0.4056	-0.90
22/09/2005	2005	1	1	102	0.0005	-7.65
23/09/2005	2005	2	49	5,086	0.0237	-3.74
24/09/2005	2005	6	162	53,543	0.2499	-1.39
25/09/2005	2005	9	3,059	265,143	1.2376	0.21
26/09/2005	2005	19	2,730	108,042	0.5043	-0.68
27/09/2005	2005	9	346	39,803	0.1858	-1.68
28/09/2005	2005	6	722	79,059	0.3690	-1.00
29/09/2005	2005	72	7,385	559,780	2.6129	0.96
30/09/2005	2005	6	103	5,760	0.0269	-3.62
01/10/2005	2005	5	697	63,011	0.2941	-1.22
02/10/2005	2005	6	401	21,752	0.1015	-2.29
03/10/2005	2005	1	10	2,000	0.0093	-4.67
04/10/2005	2005	4	319	25,377	0.1185	-2.13
05/10/2005	2005	5	108	15,237	0.0711	-2.64
06/10/2005	2005	5	1,158	18,668	0.0871	-2.44
07/10/2005	2005	6	1,084	11,016	0.0514	-2.97
08/10/2005	2005	58	8,602	1,253,497	5.8510	1.77
09/10/2005	2005	47	5,977	379,416	1.7710	0.57
10/10/2005	2005	8	549	65,020	0.3035	-1.19
11/10/2005	2005	5	107	9,910	0.0463	-3.07
12/10/2005	2005	25	1,192	202,274	0.9442	-0.06
13/10/2005	2005	14	1,056	111,896	0.5223	-0.65
14/10/2005	2005	7	39	10,229	0.0477	-3.04
15/10/2005	2005	30	492	107,354	0.5011	-0.69
16/10/2005	2005	77	7,549	1,306,216	6.0971	1.81

17/10/2005	2005	18	604	64,779	0.3024	-1.20
18/10/2005	2005	14	971	73,559	0.3434	-1.07
19/10/2005	2005	12	3,553	206,695	0.9648	-0.04
20/10/2005	2005	6	185	8,537	0.0398	-3.22
21/10/2005	2005	4	709	103,064	0.4811	-0.73
22/10/2005	2005	18	2,505	164,675	0.7687	-0.26
23/10/2005	2005	6	764	119,744	0.5589	-0.58
24/10/2005	2005	4	61	4,163	0.0194	-3.94
25/10/2005	2005	61	4,837	604,182	2.8202	1.04
26/10/2005	2005	5	139	9,018	0.0421	-3.17
27/10/2005	2005	4	108	9,047	0.0422	-3.16
28/10/2005	2005	3	46	17,357	0.0810	-2.51
29/10/2005	2005	4	110	20,747	0.0968	-2.33
30/10/2005	2005	4	85	5,343	0.0249	-3.69
31/10/2005	2005	4	92	7,945	0.0371	-3.29
01/11/2005	2005	5	1,832	77,315	0.3609	-1.02
02/11/2005	2005	5	143	11,388	0.0532	-2.93
03/11/2005	2005	10	986	77,841	0.3633	-1.01
04/11/2005	2005	5	48	2,780	0.0130	-4.34
05/11/2005	2005	7	671	85,879	0.4009	-0.91
06/11/2005	2005	11	290	128,282	0.5988	-0.51
07/11/2005	2005	8	181	11,721	0.0547	-2.91
08/11/2005	2005	7	430	116,946	0.5459	-0.61
09/11/2005	2005	9	197	16,069	0.0750	-2.59
10/11/2005	2005	4	44	3,181	0.0148	-4.21
11/11/2005	2005	6	120	15,289	0.0714	-2.64
12/11/2005	2005	9	862	70,816	0.3306	-1.11
13/11/2005	2005	4	319	23,947	0.1118	-2.19
14/11/2005	2005	3	51	7,117	0.0332	-3.40
15/11/2005	2005	1	1	855	0.0040	-5.52
16/11/2005	2005	20	3,868	348,032	1.6245	0.49
17/11/2005	2005	4	243	8,063	0.0376	-3.28
18/11/2005	2005	1	2	104	0.0005	-7.63
19/11/2005	2005	1	21	3,171	0.0148	-4.21
20/11/2005	2005	3	115	6,744	0.0315	-3.46
21/11/2005	2005	5	288	19,930	0.0930	-2.37
22/11/2005	2005	22	2,492	204,400	0.9541	-0.05
23/11/2005	2005	13	147	21,394	0.0999	-2.30
24/11/2005	2005	6	194	52,656	0.2458	-1.40
25/11/2005	2005	6	434	26,199	0.1223	-2.10
26/11/2005	2005	7	2,087	150,936	0.7045	-0.35
27/11/2005	2005	4	9	1,368	0.0064	-5.05
28/11/2005	2005	8	210	12,169	0.0568	-2.87
29/11/2005	2005	2	134	9,846	0.0460	-3.08
30/11/2005	2005	6	54	6,613	0.0309	-3.48
01/12/2005	2005	4	111	3,830	0.0179	-4.02
02/12/2005	2005	3	56	6,446	0.0301	-3.50
03/12/2005	2005	6	63	3,552	0.0166	-4.10
04/12/2005	2005	7	1,095	67,754	0.3163	-1.15
05/12/2005	2005	2	215	61,630	0.2877	-1.25
06/12/2005	2005	2	89	2,815	0.0131	-4.33
07/12/2005	2005	7	123	7,288	0.0340	-3.38
08/12/2005	2005	5	79	8,551	0.0399	-3.22
09/12/2005	2005	1	108	13,932	0.0650	-2.73
11/12/2005	2005	3	37	11,905	0.0556	-2.89
12/12/2005	2005	2	8	1,892	0.0088	-4.73
13/12/2005	2005	6	1,519	219,462	1.0244	0.02
14/12/2005	2005	9	264	24,877	0.1161	-2.15
15/12/2005	2005	3	50	3,762	0.0176	-4.04
16/12/2005	2005	12	177	30,418	0.1420	-1.95
17/12/2005	2005	6	42	4,646	0.0217	-3.83
18/12/2005	2005	1	240	8,160	0.0381	-3.27
19/12/2005	2005	1	21	1,260	0.0059	-5.14
20/12/2005	2005	8	966	50,023	0.2335	-1.45
21/12/2005	2005	2	2	301	0.0014	-6.57
22/12/2005	2005	8	344	21,382	0.0998	-2.30
23/12/2005	2005	8	307	54,765	0.2556	-1.36
24/12/2005	2005	2	28	3,206	0.0150	-4.20

25/12/2005	2005	4	106	9,924	0.0463	-3.07
26/12/2005	2005	5	118	5,764	0.0269	-3.62
27/12/2005	2005	2	38	2,062	0.0096	-4.64
28/12/2005	2005	1	103	4,738	0.0221	-3.81
29/12/2005	2005	5	1,429	141,499	0.6605	-0.41
30/12/2005	2005	4	99	9,221	0.0430	-3.15
31/12/2005	2005	1	3	174	0.0008	-7.12
01/01/2006	2006	1	3	66	0.0003	-8.09
02/01/2006	2006	9	1,152	344,433	1.5958	0.47
03/01/2006	2006	95	15,530	2,109,233	9.7725	2.28
04/01/2006	2006	12	1,541	111,013	0.5143	-0.66
05/01/2006	2006	8	202	16,571	0.0768	-2.57
07/01/2006	2006	2	58	3,212	0.0149	-4.21
08/01/2006	2006	1	12	672	0.0031	-5.77
09/01/2006	2006	3	1,251	38,530	0.1785	-1.72
10/01/2006	2006	7	65	23,927	0.1109	-2.20
11/01/2006	2006	5	527	49,329	0.2286	-1.48
12/01/2006	2006	7	931	148,924	0.6900	-0.37
13/01/2006	2006	2	20	1,540	0.0071	-4.94
14/01/2006	2006	18	1,444	176,929	0.8197	-0.20
15/01/2006	2006	51	9,142	1,344,411	6.2289	1.83
16/01/2006	2006	4	416	33,703	0.1562	-1.86
17/01/2006	2006	2	17	445	0.0021	-6.18
18/01/2006	2006	75	8,978	1,182,310	5.4779	1.70
19/01/2006	2006	11	410	61,998	0.2872	-1.25
20/01/2006	2006	4	727	50,283	0.2330	-1.46
21/01/2006	2006	44	9,594	909,717	4.2149	1.44
22/01/2006	2006	10	507	136,011	0.6302	-0.46
23/01/2006	2006	3	254	12,515	0.0580	-2.85
25/01/2006	2006	8	151	12,806	0.0593	-2.82
26/01/2006	2006	2	42	4,800	0.0222	-3.81
27/01/2006	2006	2	12	3,183	0.0147	-4.22
28/01/2006	2006	3	54	5,432	0.0252	-3.68
29/01/2006	2006	4	159	18,460	0.0855	-2.46
30/01/2006	2006	6	211	20,838	0.0965	-2.34
31/01/2006	2006	4	220	26,763	0.1240	-2.09
01/02/2006	2006	7	112	12,599	0.0584	-2.84
02/02/2006	2006	1	6	1,908	0.0088	-4.73
03/02/2006	2006	8	407	33,441	0.1549	-1.86
04/02/2006	2006	5	139	14,322	0.0664	-2.71
05/02/2006	2006	8	155	21,081	0.0977	-2.33
06/02/2006	2006	4	296	24,345	0.1128	-2.18
07/02/2006	2006	4	26	2,357	0.0109	-4.52
08/02/2006	2006	2	30	969	0.0045	-5.41
09/02/2006	2006	9	491	79,638	0.3690	-1.00
10/02/2006	2006	2	31	2,103	0.0097	-4.63
11/02/2006	2006	4	77	11,392	0.0528	-2.94
12/02/2006	2006	7	560	68,112	0.3156	-1.15
13/02/2006	2006	4	87	19,383	0.0898	-2.41
14/02/2006	2006	4	113	8,424	0.0390	-3.24
15/02/2006	2006	2	39	5,486	0.0254	-3.67
16/02/2006	2006	5	452	66,157	0.3065	-1.18
17/02/2006	2006	124	10,059	1,198,543	5.5531	1.71
18/02/2006	2006	24	3,484	541,046	2.5068	0.92
19/02/2006	2006	2	25	3,956	0.0183	-4.00
20/02/2006	2006	7	530	90,582	0.4197	-0.87
21/02/2006	2006	4	61	3,910	0.0181	-4.01
22/02/2006	2006	1	13	650	0.0030	-5.81
23/02/2006	2006	1	1	355	0.0016	-6.41
24/02/2006	2006	6	89	9,469	0.0439	-3.13
25/02/2006	2006	3	59	3,809	0.0176	-4.04
26/02/2006	2006	6	3,671	148,109	0.6862	-0.38
27/02/2006	2006	1	1	94	0.0004	-7.74
28/02/2006	2006	9	1,487	233,243	1.0807	0.08
01/03/2006	2006	2	8	459	0.0021	-6.15
02/03/2006	2006	2	2	73	0.0003	-7.99
03/03/2006	2006	2	4	1,078	0.0050	-5.30
04/03/2006	2006	4	139	11,775	0.0546	-2.91

05/03/2006	2006	4	721	136,531	0.6326	-0.46
06/03/2006	2006	5	241	17,362	0.0804	-2.52
07/03/2006	2006	3	658	44,892	0.2080	-1.57
09/03/2006	2006	8	2,296	153,901	0.7131	-0.34
10/03/2006	2006	1	16	1,312	0.0061	-5.10
11/03/2006	2006	2	229	60,834	0.2819	-1.27
12/03/2006	2006	1	29	2,900	0.0134	-4.31
13/03/2006	2006	16	1,250	115,894	0.5370	-0.62
14/03/2006	2006	11	1,572	86,085	0.3989	-0.92
15/03/2006	2006	23	1,677	128,560	0.5956	-0.52
16/03/2006	2006	4	9	2,207	0.0102	-4.58
18/03/2006	2006	1	8	296	0.0014	-6.59
19/03/2006	2006	2	42	6,358	0.0295	-3.52
20/03/2006	2006	5	158	9,099	0.0422	-3.17
22/03/2006	2006	5	566	52,905	0.2451	-1.41
23/03/2006	2006	6	345	17,580	0.0815	-2.51
24/03/2006	2006	1	18	2,430	0.0113	-4.49
25/03/2006	2006	4	97	6,313	0.0292	-3.53
26/03/2006	2006	5	136	9,168	0.0425	-3.16
27/03/2006	2006	1	5	260	0.0012	-6.72
28/03/2006	2006	3	246	14,776	0.0685	-2.68
30/03/2006	2006	1	36	21,348	0.0989	-2.31
31/03/2006	2006	4	84	5,036	0.0233	-3.76
01/04/2006	2006	6	703	51,674	0.2394	-1.43
02/04/2006	2006	3	382	187,961	0.8709	-0.14
03/04/2006	2006	4	648	89,656	0.4154	-0.88
04/04/2006	2006	12	619	81,089	0.3757	-0.98
05/04/2006	2006	4	284	41,828	0.1938	-1.64
06/04/2006	2006	2	1,635	17,217	0.0798	-2.53
07/04/2006	2006	2	300	32,330	0.1498	-1.90
08/04/2006	2006	9	1,268	26,338	0.1220	-2.10
09/04/2006	2006	1	46	3,312	0.0153	-4.18
10/04/2006	2006	7	2,497	161,274	0.7472	-0.29
11/04/2006	2006	3	175	9,877	0.0458	-3.08
12/04/2006	2006	5	27	2,847	0.0132	-4.33
13/04/2006	2006	7	1,773	74,438	0.3449	-1.06
14/04/2006	2006	3	26	2,700	0.0125	-4.38
15/04/2006	2006	11	880	239,762	1.1109	0.11
16/04/2006	2006	6	1,986	47,858	0.2217	-1.51
17/04/2006	2006	2	53	11,186	0.0518	-2.96
18/04/2006	2006	4	282	18,481	0.0856	-2.46
19/04/2006	2006	3	19	3,010	0.0139	-4.27
20/04/2006	2006	2	2	219	0.0010	-6.89
21/04/2006	2006	3	45	2,553	0.0118	-4.44
22/04/2006	2006	3	17	2,251	0.0104	-4.56
23/04/2006	2006	9	269	70,606	0.3271	-1.12
24/04/2006	2006	8	269	12,316	0.0571	-2.86
25/04/2006	2006	2	39	1,521	0.0070	-4.96
26/04/2006	2006	6	290	6,678	0.0309	-3.48
27/04/2006	2006	1	1	84	0.0004	-7.85
28/04/2006	2006	1	241	18,316	0.0849	-2.47
29/04/2006	2006	4	529	28,970	0.1342	-2.01
30/04/2006	2006	3	151	32,159	0.1490	-1.90
01/05/2006	2006	2	12	4,421	0.0205	-3.89
02/05/2006	2006	4	30	3,499	0.0162	-4.12
03/05/2006	2006	1	3	105	0.0005	-7.63
04/05/2006	2006	6	226	22,391	0.1037	-2.27
05/05/2006	2006	1	76	8,056	0.0373	-3.29
06/05/2006	2006	3	870	52,990	0.2455	-1.40
07/05/2006	2006	1	23	897	0.0042	-5.48
08/05/2006	2006	2	115	9,969	0.0462	-3.08
09/05/2006	2006	12	1,247	182,083	0.8436	-0.17
10/05/2006	2006	7	273	52,661	0.2440	-1.41
11/05/2006	2006	2	215	49,703	0.2303	-1.47
12/05/2006	2006	14	1,094	125,758	0.5827	-0.54
13/05/2006	2006	5	144	22,369	0.1036	-2.27
14/05/2006	2006	7	905	97,546	0.4520	-0.79
15/05/2006	2006	3	92	4,565	0.0212	-3.86

16/05/2006	2006	2	2	155	0.0007	-7.24
17/05/2006	2006	3	19	905	0.0042	-5.47
18/05/2006	2006	3	3	1,129	0.0052	-5.25
19/05/2006	2006	2	34	2,413	0.0112	-4.49
20/05/2006	2006	8	283	22,690	0.1051	-2.25
21/05/2006	2006	16	3,024	302,656	1.4023	0.34
22/05/2006	2006	9	1,125	171,224	0.7933	-0.23
23/05/2006	2006	3	18	1,349	0.0063	-5.08
24/05/2006	2006	7	107	29,819	0.1382	-1.98
25/05/2006	2006	2	111	6,051	0.0280	-3.57
26/05/2006	2006	6	92	6,654	0.0308	-3.48
27/05/2006	2006	4	106	12,781	0.0592	-2.83
28/05/2006	2006	2	172	9,289	0.0430	-3.15
29/05/2006	2006	4	987	71,980	0.3335	-1.10
30/05/2006	2006	18	2,454	326,640	1.5134	0.41
31/05/2006	2006	6	124	6,844	0.0317	-3.45
01/06/2006	2006	13	1,600	103,347	0.4788	-0.74
02/06/2006	2006	4	22	1,919	0.0089	-4.72
03/06/2006	2006	20	3,366	403,609	1.8700	0.63
04/06/2006	2006	6	773	35,941	0.1665	-1.79
05/06/2006	2006	8	221	20,277	0.0939	-2.37
06/06/2006	2006	5	14	4,855	0.0225	-3.79
07/06/2006	2006	38	5,032	296,169	1.3722	0.32
08/06/2006	2006	4	39	5,928	0.0275	-3.59
09/06/2006	2006	11	291	58,038	0.2689	-1.31
10/06/2006	2006	26	3,114	208,903	0.9679	-0.03
11/06/2006	2006	14	519	59,141	0.2740	-1.29
12/06/2006	2006	5	408	15,272	0.0708	-2.65
13/06/2006	2006	2	2	360	0.0017	-6.40
14/06/2006	2006	5	864	61,265	0.2839	-1.26
15/06/2006	2006	13	5,036	711,001	3.2942	1.19
16/06/2006	2006	6	237	34,287	0.1589	-1.84
17/06/2006	2006	16	2,755	229,556	1.0636	0.06
18/06/2006	2006	14	592	63,781	0.2955	-1.22
19/06/2006	2006	38	3,004	436,928	2.0244	0.71
20/06/2006	2006	38	2,080	235,584	1.0915	0.09
21/06/2006	2006	3	18	1,198	0.0056	-5.19
22/06/2006	2006	6	176	8,158	0.0378	-3.28
23/06/2006	2006	12	199	27,221	0.1261	-2.07
24/06/2006	2006	6	371	27,231	0.1262	-2.07
25/06/2006	2006	17	632	113,027	0.5237	-0.65
26/06/2006	2006	17	1,372	115,627	0.5357	-0.62
27/06/2006	2006	11	934	55,296	0.2562	-1.36
28/06/2006	2006	11	2,056	88,987	0.4123	-0.89
29/06/2006	2006	25	1,055	121,525	0.5631	-0.57
30/06/2006	2006	5	106	7,660	0.0355	-3.34
01/07/2006	2006	1	1	247	0.0011	-6.77
02/07/2006	2006	10	642	82,100	0.3804	-0.97
03/07/2006	2006	18	1,258	131,991	0.6115	-0.49
04/07/2006	2006	13	3,457	253,443	1.1743	0.16
05/07/2006	2006	6	421	24,450	0.1133	-2.18
06/07/2006	2006	8	207	14,469	0.0670	-2.70
07/07/2006	2006	6	158	20,206	0.0936	-2.37
08/07/2006	2006	2	192	17,951	0.0832	-2.49
09/07/2006	2006	9	2,218	151,662	0.7027	-0.35
10/07/2006	2006	8	213	9,176	0.0425	-3.16
11/07/2006	2006	54	3,216	309,675	1.4348	0.36
12/07/2006	2006	9	928	51,761	0.2398	-1.43
13/07/2006	2006	4	54	7,200	0.0334	-3.40
14/07/2006	2006	5	999	55,975	0.2593	-1.35
15/07/2006	2006	1	1	90	0.0004	-7.78
16/07/2006	2006	23	409	74,444	0.3449	-1.06
17/07/2006	2006	50	9,054	1,478,326	6.8494	1.92
18/07/2006	2006	23	1,131	125,739	0.5826	-0.54
19/07/2006	2006	9	201	24,233	0.1123	-2.19
20/07/2006	2006	9	180	12,854	0.0596	-2.82
21/07/2006	2006	7	424	43,798	0.2029	-1.59
22/07/2006	2006	19	755	53,101	0.2460	-1.40

23/07/2006	2006	6	126	37,564	0.1740	-1.75
24/07/2006	2006	3	58	13,389	0.0620	-2.78
25/07/2006	2006	3	111	9,556	0.0443	-3.12
26/07/2006	2006	11	1,063	60,369	0.2797	-1.27
27/07/2006	2006	6	139	8,711	0.0404	-3.21
28/07/2006	2006	13	1,386	281,820	1.3057	0.27
29/07/2006	2006	12	1,169	44,380	0.2056	-1.58
30/07/2006	2006	4	623	154,655	0.7165	-0.33
31/07/2006	2006	7	155	12,629	0.0585	-2.84
01/08/2006	2006	10	1,918	114,059	0.5285	-0.64
02/08/2006	2006	105	30,562	14,840,745	68.7603	4.23 MED
03/08/2006	2006	71	9,101	2,007,587	9.3016	2.23
04/08/2006	2006	30	412	93,823	0.4347	-0.83
05/08/2006	2006	17	2,717	291,082	1.3486	0.30
06/08/2006	2006	6	621	42,091	0.1950	-1.63
07/08/2006	2006	9	162	13,354	0.0619	-2.78
08/08/2006	2006	11	365	40,563	0.1879	-1.67
09/08/2006	2006	5	78	14,310	0.0663	-2.71
10/08/2006	2006	4	16	1,908	0.0088	-4.73
11/08/2006	2006	3	53	10,705	0.0496	-3.00
12/08/2006	2006	4	80	15,493	0.0718	-2.63
13/08/2006	2006	2	18	1,073	0.0050	-5.30
14/08/2006	2006	2	2	79	0.0004	-7.91
15/08/2006	2006	11	311	29,996	0.1390	-1.97
16/08/2006	2006	2	9	957	0.0044	-5.42
17/08/2006	2006	4	104	26,655	0.1235	-2.09
18/08/2006	2006	3	17	1,607	0.0074	-4.90
19/08/2006	2006	2	69	5,659	0.0262	-3.64
20/08/2006	2006	21	1,641	380,737	1.7640	0.57
21/08/2006	2006	9	140	11,190	0.0518	-2.96
22/08/2006	2006	3	69	2,653	0.0123	-4.40
23/08/2006	2006	2	291	20,927	0.0970	-2.33
24/08/2006	2006	3	113	9,406	0.0436	-3.13
25/08/2006	2006	7	907	173,297	0.8029	-0.22
26/08/2006	2006	4	63	7,515	0.0348	-3.36
27/08/2006	2006	6	1,882	334,477	1.5497	0.44
28/08/2006	2006	13	636	155,281	0.7194	-0.33
29/08/2006	2006	16	1,236	452,599	2.0970	0.74
30/08/2006	2006	11	1,308	230,747	1.0691	0.07
31/08/2006	2006	6	132	23,252	0.1077	-2.23
01/09/2006	2006	5	36	2,680	0.0124	-4.39
02/09/2006	2006	53	3,286	449,552	2.0829	0.73
03/09/2006	2006	15	352	68,037	0.3152	-1.15
04/09/2006	2006	6	394	14,707	0.0681	-2.69
05/09/2006	2006	11	1,390	103,739	0.4806	-0.73
06/09/2006	2006	6	132	11,998	0.0556	-2.89
07/09/2006	2006	4	60	5,976	0.0277	-3.59
08/09/2006	2006	3	126	14,834	0.0687	-2.68
09/09/2006	2006	20	1,415	158,426	0.7340	-0.31
10/09/2006	2006	12	876	42,878	0.1987	-1.62
11/09/2006	2006	4	98	9,418	0.0436	-3.13
12/09/2006	2006	1	1	49	0.0002	-8.39
13/09/2006	2006	7	59	10,159	0.0471	-3.06
14/09/2006	2006	6	437	108,591	0.5031	-0.69
15/09/2006	2006	8	1,700	93,864	0.4349	-0.83
16/09/2006	2006	1	791	47,460	0.2199	-1.51
17/09/2006	2006	3	1,538	15,474	0.0717	-2.64
18/09/2006	2006	2	38	1,324	0.0061	-5.09
19/09/2006	2006	8	277	20,925	0.0969	-2.33
20/09/2006	2006	2	19	3,397	0.0157	-4.15
21/09/2006	2006	7	620	78,207	0.3623	-1.02
22/09/2006	2006	4	172	19,680	0.0912	-2.39
24/09/2006	2006	8	2,625	209,724	0.9717	-0.03
25/09/2006	2006	6	264	17,373	0.0805	-2.52
26/09/2006	2006	4	64	5,809	0.0269	-3.62
27/09/2006	2006	3	122	7,556	0.0350	-3.35
28/09/2006	2006	3	18	2,151	0.0100	-4.61
29/09/2006	2006	11	1,081	58,232	0.2698	-1.31

30/09/2006	2006	1	1	232	0.0011	-6.84
01/10/2006	2006	10	312	55,309	0.2563	-1.36
02/10/2006	2006	6	2,754	75,621	0.3504	-1.05
03/10/2006	2006	12	436	19,505	0.0904	-2.40
04/10/2006	2006	2	18	1,019	0.0047	-5.36
05/10/2006	2006	9	1,240	120,209	0.5570	-0.59
06/10/2006	2006	9	508	20,484	0.0949	-2.35
07/10/2006	2006	7	172	17,385	0.0805	-2.52
08/10/2006	2006	1	32	1,984	0.0092	-4.69
10/10/2006	2006	5	232	17,176	0.0796	-2.53
11/10/2006	2006	4	682	60,452	0.2801	-1.27
12/10/2006	2006	8	242	22,134	0.1026	-2.28
13/10/2006	2006	6	168	28,203	0.1307	-2.04
14/10/2006	2006	9	323	17,857	0.0827	-2.49
16/10/2006	2006	2	38	3,795	0.0176	-4.04
17/10/2006	2006	9	1,340	86,271	0.3997	-0.92
18/10/2006	2006	3	133	12,247	0.0567	-2.87
19/10/2006	2006	3	127	10,037	0.0465	-3.07
20/10/2006	2006	126	13,175	3,500,239	16.2173	2.79 MED
21/10/2006	2006	52	1,542	279,278	1.2940	0.26
22/10/2006	2006	13	372	25,776	0.1194	-2.13
23/10/2006	2006	13	2,210	104,677	0.4850	-0.72
24/10/2006	2006	5	2,268	101,299	0.4693	-0.76
25/10/2006	2006	9	126	9,245	0.0428	-3.15
26/10/2006	2006	5	561	63,217	0.2929	-1.23
27/10/2006	2006	4	130	5,984	0.0277	-3.59
28/10/2006	2006	30	3,126	172,618	0.7998	-0.22
29/10/2006	2006	104	9,450	2,265,463	10.4964	2.35 MED
30/10/2006	2006	18	335	26,444	0.1225	-2.10
31/10/2006	2006	4	13	1,043	0.0048	-5.33
01/11/2006	2006	13	212	23,120	0.1071	-2.23
02/11/2006	2006	16	2,026	118,770	0.5503	-0.60
03/11/2006	2006	3	109	5,628	0.0261	-3.65
04/11/2006	2006	7	190	12,668	0.0587	-2.84
05/11/2006	2006	4	27	4,796	0.0222	-3.81
06/11/2006	2006	2	39	1,635	0.0076	-4.88
07/11/2006	2006	5	33	1,971	0.0091	-4.70
08/11/2006	2006	12	1,058	66,380	0.3076	-1.18
09/11/2006	2006	6	127	12,055	0.0559	-2.89
10/11/2006	2006	3	100	4,934	0.0229	-3.78
11/11/2006	2006	2	32	1,574	0.0073	-4.92
12/11/2006	2006	6	162	57,382	0.2659	-1.32
13/11/2006	2006	8	110	18,862	0.0874	-2.44
14/11/2006	2006	3	227	23,715	0.1099	-2.21
15/11/2006	2006	1	5	355	0.0016	-6.41
16/11/2006	2006	24	1,202	116,790	0.5411	-0.61
17/11/2006	2006	19	1,758	144,953	0.6716	-0.40
18/11/2006	2006	6	217	11,052	0.0512	-2.97
19/11/2006	2006	5	115	13,768	0.0638	-2.75
21/11/2006	2006	3	74	7,585	0.0351	-3.35
22/11/2006	2006	4	25	4,622	0.0214	-3.84
23/11/2006	2006	5	29	2,593	0.0120	-4.42
24/11/2006	2006	5	273	19,409	0.0899	-2.41
25/11/2006	2006	4	88	15,575	0.0722	-2.63
26/11/2006	2006	2	105	5,625	0.0261	-3.65
27/11/2006	2006	6	98	11,456	0.0531	-2.94
29/11/2006	2006	5	215	25,558	0.1184	-2.13
30/11/2006	2006	2	80	6,800	0.0315	-3.46
01/12/2006	2006	67	9,808	2,098,010	9.7205	2.27
02/12/2006	2006	33	663	188,912	0.8753	-0.13
03/12/2006	2006	1	1	18	0.0001	-9.39
04/12/2006	2006	2	121	11,147	0.0516	-2.96
05/12/2006	2006	6	213	54,964	0.2547	-1.37
06/12/2006	2006	6	154	49,079	0.2274	-1.48
07/12/2006	2006	2	87	5,319	0.0246	-3.70
08/12/2006	2006	4	159	34,036	0.1577	-1.85
09/12/2006	2006	1	1	562	0.0026	-5.95
10/12/2006	2006	4	141	11,350	0.0526	-2.95

12/12/2006	2006	4	250	58,664	0.2718	-1.30
13/12/2006	2006	4	1,160	109,889	0.5091	-0.68
14/12/2006	2006	2	10	790	0.0037	-5.61
15/12/2006	2006	4	306	115,795	0.5365	-0.62
16/12/2006	2006	1	59	4,661	0.0216	-3.84
18/12/2006	2006	2	2,020	127,835	0.5923	-0.52
19/12/2006	2006	4	97	10,188	0.0472	-3.05
20/12/2006	2006	2	69	33,314	0.1544	-1.87
21/12/2006	2006	8	581	47,863	0.2218	-1.51
22/12/2006	2006	4	490	29,952	0.1388	-1.97
23/12/2006	2006	8	385	13,545	0.0628	-2.77
24/12/2006	2006	4	312	26,577	0.1231	-2.09
25/12/2006	2006	9	628	140,584	0.6514	-0.43
26/12/2006	2006	9	608	53,752	0.2490	-1.39
27/12/2006	2006	6	578	20,058	0.0929	-2.38
28/12/2006	2006	4	179	21,415	0.0992	-2.31
29/12/2006	2006	2	99	5,721	0.0265	-3.63
30/12/2006	2006	9	2,273	177,828	0.8239	-0.19
31/12/2006	2006	4	82	6,232	0.0289	-3.54
01/01/2007	2007	4	1073	30370	0.1401	-1.97
02/01/2007	2007	6	208	13806	0.0637	-2.75
03/01/2007	2007	4	46	2027	0.0094	-4.67
04/01/2007	2007	9	1904	162227	0.7486	-0.29
05/01/2007	2007	3	482	17626	0.0813	-2.51
06/01/2007	2007	6	1598	196286	0.9057	-0.10
07/01/2007	2007	6	418	22984	0.1061	-2.24
08/01/2007	2007	6	129	72900	0.3364	-1.09
09/01/2007	2007	5	490	29525	0.1362	-1.99
10/01/2007	2007	2	821	20837	0.0961	-2.34
11/01/2007	2007	8	313	17542	0.0809	-2.51
12/01/2007	2007	4	112	7146	0.0330	-3.41
13/01/2007	2007	1	32	1376	0.0063	-5.06
14/01/2007	2007	4	622	21358	0.0986	-2.32
15/01/2007	2007	72	4874	551243	2.5436	0.93
16/01/2007	2007	24	939	269150	1.2420	0.22
17/01/2007	2007	8	103	7744	0.0357	-3.33
18/01/2007	2007	5	45	13131	0.0606	-2.80
19/01/2007	2007	1	5	195	0.0009	-7.01
20/01/2007	2007	6	335	74351	0.3431	-1.07
21/01/2007	2007	3	68	2262	0.0104	-4.56
23/01/2007	2007	4	260	39295	0.1813	-1.71
24/01/2007	2007	1	38	6042	0.0279	-3.58
25/01/2007	2007	6	1806	39853	0.1839	-1.69
26/01/2007	2007	1	1223	26906	0.1242	-2.09
27/01/2007	2007	7	299	35292	0.1628	-1.81
28/01/2007	2007	3	84	2302	0.0106	-4.54
29/01/2007	2007	2	234	2347	0.0108	-4.53
30/01/2007	2007	5	1375	111871	0.5162	-0.66
31/01/2007	2007	4	2327	81381	0.3755	-0.98
01/02/2007	2007	1	89	10146	0.0468	-3.06
02/02/2007	2007	5	59	2566	0.0118	-4.44
03/02/2007	2007	3	46	3752	0.0173	-4.06
04/02/2007	2007	2	63	5787	0.0267	-3.62
05/02/2007	2007	2	64	12098	0.0558	-2.89
06/02/2007	2007	5	44	4439	0.0205	-3.89
07/02/2007	2007	2	21	3637	0.0168	-4.09
08/02/2007	2007	4	102	4948	0.0228	-3.78
09/02/2007	2007	7	116	8126	0.0375	-3.28
10/02/2007	2007	2	50	1902	0.0088	-4.74
11/02/2007	2007	1	8	640	0.0030	-5.82
12/02/2007	2007	2	19	390	0.0018	-6.32
14/02/2007	2007	1	3	276	0.0013	-6.67
15/02/2007	2007	4	158	15195	0.0701	-2.66
16/02/2007	2007	2	29	764	0.0035	-5.65
17/02/2007	2007	4	216	13436	0.0620	-2.78
18/02/2007	2007	3	693	48357	0.2231	-1.50
19/02/2007	2007	3	53	3182	0.0147	-4.22
20/02/2007	2007	4	57	15167	0.0700	-2.66

21/02/2007	2007	6	295	8331	0.0384	-3.26
22/02/2007	2007	10	2030	136715	0.6309	-0.46
23/02/2007	2007	9	407	29714	0.1371	-1.99
24/02/2007	2007	1	1	686	0.0032	-5.76
25/02/2007	2007	4	306	16478	0.0760	-2.58
26/02/2007	2007	1	8	328	0.0015	-6.49
27/02/2007	2007	3	228	32946	0.1520	-1.88
28/02/2007	2007	1	63	1953	0.0090	-4.71
01/03/2007	2007	7	34	2278	0.0105	-4.56
02/03/2007	2007	126	8364	3186608	14.7041	2.69 MED
03/03/2007	2007	39	11149	331077	1.5277	0.42
04/03/2007	2007	5	49	1959	0.0090	-4.71
05/03/2007	2007	9	132	17043	0.0786	-2.54
06/03/2007	2007	11	1256	140279	0.6473	-0.43
07/03/2007	2007	5	457	79199	0.3655	-1.01
08/03/2007	2007	5	38	6071	0.0280	-3.58
09/03/2007	2007	3	29	438	0.0020	-6.20
10/03/2007	2007	8	525	48895	0.2256	-1.49
11/03/2007	2007	12	481	22184	0.1024	-2.28
12/03/2007	2007	7	684	24197	0.1117	-2.19
13/03/2007	2007	1	1	61	0.0003	-8.18
14/03/2007	2007	5	350	25458	0.1175	-2.14
15/03/2007	2007	8	1834	145113	0.6696	-0.40
16/03/2007	2007	8	685	79284	0.3658	-1.01
17/03/2007	2007	2	40	2740	0.0126	-4.37
18/03/2007	2007	3	70	4520	0.0209	-3.87
19/03/2007	2007	1	1	73	0.0003	-8.00
20/03/2007	2007	8	621	80918	0.3734	-0.99
21/03/2007	2007	4	132	7390	0.0341	-3.38
22/03/2007	2007	7	112	16571	0.0765	-2.57
23/03/2007	2007	8	632	132904	0.6133	-0.49
24/03/2007	2007	3	20	1697	0.0078	-4.85
25/03/2007	2007	6	148	28158	0.1299	-2.04
26/03/2007	2007	4	32	6386	0.0295	-3.52
27/03/2007	2007	3	12	3079	0.0142	-4.25
28/03/2007	2007	10	1266	128825	0.5944	-0.52
29/03/2007	2007	5	920	44353	0.2047	-1.59
30/03/2007	2007	4	143	3472	0.0160	-4.13
31/03/2007	2007	8	706	216557	0.9993	0.00
01/04/2007	2007	1	68	1700	0.0078	-4.85
02/04/2007	2007	4	131	19098	0.0881	-2.43
03/04/2007	2007	2	31	5499	0.0254	-3.67
04/04/2007	2007	15	1209	149632	0.6905	-0.37
05/04/2007	2007	19	2344	120098	0.5542	-0.59
07/04/2007	2007	6	344	26845	0.1239	-2.09
08/04/2007	2007	1	75	3600	0.0166	-4.10
09/04/2007	2007	2	57	13076	0.0603	-2.81
10/04/2007	2007	2	53	3311	0.0153	-4.18
11/04/2007	2007	4	2184	93608	0.4319	-0.84
12/04/2007	2007	6	74	4846	0.0224	-3.80
13/04/2007	2007	2	99	5701	0.0263	-3.64
14/04/2007	2007	4	36	5995	0.0277	-3.59
15/04/2007	2007	48	1330	255873	1.1807	0.17
16/04/2007	2007	28	1037	227027	1.0476	0.05
17/04/2007	2007	5	1049	43946	0.2028	-1.60
18/04/2007	2007	5	936	51882	0.2394	-1.43
19/04/2007	2007	5	40	8009	0.0370	-3.30
20/04/2007	2007	3	4	394	0.0018	-6.31
21/04/2007	2007	5	51	3320	0.0153	-4.18
22/04/2007	2007	9	265	17201	0.0794	-2.53
23/04/2007	2007	8	1927	191214	0.8823	-0.13
24/04/2007	2007	8	1363	200800	0.9266	-0.08
25/04/2007	2007	11	123	9361	0.0432	-3.14
26/04/2007	2007	3	34	2484	0.0115	-4.47
27/04/2007	2007	2	93	5922	0.0273	-3.60
28/04/2007	2007	3	85	9502	0.0438	-3.13
29/04/2007	2007	1	24	3984	0.0184	-4.00
30/04/2007	2007	19	1098	93288	0.4305	-0.84

01/05/2007	2007	4	1070	37369	0.1724	-1.76
02/05/2007	2007	6	169	22834	0.1054	-2.25
03/05/2007	2007	5	284	44699	0.2063	-1.58
04/05/2007	2007	3	72	15135	0.0698	-2.66
05/05/2007	2007	3	98	10446	0.0482	-3.03
06/05/2007	2007	2	53	4925	0.0227	-3.78
07/05/2007	2007	2	89	5270	0.0243	-3.72
08/05/2007	2007	2	384	41052	0.1894	-1.66
09/05/2007	2007	5	105	6977	0.0322	-3.44
10/05/2007	2007	4	37	4872	0.0225	-3.80
11/05/2007	2007	19	600	33767	0.1558	-1.86
12/05/2007	2007	1	2	254	0.0012	-6.75
13/05/2007	2007	6	135	58405	0.2695	-1.31
14/05/2007	2007	6	253	19799	0.0914	-2.39
15/05/2007	2007	19	1908	94155	0.4345	-0.83
16/05/2007	2007	22	3899	319644	1.4750	0.39
17/05/2007	2007	7	107	4799	0.0221	-3.81
18/05/2007	2007	3	27	3501	0.0162	-4.13
19/05/2007	2007	4	140	15894	0.0733	-2.61
20/05/2007	2007	15	675	68889	0.3179	-1.15
21/05/2007	2007	6	1783	143654	0.6629	-0.41
22/05/2007	2007	3	149	20294	0.0936	-2.37
23/05/2007	2007	1	6	342	0.0016	-6.45
24/05/2007	2007	9	2253	115952	0.5350	-0.63
25/05/2007	2007	9	84	13619	0.0628	-2.77
26/05/2007	2007	7	166	39338	0.1815	-1.71
27/05/2007	2007	14	917	100111	0.4619	-0.77
28/05/2007	2007	13	2558	78329	0.3614	-1.02
29/05/2007	2007	9	2343	141306	0.6520	-0.43
30/05/2007	2007	9	613	58880	0.2717	-1.30
31/05/2007	2007	21	1062	153123	0.7066	-0.35
01/06/2007	2007	8	1382	180905	0.8348	-0.18
02/06/2007	2007	6	97	6893	0.0318	-3.45
03/06/2007	2007	12	615	28945	0.1336	-2.01
04/06/2007	2007	25	1802	238946	1.1026	0.10
05/06/2007	2007	24	3955	193553	0.8931	-0.11
06/06/2007	2007	13	596	81420	0.3757	-0.98
07/06/2007	2007	4	94	8094	0.0373	-3.29
08/06/2007	2007	2	36	2142	0.0099	-4.62
09/06/2007	2007	7	34	5713	0.0264	-3.64
10/06/2007	2007	7	294	20052	0.0925	-2.38
11/06/2007	2007	18	2328	217943	1.0057	0.01
12/06/2007	2007	7	266	14297	0.0660	-2.72
13/06/2007	2007	3	174	5071	0.0234	-3.76
14/06/2007	2007	6	182	16642	0.0768	-2.57
15/06/2007	2007	9	1849	95529	0.4408	-0.82
16/06/2007	2007	21	1117	136680	0.6307	-0.46
17/06/2007	2007	5	719	20982	0.0968	-2.33
18/06/2007	2007	4	89	9244	0.0427	-3.15
19/06/2007	2007	12	807	114126	0.5266	-0.64
20/06/2007	2007	8	418	27495	0.1269	-2.06
21/06/2007	2007	10	596	69854	0.3223	-1.13
22/06/2007	2007	9	167	21360	0.0986	-2.32
23/06/2007	2007	4	68	6102	0.0282	-3.57
24/06/2007	2007	5	602	58785	0.2713	-1.30
25/06/2007	2007	5	120	9429	0.0435	-3.13
26/06/2007	2007	17	543	63999	0.2953	-1.22
27/06/2007	2007	25	2448	483052	2.2290	0.80
28/06/2007	2007	20	2065	201847	0.9314	-0.07
29/06/2007	2007	10	2415	229036	1.0569	0.06
30/06/2007	2007	9	592	141955	0.6550	-0.42
01/07/2007	2007	9	375	26568	0.1226	-2.10
02/07/2007	2007	3	160	9742	0.0450	-3.10
03/07/2007	2007	9	1029	55862	0.2578	-1.36
04/07/2007	2007	12	784	83178	0.3838	-0.96
05/07/2007	2007	22	2316	211706	0.9769	-0.02
06/07/2007	2007	23	5774	403174	1.8604	0.62
07/07/2007	2007	8	263	25725	0.1187	-2.13

08/07/2007	2007	5	340	18085	0.0835	-2.48
09/07/2007	2007	38	7326	1380345	6.3694	1.85
10/07/2007	2007	17	691	54361	0.2508	-1.38
11/07/2007	2007	20	1646	262663	1.2120	0.19
12/07/2007	2007	8	78	5944	0.0274	-3.60
13/07/2007	2007	12	1130	107050	0.4940	-0.71
14/07/2007	2007	7	402	42834	0.1977	-1.62
15/07/2007	2007	64	7513	1245249	5.7460	1.75
16/07/2007	2007	14	1644	103295	0.4766	-0.74
17/07/2007	2007	6	519	13902	0.0641	-2.75
18/07/2007	2007	17	2501	406875	1.8775	0.63
19/07/2007	2007	9	102	16948	0.0782	-2.55
20/07/2007	2007	14	309	32951	0.1520	-1.88
21/07/2007	2007	8	68	11974	0.0553	-2.90
22/07/2007	2007	3	258	11843	0.0546	-2.91
23/07/2007	2007	8	2022	121237	0.5594	-0.58
24/07/2007	2007	4	385	13791	0.0636	-2.75
25/07/2007	2007	7	342	71418	0.3295	-1.11
26/07/2007	2007	15	1279	77382	0.3571	-1.03
27/07/2007	2007	9	374	51821	0.2391	-1.43
28/07/2007	2007	18	4230	405755	1.8723	0.63
29/07/2007	2007	4	137	12962	0.0598	-2.82
30/07/2007	2007	4	205	36146	0.1668	-1.79
31/07/2007	2007	8	98	8356	0.0386	-3.26
01/08/2007	2007	5	1173	35113	0.1620	-1.82
02/08/2007	2007	15	415	68453	0.3159	-1.15
03/08/2007	2007	33	1899	355799	1.6418	0.50
04/08/2007	2007	11	518	96093	0.4434	-0.81
05/08/2007	2007	5	602	132294	0.6105	-0.49
06/08/2007	2007	1	68	6256	0.0289	-3.55
07/08/2007	2007	3	8	865	0.0040	-5.52
08/08/2007	2007	18	1227	167946	0.7750	-0.25
09/08/2007	2007	5	1983	184208	0.8500	-0.16
10/08/2007	2007	12	1171	182530	0.8423	-0.17
11/08/2007	2007	9	507	111871	0.5162	-0.66
12/08/2007	2007	5	178	26736	0.1234	-2.09
13/08/2007	2007	11	3805	178755	0.8248	-0.19
14/08/2007	2007	4	17	1360	0.0063	-5.07
15/08/2007	2007	9	211	14669	0.0677	-2.69
16/08/2007	2007	4	242	10313	0.0476	-3.05
17/08/2007	2007	14	291	74336	0.3430	-1.07
18/08/2007	2007	37	1689	288744	1.3324	0.29
19/08/2007	2007	3	136	9416	0.0434	-3.14
20/08/2007	2007	2	40	2578	0.0119	-4.43
21/08/2007	2007	11	1833	243872	1.1253	0.12
22/08/2007	2007	7	1477	130751	0.6033	-0.51
23/08/2007	2007	9	404	70512	0.3254	-1.12
24/08/2007	2007	12	313	30527	0.1409	-1.96
25/08/2007	2007	12	358	35826	0.1653	-1.80
26/08/2007	2007	5	65	4300	0.0198	-3.92
27/08/2007	2007	5	253	6930	0.0320	-3.44
28/08/2007	2007	3	26	1564	0.0072	-4.93
29/08/2007	2007	4	140	18059	0.0833	-2.48
30/08/2007	2007	7	162	20852	0.0962	-2.34
31/08/2007	2007	4	39	4839	0.0223	-3.80
01/09/2007	2007	2	81	6036	0.0279	-3.58
02/09/2007	2007	7	885	71255	0.3288	-1.11
03/09/2007	2007	6	139	20478	0.0945	-2.36
04/09/2007	2007	5	195	48116	0.2220	-1.50
05/09/2007	2007	2	59	10650	0.0491	-3.01
06/09/2007	2007	5	208	21609	0.0997	-2.31
07/09/2007	2007	8	179	46453	0.2144	-1.54
08/09/2007	2007	19	967	181512	0.8376	-0.18
09/09/2007	2007	14	296	24184	0.1116	-2.19
10/09/2007	2007	11	438	48370	0.2232	-1.50
11/09/2007	2007	28	3195	370317	1.7088	0.54
12/09/2007	2007	20	1740	175204	0.8085	-0.21
13/09/2007	2007	8	436	64431	0.2973	-1.21

14/09/2007	2007	2	66	16682	0.0770	-2.56
15/09/2007	2007	12	1447	89690	0.4139	-0.88
16/09/2007	2007	1	3	159	0.0007	-7.22
17/09/2007	2007	1	7	819	0.0038	-5.58
18/09/2007	2007	4	46	5745	0.0265	-3.63
19/09/2007	2007	4	206	35851	0.1654	-1.80
20/09/2007	2007	1	24	2088	0.0096	-4.64
21/09/2007	2007	4	216	22061	0.1018	-2.28
23/09/2007	2007	4	77	4830	0.0223	-3.80
24/09/2007	2007	6	47	3763	0.0174	-4.05
25/09/2007	2007	6	205	13125	0.0606	-2.80
26/09/2007	2007	12	549	49131	0.2267	-1.48
27/09/2007	2007	3	106	12676	0.0585	-2.84
28/09/2007	2007	2	3	286	0.0013	-6.63
29/09/2007	2007	9	1922	220680	1.0183	0.02
30/09/2007	2007	6	142	8975	0.0414	-3.18
01/10/2007	2007	3	56	9761	0.0450	-3.10
02/10/2007	2007	3	29	1776	0.0082	-4.80
03/10/2007	2007	3	192	69327	0.3199	-1.14
04/10/2007	2007	3	107	7921	0.0366	-3.31
05/10/2007	2007	1	3	192	0.0009	-7.03
06/10/2007	2007	4	113	11644	0.0537	-2.92
07/10/2007	2007	10	1118	127173	0.5868	-0.53
08/10/2007	2007	6	914	131487	0.6067	-0.50
09/10/2007	2007	4	56	5355	0.0247	-3.70
10/10/2007	2007	11	376	37116	0.1713	-1.76
11/10/2007	2007	10	296	37520	0.1731	-1.75
12/10/2007	2007	26	1068	117207	0.5408	-0.61
13/10/2007	2007	6	1025	138752	0.6403	-0.45
14/10/2007	2007	8	364	118239	0.5456	-0.61
15/10/2007	2007	1	6	174	0.0008	-7.13
16/10/2007	2007	6	249	20239	0.0934	-2.37
17/10/2007	2007	5	998	194404	0.8970	-0.11
18/10/2007	2007	6	725	77589	0.3580	-1.03
19/10/2007	2007	13	854	177754	0.8202	-0.20
20/10/2007	2007	11	2171	228217	1.0531	0.05
21/10/2007	2007	5	650	134674	0.6214	-0.48
22/10/2007	2007	5	84	5942	0.0274	-3.60
23/10/2007	2007	18	2176	110523	0.5100	-0.67
24/10/2007	2007	8	421	17601	0.0812	-2.51
25/10/2007	2007	7	257	13137	0.0606	-2.80
26/10/2007	2007	5	23	3705	0.0171	-4.07
27/10/2007	2007	19	3846	281580	1.2993	0.26
28/10/2007	2007	16	1015	137440	0.6342	-0.46
29/10/2007	2007	9	555	25896	0.1195	-2.12
30/10/2007	2007	4	966	140923	0.6503	-0.43
31/10/2007	2007	3	215	8856	0.0409	-3.20
01/11/2007	2007	6	172	17679	0.0816	-2.51
02/11/2007	2007	3	80	14219	0.0656	-2.72
03/11/2007	2007	8	202	12545	0.0579	-2.85
04/11/2007	2007	5	382	37778	0.1743	-1.75
05/11/2007	2007	4	122	6039	0.0279	-3.58
06/11/2007	2007	9	2286	115942	0.5350	-0.63
07/11/2007	2007	3	5	255	0.0012	-6.75
08/11/2007	2007	2	136	11624	0.0536	-2.93
09/11/2007	2007	3	60	5737	0.0265	-3.63
10/11/2007	2007	9	346	21751	0.1004	-2.30
11/11/2007	2007	9	1397	169345	0.7814	-0.25
12/11/2007	2007	4	168	8514	0.0393	-3.24
13/11/2007	2007	5	242	18360	0.0847	-2.47
14/11/2007	2007	12	1168	118489	0.5468	-0.60
15/11/2007	2007	4	554	32641	0.1506	-1.89
16/11/2007	2007	18	832	79962	0.3690	-1.00
17/11/2007	2007	6	674	126141	0.5821	-0.54
18/11/2007	2007	4	233	22001	0.1015	-2.29
19/11/2007	2007	6	107	33973	0.1568	-1.85
20/11/2007	2007	1	14	1988	0.0092	-4.69
21/11/2007	2007	3	38	3418	0.0158	-4.15

22/11/2007	2007	6	441	34563	0.1595	-1.84
23/11/2007	2007	6	82	20872	0.0963	-2.34
25/11/2007	2007	11	742	105671	0.4876	-0.72
26/11/2007	2007	13	363	22479	0.1037	-2.27
27/11/2007	2007	13	487	59981	0.2768	-1.28
28/11/2007	2007	1	161	33971	0.1568	-1.85
29/11/2007	2007	7	329	22799	0.1052	-2.25
30/11/2007	2007	2	21	300	0.0014	-6.58
01/12/2007	2007	16	1106	161492	0.7452	-0.29
02/12/2007	2007	2	14	915	0.0042	-5.47
03/12/2007	2007	25	7029	734780	3.3905	1.22
04/12/2007	2007	1	3	489	0.0023	-6.09
05/12/2007	2007	5	34	7832	0.0361	-3.32
06/12/2007	2007	1	17	187	0.0009	-7.06
07/12/2007	2007	2	44	1877	0.0087	-4.75
08/12/2007	2007	2	4	550	0.0025	-5.98
09/12/2007	2007	4	1564	48328	0.2230	-1.50
10/12/2007	2007	4	89	5327	0.0246	-3.71
11/12/2007	2007	9	217	24208	0.1117	-2.19
12/12/2007	2007	23	675	88925	0.4103	-0.89
13/12/2007	2007	6	103	9410	0.0434	-3.14
14/12/2007	2007	3	19	1777	0.0082	-4.80
16/12/2007	2007	12	2504	138260	0.6380	-0.45
17/12/2007	2007	20	639	81073	0.3741	-0.98
18/12/2007	2007	8	214	66511	0.3069	-1.18
19/12/2007	2007	4	150	2367	0.0109	-4.52
20/12/2007	2007	3	9	2530	0.0117	-4.45
21/12/2007	2007	2	15	688	0.0032	-5.75
22/12/2007	2007	2	14	817	0.0038	-5.58
23/12/2007	2007	21	995	174321	0.8044	-0.22
24/12/2007	2007	11	685	61017	0.2816	-1.27
25/12/2007	2007	8	274	18463	0.0852	-2.46
26/12/2007	2007	4	44	2364	0.0109	-4.52
27/12/2007	2007	2	133	12322	0.0569	-2.87
28/12/2007	2007	1	3	357	0.0016	-6.41
29/12/2007	2007	5	1270	295758	1.3647	0.31
30/12/2007	2007	5	95	7735	0.0357	-3.33
31/12/2007	2007	38	4091	510753	2.3568	0.86
01/01/2008	2008	9	511	44447	0.2041	-1.59
02/01/2008	2008	5	595	138567	0.6363	-0.45
03/01/2008	2008	14	441	49218	0.2260	-1.49
04/01/2008	2008	1	52	832	0.0038	-5.57
05/01/2008	2008	1	16	880	0.0040	-5.51
06/01/2008	2008	1	54	5994	0.0275	-3.59
07/01/2008	2008	8	832	40546	0.1862	-1.68
08/01/2008	2008	3	378	26490	0.1216	-2.11
09/01/2008	2008	21	1011	171418	0.7871	-0.24
10/01/2008	2008	7	721	49726	0.2283	-1.48
11/01/2008	2008	7	362	80559	0.3699	-0.99
12/01/2008	2008	4	780	13598	0.0624	-2.77
13/01/2008	2008	2	50	3051	0.0140	-4.27
14/01/2008	2008	97	18060	3523923	16.1806	2.78 MED
15/01/2008	2008	7	427	27515	0.1263	-2.07
16/01/2008	2008	5	91	5464	0.0251	-3.69
17/01/2008	2008	2	105	22500	0.1033	-2.27
18/01/2008	2008	10	823	47653	0.2188	-1.52
19/01/2008	2008	7	148	13024	0.0598	-2.82
20/01/2008	2008	3	59	5107	0.0234	-3.75
21/01/2008	2008	7	608	37581	0.1726	-1.76
22/01/2008	2008	4	19	846	0.0039	-5.55
23/01/2008	2008	3	66	1263	0.0058	-5.15
24/01/2008	2008	2	59	4009	0.0184	-3.99
25/01/2008	2008	4	70	3282	0.0151	-4.20
26/01/2008	2008	4	36	3406	0.0156	-4.16
28/01/2008	2008	5	217	16331	0.0750	-2.59
29/01/2008	2008	1	23	2300	0.0106	-4.55
30/01/2008	2008	7	1615	192151	0.8823	-0.13
31/01/2008	2008	2	25	5736	0.0263	-3.64

01/02/2008	2008	18	1347	213602	0.9808	-0.02
02/02/2008	2008	23	1382	296657	1.3621	0.31
03/02/2008	2008	9	777	50966	0.2340	-1.45
04/02/2008	2008	4	200	9782	0.0449	-3.10
05/02/2008	2008	9	2380	137939	0.6334	-0.46
06/02/2008	2008	7	841	25609	0.1176	-2.14
07/02/2008	2008	10	826	37245	0.1710	-1.77
08/02/2008	2008	7	619	20897	0.0960	-2.34
09/02/2008	2008	3	114	69511	0.3192	-1.14
10/02/2008	2008	14	322	49878	0.2290	-1.47
11/02/2008	2008	13	709	73327	0.3367	-1.09
12/02/2008	2008	3	194	23018	0.1057	-2.25
13/02/2008	2008	73	15629	2741099	12.5861	2.53 MED
14/02/2008	2008	10	1262	314278	1.4431	0.37
15/02/2008	2008	9	1332	47544	0.2183	-1.52
16/02/2008	2008	2	22	1322	0.0061	-5.10
17/02/2008	2008	1	122	32208	0.1479	-1.91
18/02/2008	2008	15	1291	146649	0.6734	-0.40
19/02/2008	2008	3	40	11825	0.0543	-2.91
20/02/2008	2008	4	6	1515	0.0070	-4.97
21/02/2008	2008	2	32	9760	0.0448	-3.11
22/02/2008	2008	1	1	63	0.0003	-8.15
23/02/2008	2008	6	743	60015	0.2756	-1.29
24/02/2008	2008	6	3033	357810	1.6429	0.50
25/02/2008	2008	6	48	6488	0.0298	-3.51
26/02/2008	2008	14	137	19022	0.0873	-2.44
27/02/2008	2008	6	21	3846	0.0177	-4.04
28/02/2008	2008	4	66	10926	0.0502	-2.99
29/02/2008	2008	8	45	4784	0.0220	-3.82
01/03/2008	2008	6	519	10587	0.0486	-3.02
02/03/2008	2008	3	24	5071	0.0233	-3.76
03/03/2008	2008	1	3	243	0.0011	-6.80
04/03/2008	2008	5	1183	14441	0.0663	-2.71
05/03/2008	2008	9	113	9757	0.0448	-3.11
06/03/2008	2008	2	138	35276	0.1620	-1.82
07/03/2008	2008	1	341	89342	0.4102	-0.89
08/03/2008	2008	25	4668	515428	2.3667	0.86
09/03/2008	2008	55	6601	752103	3.4534	1.24
10/03/2008	2008	3	56	4973	0.0228	-3.78
11/03/2008	2008	6	318	27234	0.1250	-2.08
12/03/2008	2008	2	8	401	0.0018	-6.30
13/03/2008	2008	8	1539	178328	0.8188	-0.20
14/03/2008	2008	5	250	18706	0.0859	-2.45
15/03/2008	2008	9	203	24919	0.1144	-2.17
16/03/2008	2008	3	17	1639	0.0075	-4.89
17/03/2008	2008	2	2	138	0.0006	-7.36
19/03/2008	2008	4	23	2891	0.0133	-4.32
20/03/2008	2008	14	2272	292635	1.3437	0.30
21/03/2008	2008	56	9384	663157	3.0450	1.11
22/03/2008	2008	6	442	36639	0.1682	-1.78
23/03/2008	2008	2	192	11136	0.0511	-2.97
24/03/2008	2008	6	165	61283	0.2814	-1.27
25/03/2008	2008	1	2	194	0.0009	-7.02
26/03/2008	2008	2	20	4894	0.0225	-3.80
27/03/2008	2008	5	230	30735	0.1411	-1.96
28/03/2008	2008	44	1474	271610	1.2471	0.22
29/03/2008	2008	1	131	12838	0.0589	-2.83
31/03/2008	2008	6	197	9334	0.0429	-3.15
01/04/2008	2008	14	230	25545	0.1173	-2.14
02/04/2008	2008	25	2418	325907	1.4964	0.40
03/04/2008	2008	10	821	104653	0.4805	-0.73
04/04/2008	2008	5	588	23859	0.1096	-2.21
05/04/2008	2008	1	1	135	0.0006	-7.39
06/04/2008	2008	1	15	1170	0.0054	-5.23
08/04/2008	2008	2	66	2152	0.0099	-4.62
09/04/2008	2008	1	127	8128	0.0373	-3.29
10/04/2008	2008	5	288	22563	0.1036	-2.27
11/04/2008	2008	2	544	16292	0.0748	-2.59

12/04/2008	2008	5	49	18217	0.0836	-2.48
13/04/2008	2008	5	3808	234635	1.0774	0.07
14/04/2008	2008	5	354	23972	0.1101	-2.21
15/04/2008	2008	8	165	11815	0.0543	-2.91
16/04/2008	2008	8	5370	133048	0.6109	-0.49
17/04/2008	2008	5	3478	146314	0.6718	-0.40
18/04/2008	2008	7	2231	114961	0.5279	-0.64
19/04/2008	2008	4	74	6916	0.0318	-3.45
20/04/2008	2008	4	37	2798	0.0128	-4.35
21/04/2008	2008	2	150	17436	0.0801	-2.52
22/04/2008	2008	5	118	7664	0.0352	-3.35
23/04/2008	2008	5	224	20183	0.0927	-2.38
24/04/2008	2008	7	220	22506	0.1033	-2.27
25/04/2008	2008	3	27	1360	0.0062	-5.08
26/04/2008	2008	1	1	49	0.0002	-8.40
28/04/2008	2008	11	311	22310	0.1024	-2.28
29/04/2008	2008	5	74	10999	0.0505	-2.99
30/04/2008	2008	2	86	21841	0.1003	-2.30
01/05/2008	2008	13	292	84237	0.3868	-0.95
02/05/2008	2008	4	69	6792	0.0312	-3.47
03/05/2008	2008	2	1432	88690	0.4072	-0.90
04/05/2008	2008	2	5	1243	0.0057	-5.17
05/05/2008	2008	5	64	17597	0.0808	-2.52
06/05/2008	2008	3	57	4500	0.0207	-3.88
07/05/2008	2008	4	262	33337	0.1531	-1.88
08/05/2008	2008	2	2	223	0.0010	-6.88
09/05/2008	2008	2	39	2446	0.0112	-4.49
10/05/2008	2008	4	157	10603	0.0487	-3.02
11/05/2008	2008	8	1540	150943	0.6931	-0.37
12/05/2008	2008	20	2834	193038	0.8864	-0.12
13/05/2008	2008	4	108	5468	0.0251	-3.68
14/05/2008	2008	6	1041	88240	0.4052	-0.90
15/05/2008	2008	9	178	23101	0.1061	-2.24
16/05/2008	2008	4	508	30048	0.1380	-1.98
17/05/2008	2008	8	697	93766	0.4305	-0.84
18/05/2008	2008	5	56	5945	0.0273	-3.60
19/05/2008	2008	12	597	39193	0.1800	-1.72
20/05/2008	2008	10	950	116976	0.5371	-0.62
21/05/2008	2008	12	150	16663	0.0765	-2.57
22/05/2008	2008	1	106	7102	0.0326	-3.42
23/05/2008	2008	6	85	5641	0.0259	-3.65
24/05/2008	2008	2	12	588	0.0027	-5.91
25/05/2008	2008	5	211	30658	0.1408	-1.96
26/05/2008	2008	16	4078	144769	0.6647	-0.41
27/05/2008	2008	13	1820	107636	0.4942	-0.70
28/05/2008	2008	3	6	1665	0.0076	-4.87
29/05/2008	2008	10	605	55733	0.2559	-1.36
30/05/2008	2008	6	1091	87832	0.4033	-0.91
31/05/2008	2008	40	4946	957825	4.3980	1.48
01/06/2008	2008	6	136	31138	0.1430	-1.95
02/06/2008	2008	6	309	20501	0.0941	-2.36
03/06/2008	2008	7	261	30246	0.1389	-1.97
04/06/2008	2008	11	1005	193126	0.8868	-0.12
05/06/2008	2008	3	231	18342	0.0842	-2.47
06/06/2008	2008	12	598	44975	0.2065	-1.58
07/06/2008	2008	10	801	93142	0.4277	-0.85
08/06/2008	2008	13	1417	136706	0.6277	-0.47
09/06/2008	2008	26	269	40529	0.1861	-1.68
10/06/2008	2008	122	22816	6957494	31.9463	3.46 MED
11/06/2008	2008	163	8087	3921370	18.0055	2.89 MED
12/06/2008	2008	31	273	48300	0.2218	-1.51
13/06/2008	2008	13	349	28821	0.1323	-2.02
14/06/2008	2008	27	989	83668	0.3842	-0.96
15/06/2008	2008	16	2263	95059	0.4365	-0.83
16/06/2008	2008	39	6189	881145	4.0459	1.40
17/06/2008	2008	12	2400	144208	0.6622	-0.41
18/06/2008	2008	7	686	42158	0.1936	-1.64
19/06/2008	2008	5	114	10940	0.0502	-2.99

20/06/2008	2008	4	135	9699	0.0445	-3.11
21/06/2008	2008	2	33	3434	0.0158	-4.15
22/06/2008	2008	58	7997	1695768	7.7864	2.05
23/06/2008	2008	49	4428	355029	1.6302	0.49
24/06/2008	2008	17	2601	172624	0.7926	-0.23
25/06/2008	2008	8	141	15699	0.0721	-2.63
26/06/2008	2008	5	458	29182	0.1340	-2.01
27/06/2008	2008	10	82	14671	0.0674	-2.70
28/06/2008	2008	12	1836	137663	0.6321	-0.46
29/06/2008	2008	21	1825	484375	2.2241	0.80
30/06/2008	2008	18	879	125992	0.5785	-0.55
01/07/2008	2008	20	722	85670	0.3934	-0.93
02/07/2008	2008	9	985	43649	0.2004	-1.61
03/07/2008	2008	29	2886	288475	1.3246	0.28
04/07/2008	2008	6	121	11112	0.0510	-2.98
05/07/2008	2008	7	135	31258	0.1435	-1.94
06/07/2008	2008	10	1725	86362	0.3965	-0.92
07/07/2008	2008	8	80	7006	0.0322	-3.44
08/07/2008	2008	9	966	153592	0.7052	-0.35
09/07/2008	2008	26	911	79625	0.3656	-1.01
10/07/2008	2008	14	1700	108858	0.4998	-0.69
11/07/2008	2008	5	273	8972	0.0412	-3.19
12/07/2008	2008	8	679	39870	0.1831	-1.70
13/07/2008	2008	7	2207	186011	0.8541	-0.16
14/07/2008	2008	7	108	8482	0.0389	-3.25
15/07/2008	2008	6	173	23389	0.1074	-2.23
16/07/2008	2008	8	265	48402	0.2222	-1.50
17/07/2008	2008	6	231	9642	0.0443	-3.12
18/07/2008	2008	59	11339	3243146	14.8914	2.70 MED
19/07/2008	2008	83	9902	2800907	12.8608	2.55 MED
20/07/2008	2008	51	5886	996138	4.5739	1.52
21/07/2008	2008	17	642	43707	0.2007	-1.61
22/07/2008	2008	22	4128	629466	2.8903	1.06
23/07/2008	2008	20	3832	356092	1.6350	0.49
24/07/2008	2008	54	6642	588778	2.7035	0.99
25/07/2008	2008	14	252	37734	0.1733	-1.75
26/07/2008	2008	11	2208	384008	1.7632	0.57
27/07/2008	2008	162	28379	8565594	39.3301	3.67 MED
28/07/2008	2008	46	1225	222913	1.0235	0.02
29/07/2008	2008	7	80	17804	0.0817	-2.50
30/07/2008	2008	13	217	21597	0.0992	-2.31
31/07/2008	2008	14	291	41136	0.1889	-1.67
01/08/2008	2008	3	30	2045	0.0094	-4.67
02/08/2008	2008	13	1787	268815	1.2343	0.21
03/08/2008	2008	10	764	69411	0.3187	-1.14
04/08/2008	2008	8	288	79376	0.3645	-1.01
05/08/2008	2008	14	2421	171397	0.7870	-0.24
06/08/2008	2008	69	9936	1986036	9.1192	2.21
07/08/2008	2008	47	2300	313384	1.4389	0.36
08/08/2008	2008	18	421	43461	0.1996	-1.61
09/08/2008	2008	5	1151	166905	0.7664	-0.27
10/08/2008	2008	25	1683	257078	1.1804	0.17
11/08/2008	2008	28	1311	98400	0.4518	-0.79
12/08/2008	2008	6	151	37432	0.1719	-1.76
13/08/2008	2008	5	56	3460	0.0159	-4.14
14/08/2008	2008	3	14	1042	0.0048	-5.34
15/08/2008	2008	2	49	2369	0.0109	-4.52
16/08/2008	2008	5	21	4361	0.0200	-3.91
17/08/2008	2008	3	79	5924	0.0272	-3.60
18/08/2008	2008	13	171	25213	0.1158	-2.16
19/08/2008	2008	11	293	35563	0.1633	-1.81
20/08/2008	2008	5	27	3845	0.0177	-4.04
21/08/2008	2008	6	44	4662	0.0214	-3.84
22/08/2008	2008	3	59	6009	0.0276	-3.59
23/08/2008	2008	9	107	12278	0.0564	-2.88
24/08/2008	2008	5	120	8640	0.0397	-3.23
25/08/2008	2008	4	117	8864	0.0407	-3.20
26/08/2008	2008	3	63	24131	0.1108	-2.20

27/08/2008	2008	5	125	26112	0.1199	-2.12
28/08/2008	2008	3	933	59977	0.2754	-1.29
29/08/2008	2008	5	79	9326	0.0428	-3.15
30/08/2008	2008	9	220	40587	0.1864	-1.68
31/08/2008	2008	2	4	243	0.0011	-6.80
01/09/2008	2008	5	75	4527	0.0208	-3.87
02/09/2008	2008	4	161	32348	0.1485	-1.91
03/09/2008	2008	11	397	82279	0.3778	-0.97
04/09/2008	2008	9	534	61453	0.2822	-1.27
05/09/2008	2008	11	286	33644	0.1545	-1.87
06/09/2008	2008	35	9711	1321252	6.0667	1.80
07/09/2008	2008	35	2982	340374	1.5629	0.45
08/09/2008	2008	16	884	74919	0.3440	-1.07
09/09/2008	2008	11	1333	119781	0.5500	-0.60
10/09/2008	2008	6	157	10595	0.0486	-3.02
11/09/2008	2008	15	648	33558	0.1541	-1.87
12/09/2008	2008	9	337	34953	0.1605	-1.83
13/09/2008	2008	4	153	30432	0.1397	-1.97
14/09/2008	2008	16	3470	254408	1.1682	0.16
15/09/2008	2008	23	1097	104347	0.4791	-0.74
16/09/2008	2008	2	65	4641	0.0213	-3.85
17/09/2008	2008	5	126	9234	0.0424	-3.16
18/09/2008	2008	9	413	25895	0.1189	-2.13
19/09/2008	2008	1	87	5307	0.0244	-3.71
20/09/2008	2008	2	67	3679	0.0169	-4.08
21/09/2008	2008	3	40	4506	0.0207	-3.88
22/09/2008	2008	4	31	2142	0.0098	-4.62
23/09/2008	2008	13	375	34794	0.1598	-1.83
24/09/2008	2008	3	92	10425	0.0479	-3.04
25/09/2008	2008	4	8	1601	0.0074	-4.91
26/09/2008	2008	16	703	77825	0.3573	-1.03
27/09/2008	2008	6	63	5972	0.0274	-3.60
28/09/2008	2008	11	1459	44739	0.2054	-1.58
29/09/2008	2008	6	101	7641	0.0351	-3.35
30/09/2008	2008	3	29	2868	0.0132	-4.33
01/10/2008	2008	4	261	17350	0.0797	-2.53
02/10/2008	2008	5	217	12581	0.0578	-2.85
03/10/2008	2008	5	367	34033	0.1563	-1.86
04/10/2008	2008	2	183	16929	0.0777	-2.55
05/10/2008	2008	2	1336	86645	0.3978	-0.92
06/10/2008	2008	4	50	2096	0.0096	-4.64
07/10/2008	2008	7	112	11348	0.0521	-2.95
08/10/2008	2008	1	103	5253	0.0241	-3.72
09/10/2008	2008	2	13	960	0.0044	-5.42
10/10/2008	2008	10	76	6519	0.0299	-3.51
11/10/2008	2008	14	292	28663	0.1316	-2.03
12/10/2008	2008	7	412	35956	0.1651	-1.80
13/10/2008	2008	4	119	4970	0.0228	-3.78
14/10/2008	2008	5	297	36592	0.1680	-1.78
15/10/2008	2008	1	76	1672	0.0077	-4.87
16/10/2008	2008	3	109	4545	0.0209	-3.87
17/10/2008	2008	2	108	5336	0.0245	-3.71
18/10/2008	2008	3	7	1322	0.0061	-5.10
19/10/2008	2008	3	22	1783	0.0082	-4.81
20/10/2008	2008	13	1398	208330	0.9566	-0.04
21/10/2008	2008	7	917	107143	0.4920	-0.71
22/10/2008	2008	11	804	66254	0.3042	-1.19
23/10/2008	2008	3	24	1239	0.0057	-5.17
24/10/2008	2008	7	500	354828	1.6292	0.49
25/10/2008	2008	65	5594	1529863	7.0246	1.95
26/10/2008	2008	27	1096	121665	0.5586	-0.58
27/10/2008	2008	4	72	914	0.0042	-5.47
28/10/2008	2008	18	2710	240116	1.1025	0.10
29/10/2008	2008	15	745	64517	0.2962	-1.22
30/10/2008	2008	6	650	34077	0.1565	-1.85
31/10/2008	2008	2	44	6564	0.0301	-3.50
01/11/2008	2008	1	9	2232	0.0102	-4.58
02/11/2008	2008	6	239	17369	0.0798	-2.53

03/11/2008	2008	4	89	8015	0.0368	-3.30
04/11/2008	2008	3	217	12898	0.0592	-2.83
05/11/2008	2008	3	39	4381	0.0201	-3.91
06/11/2008	2008	14	537	89512	0.4110	-0.89
07/11/2008	2008	5	2470	61802	0.2838	-1.26
08/11/2008	2008	4	102	7910	0.0363	-3.32
09/11/2008	2008	1	1	28	0.0001	-8.96
10/11/2008	2008	3	189	26731	0.1227	-2.10
11/11/2008	2008	2	39	2745	0.0126	-4.37
12/11/2008	2008	5	163	15846	0.0728	-2.62
13/11/2008	2008	1	6	3402	0.0156	-4.16
14/11/2008	2008	4	58	1906	0.0088	-4.74
15/11/2008	2008	12	441	45564	0.2092	-1.56
16/11/2008	2008	32	1900	168505	0.7737	-0.26
17/11/2008	2008	8	535	57258	0.2629	-1.34
18/11/2008	2008	7	67	6321	0.0290	-3.54
19/11/2008	2008	5	1164	55669	0.2556	-1.36
20/11/2008	2008	2	73	9298	0.0427	-3.15
21/11/2008	2008	6	76	15073	0.0692	-2.67
22/11/2008	2008	4	91	7785	0.0357	-3.33
23/11/2008	2008	2	3	186	0.0009	-7.07
24/11/2008	2008	5	405	39790	0.1827	-1.70
25/11/2008	2008	5	127	18653	0.0856	-2.46
26/11/2008	2008	1	18	828	0.0038	-5.57
27/11/2008	2008	4	478	28228	0.1296	-2.04
28/11/2008	2008	6	187	25206	0.1157	-2.16
29/11/2008	2008	2	2	374	0.0017	-6.37
30/11/2008	2008	12	4402	556833	2.5568	0.94
01/12/2008	2008	8	304	59134	0.2715	-1.30
02/12/2008	2008	2	3	361	0.0017	-6.40
03/12/2008	2008	2	48	3231	0.0148	-4.21
04/12/2008	2008	3	55	5124	0.0235	-3.75
05/12/2008	2008	3	73	7035	0.0323	-3.43
06/12/2008	2008	4	91	6028	0.0277	-3.59
07/12/2008	2008	8	322	74295	0.3411	-1.08
08/12/2008	2008	14	1362	156151	0.7170	-0.33
09/12/2008	2008	2	51	5113	0.0235	-3.75
10/12/2008	2008	6	1054	283953	1.3038	0.27
11/12/2008	2008	624	25448	81513314	374.2800	5.93 MED
12/12/2008	2008	301	7037	13169374	60.4691	4.10 MED
13/12/2008	2008	181	3275	13255544	60.8647	4.11 MED
14/12/2008	2008	139	2217	2479343	11.3843	2.43
15/12/2008	2008	137	4788	2497305	11.4667	2.44
16/12/2008	2008	118	2223	1389843	6.3817	1.85
17/12/2008	2008	82	666	536379	2.4629	0.90
18/12/2008	2008	104	559	458623	2.1058	0.74
19/12/2008	2008	74	248	105804	0.4858	-0.72
20/12/2008	2008	56	125	35281	0.1620	-1.82
21/12/2008	2008	25	123	50965	0.2340	-1.45
22/12/2008	2008	29	341	88908	0.4082	-0.90
23/12/2008	2008	20	264	51953	0.2385	-1.43
24/12/2008	2008	33	1076	194671	0.8939	-0.11
25/12/2008	2008	52	2630	322360	1.4802	0.39
26/12/2008	2008	14	148	10039	0.0461	-3.08
27/12/2008	2008	1	20	6440	0.0296	-3.52
28/12/2008	2008	11	294	22710	0.1043	-2.26
29/12/2008	2008	7	25	2218	0.0102	-4.59
30/12/2008	2008	70	6990	867823	3.9847	1.38
31/12/2008	2008	9	633	42130	0.1934	-1.64
01/01/2009	2009	11	1274	87433	0.4079	-0.90
02/01/2009	2009	2	52	5495	0.0256	-3.66
03/01/2009	2009	4	19	6303	0.0294	-3.53
04/01/2009	2009	2	10	2821	0.0132	-4.33
05/01/2009	2009	5	157	17350	0.0809	-2.51
06/01/2009	2009	7	75	3833	0.0179	-4.02
07/01/2009	2009	20	729	54510	0.2543	-1.37
08/01/2009	2009	24	2164	163648	0.7634	-0.27
09/01/2009	2009	3	14	3208	0.0150	-4.20

10/01/2009	2009	5	95	12252	0.0572	-2.86
11/01/2009	2009	6	65	13747	0.0641	-2.75
12/01/2009	2009	4	19	1460	0.0068	-4.99
13/01/2009	2009	6	28	4351	0.0203	-3.90
14/01/2009	2009	2	9	1903	0.0089	-4.72
15/01/2009	2009	6	515	128424	0.5991	-0.51
16/01/2009	2009	4	675	50982	0.2378	-1.44
17/01/2009	2009	6	36	8787	0.0410	-3.19
18/01/2009	2009	2	7	776	0.0036	-5.62
19/01/2009	2009	7	281	74884	0.3493	-1.05
20/01/2009	2009	4	109	10564	0.0493	-3.01
21/01/2009	2009	1	1	51	0.0002	-8.34
22/01/2009	2009	2	56	1222	0.0057	-5.17
23/01/2009	2009	7	1009	48250	0.2251	-1.49
24/01/2009	2009	7	1756	67727	0.3159	-1.15
25/01/2009	2009	2	294	19258	0.0898	-2.41
26/01/2009	2009	1	56	5152	0.0240	-3.73
27/01/2009	2009	4	31	3804	0.0177	-4.03
28/01/2009	2009	6	205	41566	0.1939	-1.64
29/01/2009	2009	12	1366	264020	1.2316	0.21
30/01/2009	2009	9	141	12629	0.0589	-2.83
01/02/2009	2009	4	70	34187	0.1595	-1.84
02/02/2009	2009	6	113	18408	0.0859	-2.45
03/02/2009	2009	2	31	947	0.0044	-5.42
04/02/2009	2009	9	2302	220918	1.0305	0.03
05/02/2009	2009	3	11	761	0.0035	-5.64
06/02/2009	2009	1	64	3840	0.0179	-4.02
07/02/2009	2009	7	101	11003	0.0513	-2.97
08/02/2009	2009	7	238	75873	0.3539	-1.04
09/02/2009	2009	4	66	13883	0.0648	-2.74
10/02/2009	2009	4	31	2795	0.0130	-4.34
11/02/2009	2009	5	35	6248	0.0291	-3.54
12/02/2009	2009	21	1181	176648	0.8240	-0.19
13/02/2009	2009	23	852	193706	0.9036	-0.10
14/02/2009	2009	3	39	6878	0.0321	-3.44
15/02/2009	2009	3	112	6038	0.0282	-3.57
16/02/2009	2009	7	91	17009	0.0793	-2.53
17/02/2009	2009	4	549	6858	0.0320	-3.44
18/02/2009	2009	3	1907	60883	0.2840	-1.26
19/02/2009	2009	14	362	50842	0.2372	-1.44
20/02/2009	2009	2	2	178	0.0008	-7.09
21/02/2009	2009	3	68	10213	0.0476	-3.04
22/02/2009	2009	10	187	31458	0.1467	-1.92
23/02/2009	2009	11	189	46647	0.2176	-1.53
24/02/2009	2009	3	3	192	0.0009	-7.02
25/02/2009	2009	2	61	2966	0.0138	-4.28
27/02/2009	2009	12	1476	172265	0.8036	-0.22
28/02/2009	2009	2	68	6106	0.0285	-3.56
01/03/2009	2009	2	13	922	0.0043	-5.45
02/03/2009	2009	2	3	854	0.0040	-5.53
04/03/2009	2009	2	535	36419	0.1699	-1.77
05/03/2009	2009	3	129	3672	0.0171	-4.07
06/03/2009	2009	2	63	16712	0.0780	-2.55
07/03/2009	2009	5	450	24776	0.1156	-2.16
08/03/2009	2009	4	82	10778	0.0503	-2.99
09/03/2009	2009	8	1105	152377	0.7108	-0.34
11/03/2009	2009	10	1769	207511	0.9680	-0.03
12/03/2009	2009	20	953	152966	0.7136	-0.34
13/03/2009	2009	1	1	80	0.0004	-7.89
14/03/2009	2009	3	1081	29753	0.1388	-1.97
15/03/2009	2009	2	12	1958	0.0091	-4.70
16/03/2009	2009	4	337	11855	0.0553	-2.89
17/03/2009	2009	2	212	4064	0.0190	-3.97
18/03/2009	2009	3	76	5885	0.0275	-3.60
19/03/2009	2009	3	78	28037	0.1308	-2.03
20/03/2009	2009	2	706	43101	0.2011	-1.60
21/03/2009	2009	3	33	4625	0.0216	-3.84
22/03/2009	2009	4	337	56605	0.2641	-1.33

23/03/2009	2009	3	33	3254	0.0152	-4.19
24/03/2009	2009	4	97	19925	0.0929	-2.38
25/03/2009	2009	2	78	8296	0.0387	-3.25
26/03/2009	2009	3	781	56500	0.2636	-1.33
27/03/2009	2009	12	1116	97453	0.4546	-0.79
28/03/2009	2009	5	74	8551	0.0399	-3.22
29/03/2009	2009	13	4820	161992	0.7557	-0.28
30/03/2009	2009	5	13	2907	0.0136	-4.30
31/03/2009	2009	7	315	19741	0.0921	-2.39
01/04/2009	2009	6	454	35261	0.1645	-1.80
02/04/2009	2009	6	316	11794	0.0550	-2.90
03/04/2009	2009	13	1694	138889	0.6479	-0.43
04/04/2009	2009	3	18	7422	0.0346	-3.36
05/04/2009	2009	3	24	1789	0.0083	-4.79
06/04/2009	2009	2	233	14904	0.0695	-2.67
07/04/2009	2009	5	156	12154	0.0567	-2.87
10/04/2009	2009	2	123	9144	0.0427	-3.15
11/04/2009	2009	2	22	2278	0.0106	-4.54
12/04/2009	2009	3	13	967	0.0045	-5.40
13/04/2009	2009	7	19	1862	0.0087	-4.75
14/04/2009	2009	7	252	24552	0.1145	-2.17
15/04/2009	2009	2	17	1817	0.0085	-4.77
16/04/2009	2009	3	1034	10893	0.0508	-2.98
17/04/2009	2009	3	108	8509	0.0397	-3.23
18/04/2009	2009	2	245	33461	0.1561	-1.86
19/04/2009	2009	3	1205	419990	1.9592	0.67
20/04/2009	2009	6	260	39253	0.1831	-1.70
21/04/2009	2009	4	357	16009	0.0747	-2.59
22/04/2009	2009	6	584	11690	0.0545	-2.91
23/04/2009	2009	5	210	13791	0.0643	-2.74
24/04/2009	2009	5	20	3463	0.0162	-4.13
25/04/2009	2009	13	115	29382	0.1371	-1.99
26/04/2009	2009	4	30	5905	0.0275	-3.59
27/04/2009	2009	4	62	6655	0.0310	-3.47
28/04/2009	2009	10	115	12739	0.0594	-2.82
29/04/2009	2009	5	15	1896	0.0088	-4.73
30/04/2009	2009	2	22	2611	0.0122	-4.41
01/05/2009	2009	6	781	64475	0.3008	-1.20
02/05/2009	2009	1	27	1809	0.0084	-4.77
04/05/2009	2009	4	250	77231	0.3603	-1.02
05/05/2009	2009	2	2	159	0.0007	-7.21
06/05/2009	2009	5	83	7786	0.0363	-3.32
07/05/2009	2009	9	1179	134051	0.6253	-0.47
08/05/2009	2009	6	48	2699	0.0126	-4.37
09/05/2009	2009	35	5166	684174	3.1915	1.16
10/05/2009	2009	39	2323	243745	1.1370	0.13
11/05/2009	2009	12	1031	61525	0.2870	-1.25
12/05/2009	2009	5	148	10774	0.0503	-2.99
13/05/2009	2009	4	107	8442	0.0394	-3.23
14/05/2009	2009	9	130	26769	0.1249	-2.08
15/05/2009	2009	3	4	1104	0.0051	-5.27
16/05/2009	2009	13	1591	272211	1.2698	0.24
17/05/2009	2009	10	1218	129188	0.6026	-0.51
18/05/2009	2009	7	182	16603	0.0774	-2.56
19/05/2009	2009	3	30	1664	0.0078	-4.86
20/05/2009	2009	6	18	4099	0.0191	-3.96
21/05/2009	2009	9	140	18970	0.0885	-2.42
22/05/2009	2009	1	4	248	0.0012	-6.76
23/05/2009	2009	5	301	14641	0.0683	-2.68
24/05/2009	2009	8	173	37834	0.1765	-1.73
25/05/2009	2009	9	264	28913	0.1349	-2.00
26/05/2009	2009	8	40	6488	0.0303	-3.50
27/05/2009	2009	12	999	34822	0.1624	-1.82
28/05/2009	2009	4	31	4671	0.0218	-3.83
29/05/2009	2009	5	176	26199	0.1222	-2.10
30/05/2009	2009	4	651	70954	0.3310	-1.11
31/05/2009	2009	3	177	11068	0.0516	-2.96
01/06/2009	2009	12	245	11059	0.0516	-2.96

02/06/2009	2009	3	1733	52428	0.2446	-1.41
03/06/2009	2009	6	584	101146	0.4718	-0.75
04/06/2009	2009	5	328	12134	0.0566	-2.87
05/06/2009	2009	4	211	13295	0.0620	-2.78
06/06/2009	2009	1	26	2314	0.0108	-4.53
07/06/2009	2009	6	217	33911	0.1582	-1.84
08/06/2009	2009	8	581	25749	0.1201	-2.12
09/06/2009	2009	3	23	798	0.0037	-5.59
10/06/2009	2009	3	65	13098	0.0611	-2.80
11/06/2009	2009	6	402	29819	0.1391	-1.97
12/06/2009	2009	20	2427	251277	1.1722	0.16
13/06/2009	2009	8	258	38901	0.1815	-1.71
14/06/2009	2009	10	133	13028	0.0608	-2.80
15/06/2009	2009	24	701	89826	0.4190	-0.87
16/06/2009	2009	8	71	14169	0.0661	-2.72
17/06/2009	2009	3	81	5577	0.0260	-3.65
18/06/2009	2009	18	2354	299330	1.3963	0.33
19/06/2009	2009	9	763	96763	0.4514	-0.80
20/06/2009	2009	8	217	14433	0.0673	-2.70
21/06/2009	2009	10	348	42171	0.1967	-1.63
22/06/2009	2009	5	211	20645	0.0963	-2.34
23/06/2009	2009	9	303	32388	0.1511	-1.89
24/06/2009	2009	5	263	15958	0.0744	-2.60
25/06/2009	2009	6	52	10434	0.0487	-3.02
26/06/2009	2009	11	1244	97891	0.4566	-0.78
27/06/2009	2009	1	5	970	0.0045	-5.40
28/06/2009	2009	2	42	1638	0.0076	-4.87
29/06/2009	2009	4	370	61849	0.2885	-1.24
30/06/2009	2009	27	2942	222319	1.0371	0.04
01/07/2009	2009	7	327	9569	0.0446	-3.11
02/07/2009	2009	20	2442	149073	0.6954	-0.36
03/07/2009	2009	16	1218	171636	0.8006	-0.22
04/07/2009	2009	18	180	28798	0.1343	-2.01
05/07/2009	2009	5	45	5031	0.0235	-3.75
06/07/2009	2009	8	248	24116	0.1125	-2.18
07/07/2009	2009	49	2641	168915	0.7880	-0.24
08/07/2009	2009	10	1220	116880	0.5452	-0.61
09/07/2009	2009	11	101	18427	0.0860	-2.45
10/07/2009	2009	8	514	80821	0.3770	-0.98
11/07/2009	2009	13	1031	86278	0.4025	-0.91
12/07/2009	2009	5	35	3699	0.0173	-4.06
13/07/2009	2009	13	1693	113618	0.5300	-0.63
14/07/2009	2009	5	180	28954	0.1351	-2.00
15/07/2009	2009	5	360	14608	0.0681	-2.69
16/07/2009	2009	27	1281	155033	0.7232	-0.32
17/07/2009	2009	15	152	27036	0.1261	-2.07
18/07/2009	2009	22	2604	272023	1.2689	0.24
19/07/2009	2009	5	31	2879	0.0134	-4.31
20/07/2009	2009	12	1112	74917	0.3495	-1.05
21/07/2009	2009	17	2128	214213	0.9993	0.00
22/07/2009	2009	13	1046	132470	0.6179	-0.48
23/07/2009	2009	3	92	6368	0.0297	-3.52
24/07/2009	2009	24	6913	512819	2.3922	0.87
25/07/2009	2009	11	508	35366	0.1650	-1.80
26/07/2009	2009	9	155	14260	0.0665	-2.71
27/07/2009	2009	12	486	64796	0.3023	-1.20
28/07/2009	2009	5	172	30315	0.1414	-1.96
29/07/2009	2009	33	2538	395433	1.8446	0.61
30/07/2009	2009	37	13342	15895127	74.1474	4.31 MED
31/07/2009	2009	15	397	94761	0.4420	-0.82
01/08/2009	2009	18	3128	184906	0.8625	-0.15
02/08/2009	2009	2	28	1873	0.0087	-4.74
03/08/2009	2009	8	416	36070	0.1683	-1.78
04/08/2009	2009	5	46	16233	0.0757	-2.58
05/08/2009	2009	6	140	18483	0.0862	-2.45
06/08/2009	2009	10	331	38009	0.1773	-1.73
07/08/2009	2009	4	22	4422	0.0206	-3.88
08/08/2009	2009	9	326	46080	0.2150	-1.54

09/08/2009	2009	3	104	13466	0.0628	-2.77
10/08/2009	2009	16	1017	82251	0.3837	-0.96
11/08/2009	2009	7	195	45205	0.2109	-1.56
12/08/2009	2009	10	1242	69563	0.3245	-1.13
13/08/2009	2009	11	2060	199255	0.9295	-0.07
14/08/2009	2009	8	45	5359	0.0250	-3.69
15/08/2009	2009	5	66	8103	0.0378	-3.28
16/08/2009	2009	6	150	11496	0.0536	-2.93
17/08/2009	2009	17	415	43879	0.2047	-1.59
18/08/2009	2009	12	273	21531	0.1004	-2.30
19/08/2009	2009	14	1304	82226	0.3836	-0.96
20/08/2009	2009	11	151	12457	0.0581	-2.85
21/08/2009	2009	77	8422	1109136	5.1739	1.64
22/08/2009	2009	41	7641	964938	4.5012	1.50
23/08/2009	2009	13	976	95423	0.4451	-0.81
24/08/2009	2009	10	222	22929	0.1070	-2.24
25/08/2009	2009	10	73	7798	0.0364	-3.31
26/08/2009	2009	4	306	33308	0.1554	-1.86
27/08/2009	2009	4	542	20950	0.0977	-2.33
28/08/2009	2009	4	64	9930	0.0463	-3.07
29/08/2009	2009	19	2132	194736	0.9084	-0.10
30/08/2009	2009	4	184	5754	0.0268	-3.62
31/08/2009	2009	7	1055	39414	0.1839	-1.69
01/09/2009	2009	9	331	86320	0.4027	-0.91
02/09/2009	2009	5	27	1174	0.0055	-5.21
03/09/2009	2009	3	22	1636	0.0076	-4.88
04/09/2009	2009	4	49	22749	0.1061	-2.24
05/09/2009	2009	6	580	12479	0.0582	-2.84
06/09/2009	2009	8	335	34030	0.1587	-1.84
07/09/2009	2009	10	101	13813	0.0644	-2.74
08/09/2009	2009	3	31	6065	0.0283	-3.57
09/09/2009	2009	7	92	7654	0.0357	-3.33
10/09/2009	2009	3	155	14799	0.0690	-2.67
11/09/2009	2009	4	1600	88572	0.4132	-0.88
12/09/2009	2009	10	252	28225	0.1317	-2.03
13/09/2009	2009	4	124	11585	0.0540	-2.92
14/09/2009	2009	4	35	3190	0.0149	-4.21
15/09/2009	2009	7	744	59044	0.2754	-1.29
16/09/2009	2009	3	93	14335	0.0669	-2.71
17/09/2009	2009	4	53	6516	0.0304	-3.49
18/09/2009	2009	5	279	50606	0.2361	-1.44
19/09/2009	2009	5	81	11981	0.0559	-2.88
20/09/2009	2009	4	74	4520	0.0211	-3.86
21/09/2009	2009	3	121	12518	0.0584	-2.84
22/09/2009	2009	7	468	17949	0.0837	-2.48
23/09/2009	2009	3	82	9144	0.0427	-3.15
24/09/2009	2009	7	701	65825	0.3071	-1.18
25/09/2009	2009	4	243	33301	0.1553	-1.86
26/09/2009	2009	1	140	7560	0.0353	-3.34
27/09/2009	2009	5	422	29157	0.1360	-2.00
28/09/2009	2009	19	3030	424136	1.9785	0.68
30/09/2009	2009	4	45	3035	0.0142	-4.26
01/10/2009	2009	4	357	102247	0.4770	-0.74
02/10/2009	2009	3	241	30275	0.1412	-1.96
03/10/2009	2009	12	432	86067	0.4015	-0.91
04/10/2009	2009	11	291	32332	0.1508	-1.89
05/10/2009	2009	6	133	12080	0.0564	-2.88
06/10/2009	2009	7	250	29488	0.1376	-1.98
07/10/2009	2009	81	16579	1788189	8.3415	2.12
08/10/2009	2009	47	3808	363131	1.6939	0.53
09/10/2009	2009	6	260	11986	0.0559	-2.88
10/10/2009	2009	7	134	16598	0.0774	-2.56
11/10/2009	2009	3	53	4719	0.0220	-3.82
12/10/2009	2009	4	163	9805	0.0457	-3.08
13/10/2009	2009	5	240	26662	0.1244	-2.08
14/10/2009	2009	13	2622	155070	0.7234	-0.32
15/10/2009	2009	9	542	57005	0.2659	-1.32
16/10/2009	2009	2	120	13152	0.0614	-2.79

17/10/2009	2009	5	76	10355	0.0483	-3.03
18/10/2009	2009	4	470	34668	0.1617	-1.82
19/10/2009	2009	3	69	4731	0.0221	-3.81
20/10/2009	2009	7	203	9631	0.0449	-3.10
21/10/2009	2009	1	4	212	0.0010	-6.92
22/10/2009	2009	12	683	69965	0.3264	-1.12
23/10/2009	2009	4	64	1485	0.0069	-4.97
24/10/2009	2009	10	925	123783	0.5774	-0.55
25/10/2009	2009	10	851	87027	0.4060	-0.90
26/10/2009	2009	6	35	6483	0.0302	-3.50
27/10/2009	2009	2	7	421	0.0020	-6.23
28/10/2009	2009	7	1146	100976	0.4710	-0.75
29/10/2009	2009	8	189	11450	0.0534	-2.93
30/10/2009	2009	5	92	9673	0.0451	-3.10
31/10/2009	2009	13	1020	92828	0.4330	-0.84
01/11/2009	2009	11	2493	262733	1.2256	0.20
02/11/2009	2009	1	42	1848	0.0086	-4.75
03/11/2009	2009	8	3398	98658	0.4602	-0.78
04/11/2009	2009	5	224	14232	0.0664	-2.71
05/11/2009	2009	5	141	9950	0.0464	-3.07
06/11/2009	2009	3	67	4610	0.0215	-3.84
07/11/2009	2009	3	405	31642	0.1476	-1.91
08/11/2009	2009	7	112	6257	0.0292	-3.53
09/11/2009	2009	11	1043	84169	0.3926	-0.93
11/11/2009	2009	5	824	32349	0.1509	-1.89
12/11/2009	2009	2	20	1180	0.0055	-5.20
13/11/2009	2009	3	155	25103	0.1171	-2.14
14/11/2009	2009	6	183	13063	0.0609	-2.80
15/11/2009	2009	5	370	26808	0.1251	-2.08
16/11/2009	2009	11	1778	164959	0.7695	-0.26
17/11/2009	2009	6	60	17687	0.0825	-2.49
18/11/2009	2009	2	21	5775	0.0269	-3.61
19/11/2009	2009	4	48	3629	0.0169	-4.08
20/11/2009	2009	2	68	9202	0.0429	-3.15
21/11/2009	2009	7	611	67352	0.3142	-1.16
22/11/2009	2009	2	24	1434	0.0067	-5.01
23/11/2009	2009	2	51	3213	0.0150	-4.20
24/11/2009	2009	1	103	8343	0.0389	-3.25
25/11/2009	2009	2	28	1816	0.0085	-4.77
26/11/2009	2009	7	366	48825	0.2278	-1.48
27/11/2009	2009	6	177	16729	0.0780	-2.55
28/11/2009	2009	87	14718	1435968	6.6985	1.90
29/11/2009	2009	4	92	9673	0.0451	-3.10
30/11/2009	2009	12	704	89014	0.4152	-0.88
01/12/2009	2009	5	98	4090	0.0191	-3.96
02/12/2009	2009	6	1176	96589	0.4506	-0.80
03/12/2009	2009	30	3029	237480	1.1078	0.10
04/12/2009	2009	4	249	8408	0.0392	-3.24
05/12/2009	2009	13	197	24529	0.1144	-2.17
06/12/2009	2009	5	32	3844	0.0179	-4.02
07/12/2009	2009	8	101	7319	0.0341	-3.38
08/12/2009	2009	4	188	20592	0.0961	-2.34
09/12/2009	2009	14	1957	184779	0.8620	-0.15
10/12/2009	2009	3	169	10185	0.0475	-3.05
11/12/2009	2009	6	369	38171	0.1781	-1.73
12/12/2009	2009	3	187	7225	0.0337	-3.39
13/12/2009	2009	8	156	34593	0.1614	-1.82
14/12/2009	2009	7	226	28590	0.1334	-2.01
15/12/2009	2009	9	368	30546	0.1425	-1.95
16/12/2009	2009	2	13	771	0.0036	-5.63
17/12/2009	2009	4	54	3531	0.0165	-4.11
18/12/2009	2009	7	64	5007	0.0234	-3.76
19/12/2009	2009	5	108	14570	0.0680	-2.69
20/12/2009	2009	5	77	7937	0.0370	-3.30
21/12/2009	2009	7	225	18125	0.0845	-2.47
22/12/2009	2009	3	105	8279	0.0386	-3.25
23/12/2009	2009	1	10	300	0.0014	-6.57
24/12/2009	2009	4	66	4772	0.0223	-3.80

25/12/2009	2009	3	126	9661	0.0451	-3.10
26/12/2009	2009	11	1528	185524	0.8654	-0.14
27/12/2009	2009	11	1122	126080	0.5881	-0.53
28/12/2009	2009	4	246	13707	0.0639	-2.75
29/12/2009	2009	28	1337	143682	0.6702	-0.40
30/12/2009	2009	7	670	35237	0.1644	-1.81
31/12/2009	2009	1	42	2478	0.0116	-4.46
01/01/2010	2010	1	17	442	0.0021	-6.17
02/01/2010	2010	9	315	33,902	0.1606	-1.83
03/01/2010	2010	14	309	27,564	0.1306	-2.04
05/01/2010	2010	3	41	4,284	0.0203	-3.90
06/01/2010	2010	4	35	9,243	0.0438	-3.13
07/01/2010	2010	2	26	1,034	0.0049	-5.32
08/01/2010	2010	2	133	6,600	0.0313	-3.47
09/01/2010	2010	1	6	1,860	0.0088	-4.73
10/01/2010	2010	2	53	8,099	0.0384	-3.26
12/01/2010	2010	2	2	107	0.0005	-7.59
14/01/2010	2010	1	8	528	0.0025	-5.99
15/01/2010	2010	2	362	31,397	0.1487	-1.91
16/01/2010	2010	6	516	35,344	0.1674	-1.79
17/01/2010	2010	8	592	48,772	0.2310	-1.47
18/01/2010	2010	23	3,437	616,858	2.9218	1.07
19/01/2010	2010	5	35	4,175	0.0198	-3.92
20/01/2010	2010	3	57	4,668	0.0221	-3.81
21/01/2010	2010	5	53	5,712	0.0271	-3.61
23/01/2010	2010	2	2	154	0.0007	-7.22
25/01/2010	2010	25	1,784	148,437	0.7031	-0.35
26/01/2010	2010	3	142	6,899	0.0327	-3.42
27/01/2010	2010	1	8	432	0.0020	-6.19
28/01/2010	2010	6	93	21,666	0.1026	-2.28
29/01/2010	2010	7	1,234	108,836	0.5155	-0.66
30/01/2010	2010	2	24	2,495	0.0118	-4.44
31/01/2010	2010	5	420	68,754	0.3257	-1.12
01/02/2010	2010	5	213	15,110	0.0716	-2.64
02/02/2010	2010	2	39	3,408	0.0161	-4.13
03/02/2010	2010	5	91	30,402	0.1440	-1.94
04/02/2010	2010	5	46	2,383	0.0113	-4.48
05/02/2010	2010	2	13	644	0.0031	-5.79
07/02/2010	2010	1	15	5,820	0.0276	-3.59
08/02/2010	2010	4	68	3,624	0.0172	-4.06
09/02/2010	2010	3	16	1,663	0.0079	-4.84
10/02/2010	2010	1	10	2,240	0.0106	-4.55
11/02/2010	2010	3	9	894	0.0042	-5.46
12/02/2010	2010	5	46	4,093	0.0194	-3.94
14/02/2010	2010	6	1,195	312,901	1.4821	0.39
15/02/2010	2010	7	951	63,719	0.3018	-1.20
16/02/2010	2010	3	196	34,938	0.1655	-1.80
17/02/2010	2010	1	1	524	0.0025	-6.00
18/02/2010	2010	7	350	59,295	0.2809	-1.27
19/02/2010	2010	1	1	367	0.0017	-6.35
20/02/2010	2010	6	208	12,257	0.0581	-2.85
21/02/2010	2010	6	1,863	94,922	0.4496	-0.80
22/02/2010	2010	4	19	1,636	0.0077	-4.86
23/02/2010	2010	17	3,449	1,910,957	9.0515	2.20 MED
24/02/2010	2010	416	30,239	13,249,655	62.7586	4.14 MED
25/02/2010	2010	108	1,180	363,704	1.7227	0.54
26/02/2010	2010	59	4,798	377,869	1.7898	0.58
27/02/2010	2010	33	1,415	207,174	0.9813	-0.02
28/02/2010	2010	5	64	9,126	0.0432	-3.14
01/03/2010	2010	9	138	17,198	0.0815	-2.51
02/03/2010	2010	12	3,450	102,086	0.4835	-0.73
03/03/2010	2010	6	1,391	89,813	0.4254	-0.85
04/03/2010	2010	6	94	7,629	0.0361	-3.32
05/03/2010	2010	2	19	1,105	0.0052	-5.25
06/03/2010	2010	2	60	4,800	0.0227	-3.78
07/03/2010	2010	5	48	4,096	0.0194	-3.94
08/03/2010	2010	3	271	10,942	0.0518	-2.96
09/03/2010	2010	5	908	20,034	0.0949	-2.36

10/03/2010	2010	3	49	2,661	0.0126	-4.37
11/03/2010	2010	4	92	20,849	0.0988	-2.32
12/03/2010	2010	2	55	1,472	0.0070	-4.97
13/03/2010	2010	35	3,702	531,843	2.5191	0.92
14/03/2010	2010	85	8,972	1,576,030	7.4651	2.01
15/03/2010	2010	15	1,242	103,118	0.4884	-0.72
16/03/2010	2010	4	72	7,011	0.0332	-3.40
17/03/2010	2010	7	28	19,062	0.0903	-2.40
18/03/2010	2010	5	174	9,439	0.0447	-3.11
19/03/2010	2010	3	153	9,178	0.0435	-3.14
20/03/2010	2010	5	250	15,540	0.0736	-2.61
21/03/2010	2010	3	41	3,110	0.0147	-4.22
22/03/2010	2010	2	60	3,303	0.0156	-4.16
23/03/2010	2010	17	1,272	219,277	1.0386	0.04
24/03/2010	2010	16	409	33,658	0.1594	-1.84
25/03/2010	2010	1	936	31,824	0.1507	-1.89
26/03/2010	2010	6	724	118,076	0.5593	-0.58
27/03/2010	2010	5	76	5,851	0.0277	-3.59
28/03/2010	2010	2	49	16,794	0.0795	-2.53
29/03/2010	2010	11	979	98,020	0.4643	-0.77
30/03/2010	2010	14	811	165,927	0.7859	-0.24
31/03/2010	2010	4	52	4,460	0.0211	-3.86
01/04/2010	2010	4	1,412	100,387	0.4755	-0.74
02/04/2010	2010	1	2	154	0.0007	-7.22
03/04/2010	2010	4	34	3,110	0.0147	-4.22
04/04/2010	2010	7	797	157,941	0.7481	-0.29
05/04/2010	2010	3	402	37,366	0.1770	-1.73
06/04/2010	2010	6	287	4,521	0.0214	-3.84
07/04/2010	2010	10	103	16,102	0.0763	-2.57
08/04/2010	2010	4	26	1,858	0.0088	-4.73
09/04/2010	2010	7	808	83,495	0.3955	-0.93
10/04/2010	2010	9	2,295	137,010	0.6490	-0.43
11/04/2010	2010	5	51	4,737	0.0224	-3.80
12/04/2010	2010	6	165	24,957	0.1182	-2.14
13/04/2010	2010	1	862	23,274	0.1102	-2.21
14/04/2010	2010	1	1	80	0.0004	-7.88
15/04/2010	2010	6	215	27,346	0.1295	-2.04
16/04/2010	2010	9	692	63,885	0.3026	-1.20
17/04/2010	2010	7	632	12,550	0.0594	-2.82
18/04/2010	2010	5	348	23,022	0.1090	-2.22
20/04/2010	2010	6	201	25,992	0.1231	-2.09
21/04/2010	2010	4	122	10,080	0.0477	-3.04
22/04/2010	2010	3	6	545	0.0026	-5.96
23/04/2010	2010	6	94	27,201	0.1288	-2.05
24/04/2010	2010	1	3	237	0.0011	-6.79
25/04/2010	2010	1	1	103	0.0005	-7.63
26/04/2010	2010	11	1,086	113,261	0.5365	-0.62
27/04/2010	2010	7	220	22,271	0.1055	-2.25
28/04/2010	2010	8	1,376	79,937	0.3786	-0.97
29/04/2010	2010	54	5,619	417,295	1.9766	0.68
30/04/2010	2010	3	326	9,451	0.0448	-3.11
01/05/2010	2010	10	779	49,424	0.2341	-1.45
02/05/2010	2010	9	251	16,999	0.0805	-2.52
03/05/2010	2010	12	182	23,584	0.1117	-2.19
04/05/2010	2010	197	30,838	10,159,867	48.1234	3.87 MED
05/05/2010	2010	92	4,065	752,243	3.5631	1.27
06/05/2010	2010	33	2,737	276,760	1.3109	0.27
07/05/2010	2010	11	515	19,124	0.0906	-2.40
08/05/2010	2010	42	4,567	839,126	3.9746	1.38
09/05/2010	2010	56	5,633	633,643	3.0013	1.10
10/05/2010	2010	16	331	45,008	0.2132	-1.55
11/05/2010	2010	10	1,801	166,189	0.7872	-0.24
12/05/2010	2010	14	610	91,121	0.4316	-0.84
13/05/2010	2010	6	162	12,340	0.0584	-2.84
14/05/2010	2010	5	296	40,542	0.1920	-1.65
15/05/2010	2010	15	536	34,069	0.1614	-1.82
16/05/2010	2010	10	372	37,959	0.1798	-1.72
17/05/2010	2010	19	1,025	83,410	0.3951	-0.93

18/05/2010	2010	6	608	47,650	0.2257	-1.49
19/05/2010	2010	4	433	17,722	0.0839	-2.48
20/05/2010	2010	8	205	27,738	0.1314	-2.03
21/05/2010	2010	4	532	76,731	0.3634	-1.01
22/05/2010	2010	7	242	21,228	0.1005	-2.30
23/05/2010	2010	8	94	7,536	0.0357	-3.33
24/05/2010	2010	6	53	4,831	0.0229	-3.78
25/05/2010	2010	7	2,437	323,810	1.5338	0.43
26/05/2010	2010	188	29,318	32,243,815	152.7267	5.03 MED
27/05/2010	2010	368	18,870	12,707,867	60.1923	4.10 MED
28/05/2010	2010	109	4,589	799,900	3.7888	1.33
29/05/2010	2010	91	2,023	388,166	1.8386	0.61
30/05/2010	2010	14	1,313	248,828	1.1786	0.16
31/05/2010	2010	22	643	92,719	0.4392	-0.82
01/06/2010	2010	34	1,061	149,205	0.7067	-0.35
02/06/2010	2010	14	408	28,883	0.1368	-1.99
03/06/2010	2010	12	115	7,828	0.0371	-3.29
04/06/2010	2010	7	203	12,741	0.0603	-2.81
05/06/2010	2010	25	1,065	325,865	1.5435	0.43
06/06/2010	2010	32	1,771	237,619	1.1255	0.12
07/06/2010	2010	18	493	37,951	0.1798	-1.72
08/06/2010	2010	7	246	16,877	0.0799	-2.53
09/06/2010	2010	16	1,612	60,768	0.2878	-1.25
10/06/2010	2010	14	374	38,216	0.1810	-1.71
11/06/2010	2010	10	606	75,038	0.3554	-1.03
12/06/2010	2010	13	2,656	500,295	2.3697	0.86
13/06/2010	2010	21	1,772	271,084	1.2840	0.25
14/06/2010	2010	6	81	9,597	0.0455	-3.09
15/06/2010	2010	7	456	35,714	0.1692	-1.78
16/06/2010	2010	10	747	110,765	0.5247	-0.65
17/06/2010	2010	24	1,605	285,107	1.3504	0.30
18/06/2010	2010	4	16	2,093	0.0099	-4.61
19/06/2010	2010	4	143	7,986	0.0378	-3.27
20/06/2010	2010	11	567	80,429	0.3810	-0.97
21/06/2010	2010	8	254	26,213	0.1242	-2.09
22/06/2010	2010	15	1,896	85,298	0.4040	-0.91
23/06/2010	2010	15	893	54,006	0.2558	-1.36
24/06/2010	2010	25	968	84,021	0.3980	-0.92
25/06/2010	2010	12	743	54,283	0.2571	-1.36
26/06/2010	2010	11	680	56,498	0.2676	-1.32
27/06/2010	2010	8	405	33,550	0.1589	-1.84
28/06/2010	2010	13	181	22,149	0.1049	-2.25
29/06/2010	2010	11	199	14,335	0.0679	-2.69
30/06/2010	2010	6	430	53,722	0.2545	-1.37
01/07/2010	2010	4	368	37,749	0.1788	-1.72
02/07/2010	2010	6	179	22,176	0.1050	-2.25
03/07/2010	2010	6	170	12,237	0.0580	-2.85
04/07/2010	2010	7	310	28,412	0.1346	-2.01
05/07/2010	2010	30	738	124,172	0.5882	-0.53
06/07/2010	2010	89	1,688	412,042	1.9517	0.67
07/07/2010	2010	53	5,881	961,087	4.5523	1.52
08/07/2010	2010	18	464	47,570	0.2253	-1.49
09/07/2010	2010	6	182	9,566	0.0453	-3.09
10/07/2010	2010	13	589	73,819	0.3497	-1.05
11/07/2010	2010	8	210	25,742	0.1219	-2.10
12/07/2010	2010	9	592	37,943	0.1797	-1.72
13/07/2010	2010	10	242	27,175	0.1287	-2.05
14/07/2010	2010	8	101	13,274	0.0629	-2.77
15/07/2010	2010	7	236	22,757	0.1078	-2.23
16/07/2010	2010	33	6,197	1,495,949	7.0857	1.96
17/07/2010	2010	20	1,434	165,779	0.7852	-0.24
18/07/2010	2010	28	2,102	333,591	1.5801	0.46
19/07/2010	2010	33	1,773	156,813	0.7428	-0.30
20/07/2010	2010	16	1,153	140,283	0.6645	-0.41
21/07/2010	2010	19	2,682	428,490	2.0296	0.71
22/07/2010	2010	24	1,940	49,111	0.2326	-1.46
23/07/2010	2010	21	865	94,675	0.4484	-0.80
24/07/2010	2010	26	5,075	702,601	3.3280	1.20

25/07/2010	2010	10	2,144	76,729	0.3634	-1.01
26/07/2010	2010	22	766	90,072	0.4266	-0.85
27/07/2010	2010	7	446	37,907	0.1796	-1.72
28/07/2010	2010	9	294	8,872	0.0420	-3.17
29/07/2010	2010	7	182	8,079	0.0383	-3.26
30/07/2010	2010	2	2	517	0.0024	-6.01
31/07/2010	2010	9	2,184	188,498	0.8928	-0.11
01/08/2010	2010	8	155	36,030	0.1707	-1.77
02/08/2010	2010	5	94	5,586	0.0265	-3.63
03/08/2010	2010	5	117	12,422	0.0588	-2.83
04/08/2010	2010	6	576	46,460	0.2201	-1.51
05/08/2010	2010	20	1,808	134,629	0.6377	-0.45
06/08/2010	2010	11	993	116,372	0.5512	-0.60
07/08/2010	2010	8	175	40,082	0.1899	-1.66
08/08/2010	2010	6	28	3,444	0.0163	-4.12
09/08/2010	2010	11	1,324	173,011	0.8195	-0.20
10/08/2010	2010	18	1,382	216,436	1.0252	0.02
11/08/2010	2010	9	218	27,829	0.1318	-2.03
12/08/2010	2010	10	3,647	176,184	0.8345	-0.18
13/08/2010	2010	8	530	48,550	0.2300	-1.47
14/08/2010	2010	3	440	14,966	0.0709	-2.65
15/08/2010	2010	8	283	64,942	0.3076	-1.18
16/08/2010	2010	38	3,347	303,388	1.4370	0.36
17/08/2010	2010	7	107	14,036	0.0665	-2.71
18/08/2010	2010	6	1,027	38,969	0.1846	-1.69
19/08/2010	2010	12	745	149,536	0.7083	-0.34
20/08/2010	2010	8	173	31,837	0.1508	-1.89
21/08/2010	2010	13	546	34,004	0.1611	-1.83
22/08/2010	2010	35	1,626	201,138	0.9527	-0.05
23/08/2010	2010	15	121	7,925	0.0375	-3.28
24/08/2010	2010	8	200	11,357	0.0538	-2.92
25/08/2010	2010	10	133	11,890	0.0563	-2.88
26/08/2010	2010	9	328	57,876	0.2741	-1.29
27/08/2010	2010	17	2,927	224,296	1.0624	0.06
28/08/2010	2010	5	192	25,564	0.1211	-2.11
29/08/2010	2010	5	106	7,817	0.0370	-3.30
30/08/2010	2010	10	1,217	95,968	0.4546	-0.79
31/08/2010	2010	11	1,368	60,766	0.2878	-1.25
01/09/2010	2010	11	1,162	37,778	0.1789	-1.72
02/09/2010	2010	16	2,333	144,689	0.6853	-0.38
03/09/2010	2010	6	146	9,654	0.0457	-3.09
04/09/2010	2010	21	525	53,713	0.2544	-1.37
05/09/2010	2010	10	685	34,648	0.1641	-1.81
06/09/2010	2010	4	728	32,542	0.1541	-1.87
07/09/2010	2010	2	2	260	0.0012	-6.70
08/09/2010	2010	4	20	2,027	0.0096	-4.65
09/09/2010	2010	7	95	10,945	0.0518	-2.96
10/09/2010	2010	6	212	15,345	0.0727	-2.62
11/09/2010	2010	9	240	67,446	0.3195	-1.14
12/09/2010	2010	5	228	17,533	0.0830	-2.49
13/09/2010	2010	2	145	8,645	0.0409	-3.20
14/09/2010	2010	7	221	26,652	0.1262	-2.07
15/09/2010	2010	8	160	18,622	0.0882	-2.43
16/09/2010	2010	4	271	15,269	0.0723	-2.63
17/09/2010	2010	10	184	16,742	0.0793	-2.53
18/09/2010	2010	10	398	29,651	0.1404	-1.96
19/09/2010	2010	6	91	6,854	0.0325	-3.43
20/09/2010	2010	7	155	8,384	0.0397	-3.23
21/09/2010	2010	4	119	3,406	0.0161	-4.13
22/09/2010	2010	6	364	30,687	0.1454	-1.93
23/09/2010	2010	11	305	36,855	0.1746	-1.75
24/09/2010	2010	8	239	15,066	0.0714	-2.64
25/09/2010	2010	2	7	465	0.0022	-6.12
26/09/2010	2010	3	66	5,270	0.0250	-3.69
27/09/2010	2010	7	1,343	59,358	0.2812	-1.27
28/09/2010	2010	21	2,639	187,686	0.8890	-0.12
29/09/2010	2010	7	134	10,308	0.0488	-3.02
30/09/2010	2010	41	2,256	349,048	1.6533	0.50

01/10/2010	2010	46	3,281	377,956	1.7902	0.58
02/10/2010	2010	6	518	17,793	0.0843	-2.47
03/10/2010	2010	8	233	27,982	0.1325	-2.02
04/10/2010	2010	12	174	9,617	0.0456	-3.09
05/10/2010	2010	5	38	2,394	0.0113	-4.48
06/10/2010	2010	4	1,556	114,360	0.5417	-0.61
07/10/2010	2010	14	1,077	106,077	0.5024	-0.69
08/10/2010	2010	10	326	20,151	0.0954	-2.35
09/10/2010	2010	13	481	113,077	0.5356	-0.62
10/10/2010	2010	4	397	19,053	0.0902	-2.41
11/10/2010	2010	4	94	7,394	0.0350	-3.35
12/10/2010	2010	6	89	6,674	0.0316	-3.45
13/10/2010	2010	5	124	6,557	0.0311	-3.47
14/10/2010	2010	4	112	31,211	0.1478	-1.91
15/10/2010	2010	21	2,450	248,179	1.1755	0.16
16/10/2010	2010	12	3,065	244,057	1.1560	0.14
17/10/2010	2010	8	320	41,230	0.1953	-1.63
18/10/2010	2010	6	63	3,369	0.0160	-4.14
19/10/2010	2010	7	184	24,078	0.1140	-2.17
20/10/2010	2010	4	285	18,401	0.0872	-2.44
21/10/2010	2010	15	4,227	182,660	0.8652	-0.14
22/10/2010	2010	4	29	3,712	0.0176	-4.04
23/10/2010	2010	3	131	12,886	0.0610	-2.80
24/10/2010	2010	9	253	38,006	0.1800	-1.71
25/10/2010	2010	4	14	1,158	0.0055	-5.21
26/10/2010	2010	8	150	10,033	0.0475	-3.05
27/10/2010	2010	15	1,907	148,447	0.7031	-0.35
28/10/2010	2010	12	1,443	127,028	0.6017	-0.51
29/10/2010	2010	7	235	19,331	0.0916	-2.39
30/10/2010	2010	6	56	5,633	0.0267	-3.62
31/10/2010	2010	3	53	6,105	0.0289	-3.54
01/11/2010	2010	4	5	371	0.0018	-6.34
02/11/2010	2010	2	198	33,084	0.1567	-1.85
03/11/2010	2010	2	86	5,335	0.0253	-3.68
04/11/2010	2010	9	1,297	117,005	0.5542	-0.59
05/11/2010	2010	17	1,167	224,873	1.0651	0.06
06/11/2010	2010	4	67	3,229	0.0153	-4.18
07/11/2010	2010	4	1,246	57,965	0.2746	-1.29
08/11/2010	2010	72	5,927	670,785	3.1773	1.16
09/11/2010	2010	6	870	62,024	0.2938	-1.22
10/11/2010	2010	7	86	7,706	0.0365	-3.31
11/11/2010	2010	6	81	7,415	0.0351	-3.35
12/11/2010	2010	4	498	58,658	0.2778	-1.28
13/11/2010	2010	2	38	3,703	0.0175	-4.04
14/11/2010	2010	3	105	6,896	0.0327	-3.42
15/11/2010	2010	6	89	10,161	0.0481	-3.03
16/11/2010	2010	10	728	25,306	0.1199	-2.12
17/11/2010	2010	45	2,254	293,750	1.3914	0.33
18/11/2010	2010	18	191	21,579	0.1022	-2.28
19/11/2010	2010	1	15	11,130	0.0527	-2.94
20/11/2010	2010	4	68	5,193	0.0246	-3.71
21/11/2010	2010	4	98	7,456	0.0353	-3.34
22/11/2010	2010	10	194	22,516	0.1066	-2.24
23/11/2010	2010	7	70	6,155	0.0292	-3.54
24/11/2010	2010	17	1,161	178,418	0.8451	-0.17
25/11/2010	2010	3	56	1,918	0.0091	-4.70
26/11/2010	2010	9	1,206	34,395	0.1629	-1.81
27/11/2010	2010	12	1,275	98,649	0.4673	-0.76
28/11/2010	2010	2	11	953	0.0045	-5.40
29/11/2010	2010	8	352	22,033	0.1044	-2.26
30/11/2010	2010	4	751	49,246	0.2333	-1.46
01/12/2010	2010	66	9,595	813,088	3.8513	1.35
02/12/2010	2010	7	774	33,883	0.1605	-1.83
03/12/2010	2010	1	22	1,232	0.0058	-5.14
04/12/2010	2010	4	455	88,269	0.4181	-0.87
05/12/2010	2010	4	260	27,473	0.1301	-2.04
06/12/2010	2010	2	78	4,176	0.0198	-3.92
07/12/2010	2010	3	91	8,843	0.0419	-3.17

08/12/2010	2010	6	2,161	107,420	0.5088	-0.68
09/12/2010	2010	7	212	42,335	0.2005	-1.61
10/12/2010	2010	4	4	282	0.0013	-6.62
11/12/2010	2010	3	8	1,186	0.0056	-5.18
12/12/2010	2010	18	4,517	342,961	1.6245	0.49
13/12/2010	2010	7	554	28,559	0.1353	-2.00
14/12/2010	2010	7	258	27,101	0.1284	-2.05
15/12/2010	2010	1	1	250	0.0012	-6.74
16/12/2010	2010	3	159	7,734	0.0366	-3.31
18/12/2010	2010	6	367	24,261	0.1149	-2.16
19/12/2010	2010	6	1,215	94,815	0.4491	-0.80
20/12/2010	2010	2	45	5,706	0.0270	-3.61
21/12/2010	2010	4	101	4,617	0.0219	-3.82
22/12/2010	2010	4	24	559	0.0026	-5.93
24/12/2010	2010	3	36	1,248	0.0059	-5.13
25/12/2010	2010	2	86	4,644	0.0220	-3.82
26/12/2010	2010	3	64	3,632	0.0172	-4.06
27/12/2010	2010	29	2,049	121,598	0.5760	-0.55
28/12/2010	2010	3	73	6,262	0.0297	-3.52
29/12/2010	2010	2	169	26,902	0.1274	-2.06
30/12/2010	2010	6	705	28,990	0.1373	-1.99
31/12/2010	2010	4	19	4,183	0.0198	-3.92
01/01/2011	2011	8	360	52,263	0.2460	-1.40
02/01/2011	2011	5	156	75,997	0.3577	-1.03
03/01/2011	2011	2	804	17,025	0.0801	-2.52
04/01/2011	2011	5	56	4,148	0.0195	-3.94
05/01/2011	2011	3	3	208	0.0010	-6.93
06/01/2011	2011	5	39	2,092	0.0098	-4.62
07/01/2011	2011	1	5	345	0.0016	-6.42
08/01/2011	2011	2	154	7,212	0.0339	-3.38
09/01/2011	2011	2	3	176	0.0008	-7.10
10/01/2011	2011	3	28	526	0.0025	-6.00
11/01/2011	2011	7	1,322	171,323	0.8063	-0.22
12/01/2011	2011	13	1,236	94,828	0.4463	-0.81
13/01/2011	2011	3	7	811	0.0038	-5.57
14/01/2011	2011	1	5	760	0.0036	-5.63
16/01/2011	2011	1	170	7,480	0.0352	-3.35
17/01/2011	2011	4	59	23,882	0.1124	-2.19
18/01/2011	2011	11	472	72,040	0.3391	-1.08
19/01/2011	2011	10	260	13,706	0.0645	-2.74
20/01/2011	2011	2	6	180	0.0008	-7.07
22/01/2011	2011	6	110	17,982	0.0846	-2.47
23/01/2011	2011	9	760	72,466	0.3411	-1.08
24/01/2011	2011	7	348	15,398	0.0725	-2.62
25/01/2011	2011	1	2	1,032	0.0049	-5.33
26/01/2011	2011	3	560	126,213	0.5940	-0.52
27/01/2011	2011	11	1,556	230,815	1.0863	0.08
28/01/2011	2011	6	720	20,644	0.0972	-2.33
29/01/2011	2011	3	189	77,178	0.3632	-1.01
30/01/2011	2011	3	113	25,311	0.1191	-2.13
31/01/2011	2011	2	14	532	0.0025	-5.99
01/02/2011	2011	1	13	2,093	0.0099	-4.62
02/02/2011	2011	3	71	12,185	0.0573	-2.86
03/02/2011	2011	2	19	2,534	0.0119	-4.43
04/02/2011	2011	7	1,047	251,697	1.1846	0.17
05/02/2011	2011	6	243	40,827	0.1921	-1.65
06/02/2011	2011	17	624	89,485	0.4212	-0.86
07/02/2011	2011	4	10	643	0.0030	-5.80
08/02/2011	2011	23	646	108,653	0.5114	-0.67
09/02/2011	2011	8	350	28,775	0.1354	-2.00
11/02/2011	2011	2	4	460	0.0022	-6.14
12/02/2011	2011	10	160	17,504	0.0824	-2.50
14/02/2011	2011	8	107	7,879	0.0371	-3.29
15/02/2011	2011	9	122	27,122	0.1276	-2.06
16/02/2011	2011	2	16	1,296	0.0061	-5.10
17/02/2011	2011	7	43	3,356	0.0158	-4.15
18/02/2011	2011	9	371	15,623	0.0735	-2.61
19/02/2011	2011	110	5,582	1,100,487	5.1793	1.64

20/02/2011	2011	7	361	25,628	0.1206	-2.12
21/02/2011	2011	10	1,284	86,212	0.4057	-0.90
22/02/2011	2011	4	115	4,746	0.0223	-3.80
23/02/2011	2011	3	148	15,900	0.0748	-2.59
24/02/2011	2011	7	250	18,745	0.0882	-2.43
25/02/2011	2011	23	2,007	160,955	0.7575	-0.28
26/02/2011	2011	10	1,632	165,384	0.7784	-0.25
27/02/2011	2011	1	16	800	0.0038	-5.58
28/02/2011	2011	21	3,126	135,534	0.6379	-0.45
01/03/2011	2011	2	53	3,832	0.0180	-4.02
02/03/2011	2011	10	234	21,784	0.1025	-2.28
03/03/2011	2011	5	709	233,991	1.1013	0.10
04/03/2011	2011	1	25	1,500	0.0071	-4.95
05/03/2011	2011	3	26	4,373	0.0206	-3.88
06/03/2011	2011	15	1,709	185,623	0.8736	-0.14
07/03/2011	2011	16	99	17,358	0.0817	-2.50
08/03/2011	2011	9	808	87,270	0.4107	-0.89
09/03/2011	2011	2	2	167	0.0008	-7.15
10/03/2011	2011	9	523	43,080	0.2028	-1.60
11/03/2011	2011	10	457	87,145	0.4101	-0.89
12/03/2011	2011	6	286	27,417	0.1290	-2.05
13/03/2011	2011	2	22	1,993	0.0094	-4.67
14/03/2011	2011	2	5	371	0.0017	-6.35
15/03/2011	2011	8	2,488	88,911	0.4185	-0.87
16/03/2011	2011	4	575	22,645	0.1066	-2.24
17/03/2011	2011	8	1,813	108,510	0.5107	-0.67
18/03/2011	2011	41	4,487	299,428	1.4092	0.34
19/03/2011	2011	3	5	927	0.0044	-5.43
20/03/2011	2011	3	220	17,997	0.0847	-2.47
21/03/2011	2011	8	171	18,152	0.0854	-2.46
22/03/2011	2011	5	126	20,307	0.0956	-2.35
23/03/2011	2011	2	33	3,209	0.0151	-4.19
24/03/2011	2011	1	1	48	0.0002	-8.40
25/03/2011	2011	1	1	106	0.0005	-7.60
26/03/2011	2011	2	61	14,448	0.0680	-2.69
27/03/2011	2011	2	61	3,321	0.0156	-4.16
28/03/2011	2011	1	52	1,456	0.0069	-4.98
29/03/2011	2011	3	101	6,535	0.0308	-3.48
30/03/2011	2011	1	112	5,824	0.0274	-3.60
31/03/2011	2011	2	92	3,082	0.0145	-4.23
01/04/2011	2011	4	8	2,383	0.0112	-4.49
02/04/2011	2011	5	5	773	0.0036	-5.62
03/04/2011	2011	2	225	25,086	0.1181	-2.14
04/04/2011	2011	3	119	11,460	0.0539	-2.92
05/04/2011	2011	3	36	4,216	0.0198	-3.92
06/04/2011	2011	5	160	12,370	0.0582	-2.84
07/04/2011	2011	2	2	467	0.0022	-6.12
08/04/2011	2011	1	1	96	0.0005	-7.70
09/04/2011	2011	4	44	2,563	0.0121	-4.42
10/04/2011	2011	3	35	10,877	0.0512	-2.97
11/04/2011	2011	14	185	27,482	0.1293	-2.05
12/04/2011	2011	3	948	68,616	0.3229	-1.13
13/04/2011	2011	10	143	31,012	0.1460	-1.92
14/04/2011	2011	2	7	5,478	0.0258	-3.66
15/04/2011	2011	1	6	2,310	0.0109	-4.52
16/04/2011	2011	5	1,905	291,100	1.3700	0.31
17/04/2011	2011	9	894	74,289	0.3496	-1.05
18/04/2011	2011	5	250	7,035	0.0331	-3.41
19/04/2011	2011	3	253	22,607	0.1064	-2.24
20/04/2011	2011	4	310	28,128	0.1324	-2.02
21/04/2011	2011	55	7,233	733,764	3.4534	1.24
22/04/2011	2011	4	13	2,250	0.0106	-4.55
23/04/2011	2011	2	45	5,982	0.0282	-3.57
24/04/2011	2011	3	6	3,539	0.0167	-4.09
25/04/2011	2011	3	8	465	0.0022	-6.12
26/04/2011	2011	5	964	114,022	0.5366	-0.62
27/04/2011	2011	11	512	147,068	0.6922	-0.37
28/04/2011	2011	9	125	10,217	0.0481	-3.03

29/04/2011	2011	10	88	7,970	0.0375	-3.28
30/04/2011	2011	2	5	466	0.0022	-6.12
02/05/2011	2011	7	111	9,189	0.0432	-3.14
03/05/2011	2011	3	5,842	212,876	1.0019	0.00
04/05/2011	2011	4	578	249,050	1.1721	0.16
05/05/2011	2011	8	344	33,291	0.1567	-1.85
06/05/2011	2011	4	19	3,154	0.0148	-4.21
07/05/2011	2011	3	20	1,477	0.0070	-4.97
08/05/2011	2011	5	267	26,829	0.1263	-2.07
09/05/2011	2011	13	2,333	47,860	0.2252	-1.49
10/05/2011	2011	4	123	20,566	0.0968	-2.34
11/05/2011	2011	3	41	2,994	0.0141	-4.26
12/05/2011	2011	6	303	10,179	0.0479	-3.04
13/05/2011	2011	12	433	38,971	0.1834	-1.70
14/05/2011	2011	5	173	15,490	0.0729	-2.62
15/05/2011	2011	9	1,436	65,149	0.3066	-1.18
16/05/2011	2011	2	16	3,337	0.0157	-4.15
17/05/2011	2011	6	76	8,544	0.0402	-3.21
18/05/2011	2011	7	86	6,654	0.0313	-3.46
19/05/2011	2011	5	196	15,685	0.0738	-2.61
20/05/2011	2011	9	217	26,533	0.1249	-2.08
21/05/2011	2011	7	531	62,681	0.2950	-1.22
22/05/2011	2011	5	515	148,715	0.6999	-0.36
23/05/2011	2011	3	6	643	0.0030	-5.80
24/05/2011	2011	12	3,076	229,944	1.0822	0.08
25/05/2011	2011	3	96	12,066	0.0568	-2.87
26/05/2011	2011	13	536	172,378	0.8113	-0.21
27/05/2011	2011	56	2,843	435,004	2.0473	0.72
28/05/2011	2011	14	842	130,452	0.6140	-0.49
29/05/2011	2011	12	903	57,702	0.2716	-1.30
30/05/2011	2011	10	1,407	154,968	0.7293	-0.32
31/05/2011	2011	8	554	124,697	0.5869	-0.53
01/06/2011	2011	236	26,288	29,823,129	140.3600	4.94 MED
02/06/2011	2011	92	5,901	760,016	3.5769	1.27
03/06/2011	2011	95	2,196	1,955,760	9.2046	2.22
04/06/2011	2011	38	1,472	180,236	0.8483	-0.16
05/06/2011	2011	23	174	19,476	0.0917	-2.39
06/06/2011	2011	13	62	15,434	0.0726	-2.62
07/06/2011	2011	16	1,270	120,757	0.5683	-0.57
08/06/2011	2011	67	3,457	2,028,524	9.5471	2.26
09/06/2011	2011	250	28,203	12,274,278	57.7678	4.06 MED
10/06/2011	2011	79	2,583	271,160	1.2762	0.24
11/06/2011	2011	34	2,337	214,296	1.0086	0.01
12/06/2011	2011	15	1,728	59,365	0.2794	-1.28
13/06/2011	2011	5	546	53,356	0.2511	-1.38
14/06/2011	2011	19	3,668	186,022	0.8755	-0.13
15/06/2011	2011	10	1,124	150,904	0.7102	-0.34
16/06/2011	2011	8	85	7,795	0.0367	-3.31
17/06/2011	2011	16	335	61,996	0.2918	-1.23
18/06/2011	2011	15	1,125	98,884	0.4654	-0.76
19/06/2011	2011	9	1,371	68,689	0.3233	-1.13
20/06/2011	2011	8	990	94,963	0.4469	-0.81
21/06/2011	2011	11	317	23,144	0.1089	-2.22
22/06/2011	2011	5	726	101,167	0.4761	-0.74
23/06/2011	2011	11	495	37,124	0.1747	-1.74
24/06/2011	2011	13	694	65,068	0.3062	-1.18
25/06/2011	2011	18	734	87,195	0.4104	-0.89
26/06/2011	2011	3	66	5,340	0.0251	-3.68
27/06/2011	2011	16	173	9,653	0.0454	-3.09
28/06/2011	2011	6	224	19,541	0.0920	-2.39
29/06/2011	2011	22	1,974	174,775	0.8226	-0.20
30/06/2011	2011	3	146	16,953	0.0798	-2.53
01/07/2011	2011	6	368	61,135	0.2877	-1.25
02/07/2011	2011	7	300	24,880	0.1171	-2.14
03/07/2011	2011	9	195	14,382	0.0677	-2.69
04/07/2011	2011	6	262	20,177	0.0950	-2.35
05/07/2011	2011	12	809	66,525	0.3131	-1.16
06/07/2011	2011	32	8,032	702,560	3.3065	1.20

07/07/2011	2011	14	1,090	45,911	0.2161	-1.53
08/07/2011	2011	26	3,087	415,611	1.9560	0.67
09/07/2011	2011	5	457	11,929	0.0561	-2.88
10/07/2011	2011	9	126	13,970	0.0657	-2.72
11/07/2011	2011	12	173	18,072	0.0851	-2.46
12/07/2011	2011	16	607	44,955	0.2116	-1.55
13/07/2011	2011	8	347	29,326	0.1380	-1.98
14/07/2011	2011	10	370	48,606	0.2288	-1.48
15/07/2011	2011	8	992	63,598	0.2993	-1.21
16/07/2011	2011	7	785	43,121	0.2029	-1.59
17/07/2011	2011	8	755	49,404	0.2325	-1.46
18/07/2011	2011	3	194	12,452	0.0586	-2.84
19/07/2011	2011	8	1,069	77,102	0.3629	-1.01
20/07/2011	2011	10	151	18,567	0.0874	-2.44
21/07/2011	2011	13	323	44,115	0.2076	-1.57
22/07/2011	2011	43	1,846	205,616	0.9677	-0.03
23/07/2011	2011	16	912	60,655	0.2855	-1.25
24/07/2011	2011	11	368	36,506	0.1718	-1.76
25/07/2011	2011	12	1,390	89,468	0.4211	-0.86
26/07/2011	2011	247	28,383	16,470,357	77.5163	4.35 MED
27/07/2011	2011	120	4,250	875,064	4.1184	1.42
28/07/2011	2011	23	974	61,645	0.2901	-1.24
29/07/2011	2011	14	1,494	130,454	0.6140	-0.49
30/07/2011	2011	7	88	16,581	0.0780	-2.55
31/07/2011	2011	4	59	12,307	0.0579	-2.85
01/08/2011	2011	25	1,388	164,007	0.7719	-0.26
02/08/2011	2011	6	223	27,316	0.1286	-2.05
03/08/2011	2011	5	54	5,200	0.0245	-3.71
04/08/2011	2011	11	187	43,346	0.2040	-1.59
05/08/2011	2011	4	374	41,255	0.1942	-1.64
06/08/2011	2011	4	258	32,894	0.1548	-1.87
07/08/2011	2011	19	2,042	204,618	0.9630	-0.04
08/08/2011	2011	12	922	60,318	0.2839	-1.26
09/08/2011	2011	5	89	6,596	0.0310	-3.47
10/08/2011	2011	10	424	25,426	0.1197	-2.12
11/08/2011	2011	5	150	40,492	0.1906	-1.66
12/08/2011	2011	6	142	19,410	0.0914	-2.39
13/08/2011	2011	3	57	5,106	0.0240	-3.73
14/08/2011	2011	7	1,781	126,373	0.5948	-0.52
15/08/2011	2011	21	2,133	255,918	1.2045	0.19
16/08/2011	2011	15	278	31,111	0.1464	-1.92
17/08/2011	2011	4	141	22,887	0.1077	-2.23
18/08/2011	2011	5	222	8,137	0.0383	-3.26
19/08/2011	2011	46	2,050	386,351	1.8183	0.60
20/08/2011	2011	12	156	29,978	0.1411	-1.96
21/08/2011	2011	31	2,542	323,136	1.5208	0.42
22/08/2011	2011	17	285	36,197	0.1704	-1.77
23/08/2011	2011	3	39	1,531	0.0072	-4.93
24/08/2011	2011	7	802	66,107	0.3111	-1.17
25/08/2011	2011	16	893	98,403	0.4631	-0.77
26/08/2011	2011	10	531	137,766	0.6484	-0.43
27/08/2011	2011	8	3,835	182,540	0.8591	-0.15
28/08/2011	2011	387	34,134	12,826,813	60.3683	4.10 MED
29/08/2011	2011	116	2,236	646,353	3.0420	1.11
30/08/2011	2011	32	158	29,210	0.1375	-1.98
31/08/2011	2011	26	2,635	140,712	0.6622	-0.41
01/09/2011	2011	8	401	66,174	0.3114	-1.17
02/09/2011	2011	11	400	63,591	0.2993	-1.21
03/09/2011	2011	12	583	24,142	0.1136	-2.17
04/09/2011	2011	10	398	26,588	0.1251	-2.08
05/09/2011	2011	26	1,817	329,713	1.5518	0.44
06/09/2011	2011	27	3,334	420,316	1.9782	0.68
07/09/2011	2011	19	551	160,100	0.7535	-0.28
08/09/2011	2011	10	205	29,393	0.1383	-1.98
09/09/2011	2011	13	265	62,779	0.2955	-1.22
10/09/2011	2011	11	266	30,833	0.1451	-1.93
11/09/2011	2011	3	18	2,581	0.0121	-4.41
12/09/2011	2011	9	288	17,110	0.0805	-2.52

13/09/2011	2011	10	164	24,579	0.1157	-2.16
14/09/2011	2011	9	288	35,110	0.1652	-1.80
15/09/2011	2011	8	280	18,020	0.0848	-2.47
16/09/2011	2011	5	390	15,871	0.0747	-2.59
17/09/2011	2011	6	54	3,516	0.0165	-4.10
18/09/2011	2011	7	178	13,396	0.0630	-2.76
19/09/2011	2011	6	200	32,771	0.1542	-1.87
20/09/2011	2011	3	82	16,471	0.0775	-2.56
21/09/2011	2011	12	460	48,691	0.2292	-1.47
22/09/2011	2011	4	522	102,968	0.4846	-0.72
23/09/2011	2011	11	595	74,170	0.3491	-1.05
24/09/2011	2011	8	2,044	214,725	1.0106	0.01
25/09/2011	2011	8	534	58,074	0.2733	-1.30
26/09/2011	2011	7	478	31,455	0.1480	-1.91
27/09/2011	2011	6	235	17,751	0.0835	-2.48
28/09/2011	2011	7	281	28,989	0.1364	-1.99
29/09/2011	2011	27	3,489	257,264	1.2108	0.19
30/09/2011	2011	10	675	54,795	0.2579	-1.36
01/10/2011	2011	9	222	12,285	0.0578	-2.85
02/10/2011	2011	10	365	22,962	0.1081	-2.22
03/10/2011	2011	6	73	2,740	0.0129	-4.35
04/10/2011	2011	6	52	4,730	0.0223	-3.80
05/10/2011	2011	9	603	101,780	0.4790	-0.74
06/10/2011	2011	3	376	14,384	0.0677	-2.69
07/10/2011	2011	5	470	17,911	0.0843	-2.47
08/10/2011	2011	3	45	3,849	0.0181	-4.01
09/10/2011	2011	5	68	3,078	0.0145	-4.23
10/10/2011	2011	7	320	43,140	0.2030	-1.59
11/10/2011	2011	13	829	25,805	0.1214	-2.11
12/10/2011	2011	13	163	22,509	0.1059	-2.24
13/10/2011	2011	8	1,746	182,557	0.8592	-0.15
14/10/2011	2011	18	347	69,302	0.3262	-1.12
15/10/2011	2011	35	3,867	377,536	1.7768	0.57
16/10/2011	2011	15	932	100,499	0.4730	-0.75
17/10/2011	2011	7	2,509	213,891	1.0067	0.01
18/10/2011	2011	8	710	162,772	0.7661	-0.27
19/10/2011	2011	5	138	11,501	0.0541	-2.92
20/10/2011	2011	15	896	72,852	0.3429	-1.07
21/10/2011	2011	10	239	10,216	0.0481	-3.03
22/10/2011	2011	6	64	5,249	0.0247	-3.70
23/10/2011	2011	8	613	59,688	0.2809	-1.27
24/10/2011	2011	8	178	16,572	0.0780	-2.55
25/10/2011	2011	14	541	116,460	0.5481	-0.60
26/10/2011	2011	8	192	9,336	0.0439	-3.12
27/10/2011	2011	22	1,517	213,141	1.0031	0.00
28/10/2011	2011	27	1,358	86,132	0.4054	-0.90
29/10/2011	2011	1,224	142,987	#####	#####	8.09 MED
30/10/2011	2011	458	13,906	58,694,298	276.2397	5.62 MED
31/10/2011	2011	339	6,829	20,882,327	98.2809	4.59 MED
01/11/2011	2011	245	4,286	13,136,460	61.8256	4.12 MED
02/11/2011	2011	220	6,412	13,025,755	61.3046	4.12 MED
03/11/2011	2011	202	5,198	6,999,427	32.9422	3.49 MED
04/11/2011	2011	300	7,269	5,266,896	24.7882	3.21 MED
05/11/2011	2011	330	4,104	2,412,385	11.3537	2.43
06/11/2011	2011	271	1,080	384,260	1.8085	0.59
07/11/2011	2011	110	302	130,545	0.6144	-0.49
08/11/2011	2011	56	191	35,357	0.1664	-1.79
09/11/2011	2011	21	143	17,218	0.0810	-2.51
10/11/2011	2011	36	4,591	379,483	1.7860	0.58
11/11/2011	2011	21	1,716	156,881	0.7383	-0.30
12/11/2011	2011	25	4,531	404,028	1.9015	0.64
13/11/2011	2011	13	811	109,542	0.5155	-0.66
14/11/2011	2011	15	417	26,494	0.1247	-2.08
15/11/2011	2011	14	2,228	242,748	1.1425	0.13
16/11/2011	2011	14	325	31,590	0.1487	-1.91
17/11/2011	2011	12	510	68,684	0.3233	-1.13
18/11/2011	2011	12	1,372	118,462	0.5575	-0.58
19/11/2011	2011	5	135	9,688	0.0456	-3.09

20/11/2011	2011	8	1,223	160,313	0.7545	-0.28
21/11/2011	2011	12	643	53,342	0.2510	-1.38
22/11/2011	2011	9	831	57,042	0.2685	-1.32
23/11/2011	2011	24	461	66,262	0.3119	-1.17
24/11/2011	2011	5	97	11,987	0.0564	-2.88
25/11/2011	2011	6	29	3,356	0.0158	-4.15
26/11/2011	2011	7	3,504	284,770	1.3402	0.29
27/11/2011	2011	6	380	28,808	0.1356	-2.00
28/11/2011	2011	14	428	48,117	0.2265	-1.49
29/11/2011	2011	14	792	88,370	0.4159	-0.88
30/11/2011	2011	13	499	49,494	0.2329	-1.46
01/12/2011	2011	9	311	44,085	0.2075	-1.57
02/12/2011	2011	3	292	21,810	0.1026	-2.28
03/12/2011	2011	4	8	1,095	0.0052	-5.27
04/12/2011	2011	8	2,257	119,106	0.5606	-0.58
05/12/2011	2011	6	819	9,761	0.0459	-3.08
06/12/2011	2011	4	1,931	76,083	0.3581	-1.03
07/12/2011	2011	9	726	87,206	0.4104	-0.89
08/12/2011	2011	79	12,489	1,308,259	6.1572	1.82
09/12/2011	2011	4	190	12,795	0.0602	-2.81
10/12/2011	2011	1	1	245	0.0012	-6.77
11/12/2011	2011	6	33	2,061	0.0097	-4.64
12/12/2011	2011	7	204	8,796	0.0414	-3.18
13/12/2011	2011	9	88	6,248	0.0294	-3.53
14/12/2011	2011	9	309	14,765	0.0695	-2.67
15/12/2011	2011	9	910	45,447	0.2139	-1.54
16/12/2011	2011	23	988	91,873	0.4324	-0.84
17/12/2011	2011	4	46	4,038	0.0190	-3.96
18/12/2011	2011	4	108	9,615	0.0453	-3.10
19/12/2011	2011	7	223	24,593	0.1157	-2.16
20/12/2011	2011	5	47	5,026	0.0237	-3.74
21/12/2011	2011	8	245	31,844	0.1499	-1.90
22/12/2011	2011	9	615	55,868	0.2629	-1.34
23/12/2011	2011	7	90	9,896	0.0466	-3.07
24/12/2011	2011	2	141	4,355	0.0205	-3.89
25/12/2011	2011	7	187	19,099	0.0899	-2.41
26/12/2011	2011	5	84	6,393	0.0301	-3.50
27/12/2011	2011	12	1,203	126,649	0.5961	-0.52
28/12/2011	2011	33	2,558	453,912	2.1363	0.76
29/12/2011	2011	8	37	12,345	0.0581	-2.85
30/12/2011	2011	3	150	9,873	0.0465	-3.07
31/12/2011	2011	7	233	22,358	0.1052	-2.25



March 1, 2013

VIA HAND DELIVERY

Mark D. Marini, Secretary
Department of Public Utilities
One South Station, 5th Floor
Boston, Massachusetts 02110

RE: Western Massachusetts Electric Company Service Quality Plan 2012 Annual Report, D.P.U. 13-SQ-14

Dear Secretary Marini:

Pursuant to General Laws c. 164, § 1E, and the guidelines established by the Department of Public Utilities (“Department”) in D.T.E. 04-116-C (2007) (“Guidelines”), Western Massachusetts Electric Company (“WMECO” or the “Company”) hereby files its Service Quality Plan 2012 Annual Service Quality Report (“ASQR”). An electronic version is also being sent to the Department.

WMECO is making this year’s filing using the same filing format that it used last year. Section One contains Form B. Section Two contains the historical performance data required by the Guidelines. Finally, Section Three contains supporting information for WMECO’s major capital investments, poor performing circuits, and supporting data.

Please note that the Company is offering in this report a correction to its 2011 ASQR regarding a circuit that was misclassified in the 2011 ASQR as a poorly performing circuit for CKAIIFI during reporting year 2010. Please see the Supplemental Filing attachment to this report for this correction.

Specifically, in the 2011 ASQR, the Company had included circuit 21C7 as a poorly performing circuit for reporting year 2010. However, the attached 2012 ASQR removes circuit 21C7 from its 2010 list of poorly performing circuits for CKAIIFI after the Company determined that an outage event associated with the circuit in 2010 that was miscoded and should have been partially excluded. The Supplemental Filing attachment provided herewith corrects for this error by removing the 21C7 circuit and replacing it with the 38A1 circuit as a 2010 poorly performing circuit for CKAIIFI.



**Northeast
Utilities System**

Northeast Utilities Service Company
100 Summer Street, 23rd Floor
Boston, Massachusetts 02110-2131

(617) 345-1067

If you have any questions regarding this filing, please contact me at 781-441-8219 or Jack Habib at Keegan Werlin LLP (617-951-1400).

Sincerely,

/s/

Kerry Britland

Attachment

cc: Karen Robinson, Hearing Officer (1 copy)
Ben Davis, Electric Power Division Director (3 copies)
Kevin Brannelly, Rates and Revenue Requirements Division Director (2 copies)

WESTERN MASSACHUSETTS ELECTRIC COMPANY

2012 Service Quality Report

D.P.U. 13-SQ-14

March 1, 2013

I. INTRODUCTION

Western Massachusetts Electric Company (“WMECO” or the “Company”) hereby submits to the Department of Public Utilities (“Department”) its service quality (“SQ”) plan data for calendar-year 2012, pursuant to General Laws c. 164, § 1E and the guidelines established by the Department in D.T.E. 04-116-C (2007). This report is organized as follows:

- Section II summarizes the different SQ measures against which WMECO’s SQ performance will be judged. Listed are the three safety and reliability measures, the three customer service measures and the two Consumer Division measures. SQ penalties pertain to these measures.
- Section III provides the SQ measure definition, WMECO’s historical performance and the statistical deadband for each of the SQ standards.
- Section IV provides descriptions of the additional reporting requirements and the related historical and 2012 data.
- Section V provides the calculation of revenue penalties and penalty offsets based on 2012 performance.
- Attachment A provides WMECO’s Poor Performing Circuits.
- Attachment B provides WMECO’s Listing of Major Capital Investments.
- Attachment C provides the backup data for the calculation of metrics subject to revenue penalties and penalty offsets based on 2012 performance and Emergency Response Times.

WESTERN MASSACHUSETTS ELECTRIC COMPANY

Annual Service Quality Report

Section I

Year Ending December 31, 2012

DPU FORM - B



**Northeast
Utilities System**

Penalty Provisions	Years in Database	Mean and Benchmark	Performance 2012	Comments
Telephone Answering Factor (%)	10	70.3 61.5 - 79.2	90.2	
Emergency Answering (ASA)	n/a	n/a	6	Average Speed of Answer (ASA) as shown in Section III B (Seconds)
Service Appointments Kept (%)	10	99.0 97.6 - 100.4	99.5	Tracking this information started in January 2002.
Meter Reads	10	98.0 96.6 - 99.3	99.6	
Consumer Division Cases	10	1.2 0.8 - 1.5	0.8	
Billing Adjustments (# Residential billing adj/1000 Residential Customers)	10	0.02 0.01 - 0.04	0.02	The Billing Adjustment definition was revised by the Department in DTE 04-116-B (2007) and is defined as the number of billing adjustments per 1000 residential customers, rather than the dollar amount.
SAIDI	10	126.93 98.64 - 155.21	113.08	No exclusions for non-primary/secondary outages
SAIDI	10	n/a	142.08	IEEE-1366 method including non-primary outages.
SAIFI	10	1.001 0.883 - 1.118	1.001	No exclusions for non-primary/secondary outages
SAIFI	10	n/a	1.326	IEEE-1366 method including non-primary outages.
Lost Time Accident Rate (# acct/200,000 employee hours)	10	1.04 0.23 - 1.84	0.31	

Additional Reporting	Years in Database	Mean and Benchmark	Performance 2012	Comments
CAIDI	13	n/a	112.97	
Poor Performing Circuits	1	n/a	2.645	CKAIFI Circuit 27A4 Performance Improvement Plan in Attachment A
Restricted Work Day	15	n/a	1.53	
Staffing Levels	13	206	216	Current employees under the collective bargaining agreement with IBEW Local 455
# Property Damage > \$50K	n/a	n/a	4	Details can be found in Section 4 H
Line Loss (%)	5	n/a	Transmission 2.21% Bulk Substation 2.70% Primary Distribution 4.54% (all voltage levels) Primary Distribution 4.15% (13.8kv and higher) Distribution Substations 5.06% Distribution Transformer 7.05% Secondary Distribution 7.37%	Total system losses (cumulative) as a percent of average load at various points of service.
Capital Expenditures (# of projects and total \$)	10	n/a	37; \$227.4 M	Details can be found in Section 3 (Attachment B) of the report.
Spare Component & Inventory Policy	n/a	n/a	n/a	The Spare Component & Inventory Policy can be found in Section 2 of the report.
Consumer Surveys (Scale 1-7):				
Random Customer Satisfaction	11	n/a	6.22	
Responsiveness	11	n/a	6.15	
Courteousness	11	n/a	5.85	
Customer Service Guarantees (#; total \$)	n/a	n/a	19; \$ 950	Based on \$50 per incident per the new guidelines.
Annual Average			13 Minutes	Excluding Storms
Emergency Response Times	n/a	n/a	30 Minutes	Including Storms

WESTERN MASSACHUSETTS ELECTRIC COMPANY

Annual Service Quality Report

Section II

Year Ending December 31, 2012

Service Quality Standards



**Northeast
Utilities System**

II. WMECO's SERVICE QUALITY STANDARDS

WMECO's service quality plan was approved with a January 1, 2009 effective date. It meets the guidelines established by the Department Order in D.T.E. 04-116-C (2007). This section describes the measures included in WMECO's SQ plan.

A. Safety and Reliability

1. System Average Interruption Duration Index

For System Average Interruption Duration Index ("SAIDI") reporting, WMECO has historical data back to 2000 that meets the new assumptions for calculating electric reliability measures (SQ Plan § V). The benchmark for this measure is fixed using the data for the 10-year period 1996 – 2005 per SQ Plan § I.C.

2. System Average Interruption Frequency Index

For System Average Interruption Frequency Index ("SAIFI") reporting, WMECO has historical data back to 2000 that meets the new assumptions for calculating electric reliability measures (SQ Plan § V). The benchmark for this measure is fixed using the data for the 10-year period 1996 – 2005 per SQ Plan § I.C.

3. Lost Work Time Accident Rate

In order to calculate its Lost Work Time Accident ("LTA") Rate (SQ Plan § VI.D.), WMECO used the standard definition and formula from the US Department of Labor - Bureau of Labor Statistics. The benchmark for this measure is fixed using the data for the 10-year period 1996 – 2005 per SQ Plan § I.C.

B. Customer Service and Billing

1. Telephone Service Factor

As part of the ongoing Customer Service Integration Project ("CSI" or "Project"), 2007 marked the first full year of Northeast Utilities' Customer Service Call Center operations in the Windsor Customer Service Center facility located in Windsor, Connecticut and the Manchester Customer Service Center facility located in Manchester, New Hampshire. WMECO customer inquiries are handled seamlessly between the two customer service centers and the location is transparent to the customer. Calls answered in these two facilities are reflected in the "Customer Services" TSF. This and future Service Quality filings will continue to track "Customer Services" and "Credit Services" distinctly.

WMECO's telephone answering performance is calculated by a Telephone Service Factor (SQ Plan § II.A). The TSF is the percentage of telephone calls to WMECO's Customer Service Centers that are answered in 20 seconds. Both Emergency and Non-Emergency calls will be included in calculating the percentages reported.

$$TSF = \frac{\sum_{\text{Month = January}}^{\text{Month = December}} TSF_{\text{month}} \times \text{No. of Calls Received}_{\text{month}}}{\sum_{\text{Month = January}}^{\text{Month = December}} \text{No. of Calls Received}_{\text{month}}}$$

The SQ plan's TSF is calculated based on a weighted average of all calls handled in the call centers to more accurately show the level of service that customers actually receive.

$$TSF_{O/A} = \frac{(\text{Calls Received}_{\text{Customer Services}} \times TSF_{\text{Customer Services}}) + (\text{Calls Received}_{\text{Credit Services}} \times TSF_{\text{Credit Services}})}{(\text{Calls Received}_{\text{Customer Services}} + \text{Calls Received}_{\text{Credit Services}})}$$

In addition to the TSF, the average speed of answer ("ASA") for emergency calls and for all calls in aggregate are reported. WMECO began collecting ASA data in January 1998. The benchmark for TSF is calculated per SQ Plan § I.C. using data from 1997 – 2006.

2. Service Appointments Met as Scheduled

WMECO began recording this data in January 2002. The benchmark for 2012 Service Appointments Met as Scheduled was based on a ten-year average of data using the years 2002 – 2011. Pursuant to Section I.C., the benchmark for this measure will remain fixed now that ten years of data is available.

3. On-Cycle Meter Readings

WMECO defines On-Cycle Meter Reading as the percentage of meters that are actually read monthly, based on the number of meters that are scheduled to be read that month. The benchmark for this measure is based on 1996-2005 data per SQ Plan § I.C.

C. Consumer Division Statistics

WMECO has obtained the Consumer Division statistics for Consumer Division Cases (SQ Plan § III) for the ten-year period 1996 – 2005. The benchmark for this measure is based on 1996-2005 data per SQ Plan § IRC.

The Department's Order in D.T.E. 04-116-B modified the Billing Adjustments (SQ Plan § III) definition. As part of that revision, Billing Adjustments statistics for the eight-year period 2000 – 2007 were provided to WMECO. Pursuant to § I.C., Benchmarking, of its SQ Plan, WMECO continued to use available data until 10 years of data became available. The benchmark for this measure is based on 2000-2009 data per SQ Plan § IRC.

D. Additional Annual Reporting Requirements

WMECO has thirteen annual reporting requirements in addition to the eight performance measures. A description of each reporting requirement can be found in Section IV.

WESTERN MASSACHUSETTS ELECTRIC COMPANY

Annual Service Quality Report

Section III

Year Ending December 31, 2012

Service Quality Measures



**Northeast
Utilities System**

III. SERVICE QUALITY MEASURES

A. Safety and Reliability

1. SAIDI

SAIDI is a measure that determines the total duration of customer interruption in minutes, divided by the total number of customers served by the distribution system, expressed in minutes per year. SAIDI characterizes the average length of time that customers are without electric service during the reporting period.

For the purpose of calculating SAIDI, the following assumptions and criteria are used in accumulating interruption data for standardizing reliability measurements: (a) customer equipment outages shall be excluded; (b) planned outages shall be excluded; (c) Excludable Major Events shall be excluded; (d) momentary outages less than one minute in duration shall be excluded; (e) the beginning of an interruption shall be recorded at the earlier of an automatic alarm or the firm report of no power; (f) the end of an interruption shall be recorded at the point when power to customers is restored; (g) interruptions involving primary and secondary distribution circuits shall be included; (h) where only part of a circuit experiences an interruption, the number of customers affected shall be estimated, unless an actual count is available. When power is partially restored, the number of customers restored also shall be estimated unless an actual count is available; and (i) when customers lose power as a result of the process of restoring power (such as from switching operations and fault isolation), the duration of these additional interruptions shall be included, but the additional number of interruptions shall not be included in the calculation.

The SAIDI data uses calendar years 1996 through 2005 for determining the benchmark, and is presented to the nearest 100th of a minute. SAIDI shall be measured on an annual basis in accordance with SQ Plan § V. and compare its performance to a benchmark established by SQ Plan § I.C. Monetary penalties/offsets apply to this measure.

<u>Calendar Year</u>	<u>SAIDI (minutes)</u>
1996	120.84
1997	87.25
1998	99.63
1999	145.45
2000	139.37
2001	101.44
2002	166.16
2003	171.68
2004	121.91
2005	115.56

Ten-year average 126.93

Standard Deviation 28.29

Deadband (+/- 1 SD) 98.64 – 155.22

2012	113.08
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2. SAIFI

SAIFI is a measure that determines the total number of customer interruptions divided by the total number of customers served by the distribution system, expressed in interruptions per customer per year. SAIFI characterizes the average number of sustained electric service interruptions for each customer during the reporting period.

For the purpose of calculating SAIFI, the following assumptions and criteria are used in accumulating interruption data for standardizing reliability measurements: (a) customer equipment outages shall be excluded; (b) planned outages shall be excluded; (c) Excludable Major Events shall be excluded; (d) momentary outages less than one minute in duration shall be excluded; (e) the beginning of an interruption shall be recorded at the earlier of an automatic alarm or the firm report of no power; (f) the end of an interruption shall be recorded at the point when power to customers is restored; (g) interruptions involving primary and secondary distribution circuits shall be included; (h) where only part of a circuit experiences an interruption, the number of customers affected shall be estimated, unless an actual count is available. When power is partially restored, the number of customers restored also shall be estimated unless an actual count is available; and (i) when customers lose power as a result of the process of restoring power (such as from switching operations and fault isolation), the duration of these additional interruptions shall be included, but the additional number of interruptions shall not be included in the calculation.

The SAIFI data uses calendar years 1996 through 2005 for determining the benchmark, and is presented to the nearest 1000th of a reported outage. SAIFI shall be measured on an annual basis in accordance with SQ Plan § V. and compare its performance to a benchmark established by SQ Plan § I.C. Monetary penalties/offsets apply to this measure.

<u>Calendar Year</u>	<u>SAIFI (outages)</u>
1996	1.023
1997	0.856
1998	1.024
1999	1.103
2000	0.927
2001	0.842
2002	1.223
2003	1.050
2004	0.917
2005	1.041

Ten-year average 1.001

Standard Deviation 0.117

Deadband (+/- 1 SD) 0.883 – 1.118

2012	1.001
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3. Lost Work Time Accident Rate

In order to calculate its LTA Rate, WMECO uses the definition which comes from the US Department of Labor - Bureau of Labor Statistics. The formula utilized data from the federally mandated OSHA 200 logs through 2001. On December 31, 2001, the OSHA 200 logs became obsolete and were replaced by OSHA 300 logs. Beginning in 2002, the data used to determine the LTA Rate is derived from the OSHA 300 logs.

The number of lost work time injuries and/or illnesses per 100 full-time workers is calculated as follows:

- LTA Rate per year = $(N/EH) \times 200,000$ where:
- N = number of injuries and/or illnesses
- EH = total hours worked by all employees during the calendar year
- 200,000 = base number of hours for 100 full-time equivalent workers working 40 hours per week for a full year (i.e., 40 hours per week times 50 weeks per year).

The LTA data uses calendar years 1996 through 2005, and is presented to the nearest 100th of an accident. Monetary penalties/offsets apply to this measure.

<u>Calendar Year</u>	<u>LTA Rate (per 200,000 employee hours)</u>
1996	1.12
1997	2.32
1998	0.25
1999	0.57
2000	0.53
2001	0.25
2002	1.88
2003	0.76
2004	2.19
2005	0.48

Ten-year average 1.04
Standard Deviation 0.80
Deadband (+/- 1 SD) 0.23 – 1.84

2012	0.31
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B. Customer Service and Billing

1. Telephone Service Factor

TSF is the percentage of telephone calls to WMECO's Customer Service Centers that are answered in 20 seconds. WMECO measures the TSF beginning at the point that the caller makes a service selection and ending at the point that the call is responded to by the service area selected by the caller. If the caller does not make a selection, the response time shall be measured from a point following the completion of the Company's recorded menu options and ending at the point that a customer-service representative responds to the call. Telephone Service Factor shall be a performance measure subject to a revenue penalty.

WMECO's telephone system currently reports the number of calls that are handled within the 20-second reporting standard. The annual TSF will be calculated as a weighted average of the individual monthly TSF statistics using the following equation:

$$\text{TSF} = \frac{\sum_{\text{Month = January}}^{\text{Month = December}} \text{TSF}_{\text{month}} \times \text{No. of Calls Received}_{\text{month}}}{\sum_{\text{Month = January}}^{\text{Month = December}} \text{No. of Calls Received}_{\text{month}}}$$

The TSF data uses calendar years 1997 through 2006 for determining the benchmark, and is calculated to the nearest 10th of a percentage point. Monetary penalties/offsets apply to this measure.

<u>Calendar Year</u>	<u>TSF (%)</u>
1997	55.8
1998	60.0
1999	71.9
2000	80.0
2001	68.2
2002	79.5
2003	80.1
2004	76.0
2005	61.7
2006	70.0

Ten-year average 70.3
Standard Deviation 8.8
Deadband (+/- 1 SD) 61.5 – 79.2

2012	90.2
------	------

WMECO's SQ plan also defines an Overall Telephone Service Factor (TSFo/A) which weighs and combines the TSF for the Customer Service Center facilities. The individual components of TSFo/A were tracked in 2008 and a value of TSFo/A calculated.

<u>Calendar Year</u>	<u>Customer Services</u>		<u>Credit Services</u>		<u>WMECO TSFo/A</u>
	<u>TSF</u>	<u>No. of Calls</u>	<u>TSF</u>	<u>No. of Calls</u>	
2001	76.3	301,107	53.6	166,674	68.2
2002	81.4	316,187	75.9	164,501	79.5
2003	83.5	329,534	73.3	162,824	80.1
2004	81.1	341,463	65.9	172,156	76.0
2005	61.7	362,243	61.5	216,300	61.7
2006	74.2	388,068	60.4	168,145	70.0
2007	69.8	358,739	59.4	223,611	65.8
2008	72.9	434,674	63.1	248,649	69.3
2009	70.5	381,216	58.3	171,147	69.3
2010	75.9	472,723	56.7	165,096	70.9
2011	88.7	836,100	81.0	120,090	87.7
2012	92.1	679,986	79.1	112,522	90.2

WMECO has identified two types of calls that fit the definition of emergency calls consistent with its approved SQ Plan. First, there are calls from customers to one of WMECO's published customer service numbers that require the customer to select an emergency category in order to receive expedited handling. Second, there are calls from Police and Fire Departments to a special, unpublished telephone number. WMECO defines the ASA for emergency calls as the time a customer waits until a customer service representative responds to the call. This time is measured beginning at the point that the caller makes a service selection and ending at the point that the call is responded to by a customer service representative. If the caller is not required to make a selection (e.g., Police and Fire Department calls), the response time is measured from the point the call is received by WMECO's telephone system and ending at the point that a customer service representative responds to the call. The ASA for emergency calls and for all calls in the aggregate is shown below:

<u>Calendar Year</u>	<u>Average Speed of Answer (seconds)</u>	
	<u>Emergency Calls</u>	<u>All Calls</u>
1998	27	61
1999	26	37
2000	23	25
2001	21	34
2002	22	25
2003	20	21
2004	17	22
2005	20	61
2006	20	41
2007	18	87
2008	29	98
2009	29	139
2010	18	178
2011	7	25
2012	6	16

2. Service Appointments Met as Scheduled

Service Appointments Met is defined as scheduled appointments with Meter and Service Department or New Service Department representatives when the customer must be at the job site. An appointment will be considered met if the service call is completed on the day agreed upon by the customer and the Company. Excluded from this total will be any appointments that are broken by the customer. (SQ Plan § II. B).

Service appointments made by our New Service Department will include all appointments that require coordination between the Company and the customer to connect or disconnect the electrical service. It will also include appointments requested by the customer to disconnect service for tree removal/trimming activity or for safety reasons to accommodate construction work on their property.

The Service Appointments Met data uses calendar years 2002 through 2011 for determining the benchmark, and is calculated to the nearest 10th of a percentage point. Monetary penalties/offsets apply to this measure.

<u>Calendar Year</u>	<u>Service Appointments Met (%)</u>
2002	95.5
2003	97.6
2004	99.2
2005	99.8
2006	100.0
2007	99.9
2008	99.3
2009	99.4
2010	99.4
2011	99.7*
Ten-year average	99.0
Standard Deviation	1.4
Deadband (+/- 1 SD)	97.6 – 100.4
2012	99.5

* 2011 performance was 99.7 not 97.4 as previously reported.

3. On-Cycle Meter Reading

WMECO defines On-Cycle Meter Reading as the percentage of meters that are actually read in a particular month compared to the number of meters that are scheduled to be read that month. The percentage is calculated by subtracting the number of meters estimated from the total number of meters scheduled to be read¹ as shown in the following equation:

$$\text{Percent of meters read} = \frac{((\text{Number of meters scheduled to be read}) - (\text{Number of meters estimated}))}{(\text{Number of meters scheduled to be read})}$$

The meter reading data is compiled monthly and aggregated for year-to-date results in a calendar year. Eligible meters include residential, commercial and industrial accounts.

The On-Cycle Meters Read data uses calendar years 1996 through 2005 for determining the benchmark, and is measured to the nearest 10th of a percentage point. Monetary penalties/offsets apply to this measure.

<u>Calendar Year</u>	<u>On-Cycle Meters Read (%)</u>
1996	94.8
1997	96.9
1998	97.5
1999	97.6
2000	98.4
2001	98.1
2002	98.6
2003	99.0
2004	99.1
2005	99.5
Ten-year average	98.0
Standard Deviation	1.4
Deadband (+/- 1 SD)	96.6 – 99.3
2012	99.6

¹ Meter reading for WMECO's seasonal accounts are only counted in the months that seasonal service is being delivered.

C. Consumer Division Statistics

1. Consumer Division Cases

Pursuant to SQ Plan § III.A., the Department will compile and aggregate monthly the frequency of the Consumer Division Cases per 1,000 residential customers. Once the data is provided to WMECO, it has sixty (60) days to dispute the classification of a complaint as a Consumer Division Case.

Consumer Division Cases are defined as those in which a written record is opened by the Consumer Division using the following criteria: (1) the individual making the complaint provides his or her identity to the Consumer Division and is either a (a) current, prospective, or former customer of WMECO against which the Complaint has been lodged, or (b) designee of the current, prospective, or former customer of WMECO; (2) the individual or his/her designee has contacted WMECO from which the customer receives distribution service prior to lodging a Complaint with the Department; (3) the Department's investigator cannot resolve the Complaint without contacting WMECO to obtain more information; (4) the matter involves an issue or issues over which the Department typically exercises jurisdiction; and (5) the matter involves an issue or issues over which WMECO has control. The frequency is reported per 1000 residential customers.

The Consumer Division Cases data uses calendar years 1996 through 2005 for determining the benchmark, and is measured to the nearest 10th of a reported complaint. Monetary penalties/offsets apply to this measure.

<u>Calendar Year</u>	<u>Number of Cases (per 1,000 residential customers)</u>
1996	1.7
1997	1.4
1998	0.9
1999	1.6
2000	1.3
2001	1.3
2002	1.1
2003	0.6
2004	1.0
2005	0.9
Ten-year average	1.2
Standard Deviation	0.3
Deadband (+/- 1 SD)	0.8 – 1.5
2012	0.8

2. Billing Adjustments

Pursuant to SQ Plan § III.B, the Department will compile and aggregate monthly the number of residential Billing Adjustments. The Billing Adjustment definition was revised by the Department's Order in D.T.E. 04-116-B (December 21, 2006) to be defined as the number of billing adjustments per 1,000 residential customers, rather than the dollar amount. If WMECO wishes to dispute the inclusion of any residential Billing Adjustments listed by the Consumer Division, it must do so no later than sixty (60) days after the monthly data has been provided by the Department. The Department also provides an annual measure, and upon request, offers meetings to discuss WMECO's performance.

Billing Adjustments are defined as the number of residential billing adjustments per 1,000 residential customers.

The Billing Adjustment data uses calendar years 2000 through 2009 for determining the benchmark, and is measured to the nearest 100th of a percentage point. Billing Adjustments shall be measured on an annual basis in accordance with SQ Plan § III.B, and compare its performance to a benchmark established by SQ Plan § I.C. Monetary penalties/offsets apply to this measure.

<u>Calendar Year</u>	<u>Billing Adjustments (# per 1,000 residential customers)</u>
2000	0.06
2001	0.02
2002	0.03
2003	0.01
2004	0.01
2005	0.01
2006	0.02
2007	0.02
2008	0.02
2009	0.02
Ten-year average	0.02
Standard Deviation	0.01
Deadband (+/- 1 SD)	0.01 – 0.04
2012	0.02

WESTERN MASSACHUSETTS ELECTRIC COMPANY

Annual Service Quality Report

Section IV

Year Ending December 31, 2012

Additional Reporting Requirements



**Northeast
Utilities System**

IV. ADDITIONAL ANNUAL REPORTING REQUIREMENTS (including definition of measure)

A. CAIDI

Customer Average Interruption Duration Index (“CAIDI”) is a measure that determines the total duration of customer interruption in minutes divided by the total number of customer interruptions, expressed in minutes per year. CAIDI characterizes the average time required to restore service to the average customer per sustained interruption during the reporting period.

For the purpose of calculating CAIDI, the following assumptions and criteria are used in accumulating interruption data for standardizing reliability measurements: (a) customer equipment outages shall be excluded; (b) planned outages shall be excluded; (c) Excludable Major Events shall be excluded; (d) momentary outages less than one minute in duration shall be excluded; (e) the beginning of an interruption shall be recorded at the earlier of an automatic alarm or the firm report of no power; (f) the end of an interruption shall be recorded at the point when power to customers is restored; (g) interruptions involving primary and secondary distribution circuits shall be included; (h) where only part of a circuit experiences an interruption, the number of customers affected shall be estimated, unless an actual count is available. When power is partially restored, the number of customers restored also shall be estimated unless an actual count is available; and (i) when customers lose power as a result of the process of restoring power (such as from switching operations and fault isolation), the duration of these additional interruptions shall be included, but the additional number of interruptions shall not be included in the calculation.

The CAIDI data is presented to the nearest 100th of a minute. The following represents CAIDI data for the last 13 years.

<u>Calendar Year</u>	<u>CAIDI (minutes)</u>
2000	150.27
2001	120.52
2002	135.87
2003	163.55
2004	132.98
2005	111.05
2006	170.38
2007	117.37
2008	163.51
2009	165.74
2010	115.51*
2011	109.89
2012	112.97

* 2010 performance was 115.51 not 115.45 as previously reported.

B. Poor Performing Circuits

Poor performing circuits are defined as any distribution feeder that possesses a Circuit Average Interruptible Duration Index or Circuit Average Interruptible Frequency Index value(s) for a reporting year that is among the highest (worst) five percent of WMECO's feeders for any two consecutive reporting years. If a circuit appears among the worst five percent for two consecutive years, that circuit will be labeled as a problem circuit. Poor Performing Circuit information for 2012 is included as Attachment A.

C. IEEE Reporting Requirement

SAIDI is a measure that determines the total duration of customer interruption in minutes, divided by the total number of customers served by the distribution system, expressed in minutes per year. SAIDI characterizes the average length of time that customers are without electric service during the reporting period. Using IEEE 1366-2003 standards, WMECO's 2012 SAIDI performance was 142.08 minutes.

SAIFI is a measure that determines the total number of customer interruptions divided by the total number of customers served by the distribution system, expressed in interruptions per customer per year. SAIFI characterizes the average number of sustained electric service interruptions for each customer during the reporting period. Using IEEE 1366-2003 standards, WMECO's 2012 SAIFI performance was 1.326 outages.

D. Accident Reporting

In compliance with the requirements of G.L. c. 164, § 95, WMECO reports within a 24-hour period of an accident the following information:

- (1) time and date of incident;
- (2) time and date of the notice to the Department;
- (3) location of the incident;
- (4) a detailed description of the accident including information about fatalities, injuries, facilities and third-party property damage; and
- (5) the name and telephone number of a utility employee who may be contacted about the incident.

WMECO had one reportable accident in 2012.

E. Restricted Work-Day Rate

Restricted Work-Day Rate means the Incidence Rate of Restricted Work cases per 200,000 Employee Hours as defined by the U.S. Department of Labor Bureau of Labor Statistics (from OSHA logs). The following presents the Restricted Work-Day Rate for the past 15 years.

<u>Calendar Year</u>	<u>Restricted Work-Day Rate (per 200,000 employee hours)</u>
1998	6.12
1999	6.41
2000	4.80
2001	4.61
2002	3.75
2003	4.64
2004	4.64
2005	2.92
2006	4.22
2007	2.90
2008	0.97
2009	4.46
2010	1.79
2011	0.72
2012	1.53

F. Consumer Surveys

WMECO administered two customer surveys in 2012: (1) a customer satisfaction survey of a statistically representative sample of residential customers, and (2) a survey of customers randomly selected from those WMECO customers who have contacted the Customer Service Department within the year being measured. Both surveys were conducted by independent entities.

The customer satisfaction survey of a representative sample of residential customers was conducted by NCO Financial Systems Inc. in November 2012. The question used in the NCO Financial Systems Inc. survey was: “On a scale of 1 to 7, 1 being lowest and 7 being highest, disregarding price, how satisfied were you with WMECo’s performance during the last 12 months?” The sample comprised of three hundred (300) residential customers of WMECO’s service area. Customers were interviewed by telephone. The results of this survey are as follows: a mean of 6.22 with 95%, or 284 responding with a 5 or higher.

SQM, an independent market research firm, conducted the second survey for WMECO by sampling the opinion of 1,621 WMECO customers randomly selected from those who contacted the Customer Service Centers for information or to resolve a problem. This survey was conducted monthly in 2012 and has a confidence interval of 95%.

The two key questions posed by SQM were: “Using a scale of 1 to 7, where 7 is “Very Courteous” and 1 is “Not courteous at all”, how courteous was the customer service department at WMECO?” and “Using a scale of 1 to 7, where 7 is “Very Well” and 1 is “Not well at all”, how well did the customer service department at WMECO respond to your call? ”.

The courteousness question has a mean score of 5.85 plus or minus 0.11. The responsiveness question has a mean score of 6.15 plus 0.10 and minus 0.09.

WMECO has past survey results available for the last 12 years as follows:

Customer Satisfaction Survey

<u>Calendar Year</u>	<u>Score</u>
2001	5.95
2002	5.98
2003	5.99
2004	5.87
2005	5.98
2006	6.00
2007	5.80
2008	6.04
2009	6.04
2010	5.98
2011	6.57
2012	6.22

Customers Randomly Selected after Contacting WMECO

<u>Calendar Year</u>	<u>Score</u>	<u>Responsiveness</u>	<u>Courteousness</u>
2001	5.86		
2002	6.11		
2003	6.19		
2004	6.17		
2005	6.14		
2006	6.06		
2007 *		6.19	6.53
2008		6.18	6.52
2009		6.24	6.52
2010		6.35	6.60
2011		6.43	6.57
2012		6.15	5.85

*Two question survey for customers contacting the company began with DPU 04-116 Order.

G. Staffing Level Benchmark

As of December 31, 2012, WMECO employed 216 full-time employees subject to the collective bargaining agreement with IBEW Local 455.

H. Damage to Company-Owned Property Greater Than \$50,000 per Incident

As part of its approved SQ Plan § VIII.A, WMECO files annually property damage reports on incidents involving property damage to WMECO property in excess of \$50,000 per incident that is attributed to Company-owned facilities. Reports are also submitted within 48 hours of the incident and include: (1) time and date of the incident, (2) time and date of the notice to Department, (3) location of the incident, (4) a detailed description of the incident including information about fatalities, injuries, facilities and third-party property damage, and (5) name and telephone number of a WMECO employee who may be contacted about the incident.

WMECO had 5 reportable incidents with damage in excess of \$50,000 in 2012.

WMECO Damage Claims Billed in 2012 over \$50K

<u>Location</u>	<u>Amt. Billed</u>
Page Boulevard, Springfield, MA	86,908.63
I-90, Lee, MA	74,905.36
High Street, Greenfield, MA	63,162.45
Westfield Street, West Springfield, MA	51,784.64

I. Line Loss Data

Pursuant to SQ Plan § VIII.A, WMECO reports its Electric Distribution Line Loss values for 2012 are provided below.

1) Electric Distribution line loss values:

The table below shows estimated total system losses (cumulative) as a percent of **average load** at various points of service. (Values were reported in 10/12/2005 testimony and are from the 10/1/1989 Transmission Planning Study.)

Transmission	2.21%
Bulk Substation	2.70%
Primary Distribution	4.54% (all voltage levels)
Primary Distribution	4.15% (13.8 KV and higher)
Distribution Substations	5.06%
Distribution Transformer	7.05%
Secondary Distribution	7.37%

2) Electric Transmission and Distribution line loss values in megawatts by voltage class at system peak.

The estimated losses in MW at system peak for 2012. (July 18, hour ending 14:00)

Various Points of Service	%	MW	
Transmission	n/a	9.58	<i>ISO NE reported value</i>
Bulk Substation	0.5%	3.96	<i>The percentage values are from Table 3 of the 1989 Transmission Planning Report</i>
Primary Distribution (all voltage levels)	2.8%	22.16	
Primary Distribution (13.8 kV and higher)	2.2%	17.42	
Distribution Substations	0.7%	5.54	
Distribution Transformer	2.3%	18.21	
Secondary Distribution	0.7%	5.54	

3) The accompanying adjustments that were made to standardize the value to specific reference conditions.

The Transmission value in MW above (2) is the ISO-NE provided LV-PTF losses at peak. All other MW values above (2) were estimated based upon the percent peak load loss values for the various points of service as reported in Table 3 of the 1989 Transmission planning report. The percent loss values at peak load for the various points of service are listed in the % column in part 2 above and were applied to the WMECO peak load value of 791.6 MW listed below in part 4. The resulting MW values are listed in the table above.

4) The specific reference conditions.

Peak load for WMECO in 2012 was 791.6 MW and occurred on July 18, for the hour ending 14:00.

J. Additional Information on Major Outage Events and Electric Service Outages

As part of its approved SQ Plan, WMECO identifies and reports on an annual basis the outages that are considered Excludable Major Events. WMECO includes the total number of customers affected, the service area affected, the number of customers without service at periodic intervals, the time frame of the longest customer interruption, and the number of crews used to restore service on a per shift basis. WMECO also includes the Company's policy on tree trimming, including tree trimming cycle, inspection procedures and the typical minimum vegetation clearance requirement. With respect to Electric Service Outages, WMECO continues to report transmission and distribution outages consistent with the Department's Outage and Accident Reporting Procedures effective September 1, 2001.

K. Excludable Major Events

Excludable Major Events are defined as an event where at least 15% of the customers in WMECO's service territory are affected. Starting in 2002, WMECO began collecting the number of crews used on a per shift basis to restore service during an Excludable Major Event. This data is not available for the 1996 and 1997 events. During an event, WMECO plans to report the estimated number of customers interrupted three times a day (approximately 7AM, 3PM, 11PM). Abbreviations are used for the area affected (H-G = Hadley/Greenfield District, P = Pittsfield District, S = Springfield District). The history is listed below:

<u>Calendar Year</u>	<u>Event Dates</u>	<u>Customers</u>	<u>Area</u>	<u>Cause</u>
1996	12/6 -12/12	85,488	H-G/P/S	Storm Bernice
1997	3/31 - 4/3	69,458	H-G/P/S	Storm Florence
1998	None			
1999	None			
2000	None			
2001	None			
2002	None			
2003	None			
2004	None			
2005	None			
2006	None			
2007	None			
2008	12/11-12/21	22,039	H-G/P	Winter Storm 2008 State of Emergency
2009	None			
2010	2/24 - 2/26	33,238	H-G/P/S	Heavy Wet Snow & Wind
	5/4 -5/6	33,697	H-G/P/S	Thunderstorms & Wind
	5/26 -5/29	47,545	H-G/P/S	Thunderstorms & Wind
	12/26 - 12/28	1,863	H-G/P/S	State of Emergency
2011	1/12 - 1/13	70	H-G/P/S	State of Emergency
	6/1 - 6/4	35,832	S	Tornado State of Emergency
	6/8 - 6/11	35,689	H-G/P/S	Thunderstorms
	7/26 - 7/27	32,623	H-G/P/S	Thunderstorms
	8/27 - 8/29	34,084	H-G/P/S	Tropical Storm Irene State of Emergency
	10/29 - 11/6	1,186,887	H-G/P/S	October Nor'easter State of Emergency
2012	10/29 – 10/31	51,976	H-G/P/S	Hurricane Sandy State of Emergency

Storm Bernice was a severe heavy, wet snow storm that affected the entire WMECO service territory with 42% of our customers interrupted. The longest customer interruption was 6,159 minutes with a time frame of 9:23AM on December 7, 1996 to 4:02PM on December 11, 1996.

Storm Florence was a blizzard that affected the entire WMECO service territory with 34% of our customers interrupted. The longest customer interruption was 3,753 minutes with a time frame of 7:57AM on April 1, 1997 to 10:30PM on April 3, 1997.

Winter Storm 2008 was a two-day ice storm. The storm included 643 outages affecting 22,039 customers at its peak on December 11. On December 12, the Governor declared a State of Emergency due to the storm. Most of the outages were due to tree damage.

WMECO experienced four excludable events in 2010. The first was a heavy wet snow and wind storm that started on February 24 and ended on February 26 that caused outages for 17% of WMECO's customers. There were two thunderstorms in May that were excludable storms. The May 4 – 6 storm caused outages to 33,697 (15.97%) customers and the May 26 – 29 storm interrupted 47,545 (22.53%) of WMECO's customers. On December 26, the Governor declared a State of Emergency due to the blizzard. WMECO had 1,863 customers interrupted by this storm. Most of the outages were due to tree damage.

WMECO experienced five excludable events in 2011. A tornado affected the service territory from June 1- 4 resulting in 35,832 customers (17% of WMECO's total customers) losing power. The Governor declared a State of Emergency. Thunderstorms affected the service territory from June 8 – 11 resulting in 35,689 customers (17% of WMECO's total customers) losing power. A thunderstorm affected the service territory July 26 and 27 resulting in 32,633 customers (15% of WMECO's total customers) losing power. Tropical Storm Irene affected the service territory August 28 and 29 resulting in 34,084 customers (16% of WMECO's total customers) losing power. A snowstorm dumping heavy, wet snow affected the service territory October 29 through November 6 resulting in 186,887 customers (88% of WMECO's total customers) losing power. A State of Emergency was declared for this storm. In addition, the Governor declared a State of Emergency for 1/12 – 1/13. Due to that statewide declaration, WMECO excluded outages for that period. Most of the outages for all of these events were due to tree damage.

WMECO experienced one excludable event in 2012 – Hurricane Sandy for which the Governor declared a State of Emergency. The hurricane affected the service territory from October 29 08:30 to October 31 23:30 resulting in 51,976 customers (24% of WMECO's total customers) losing power. The majority of damage was caused by trees.

L. Vegetation Management Policy

WMECO's Vegetation Management program is designed to reduce the number and duration of service interruptions caused by trees, helping to maintain a safe and reliable electric system, in keeping with best practice utility line clearance standards. Our program has various components as listed below.

Scheduled Maintenance Trimming (“SMT”) - This is WMECO’s main trimming effort. SMT consists of periodically pruning-back limbs from the lines, and removing weak or structurally unsound limbs and trees threatening the lines. Trimming clearance guidelines for maintenance trimming are “8-10-15” (8 feet to the side, 10 feet underneath, and 15 feet overhead). Currently, SMT scheduling is circuit based. WMECO is using a combination of “last year trimmed”, along with input from the Arborists and Circuit Owners regarding field conditions, SAIDI, and SAIFI to prioritize the 2012 circuit schedule.

Mid-Cycle Trimming - This is periodic inspection of high-customer (“backbone”) portions of line, and subsequent spot-trimming and weak or structurally unsound limb and tree removal. Trimming clearance guidelines are the same as for maintenance trimming. Generally, in a given year, WMECO to inspect line portions that were maintenance trimmed several years ago, to find newly developed problem locations.

Enhanced Tree-Trimming - This is extra ordinary trimming and tree removal along pre-selected line portions.

Emergency Tree-Work - This is cutting and/or clearing trees and limbs that: 1) have caused an outage; or 2) are imminently threatening to cause an outage. This work is on-going as necessary to keep our system operating.

Miscellaneous requested work - This is unanticipated work that comes to our attention throughout the year as “requested” work. Sources of this work include: WMECO Circuit Owner periodic and post-storm circuit patrols; “100+ customer” tree outage investigations; WMECO employee observations; town representatives; and customer requests. “What we will do” for these work requests depends on many factors, including: line type; voltage; number of customers affected; and degree of perceived “threat” to the electrical system. WMECO promotes joint hazard-tree removals, generally with towns, when beneficial to both parties. Generally, joint removals take the form of shared work agreements (one party takes the tree down, the other party cleans up the brush and wood), with occasional shared cost agreements.

Joint-Mower Agreement - This is an agreement reached between WMECO and a group of towns. The towns agree to procure a mowing machine and annually mow roadside brush, including brush under WMECO lines. WMECO agrees annually to provide a monetary contribution towards their mowing program. Currently WMECO has eight joint mower agreements, involving 43 towns, to more efficiently control brush beneath power lines.

Annually, our Arborist(s) inspect backbones selected for mid-cycle trimming. Customers, other employees, town representatives, and the Arborists’ own observations alert the Program Coordinator to tree concerns.

Minimum vegetation clearance guidelines for roadside trimming are “8-10-15” (8 feet to the side, 10 feet underneath, and 15 feet overhead). WMECO tries to avoid “topping brush” and tries to remove hazardous trees and limbs regardless of location. The specifications are somewhat different (greater) for backbone off road lines and for the Enhanced Tree Trimming program. Obviously, clearances decrease over time as vegetation grows and new hazards form. Also, since WMECO needs to obtain permission to trim trees

on lines not under easement, where permission is not granted or is limited, clearance gained may be less than normal specifications.

M. Capital Expenditure Information

WMECO has prepared annual listings of our transmission and distribution capital investment expenditures beginning 2003 through calendar-year 2012. The annual listings include descriptions of the type of work performed, the amount budgeted and the actual expenditures. Dollars are set aside each year for the initiatives listed. This information is provided in Attachment B, WMECO Listing of Major Capital Investments.

While some of the initiatives in Attachment B are self-explanatory others require more detail. The following descriptions apply to the initiatives listed on each of the annual spreadsheets. Distribution Supervisory Control and Data Acquisition in the report refers to remote monitoring and control of distribution devices such as reclosers and switches.

Replace Direct Buried Cable - WMECO replaces direct buried (“DB”) cables that have a high failure rate. This work includes both DB circuit backbone cables as well as DB cables in residential developments and commercial and industrial parks. WMECO budgets a specific amount for this type of work each year. Where appropriate, rejuvenation via silicone injection is used, which in some cases is more cost effective than traditional cable replacement. This work is usually funded via the annual Cable Rejuvenation & Replacement budget.

Replace Conventional Underground Cable - Planned - WMECO replaces backbone cable in the conventional underground (“UG”) system (duct and manhole system) that has a high failure rate. This replacement work is primarily done in our Springfield and Pittsfield UG systems. This work is usually funded via a special project. This category also includes substation getaway cable upgrades related to substation construction projects.

Replace Obsolete Poles (WMECO maintenance area) – WMECO performs cycle based pole inspections and replaces poles that are found to be deficient. This also includes requests from Verizon to replace poles. This work is funded via the annual Obsolescence/Repair budget. The amount set aside for this type of work is only an estimate since the actual work is dependent upon on-going pole inspections and requests from others.

Install New / Replace Obsolete Three-Phase Switches - WMECO performs cycle based inspections of three-phase OH switches and network transformers. Older equipment and those found to be in poor condition are ranked and replaced as resources allow. OH switches in areas prone to animal caused failures are replaced with “animal resistant” type switches. WMECO also has a program to replace all oil filled switches associated with the UG systems. This work is usually funded via the annual Obsolescence/Repair budget, except for oil switch removal which is usually budgeted as a specific project.

Rebuild Duct Manholes and Replace Cable From Inspections – WMECO performs cycle based inspections of the manholes in the conventional UG systems and makes repairs to facilities as necessary. These repairs usually involve rebuilding concrete manholes or roofs and replacing cables or splices.

Convert 4KV Underground System in Springfield and Pittsfield - WMECO continues its effort to convert our 4,160V (4kV) underground distribution system to 13.8kV and 23kV. These conversions provide the ability to handle additional load, improve reliability in the area that is converted, remove obsolete equipment, and provide a safer work environment for our employees. Since this strategy was first developed in the mid 1980's we have converted nearly three dozen circuits, most of them in the Springfield area. There are approximately 8 circuits remaining to be converted in the Springfield area. Conversion work began in Pittsfield in late 2003 and will continue as resources permit.

Reliability Improvements – WMECO constantly monitors its reliability, and proposes solutions to general and site-specific issues. Many of the general reliability issues are covered by initiatives such as DSCADA and Distribution Automation (DA), poor performing circuit improvements and storm hardening. Others require site specific solutions, and range from the small (additional fusing, or a single recloser), to the large (rehabbing a portion of a circuit backbone). This site-specific work is usually funded via the annual Reliability Improvement budget.

Replace Obsolete Overhead Systems - WMECO replaces plant and line designs in the overhead ("OH") systems that have obsolete facilities and/or equipment. Examples are, replacing AB Chance cutouts, aluminum dead-end bells, rusted recloser controls, non-standard wire types/sizes, etc. Some of this work also includes relocating distribution lines from limited access right of ways to roadside locations. This work is usually funded through the annual Obsolescence/Repair budget. Some of the work is identified and planned on a proactive basis, and other work emerges based upon synergy with other efforts, such as customer related work, third party attachments, road relocations, etc. The budgeted amounts on the attached sheets only include the proactive, planned items.

Perform Enhanced Tree Trimming – Several years ago, WMECO implemented an Enhanced Tree Trimming Program. This program is designed to address vegetation problems in select areas prone to long outages caused by severe tree problems. While ETT is considerably more expensive than Scheduled Maintenance Trimming, it has proven to be effective in reducing tree related outages. ETT specifications provide for: 1) inspections of trees that could fall on the conductor, 2) removal of risk trees or tree parts, and 3) and blue sky clearance above were practical.

Distribution Substations – WMECO evaluates the condition and loading of substation equipment and replaces obsolete or undersized equipment as required. This work usually includes replacement of substation bus, circuit breakers, transformers and motor operated disconnect switches (MODs).

N. Spare Component Acquisition and Inventory Policy

Spare Substation Equipment - The vast majority of our major spare equipment for the substation group is in parts storage in Berlin, CT, a relatively short distance from the WMECO service territory (an exception to this rule is a critical spare substation transformer is currently stored at our Agawam substation). A number of years ago the spare parts for

substations were consolidated in CT serving Connecticut Light and Power Company (“CL&P”) and WMECO. This was an effort to consolidate like inventory.

The inventory for the spare parts facility is maintained based on equipment in service, repair experience and recommendations from manufacturers, suppliers, industry groups and consultants.

When new equipment is introduced to the system, the requirement for spare parts is studied. For new modern equipment many parts are available by overnight shipping and longer lead critical parts purchased and placed in inventory. Electrical equipment can easily have an extended life beyond 35 years. There are companies that specialize in replacement parts and support for older equipment and when equipment is retired some deemed usable are salvaged as backup to support other like equipment. There is also the support that electric utilities provide one another when an emergency occurs. All of the NU companies have both provided and received this mutual aid. The consolidated substation inventory has thus far successfully met WMECO’s emergency needs.

Emergency Distribution Stock - WMECO maintains a level of emergency stock in each of its area work centers for normal emergency needs. In the event of a major emergency WMECO has agreements in place with our major suppliers of distribution material to support us with poles, pole line hardware, cable and transformers.

Support from NU - The NU Berlin Central Warehouse has emergency stock available for use by WMECO if required in an emergency.

Vendor Support - WMECO has established partnership agreements with our critical suppliers to hold emergency levels of materials in consignment status in the event they are needed for emergencies. These suppliers include support for poles, transformers, line hardware and cable. They also make themselves available 24/7 during emergency situations.

O. Emergency Response Times

WMECO’s average duration of response times to incidents reported by official emergency personnel for 2012 is 13 minutes without storms. WMECO calculated the time in minutes from the time the call was received to the time that it was reported that an employee arrived on site. The information represents the average of 136 events that were called in by police and/or fire departments during non-storm situations.

The average duration of response times to incidents reported by official emergency personnel for 2012 is 30 minutes including storm situations. The information represents the average of 169 events that were called in by police and/or fire departments during storm situations.

Data for emergency response times can be found in Attachment C. WMECO began implementing modifications to its current outage management system in 2011 so that the Company can accurately capture the required reporting information from the D.P.U. 08-112 Order (December 23, 2010).

WESTERN MASSACHUSETTS ELECTRIC COMPANY

Annual Service Quality Report

Section V

Year Ending December 31, 2012

Calculation of Revenue Penalties / Offsets



**Northeast
Utilities System**

V. CALCULATION OF REVENUE PENALTIES AND PENALTY OFFSETS

This section provides the calculation of revenue penalties and offsets pursuant to Section VII of WMECO's approved SQ plan.

2012 Distribution Revenues	\$ 133,435,073
2012 Transmission Revenues	\$ 42,875,463
Total 2012 T&D Revenues	\$ 176,310,536
Revenues Subject to Penalty (2.5% of Net Revenues)	\$ 4,407,763
Customer Payments per Customer Service Guarantees	\$ 950
Net Maximum Penalty	\$ 4,406,813

2012 Results		
Measure	Revenue Exposure \$	Penalty / (Offset) \$
Safety and Reliability:		
SAIDI	991,533	0
SAIFI	991,533	0
Lost W-T Accident Rate	440,681	0
Customer Service & Billing:		
Telephone Answering Rate	550,852	(550,852)
Service Appointments Met	550,852	0
On-Cycle Meter Readings	440,681	(160,443)
Consumer Division Statistics:		
Consumer Div. Cases	220,341	0
Billing Adjustments	220,341	0
TOTAL	4,406,813	(711,294)

WESTERN MASSACHUSETTS ELECTRIC COMPANY

Annual Service Quality Report

ATTACHMENTS

Year Ending December 31, 2012

- A – Poor Performing Circuits**
- B – Major Capital Investments**
- C – Back-up Data for Calculations**
- D – T&D 440 Accounts**
- E – FERC Form 1 Pg 300 and 301**



**Northeast
Utilities System**

WESTERN MASSACHUSETTS ELECTRIC COMPANY

Annual Service Quality Report

ATTACHMENT A

Year Ending December 31, 2012

CKAIDI – Poor Performing Circuits

CKAIFI – Poor Performing Circuits

**Problem Circuit 27A4 Performance
Improvement Plan**



**Northeast
Utilities System**

**WMECO 2013 SQI Report
Poor Performing Circuits
CKAIDI**

Circuit	Location	Reasons for Poor Performance	Years of Poor Performance	Steps Taken / Being Considered to Improve Reliability	CKAIDI
7J7	Springfield	This 4kV circuit had 3 major outage events in January due to cable faults, accounting for 92% of CKAIDI.	1	Circuit is in the process of being converted to 13.8kV. This work is scheduled to be completed by the end of 2013.	1129.59
1CVP1	Colrain	This circuit is a WMECO right of way fed from Central Vermont Power that supplies three customers. 100% of CKAIDI was from two tree related events in the right of way.	1	An additional fuse location has been installed in the ROW to mitigate the impact of an outage event and risk trees on the edge of the ROW were removed in December 2012/January 2013. No further action is planned.	775
6S2	Pittsfield	85% of CKAIDI was due to a cable fault in January and 14% of CKAIDI resulted when an auto transfer switch failed to operate.	1	This small 4kV overhead circuit will be resupplied from an adjacent 23kV overhead circuit in 2013 to eliminate the need for the problematic 4kV underground cable and switchgear.	578.03
5J14	Springfield	70% of the CKAIDI was from one event. On July 17, 2012 work was being done on the Roosevelt Ave Bridge at Bay St. One circuit was taken out of service for construction and the alternate feed faulted.	1	The completion of WMECO's work on the bridge in 2012 allowed the circuits to be returned to normal and will mitigate the risk of future events. No further action is planned.	574.67
5JNW-2	Springfield	This is a spot network which is fed off of the 5J14 and 5J17. A cable fault on the 5J17 circuit while the 5J14 was out for repair caused 100% of CKAIDI for this network. This spot network supplies 3 customers.	1	Faulted cables on network supply circuits were replaced. No further action is planned.	562
27A4	Ludlow	87% of CKAIDI resulted from wire burn downs on Cady St that that were caused by tree and lightning events.	1	Cady St is being reconductored and the work will be completed by the end of the first quarter of 2013. The work included ETT that was performed on Cady St and the circuit received SMT in 2012. In addition, a new recloser loop scheme was placed in service on the circuit at the end of 2012 which will mitigate the impact of outage events.	516.8
1D4	Pittsfield	58% of CKAIDI was due to a cable fault in January and 42% was due to a cable fault on the 31L1, while it was backfeeding the 1D4.	1	The 31L1 circuit was converted to 23kV in 2012 and the 1D4 is scheduled to be converted to 23kV by the end of 2013.	489.67

WMECO 2013 SQI Report
Poor Performing Circuits
CKAIDI

Circuit	Location	Reasons for Poor Performance	Years of Poor Performance	Steps Taken / Being Considered to Improve Reliability	CKAIDI
15A1	Easthampton, Southampton	82% of CKAIDI was caused by trees coupled with the misoperation of a sectionalizer on Pomeroy St which caused the station breaker to open on two distinct events.	1	Circuit will receive scheduled maintenance trimming (SMT) in 2013. The problematic sectionalizer is being reviewed for replacement with a radial recloser.	375.55
19J3	Blandford	76% of CKAIDI was due to a tie recloser with misapplied settings coupled with a miscoordination issue caused by 3 additional reclosers that were found to need re-programming. All events were caused by tree related issues.	1	The settings for the tie recloser have been corrected and the settings have been updated on all other reclosers on the circuit. Circuit will be reviewed for enhanced tree trimming (ETT) and risk tree removal in 2013.	360.57
16C11	Agawam, Westfield, West Springfield	54% of CKAIDI was caused by vandalism (copper theft on energized line) and 46% from a tree caused outage.	1	Vandalism was reported to the police department for investigation and the circuit will be assessed for tree risks.	349.22
5J9	Springfield	79% of CKAIDI was from two related outages (back to back problem on each circuit) while the 5J9 was providing back up supply to the 5J14 and 15% was due to an issue on a riser on Stafford St that was causing an upstream fuse to blow for problems beyond the riser pole fuse.	1	Faulted cables on the 5J9 circuit were replaced and the problematic riser pole on Stafford St was rebuilt to correct the problem. No further action is planned.	345.34
21S12	Springfield	42% of CKAIDI was caused by a failed transformer, 37% by a cable fault, and 20% by an employee error where a control cable was inadvertently cut resulting in the loss of the transmission supply into Clinton (21S) substation.	1	The failed transformer and faulted cable have been replaced and the transmission event should not occur again. No further action is planned.	341.9

**WMECO 2013 SQI Report
Poor Performing Circuits
CKAIFI**

Circuit	Location	Reasons for Poor Performance	Years of Poor Performance	Steps Taken / Being Considered to Improve Reliability	CKAIFI
19J3	Blandford	72% of CKAIFI was due to a tie recloser with misapplied settings coupled with a miscoordination issue caused by 3 additional reclosers that were found to need re-programming. All events were caused by tree related issues.	1	The settings for the tie recloser have been corrected and the settings have been updated on all other reclosers on the circuit. Circuit will be reviewed for enhanced tree trimming (ETT) and risk tree removal in 2013.	4.769
7J7	Springfield	This 4kV circuit had 3 major outage events in January due to cable faults, accounting for 73% of CKAIFI.	1	Circuit is in the process of being converted to 13.8kV. This work is scheduled to be completed by the end of 2013.	3.9552
5J14	Springfield	51% of the CKAIFI was from one event on July 17, 2012 while work was being done on the Roosevelt Ave Bridge in Springfield. One circuit was taken out of service for construction and the alternate feed faulted. The remaining 49% was from other faults on smaller segments of the circuit.	1	The completion of WMECO's work on the bridge in 2012 allowed the circuits to be returned to normal and will mitigate the risk of future events. The faulted cables in the smaller segments of the circuit have been replaced. No further action is planned.	3.2978
21S11	Springfield	52% of CKAIFI was from equipment failure (cable fault and hexhole bus bar failure) and 31% was caused by an employee error where a control cable was inadvertently cut resulting in the loss of the transmission supply into Clinton (21S) substation.	1	The failed equipment has been replaced and the transmission event should not occur again. No further action is planned.	3.2096
15A1	Easthampton, Southampton	71% of CKAIFI was caused by trees coupled with the misoperation of a sectionalizer on Pomeroy St which caused the station breaker to open on two distinct events.	1	Circuit will receive scheduled maintenance trimming (SMT) in 2013. The problematic sectionalizer is being reviewed for replacement with a radial recloser.	2.9602
21B8	Northfield	79% of CKAIFI was caused by trees.	1	In 2012, ETT was performed on the circuit backbone in the zone beyond the midpoint recloser. For 2013, ETT will be performed on the backbone in the breaker zone. In addition, the entire circuit will receive SMT in 2013.	2.8943
27A4	Ludlow	70% of CKAIFI resulted from wire burn downs on Cady St that were caused by tree and lightning events.	2	Cady St is being reconducted and the work will be completed by the end of the first quarter of 2013. The work included ETT which was performed on Cady St and the circuit received SMT in 2012. In addition, A new recloser loop scheme was placed in service on the circuit at the end of 2012 which will mitigate the impact of outage events.	2.6449

**WMECO 2013 SQI Report
Poor Performing Circuits
CKAIFI**

Circuit	Location	Reasons for Poor Performance	Years of Poor Performance	Steps Taken / Being Considered to Improve Reliability	CKAIFI
19J1	Huntington	65% of CKAIFI was caused by trees. These events were located in a portion of the ROW from the MA turnpike to the first SCADAmate switch and on Montgomery Rd in Huntington.	1	The ROW from the MA turnpike to the first SCADAmate switch and Montgomery Rd in Huntington will be assessed for tree risks. In addition, a new recloser loop scheme was placed in service in 2012 that will benefit the customers on Montgomery Rd.	2.5549
29R1	Shelburne	77% of CKAIFI was due to tree issues of which 40% of was a single event where a tree fell and damaged a recloser.	1	Circuit will be evaluated for risk tree removals and mid-cycle trimming.	2.5543
21S4	Springfield	43% of CKAIFI was caused by an employee error where a control cable was inadvertently cut resulting in the loss of the transmission supply into Clinton (21S) and 29% was from an equipment failure when an auto transfer switch failed to operate to restore customers.	1	The transmission event should not occur again and the auto-transfer switch control that failed to operate has been tested and placed back into service. No further action is planned.	2.2936
22H17	East Longmeadow	50% of CKAIFI was caused by a tree caused event and 46% was caused by an employee error that caused the circuit locked out during planned work.	1	A new recloser loop scheme was installed in the fall of 2012 to mitigate the impact of outages, the circuit will be reviewed for ETT, and lessons learned on how to properly isolate and insulate primary conductors when moving them have been shared with all WMECO line crews. No further action is planned.	2.1551
29R2	Shelburne	47% of CKAIFI resulted from the loss of the back up circuit (22B5 tree outage) while the 29R2 was being backfed to allow work to be done at 29R substation and 23% was caused when a backbone pole was hit by a car.	1	No further action is planned.	2.1294

27A4 Performance Improvement Plan

BACKGROUND:

The 27A4 is a 13.8kV overhead circuit from WMECO's Orchard 27A Substation in Springfield and feeds 1,280 customers in the town of Ludlow. The circuit is one of three Orchard Substation circuits which feed the town of Ludlow in conjunction with three circuits from Ludlow 19S Substation. The 27A4 circuit runs direct buried 2,215 feet from the substation down West St to Cady St where it rises to overhead. The circuit remains overhead and supplies a mix of residential and small commercial customers with the largest customer on the circuit being the Big Y supermarket. The circuit also supplies the Ludlow Elementary School. The 27A4 circuit consists of 3.4 miles of overhead backbone and 5.4 miles of overhead laterals.

The 27A4 can be used to backup all of the 19S2 circuit from Ludlow Substation if the 19S1 is also lost and provides an alternate substation feed for all of the Town of Ludlow's critical infrastructure; the police, fire, DPW and three schools which are used for shelter during an emergency.

27A4 RISK ANALYSIS

The circuit was among the top ten WMECO circuits for CKAIFI in both 2011 and 2012 with a ranking of 9 in 2011 with a value of 3.1689 and a ranking of 7 in 2012 with a value of 2.6449. The circuit was among the top ten WMECO circuits for CKAIDI in 2012 with a ranking of 6 with a value of 516.80 minutes. The circuit ranked 15 for CKAIDI in 2011 with a value of 314.67 minutes.

From August 2010 to August 2012 outages which were caused by trees and lightning resulted in wires burning down on Cady St. These events accounted for 60% of all CKAIFI and 75% of all CKAIDI for the timeframe that was analyzed.

The Cady St section of the 27A4 dates back to the early 1950's. The majority of the conductor on Cady St is 4/0 ACSR which is 60 plus years old. There were five wire burn downs in the analyzed two year period in the Cady St portion of the circuit. The most recent burn down was caused by fault current from a wire down outage event beyond a recloser at end of Cady St where the downstream recloser should have opened and the wire on Cady St should have remained intact. The burn down on Cady St resulted in the opening of the station breaker and an outage to additional customers.

27A4 IMPROVEMENTS

The 27A4 received scheduled maintenance trimming (SMT) on its normal scheduled cycle in 2012. In addition, the backbone of the 27A4 was surveyed for tree risks and the portions at risk received enhanced tree trimming (ETT) and targeted risk tree removal in 2012.

To minimize the risk of further wire burn downs on Cady St (caused by fault current from downstream events) two downstream portions of the circuit backbone were temporarily resupplied with ties to adjacent circuits in September of 2012. The portions of the 27A4 that were supplied by adjacent circuits were fused to ensure that the reliability performance of the customers normally supplied by the adjacent circuits was not adversely impacted. These portions of the 27A4 were placed back on the 27A4 in December of 2012 when the new loop scheme (below) was placed in service.

On 11/30/2012, a new recloser loop scheme was placed in service to provide an automatic backup supply from the 19S3 circuit. The new loop provides backup to 766 (60%) customers on the circuit to mitigate the impact of any future outage events on Cady St.

In 2012, a project was developed to reconductor the 27A4 backbone on Cady St to mitigate the risk of additional wire burn downs. This project was started in January of 2013 and calls for the replacement of approximately 7,000 feet of conductor and 18 poles. The project is scheduled for completion by the end of the first quarter of 2013.

WESTERN MASSACHUSETTS ELECTRIC COMPANY

Annual Service Quality Report

ATTACHMENT B

Year Ending December 31, 2012

Major Capital Investments

**Prior years 2003 through 2012 are
Provide in the attached CD-ROM**



**Northeast
Utilities System**

WMECO LISTING OF MAJOR CAPITAL INVESTMENTS
Capital Reliability Improvement Initiatives
2012

Initiative Description	Total \$'s (000) Budgeted	Total \$'s (000) Actual	Comments
<i>Distribution Lines - Overhead and Underground</i>			
Replace / Rejuvenate Direct Buried Cable	852	178	
Replace Conventional UG Cable - Planned	94	89	French King Sub getaway cables
Replace Obsolete Poles	-	117	
Install New/Replace Obsolete 3-Phase Switches	478	445	Network protectors and transformers, various overhead and pad mounted switches
Rebuild Duct Manholes and Replace Cable from Inspections	1,400	1,140	Manhole repairs from inspections, vault roof replacement
Convert 4KV Underground Systems	2,150	2,531	In Springfield - Converse, Wilbraham and Jasper Subs ; In Pittsfield - Rene, Seymour and Worthington Subs
Reliability Improvements	2,626	2,932	DSCADA, Poor Performing Circuit improvements, Storm Hardening, Reliability Annual projects
Replace Obsolete Overhead Systems	2,513	2,530	Southwick Conversion, Cumberland Right of Way, Old North Rd - Worthington, Clark St - Easthampton, Pomeroy - Pittsfield, Small Wire replacement and PCB Transformer replacement, Overhead Asset Renewal Annual Projects
Perform Enhanced Tree Trimming (ETT)	1,519	1,527	
Subtotal Distribution Lines	11,632	11,489	
<i>Distribution Substations</i>			
Rebuild Southwick Substation	301	19	Replace one of two station transformers
New Switchgear at French King Substation	421	488	Replace wooden structures, switches and reclosers with switchgear
West Springfield Breakers	210	306	Spare breakers for metal clad switch gear
Annual Repair/Replacement project	376	264	Rebuild breakers, replace batteries, arrestors etc.
Replace MOD Switches - Various Substations	201	313	Cumberland, Clinton, Blandford, Amherst, Pleasant and Breckwood
Other	50	3	Montague and Podick
Subtotal Distribution Substations	1,559	1,394	
Initiative Description	Total \$'s (000) Budgeted 2012	Total \$'s (000) Actual 2012	Comments
<i>Transmission and Transmission Substations</i>			
NEEWS Projects	166,241	183,448	Project exceeds 10% of Transmission capital expenditures
WMECO LINE 312 REPLACE STRUCTURES	6,617	6,384	
115kV Relay Non-Fast Track Replacement Program	3,508	1,922	
LINE 354 - 345KV RECONSTRUCTION	3,313	3,432	
Pittsfield-Greenfield Area Solution Projects	3,133	2,400	
WMECO Line Structure Replacements	2,777	7,237	
WMECO-REPLACE OPGW PHASE 4	900	1,114	
HG&E INTERCONNECTION STRUCTURE & RELAYS	787	1,162	
PALMER RENEWABLE INTERCONNECTION	610	-	
WMECO / NGRID SW STA - TIE	544	83	
WMECO-HVAC IN TRANS CONTROL ROOMS	530	500	
Hollow Core Insulators 345kV(CL&P and WMECO)	471	779	
Hollow Core Insulators 115kV(CL&P and WMECO)	452	363	
POCHASSIC REPLACE 115/69 KV TRANSFORMER	409	706	
WMECO Transmission Line Annuals	400	819	
CHICOPEE ELECTRIC LIGHT PROJECT	350	144	
LINES 632/641-REMOVE CONDUCTOR (5 MILES)	305	261	
SCADA Replacement Program	267	1,313	
WMECO LINE STRUCTURE REPLACEMENT	251	235	
WMECO OPGW PHASE 3	248	197	
NERC Alert 345kV CT and MA	-	1,698	
E5,F6 LINE REMOVAL-PIPER TO AMOSTOWN RD	-	346	
Subtotal Transmission and Transmission Substations	192,116	214,545	
Grand Totals	205,307	227,427	

WESTERN MASSACHUSETTS ELECTRIC COMPANY

Annual Service Quality Report

ATTACHMENT C

Year Ending December 31, 2012

**DPU Summary and other SQI
Back-up Data for Calculations**



**Northeast
Utilities System**

Summary Results								
	SAIDI (to nearest 100th of minute)	SAIFI (to nearest 1000th of outage)	LTA (to nearest 100th of accident)	TSF (to nearest 10th of percent)	DPU Cases (#Cases/1000 Residential Customers)	Billing Adjs (#Adjustments /1000 Residential Customers)	Service Appts Met (to nearest 10th of percent)	Meter Reads (to nearest 10th of percent)
Historical Data by Year								
1996	120.84	1.023	1.12		1.7			94.8%
1997	87.25	0.856	2.32	55.8%	1.4			96.9%
1998	99.63	1.024	0.25	60.0%	0.9			97.5%
1999	145.45	1.103	0.57	71.9%	1.6			97.6%
2000	139.37	0.927	0.53	80.0%	1.3	0.06		98.4%
2001	101.44	0.842	0.25	68.2%	1.3	0.02		98.1%
2002	166.16	1.223	1.88	79.5%	1.1	0.03	95.5%	98.6%
2003	171.68	1.050	0.76	80.1%	0.6	0.01	97.6%	99.0%
2004	121.91	0.917	2.19	76.0%	1.0	0.01	99.2%	99.1%
2005	115.56	1.041	0.48	61.7%	0.9	0.01	99.8%	99.5%
2006	225.40	1.323	1.34	70.0%	1.2	0.02	100.0%	99.3%
2007	122.58	1.044	1.59	65.8%	1.1	0.02	99.9%	98.9%
2008	281.41	1.721	0.24	69.3%	1.0	0.02	99.3%	99.1%
2009	174.00	1.050	0.56	66.7%	0.9	0.02	99.4%	98.7%
2010*	123.86	1.072	0.51	70.9%	0.7	0.02	99.4%	99.6%
2011	105.90	0.964	0.96	87.7%	0.9	0.01	99.7%	99.6%
2012	113.08	1.001	0.31	90.2%	0.8	0.02	99.5%	99.6%
* 2010 performance was 123.86 not 124.16 for SAIDI and 1.072 not 1.075 for SAIFI as previously reported								
Benchmark (Performance 1996 through 2005)								
Average	126.93	1.001	1.04	70.3%	1.2	0.02	99.0%	98.0%
Standard Deviation	28.29	0.117	0.80	8.8%	0.3	0.01	1.4%	1.4%
Deadband - lower limit	98.64	0.883	0.23	61.5%	0.8	0.01	97.6%	96.6%
Deadband - upper limit	155.21	1.118	1.84	79.2%	1.5	0.04	100.4%	99.3%
Performance to be judged (Current YE Performance)	113.08	1.001	0.31	90.2%	0.8	0.02	99.5%	99.6%
No. of SD from Historical Average	-0.5	0.0	-0.9	2.2	-1.0	-0.1	0.4	1.2
Service Quality Results								
	SAIDI	SAIFI	LTA	Calls	DPU Cases	Billing Adjs	Appts Met	Meter Reads
% Allocation	22.5%	22.5%	10.0%	12.5%	5.0%	5.0%	12.5%	10.0%
Max Penalty or Offset	\$991,533	\$991,533	\$440,681	\$550,852	\$220,341	\$220,341	\$550,852	\$440,681
Is a penalty necessary?	NO	NO	NO	NO	NO	NO	NO	NO
Is offset possible?	NO	NO	NO	YES	NO	NO	NO	YES
Penalty Multiplier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offset Multiplier	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.36
Actual Penalty or Offset	\$0	\$0	\$0	(\$550,852)	0	\$0	\$0	(\$160,443)
Total Net SQ Penalty	(\$711,294)							
Distribution Revenues						\$133,435,073		
Transmission Revenues						\$42,875,463		
Total T&D Revenues						\$176,310,536		
Revenues Subject to Penalty (2.5% of Net Revenues)						\$4,407,763		
Customer Payments per CS Guarantees						\$950		
Net Maximum Penalty						\$4,406,813		

Reliability - Outage Duration - SAIDI										
Calendar Year	Without Storms				Storm Events			Storms Included		
	(a) Customer Hours Interrupted	(b) # Customers Interrupted	(c) Avg # of Customers	[(a)*60]/(c) Frequency Formula	(d) Repair Locations	(e) Customer Hours Interrupted	(f) # Customers Interrupted	(a)+(e) Customer Hours Interrupted	(b)+(f) # Customers Interrupted	[(a) + (e))*60]/(c) Frequency Formula
1996	411,974	209,336	204,555	120.84	909	1,073,617	78,883	1,485,590	288,219	435.75
1997	299,497	176,227	205,958	87.25	467	523,878	69,458	823,375	245,685	239.87
1998	343,697	212,050	206,984	99.63	n/a			343,697	212,050	99.63
1999	504,968	229,810	208,306	145.45	n/a			504,968	229,810	145.45
2000	486,148	194,110	209,291	139.37	n/a			486,148	194,110	139.37
2001	356,017	177,241	210,578	101.44	n/a			356,017	177,241	101.44
2002	586,302	258,905	211,709	166.16	n/a			586,302	258,905	166.16
2003	608,968	223,400	212,824	171.68	n/a			608,968	223,400	171.68
2004	433,640	195,651	213,419	121.91	n/a			433,640	195,651	121.91
2005	412,604	222,922	214,235	115.56	n/a			412,604	222,922	115.56
2006	810,819	285,530	215,833	225.40	n/a			810,819	285,530	225.40
2007	443,571	226,757	217,119	122.58	n/a			443,571	226,757	122.58
2008	1,022,879	375,336	218,088	281.41	1,832	1,900,265	45,117	2,923,144	420,453	804.21
2009	621,668	225,047	214,372	174.00	n/a			621,668	225,047	174.00
2010*	435,808	226,365	211,121	123.86	1673	1,188,451	125,940	1,625,332	352,997	461.91
2011	375,028	204,773	212,476	105.90	5251	14,605,742	319,762	14,980,770	524,535	4,230.34
2012	400,907	212,990	212,728	113.08	731	376,711	51,976	777,618	264,966	219.33

* 2010 performance was 123.86 not 124.16 for SAIDI as previously reported

Storm Exclusion Days - SAIDI						
		Date and Time Ranges				
		15% of Customers Affected		Storm Exclusion *		
Year	District	From	To	From	To	Cause
1996		12/7/1996	12/8/1996	12/6/1996	12/12/1996	Storm Bernice (Heavy Snow)
1997		3/31/1997	4/1/1997	3/31/1997	4/3/1997	Storm Florence
2008				12/11/2008	12/21/2008	Winter Storm 2008, Declared State of Emergency
2010		2/24/2010	2/24/2010	2/24/2010	2/26/2010	Heavy Wet Snow & Wind
		5/4/2010	5/4/2010	5/4/2010	5/6/2010	Thunderstorms & Wind
		5/26/2010	5/27/2010	5/26/2010	5/29/2010	Thunderstorms & Wind
				12/26/2010	12/28/2010	Declared State of Emergency
2011				1/12/2011	1/13/2011	Declared State of Emergency
		6/1/2011	6/2/2011	6/1/2011	6/4/2011	Tornado, Declared State of Emergency
		6/9/2011	6/10/2011	6/8/2011	6/11/2011	Thunderstorms
		7/26/2011	7/27/2011	7/26/2011	7/27/2011	Thunderstorms
		8/28/2011	8/29/2011	8/27/2011	8/29/2011	Tropical Storm Irene, Declared State of Emergency
		10/29/2011	11/4/2011	10/29/2011	11/6/2011	October Nor'easter, Declared State of Emergency
2012		10/29/2012	10/29/2012	10/29/2012	10/31/2012	Hurricane Sandy, Declared State of Emergency

* Explanation

- * For years up to and including calendar-year 2004:
The TCIAS2 Outage Management System tracked circuits in an abnormal state.
Circuits in an abnormal state on days where 15% of the customers were affected defined the exclusion.
Repair locations associated with those circuits had start and completion times within the range shown.
- * For calendar-year 2005 and beyond:
The EDS Outage Management System tracks abnormal events at the isolating device level.
Individual abnormal events are aggregated within the OMS into repair locations as appropriate based on the cause and extent of the problems.
A repair location is defined as a place where work is performed that will result in the restoration of service to our customers.
Repair locations with a start date between the specified dates are considered to be associated with the excluded event.

Reliability - Outage Frequency - SAIFI										
Calendar Year	Without Storms				Storm Events			Storms Included		
	(a) Customer Hours Interrupted	(b) # Customers Interrupted	(c) Avg # of Customers	(b)/(c) Frequency Formula	(d) Repair Locations	(e) Customer Hours Interrupted	(f) # Customers Interrupted	(a)+(e) Customer Hours Interrupted	(b)+(f) # Customers Interrupted	[(b)+(f)]/(c) Frequency Formula
1996	411,974	209,336	204,555	1.023	909	1,073,617	78,883	1,485,590	288,219	1.409
1997	299,497	176,227	205,958	0.856	467	523,878	69,458	823,375	245,685	1.193
1998	343,697	212,050	206,984	1.024	n/a			343,697	212,050	1.024
1999	504,968	229,810	208,306	1.103	n/a			504,968	229,810	1.103
2000	486,148	194,110	209,291	0.927	n/a			486,148	194,110	0.927
2001	356,017	177,241	210,578	0.842	n/a			356,017	177,241	0.842
2002	586,302	258,905	211,709	1.223	n/a			586,302	258,905	1.223
2003	608,968	223,400	212,824	1.050	n/a			608,968	223,400	1.050
2004	433,640	195,651	213,419	0.917	n/a			433,640	195,651	0.917
2005	412,604	222,922	214,235	1.041	n/a			412,604	222,922	1.041
2006	810,819	285,530	215,833	1.323	n/a			810,819	285,530	1.323
2007	443,571	226,757	217,119	1.044	n/a			443,571	226,757	1.044
2008	1,022,879	375,336	218,088	1.721	1,832	1,900,265	45,117	2,923,144	420,453	1.928
2009	621,668	225,047	214,372	1.050	n/a			621,668	225,047	1.050
2010*	435,808	226,365	211,121	1.072	1673	1,188,451	125,940	1,625,332	352,997	1.672
2011	375,028	204,773	212,476	0.964	5251	14,605,742	319,762	14,980,770	524,535	2.469
2012	400,907	212,990	212,728	1.001	731	376,711	51,976	777,618	264,966	1.246

* 2010 performance was 1.072 not 1.075 for SAIFI as previously reported

Storm Exclusion Days - SAIFI						
		Date and Time Ranges				
		15% of Customers Affected		Storm Exclusion *		
Year	District	From	To	From	To	Cause
1996		12/7/1996	12/8/1996	12/6/1996	12/12/1996	Storm Bernice (Heavy Snow)
1997		3/31/1997	4/1/1997	3/31/1997	4/3/1997	Storm Florence
2008				12/11/2008	12/21/2008	Winter Storm 2008, Declared State of Emergency
2010		2/24/2010	2/24/2010	2/24/2010	2/26/2010	Heavy Wet Snow & Wind
		5/4/2010	5/4/2010	5/4/2010	5/6/2010	Thunderstorms & Wind
		5/26/2010	5/27/2010	5/26/2010	5/29/2010	Thunderstorms & Wind
				12/26/2010	12/28/2010	Declared State of Emergency
2011				1/12/2011	1/13/2011	Declared State of Emergency
		6/1/2011	6/2/2011	6/1/2011	6/4/2011	Tornado, Declared State of Emergency
		6/9/2011	6/10/2011	6/8/2011	6/11/2011	Thunderstorms
		7/26/2011	7/27/2011	7/26/2011	7/27/2011	Thunderstorms
			8/28/2011	8/29/2011	8/27/2011	8/29/2011
		10/29/2011	11/4/2011	10/29/2011	11/6/2011	October Nor'easter, Declared State of Emergency
2012		10/29/2012	10/29/2012	10/29/2012	10/31/2012	Hurricane Sandy, Declared State of Emergency

*** Explanation:**

- * For years up to and including calendar-year 2004:
The TCIAS2 Outage Management System tracked circuits in an abnormal state.
Circuits in an abnormal state on days where 15% of the customers were affected defined the exclusion.
Repair locations associated with those circuits had start and completion times within the range shown.
- * For calendar-year 2005 and beyond:
The EDS Outage Management System tracks abnormal events at the isolating device level.
Individual abnormal events are aggregated within the OMS into repair locations as appropriate based on the cause and extent of the problems.
A repair location is defined as a place where work is performed that will result in the restoration of service to our customers.
Repair locations with a start date between the specified dates are considered to be associated with the excluded event.

Billing Adjustments*			
CalendarYear	(a) # Billing Adjustments	(b) # Residential Customers	(# Billing Adjustments/# Residential Customers)*1,000
2000	10	182,688	0.05
2001	4	181,316	0.02
2002	6	183,662	0.03
2003	1	185,202	0.01
2004	2	185,083	0.01
2005	2	186,882	0.01
2006	3	187,252	0.02
2007	3	187,438	0.02
2008	4	187,854	0.02
2009	4	184,416	0.02
2010	3	184,416	0.02
2011	2	188,683	0.01
2012	3	188,742	0.02

*The Billing Adjustment definition, revised in D.T.E. Order 04-116-B, is defined as the number of billing adjustments per 1,000 residential customers.

Consumer Division Cases			
<u>CalendarYear</u>	Number of Consumer Division Cases	# Customers (12 mo. Avg)	Cases per 1,000 Customers
1991	465	175,399	2.7
1992	348	175,673	2.0
1993	182	176,338	1.0
1994	255	177,010	1.4
1995	361	177,790	2.0
1996	303	178,447	1.7
1997	243	178,912	1.4
1998	164	179,678	0.9
1999	287	180,807	1.6
2000	237	182,688	1.3
2001	227	181,316	1.3
2002	209	183,662	1.1
2003	109	185,202	0.6
2004	179	185,083	1.0
2005	165	186,882	0.9
2006	229	187,252	1.2
2007	211	187,438	1.1
2008	195	187,854	1.0
2009	167	184,416	0.9
2010	122	184,416	0.7
2011	166	188,683	0.9
2012	156	188,742	0.8

Lost Time Work Accident				
YEAR	(a) # LTA's	(b) # EMPLOYEES	(c) # HRS WORKED	(d) LTA RATE* (a) x 200,000 / (c)
1991	5	315	658,432	1.52
1992	6	315	658,432	1.82
1993	8	315	658,432	2.43
1994	9	315	658,432	2.73
1995	8	376	770,800	2.08
1996	4	348	713,400	1.12
1997	8	336	688,800	2.32
1998	1	383	785,150	0.25
1999	2	393	696,905	0.57
2000	2	405	754,772	0.53
2001	1	403	790,640	0.25
2002	7	399	742,813	1.88
2003	3	408	788,447	0.76
2004	9	414	820,973	2.19
2005	2	413	835,759	0.48
2006	5	337	746,999	1.34
2007	6	341	753,555	1.59
2008	1	342	819,259	0.24
2009	2	342	716,527	0.56
2010	2	343	783,730	0.51
2011	4	334	831,932	0.96
2012	1	334	654,493	0.31

*Pursuant to Section VIII. A of the SQ Plan, the Restricted Work Day Rate is the Incidence Rate of Restricted Work Cases Per 200,000 Employee Hours, as defined by the U.S. Department of Labor, Bureau of Labor Statistics for the most recent ten years is provided in Appendix 3 (# of accidents / 200,000 employee hours worked), and data should be provided to the nearest 100th of an accident.

Meters Read				
	(a)	(b)	(c)	
<u>CalendarYear</u>	<u>Total Meters</u>	<u>Meters Read</u>	<u>Meters Estimated</u>	<u>% of Meters Read formula: +E/D</u>
1991	na/	n/a	n/a	93.5%
1992	na/	n/a	n/a	92.6%
1993	na/	n/a	n/a	91.8%
1994	na/	n/a	n/a	87.9%
1995	na/	n/a	n/a	88.4%
1996	na/	n/a	n/a	94.8%
1997	na/	n/a	n/a	96.9%
1998	na/	n/a	n/a	97.5%
1999	na/	n/a	n/a	97.6%
2000	na/	n/a	n/a	98.4%
2001	na/	n/a	n/a	98.1%
2002	na/	n/a	n/a	98.6%
2003	2,517,228	2,491,334	25,894	99.0%
2004	2,521,989	2,500,328	21,661	99.1%
2005	2,530,702	2,517,221	13,481	99.5%
2006	2,545,676	2,526,614	19,062	99.3%
2007	2,557,131	2,529,500	27,631	98.9%
2008	2,509,133	2,487,060	22,073	99.1%
2009	2,531,645	2,497,593	34,052	98.7%
2010	2,553,436	2,544,274	9,162	99.6%
2011	2,558,777	2,547,635	11,142	99.6%
2012	2,556,836	2,547,097	9,739	99.6%

Service Appointments Met			
	(a)	(b)	
<u>CalendarYear</u>	<u>Appointments Scheduled</u>	<u>Appointments Met</u>	<u>% Appointments Met</u> formula: (b) / (a)
2000	n/a	n/a	n/a
2001	n/a	n/a	n/a
2002	622	594	95.5%
2003	1,125	1,098	97.6%
2004	1,625	1,612	99.2%
2005	1,500	1,497	99.8%
2006	3,223	3,222	100.0%
2007	3,151	3,149	99.9%
2008	4,049	4,022	99.3%
2009	5,272	5,238	99.4%
2010	5,952	5,915	99.4%
2011	5,312	5,298	99.7%
2012	3,687	3,668	99.5%

Telephone Service Factor									
	Customer Services			Credit Services			Overall Telephone Service*		
<u>Calendar Year</u>	<u>(a) Total Calls Answered</u>	<u>(b) Calls Ans < 20 Sec</u>	<u>(b)/(a) Telephone Service Factor formula</u>	<u>(c) Total Calls Answered</u>	<u>(d) Calls Ans < 20 Sec</u>	<u>(d)/(c) Telephone Service Factor formula</u>	<u>(e)=(a)+(c) Total Calls Answered</u>	<u>(f)=(b)+(d) Calls Ans < 20 Sec</u>	<u>(f)/(e) Telephone Service Factor formula:</u>
1997	243,933	136,175	55.8%	n/a	n/a	n/a	243,933	136,175	55.8%
1998	285,073	170,902	60.0%	n/a	n/a	n/a	285,073	170,902	60.0%
1999	287,917	206,870	71.9%	n/a	n/a	n/a	287,917	206,870	71.9%
2000	264,556	211,582	80.0%	n/a	n/a	n/a	264,556	211,582	80.0%
2001	301,107	229,745	76.3%	166,674	89,337	53.6%	467,781	319,082	68.2%
2002	316,187	257,376	81.4%	164,501	124,856	75.9%	480,688	382,232	79.5%
2003	329,534	274,997	83.5%	162,824	119,285	73.3%	492,358	394,282	80.1%
2004	341,463	276,926	81.1%	172,156	113,520	65.9%	513,619	390,446	76.0%
2005	362,243	223,637	61.7%	216,300	133,055	61.5%	578,543	356,692	61.7%
2006	388,068	287,946	74.2%	168,145	101,560	60.4%	556,213	389,506	70.0%
2007	358,739	250,397	69.8%	223,611	132,816	59.4%	582,350	383,213	65.8%
2008	434,674	316,877	72.9%	248,649	156,898	63.1%	683,323	473,775	69.3%
2009	381,216	268,681	70.5%	171,147	99,745	58.3%	552,363	368,426	66.7%
2010	472,723	358,915	75.9%	165,096	93,547	56.7%	637,819	452,462	70.9%
2011	836,100	741,209	88.7%	120,090	97,295	81.0%	956,190	838,504	87.7%
2012	679,986	626,085	92.1%	112,522	88,999	79.1%	792,508	715,084	90.2%

*The Telephone Service Factor is calculated by dividing the number of calls answered within 20 seconds by the total number of calls answered during the year. "Calls answered" includes calls answered by a customer service representative (CSR) and calls completed within the Voice Response Unit (VRU). Abandoned calls are not considered. The time to answer is measured once the customer makes a selection to either speak with a CSR or use the VRU.

Priority	Street Location	Nature of Emergency	Date & Time Notice Received	Date & Time Dispatched	Date & Time Arrived	Date & Time of Temporary Repairs	Date & Time of Permanent Repairs	Time between Dispatched & Arrival (in hours)	Time between Arrival & Temporary Repairs (in hours)	Comments
01	BRODIE MOUNTAIN RD, LEE, MA	POWDER HOUNDS RESTAURANT ON FIRE ***RANDOM ADDRESS***ETA REQUESTED	10/10/2012 14:24	10/10/2012 14:28	10/10/2012 14:29		10/10/2012 14:30	0.02	0.02	FIRE AT POWDER HOUNDS RESTAURANT CALLED COUNTY COMMUNICATIONS NAT GRID CUSTOMER
01	SOUTH ST, PITTSFIELD, MA 01201	NEED POWER OFF TO POLE DUE TO WATER PROBLEM AT THIS LOCATION...CYN RIVERA 607-4438	01/19/2012 12:07	01/19/2012 12:07	01/19/2012 12:12		01/19/2012 12:22	0.08	0.17	DISCONNECT FOR PIPE BURST -- PRIORITY 1 FERRARIN DIORIO
01	ESSEX ST, PITTSFIELD, MA 01201	WIRES ARCING, NOT ON THE GROUND, UNSURE WHY WIRES ARCING, NEXT TO HOUSE	09/12/2012 07:27	09/12/2012 07:30	09/12/2012 07:41		09/12/2012 07:58	0.18	0.28	Service connections burned siding- RGC
01	CHURCH ST, LEE, MA	POLE# 10/11 ***POLE 34 PER DISPATCH ALSO PRIORITY 1	10/30/2012 08:10	10/30/2012 08:32	10/30/2012 09:40		10/30/2012 09:56	1.13	0.27	line de-energized. see other tbl ticket
01	CAMBRIDGE AVE, PITTSFIELD, MA 01201	LINES ON CAR THAT ARE BURNING. **CALL FOR ETA** POLICE AND FIRE ON SCENE.	08/12/2012 11:06	08/12/2012 11:22	08/12/2012 11:36		08/12/2012 11:37	0.23	0.02	CAR VS POLE BROKE POLE
01	WOODLAND RD, LEE, MA	STATES THIS IS AT 256 WOODLAND ROAD LEE, MA	09/18/2012 20:19	09/18/2012 20:36	09/18/2012 21:25		09/18/2012 21:43	0.82	0.30	responded to emergency / edp
01	CAPE ST, LEE, MA	POLE 51 NO INJ, POLE SNAPPED, UNK XFORMER, ROAD BLOCKED PD ON SCENE, UNK WIRES M6311	04/04/2012 23:02	04/04/2012 23:10	04/04/2012 23:30		04/05/2012 04:50	0.33	5.33	VERIZON SET NEW POLE,WE TRANSFERRED TO NEW POLE BXS/MJG
01	NEW BOSTON RD, TOLLAND, CT 06460	POLE 48 OR 50 IN THE AREA OF 635 NEW BOSTON ROAD. WIRES DOWN SOMEONE STUCKINSIDE CAR. ***RANDOM ADDRESS***	04/10/2012 13:31	04/10/2012 13:40	04/10/2012 13:44		04/10/2012 18:07	0.07	4.38	replaced pole jvf ferrarin
01	S MAIN ST, SANDSFIELD, VT 05870	DUMP TRUCK THAT WENT INTO BUILDING, PEOPLE INJURED WIRES DOWN/ FIRE AND POLICE ON SCENE, NEED ETA, AT INTERSECTION OF RTE 57 AND ROUTE 8 ***RANDOM ADDRESS***	10/02/2012 08:40	10/02/2012 08:42	10/02/2012 09:10		10/02/2012 09:11	0.47	0.02	responded to emergency / barbour / edp
01	FLINTSTONE RD, WINDSOR, CT 06095	***RANDOM ADDRESS***HE STATES MIDDLE OF NOWHERE THAT YOU CANNOT MISS, NOT EMERG	10/29/2012 17:28	10/29/2012 17:30	10/29/2012 17:45		10/29/2012 22:19	0.25	4.57	Made Safe
01	E WASHINGTON RD, HINSDALE, IL 60521	WIRES RIPPED FROM HOUSE AND DOWN AND ARE ON FIRE. CYN RIVERA 607-4438	10/29/2012 16:03	10/29/2012 16:12	10/29/2012 17:21		10/30/2012 00:50	1.15	7.48	TREE/LINE-tree in rd on top of sec/broken pole-feed from P76/50
01	SARGENT RD, WASHINGTON, CT 06097	AREA OUTAGE. TREE ON LINES ON UPPER SARGENT RD & LOVERS LANE. ROAD IS BLOCKED. WIRES ON GROUND. PRIORITY 1 PER TOM.	10/30/2012 11:47	10/30/2012 12:22	10/30/2012 12:43		10/30/2012 18:40	0.35	5.95	
01	N BLANDFORD RD, BLANDFORD, RI 02824	BELIEVES MAY BE RELATED TO BECKETT OUTAGE, SAYS THAT ONLY AWARE THAT WIRES ARE DOWN. UNAWARE IF ANYONE IS TRAPPED IN THE VEHICLE. FIRE AND POLICE AREENROUTE. NEAR ALGERY FOUR CORNERS ***RANDOM ADDRESS***	10/10/2012 21:33	10/10/2012 21:38	10/10/2012 21:47		10/10/2012 22:38	0.15	0.85	MADE SAFE, REPAIRED WIRE. KUROWSKI/EAH
01	W OTTER DR, TOLLAND, CT 06460	CAR ACCIDENT, HIT POLE AND WIRE WENT DOWN ***ETA***** RANDOM ADDRESS*** POLE #39 HAS BEEN SNAPPED OFF AT THE BASE	11/30/2012 09:24	11/30/2012 09:29	11/30/2012 10:03		11/30/2012 10:30	0.57	0.45	truck caught wires. brokw pole. replaced pole
01	STETSON AVE, PLAINFIELD, NJ 07064	***RANDOM ADDRESS*** - POLICE ARE ON SCENE - CASE #2012-15083 - INTERSECTION OF ROUTE 116 AND STETSON AVE	10/29/2012 17:41	10/30/2012 10:33	10/30/2012 10:57		10/30/2012 10:57	0.40	0.00	tree crew cleared
01	SHAW RD, WINDSOR, MA 01095	**ETA REQ ASAP** PRIORITY ONE CONFIRMED. STRUCTURE FIRE	06/11/2012 16:30	06/11/2012 16:32	06/11/2012 16:58		06/11/2012 17:04	0.43	0.10	STRUCTURE FIRE,CUT DOWN 2 SERVICES BXM/MJG
01	OLD NORTH RD, WORTHINGTON, MA 01581	NEAR LISTENS BAR AND GRILL...WIRES LOW, TREE LEANED OVER. STATED TICKET ALREADY PUT THROUGH BUT I CANNOT FIND IT.//W4250	10/29/2012 15:20	10/29/2012 15:29	10/29/2012 17:25		10/29/2012 17:26	1.93	0.02	
01	WILLIAMSBURG RD, WORTHINGTON, MA 01581	STRUCTURE FIRE, ***ETA***	12/31/2012 11:48	12/31/2012 11:54	12/31/2012 12:04		12/31/2012 12:58	0.17	0.90	no action needed jvf stevens
01	CUMMINGTON RD, WORTHINGTON, MA 01581	CAR VS POLE, POLE IS DOWN BLOCKING ROAD, WIRES DOWN, NEXT CLOSEST POLE IS POLE #23	01/29/2012 20:57	01/29/2012 21:01	01/29/2012 21:45		01/29/2012 23:27	0.73	1.70	replaced pole. herman/eah
01	FEEDING HILLS RD, SOUTH WINDSOR, CT 06095	***RANDOM ADDRESS***POLE #6- DPW AGENT- AROUND 130 FEEDING HILLS ROAD. CONCERN FOR WATER SUPPLY IF TREE TAKES DOWN LINE- TREE IS ON ACCESS ROAD ACROSS FROM RED OAK INTERSECTION-POLE #40T 42B 48VZ32- CUT OUT LOCATED HEAR- LOOK	06/09/2012 09:43	06/09/2012 10:00	06/09/2012 10:20		06/09/2012 12:20	0.33	2.00	tree on line going to water pump station,removed by lewis axg/mjg
01	COLLEGE HWY, SOUTH WINDSOR, CT 06095		04/08/2012 22:16	04/08/2012 22:17	04/08/2012 22:38		04/09/2012 00:33	0.35	1.92	car vs pole replaced pole baily jvf
01	SOUTH ST, CHESTERFIELD, MA 01007	WIRES DOWN NEAR POLE 31/20 ROAD IS CLOSED THE WIRES ARE ARCING / DO NOT KNOW WHAT BROUGHT THEM DOWN . LOOKS LIKE WIRES DOWN BETWEEN 4 POLE OFFICER ON SITE	07/24/2012 11:30	07/24/2012 11:35	07/24/2012 12:27		07/24/2012 12:27	0.87	0.00	Opened 18K2-12 ABS to make safe and repair- Serra/RGC
01	MONTGOMERY RD, HUNTINGTON, MA 01450	POLE # 14B FIRE AND POLICE ARE ON SCENE. LOOKING ETA. TRANSFORMER IS ON FIRE AS WELL AS WIRES ARCING AND ARE DOWN IN THE ROAD. THIS IS AT THE INTERSECTION OF MONTGOMERY ROAD AND WORTHINGTON ROAD. ***RANDOM ADDRESS***	10/10/2012 09:05	10/10/2012 09:08	10/10/2012 09:37		10/10/2012 11:08	0.48	1.52	ST TROOPER ACCIDENT / HOUSE FIRE

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01	ROWLEY ST, AGAWAM, MA	STREET BLOCKED OFF / CALL BACK WITH ETA	08/05/2012 17:02	08/05/2012 17:05	08/05/2012 17:12		08/05/2012 18:56	0.12	1.73	removed tree, replaced fuse. conner/eah
01	GREEN RIVER LN, COLRAIN	POLICE/FIRE/EMS ON SCENE, PLZ CALL WITH ETA. REMCO POLE NO. 29/65	06/20/2012 12:31	06/20/2012 12:31	06/20/2012 12:35		06/20/2012 12:57	0.07	0.37	NO ONE IN THE CAR SMITH \ HERMANN
01	COLRAIN SHELburne RD	PEOPLE TRAPPED LIVE WIRE NEED POWER SHUT OFF ASAP. PLEASE CALL WITH ETA.	01/01/2012 07:56	01/01/2012 08:15	01/01/2012 08:45		01/01/2012 10:46	0.50	2.02	pole hit. replaced pole
01	MOHAWK TRL, SHELburne	***RANDOM ADDRESS*** BUILDING IS CALLED COUNTRY GROOMERS. BUILDING ON FIRE.	11/30/2012 12:02	11/30/2012 12:08	11/30/2012 12:16		11/30/2012 12:26	0.13	0.17	STRUCTURE FIRE.DISC AT POLE GXs/MJG
01	MOHAWK TRL, SHELburne	***RANDOM ADDRESS*** STATES 4 HIGHLAND AVE IS THE ACTUAL ADDRESS THERE IS AN ELDERLY HOME OXYGEN CONCENTRATORS AND AC THEY HAVE ALREADY TAKEN SOMEONE TO THE ER. HIGHLAND VILLAGE.	05/29/2012 21:23	05/29/2012 21:27	05/29/2012 21:27		05/29/2012 21:28	0.00	0.02	working on outage spoke with police and gave him information on outage hjc
01	DWIGHT ST, HATFIELD, MA	TWO PRIMARIES ON THE GROUND SMOKING... AT POLE #3 - FD AND PD ON SCENE - CALL WITH ETA	12/02/2012 21:39	12/02/2012 21:44	12/02/2012 21:55		12/02/2012 22:06	0.18	0.18	REPAIRED DOWNED WIRES. BRADLEY/EAH
01	PEPIN AVE, EASTHAMPTON	STRUCTURE FIRE, PLEASE CUT POWER ASAP. PLEASE CONTACT WITH ETA ASAP	01/22/2012 10:16	01/22/2012 10:21	01/22/2012 10:45		01/22/2012 11:20	0.40	0.58	pulled meter for fire dept / selanis / edp
01	MAPLE ST, SOUTHAMPTON	MAPLE AND RTE 10 TRANSFORMER BLEW POLE 4T/7B..... 26/5 POLE ON MAPLE HOLDING THE TREE UP	06/25/2012 15:42	06/25/2012 15:42	06/25/2012 16:00		06/25/2012 16:03	0.30	0.05	Limb on P 26B/6. Blew fuse P 102 Route 10
01	GUNN RD, SOUTHAMPTON	LIVE WIRE ON VEHICLE POLE 101, INJURIES ON SCENE CALL #12-4911.	06/07/2012 21:33	06/07/2012 21:37	06/07/2012 21:56		06/08/2012 02:38	0.32	4.70	FISCHER ON SITE 21: 56 BROKEN POLE SERRA & SELANIS CARMODY BANG & RICHARD
01	EAST ST, SOUTHAMPTON	THERE 5 POLES DOWN: TREE WIRES IT IS A HOT MESS : CALL BACK W/ETA ASAP	10/29/2012 17:22	10/29/2012 17:50	10/29/2012 18:15		10/29/2012 19:04	0.42	0.82	
01	INDUSTRY AVE, SPRINGFIELD	1 POLE NORTH OF POLE #18 ON INDUSTRY AVE 100FT FROM INTERSECTION OF MEMORIAL AVE// CAR VS POLE (EARLIER TODAY) OFFICERS ON SCENE MAY LEAVE STATES NEEDS ATTENTION BUT NO INFO ON CONDITION/ NO CASE #	10/11/2012 18:12	10/11/2012 18:15	10/11/2012 18:23		10/11/2012 19:00	0.13	0.62	made safe. bailey/eah
01	ELM ST, WEST SPRINGFIELD	PROBLEM WITH SERVICE FEEDING THE BUILDING CHARD UP THE CONDUATE, WAS SMOKING BEFORE BUT NO FIRE AT THIS TIME. PLEASE CALL ONCE WE HAVE A ETA IS KEEPING CREW ON SITE UNTIL THEY HERE FROM US	04/06/2012 19:18	04/06/2012 19:26	04/06/2012 19:40		04/06/2012 19:58	0.23	0.30	inside trouble bailey jvf
01	FRANKLIN ST, SPRINGFIELD		11/11/2012 04:46	11/11/2012 04:57	11/11/2012 05:25		11/11/2012 06:54	0.47	1.48	HOUSE FIRE - NOT ABLE TO FIND XFMR
01	MAIN ST, SPRINGFIELD, MA	INTERSECTION OF HUNTINGTON & MAIN. STRUCTURE FIRE. ***RANDOM ADDRESS***	05/30/2012 05:32	05/30/2012 05:36	05/30/2012 05:52		05/30/2012 06:01	0.27	0.15	responded to emergency -- bldg completely burned -- need to come later & disc neighbors for meter panel repair CONNORS
01	WORTHINGTON ST, SPRINGFIELD	GAS LEAK AND THE SOURCE IS IN A VAULT THAT WE OWN. BAY STATE GAS AND FIRE ON SCENE. THEY NEED US TO UNLOCK THE VAULT	12/21/2012 12:49	12/21/2012 12:59	12/21/2012 13:06		12/21/2012 13:43	0.12	0.62	customer owned cables. no gas in out vault.
01	WINTER ST, SPRINGFIELD	PLEASE MAKE HIGH PRIORITY!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!HIGH LEVEL OF NATURAL GAS.STREET LIGHTS ON AUTOMATIC TIMERS. NEED THERE ASAP. WERE GIVE 1/2, MAY BE TO LONG. PLEASE CALL	11/23/2012 16:37	11/23/2012 16:39	11/23/2012 17:14		11/23/2012 20:52	0.58	3.63	gas explosion. buildings destroyed.
01	SAWMILL RD, SPRINGFIELD	CIRCUITS IN HOME ON FIRE, NEED POWER TURNED OFF.	04/25/2012 18:09	04/25/2012 18:15	04/25/2012 18:47		04/25/2012 19:24	0.53	0.62	DISC AT POLE -- CUST TO CALL BACK WHEN REPAIRED & INSPECTED BAILEY \ SCOTT
01	KENYON ST, SPRINGFIELD	FIRE HERE - FIRE DEPT ON SCENE. LOOKING FOR ETA	11/28/2012 10:14	11/28/2012 10:17	11/28/2012 10:24		11/28/2012 11:04	0.12	0.67	Service was already disconnected prior to fire- McQueen/RGC
01	ALBERMARLE ST, SPRINGFIELD	FIRE ON THE SCENE, WORKING FIRE.	05/31/2012 10:46	05/31/2012 10:49	05/31/2012 11:02		05/31/2012 11:02	0.22	0.00	115 & 117 ALBERMARLE ST HOUSE FIRE
01	LOCUST ST, SPRINGFIELD	POLE # 44- LARGE FIRE RIGHT NOW. ON SCENE RIGHT NOW. CALL WITH ETA.	05/15/2012 19:56	05/15/2012 20:00	05/15/2012 20:13		05/15/2012 20:57	0.22	0.73	op 22h1515 to put out pole top fire pirog/psm
01	JOHNSON ST, SPRINGFIELD	HOUSE IS ON FIRE, PER FIRE DEPT, PLEASE DISCONNECT SERVICE AT POLE.	01/28/2012 08:16	01/28/2012 08:25	01/28/2012 08:55		01/28/2012 09:47	0.50	0.87	
01	HAYWOOD ST, GREENFIELD	WIRES DOWN -- PERSON IN THE CAR . CNR OF FEDERAL & HAYWOOD . PLS CALL WITH ETA	02/29/2012 07:33	02/29/2012 07:38	02/29/2012 07:49		02/29/2012 08:52	0.18	1.05	truck hooked services made repairs lovett/psm
01	STATE RD, WHATELY, MA	CAR STRUCK POLE, WIRES ON VEHICLE, PERSON INSIDE. POLE NUMBER 34/89. ***RANDOM ADDRESS*** POLE NUMBER 89-1 IS BROKEN. **THIS ADDRESS IS CLOSE TO 261 STATE RD IN WHATELY.	12/27/2012 09:15	12/27/2012 09:20	12/27/2012 09:34		12/27/2012 10:10	0.23	0.60	not our pole
01	LEVERETT RD, AMHERST	REQUESTING ETA..DUMP TRUCK UNDER WIRES, DRIVER IS IN VEHICLE. OFFICER ON SCENE.../W4250 ***HANDLED BY E911 MACHINE/ENTERED FOR EDS***	05/25/2012 08:56	05/25/2012 08:57	05/25/2012 08:57		05/25/2012 09:49	0.00	0.87	already onsite. repaired service. lacroix/eah
01	E HADLEY RD, AMHERST	POLE IS LEANING,NEAR DRIVE WAY WIRES ARE TOUCHING THE GROUND POLE #5/5	04/28/2012 15:46	04/28/2012 15:50	04/28/2012 16:16		04/28/2012 18:04	0.43	1.80	pole rotted off at base called crews to set new pole jacque/psm

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01	S EAST ST, AMHERST, MA	CALL WITH ETA 413-259-3000. LIVE WIRES IN STREET. BLOWN TRANSFORMER	03/27/2012 13:02	03/27/2012 13:03	03/27/2012 13:15		03/27/2012 14:47	0.20	1.53	repaired primary. golosh/eah
01	AMITY ST, AMHERST, MA	POLICE AND FIRE ON SCENED POLE 4-15 IS THE NEXT POLE. NEEDS ETR	03/01/2012 19:19	03/01/2012 19:30	03/01/2012 19:50		03/01/2012 20:33	0.33	0.72	old pole. we already transferred to new pole.
01	LOWER WHITNEY ST, LUDLOW, MA	PLEASE SHUT POWER OFF - CALL WITH ETR. FIRE DEPARTMENT ON SCENE	02/26/2012 19:27	02/26/2012 19:29	02/26/2012 19:51		02/26/2012 20:22	0.37	0.52	Shut off power
01	S EAST ST, AMHERST, MA	POLE WAS STRUCK LAST NIGHT, PARTIAL POLE NUM 15 /63. LEANING...W4120	02/16/2012 09:17	02/16/2012 09:21	02/16/2012 09:21		02/16/2012 09:23	0.00	0.03	not an emergency pole hit the night before just chk pole hjc
02	CASCADE ST, PITTSFIELD, MA	POLE 120 / 15 & 120B / 14 CAUSE BY STORM FD ON SCENE NO FIRES SMOKING	06/23/2012 15:25	06/23/2012 15:31	06/23/2012 15:49		06/23/2012 15:49	0.30	0.00	removed tree, repaired wire. maturevich/eah
02	CASCADE ST, PITTSFIELD, MA	LINES DOWN TREES ON FIRE... IN THE MIDDLE OF TRAFFIC... POLICE ON THE SCENE	08/04/2012 15:23	08/04/2012 15:26	08/04/2012 15:40		08/04/2012 16:07	0.23	0.45	removed tree. maturevich/eah
02	W HOUSATONIC ST, PITTSFIELD, MA	POLE # 89/67. POLE SNAPPED IN HALF. UNAWARE OF INJURIES. POLICE & FIRE ON SCENE.	04/28/2012 22:36	04/28/2012 22:45	04/28/2012 23:06		04/29/2012 03:51	0.35	4.75	SMITH
02	W HOUSATONIC ST, PITTSFIELD, MA	@ W. HOUSATONIC AND HAWTHORNE WIRE DOWN SPARKING/BURNING POLE # 330/1 ***RANDOM ADDRESS***	08/24/2012 12:58	08/24/2012 13:03	08/24/2012 13:13		08/24/2012 13:13	0.17	0.00	primary down / responded to emergency / hanson / edp
02	LEBANON MOUNTAIN RD, PITTSFIELD, MA	BLOWN XFORMER WIRE DOWN - ARCHING	07/02/2012 11:13	07/02/2012 11:19	07/02/2012 11:29		07/02/2012 11:29	0.17	0.00	BROKEN POLE & WIRE DOWN FERRARIN
02	PLEASANT ST, LEE, MA	TWO POLES SNAPPED IN HALF POLE #9 AND #11 LEANING OVER ROAD IN FRONT OF 1445 PLEASANT ST, WIRES HANGING LOW BLOCKING ROAD. LEE POLICE AND FIRE ON SIGHT, LIMBS LOW ENOUGH TO TOUCH	05/29/2012 18:29	05/29/2012 18:30	05/29/2012 18:35		05/29/2012 19:02	0.08	0.45	made safe jvf barbour
02	LAKE ST, DALTON, MA	LINE DOWN, LOW LYING WIRES, POLE TO HOUSE, POLE#3/3,	10/29/2012 16:16	10/30/2012 09:42	10/30/2012 10:43		10/30/2012 18:44	1.02	8.02	Made Safe
02	LONGFELLOW AVE, PITTSFIELD, MA	***RANDOM ADDRESS***POLE IS HEAVILY DAMAGED AT INTERSECTION OF LOGFELLOW AVE AND NEWELL. POLE#497/28, NO WIRES DOWN/ NO TRANSFORMER MENTIONED, NO INJURIES PER EQUIPMENT, CALL#20774	06/28/2012 03:19	06/28/2012 03:21	06/28/2012 03:34		06/28/2012 04:02	0.22	0.47	CAR VS POLE.SEE OUTAGE MXL/MJG
02	DALTON AVE, PITTSFIELD, MA	FIRE DEPT REPORTING SERVICE WIRE ON THE GROUND, SOME SPARKING/BURNING INITIALLY BUT NOT AT THIS TIME.	09/08/2012 14:30	09/08/2012 14:47	09/08/2012 15:20		09/08/2012 17:11	0.55	1.85	REplace 150' service- Hansen/RGC
02	DELAWARE AVE, PITTSFIELD, MA	TREE ON WIRES IN FRONT OF HOUSE STILL HAS POWER. REQUESTING ETA	09/08/2012 19:46	09/08/2012 19:58	09/08/2012 20:06		09/08/2012 20:13	0.12	0.12	Flipped limb off wires, all set
02	FENN ST, PITTSFIELD, MA	***RANDOM ADDRESS*** WATER COMING IN THROUGH BASEMENT THROUGH ELECTRICAL OUTLET PREVIOUS WMECO ISSUE PFD ON SCENE ISSUE IN COMPLEX BASEMENT.	01/27/2012 11:33	01/27/2012 11:37	01/27/2012 12:00		01/27/2012 12:01	0.38	0.02	
02	ORCHARD ST, PITTSFIELD, MA	***RANDOM ADDRESS***NEAR LOCATION OF 264 2ND ST. POLICE AND FIRE ON SCENE.NO ONE IN THE CAR. UNSURE IF CAR HIT POLE. LARGE ACCIDENT.	05/22/2012 13:21	05/22/2012 13:23	05/22/2012 13:28		05/22/2012 18:40	0.08	5.20	replaced pole ferrarin/psm
02	EAST ST, DALTON, MA	1000 FEET FROM HINSDALE/ DALTON TOWN LINE, POWER OUT TOO UPDATE TREE ON PRIMARY AND BLOCKING ROAD	10/29/2012 17:46	10/29/2012 17:50	10/29/2012 22:20		10/29/2012 22:20	4.50	0.00	Made Safe
02	E NEW LENOX RD, PITTSFIELD, MA	TREE WORK BEING DONE. TREE HIT WIRES, WIRES BEING HELD UP BY FORKLIFT.	05/24/2012 09:14	05/24/2012 09:16	05/24/2012 09:16		05/24/2012 09:40	0.00	0.40	was already on-site, phone loop. ferrarin/eah
02	DIMMOCK RD, OTIS, MA	**CALL WITH ETA** TREE RESTING DOWN ON WIRES OVER ROAD...POLE#16RIGHTBY INTERSECTION/W4250 ***RANDOM ADDRESS***	09/05/2012 07:40	09/05/2012 07:41	09/05/2012 07:57		09/05/2012 08:09	0.27	0.20	Removed Large Tree Limb- Zatorski/RGC
02	HARVEY MOUNTAIN RD, PITTSFIELD, MA	POLE# 77/79..CYN RIVERA 607-14438***RANDOM ADDRESS***	10/29/2012 14:52	10/30/2012 01:35	10/30/2012 01:35		10/30/2012 01:35	0.00	0.00	opened cutouts pole 4/18 to make safe
02	MAIN RD, SAVOY, MA	WIRE ON GROUND FIRE DEPT ON SCENE... **PLS CALL ETA**/W4250	06/29/2012 14:59	06/29/2012 15:57	06/29/2012 18:32		06/29/2012 18:33	2.57	0.02	primary down,made repairs bxh/edp
02	FLINTSTONE RD, WINDSOR, MA	POLE 27. TREE DOWN ON PRIMARIES. PRIORITY 2. LINES ARE IN INTACT..WMECO LINE CREWS ALREADY ON SITE....CYN RIVERA 607-4438	12/21/2012 10:36	12/21/2012 10:37	12/21/2012 10:37		12/21/2012 10:38	0.00	0.02	On-site when called in - RGC/Stevens
02	OLD DALTON RD, HINSDALE, MA	CROSS OF OLD DALTON RD AND ROUTE 8: TREE ON PRIMARIES: JUST WEST OF RR TRACKS: POLE # 47B OVER 93 AND 84: LINES INTACKED. BLOCKING ROADWAY.	12/21/2012 11:31	12/21/2012 11:37	12/21/2012 11:39		12/21/2012 13:00	0.03	1.35	TREE ON WIRES BIRCH DOWLING
02	FRARY RD, PERU, MA	WIRES STILL LIVE AT POLE 4B/32/10T/32 PEOPLE STRANDED AS ROAD IS BLOCKED, NO EMERGENCY PERSONEL ON SITE ***RANDOM ADDRESS***	10/29/2012 17:41	10/30/2012 07:40	10/30/2012 10:17		10/30/2012 10:17	2.60	0.00	Remove tree from wires to allow DPW to clear tree & open road.
02	SMITH RD, HINSDALE, MA	TREE ON PRIMARY LINES ***RANDOM ADDRESS***POLE ON FIRE/ FIRE	10/29/2012 17:14	10/29/2012 17:50	10/29/2012 18:40		10/29/2012 23:47	0.83	5.12	Made safe, has other call for the outage
02	SURRINER RD, BECKETT, MA	ON SCENE/ POLE 51/6	10/16/2012 20:02	10/16/2012 20:06	10/16/2012 20:36		10/16/2012 20:46	0.50	0.17	made safe. ferrarin/eah
02	ALGERIE RD, OTIS, MA	TREE ON PRIMARY WIRES	09/15/2012 15:10	09/15/2012 15:32	09/15/2012 16:12		09/15/2012 16:27	0.67	0.25	opened fuse, removed tree. maturevich/eah

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02	GIBBS RD, OTIS, MA	TREE DOWN, WIRE ON GROUND, BLOCKING RD TREE DOWN, WIRE ON GROUND, BLOCKING RD ***RANDOM ADDRESS***	10/29/2012 18:28	10/30/2012 16:00	10/30/2012 16:33		10/30/2012 17:33	0.55	1.00	see outage ticket for gibbs rd
02	MAIN RD, GRANVILLE, MA	XFRMR ON FIRE - WIRES DOWN BLOCKING ROAD - CALL W/ETA?? W4033	08/15/2012 07:52	08/15/2012 07:53	08/15/2012 08:33		08/15/2012 09:03	0.67	0.50	REPAIRED WIRE. BUNNELL/EAH
02	PLEASANT ST, PLAINFIELD, MA	FIRE DEPT ON SCENE - ROAD PARTIALLY BLOCKED - POLE #27/35 - CASE #2012-15081	10/29/2012 17:27	10/29/2012 17:30	10/29/2012 18:30		10/30/2012 07:31	1.00	13.02	tree
02	OLD POST RD, WORTHINGTON, MA	***RANDOM ADDRESS*** DISP ADV POLE #57 SMOKING NEAR TOP OF POLE. NEAREST HOUSE #375.	08/27/2012 11:38	08/27/2012 11:41	08/27/2012 12:07		08/27/2012 12:11	0.43	0.07	primary down,see outage dxs/mjg
02	KINNE BROOK RD, WORTHINGTON, MA	LIVE WIRES DOWN COULD NOT FIND THE FIRST TICKET THAT WAS PUT IN, ISSUING UPDATED./W4250	10/29/2012 15:54	10/29/2012 17:24	10/29/2012 17:24		10/29/2012 17:24	0.00	0.00	
02	DRESSER HILL RD, GOSHEN, MA	***RANDOM ADDRESS*** TREE DOWN BLOCKING ROAD POLE 30B/2 WMECO // SRG W4058	06/23/2012 16:07	06/23/2012 17:20	06/23/2012 17:27		06/23/2012 20:12	0.12	2.75	removed tree, repaired wire. lavallee/eah
02	SOUTH RD, WESTHAMPTON, MA	WIRES GOING TO HOME AND METER ARE SPARKING//CONCERNED THAT FIRE MAY START//STATES THAT SMOKE IS ALSO COMING FROM METER...	11/06/2012 13:22	11/06/2012 13:23	11/06/2012 13:50		11/06/2012 14:00	0.45	0.17	blown l/a on recloser. made safe.
02	DRUIDS LN, WEST SPRINGFIELD, MA	XFORMER FIRE / FIRE DEPT ONSITE ETA REQUESTED / 413 586 1508// SRG W4058	05/12/2012 13:06	05/12/2012 13:12	05/12/2012 13:35		05/12/2012 14:25	0.38	0.83	replaced connections @ house. albano/eah
02	LOUDVILLE RD, WESTHAMPTON, MA	****PLEASE CALL WITH ETA***** AND IS ON FIRE/ FD AND PD ON SCENE/ CALL BACK WITH ETA	06/23/2012 16:10	06/23/2012 16:16	06/23/2012 16:50		06/23/2012 18:37	0.57	1.78	isolated downed wire and backed nunez/psm
02	OLIVER ST, EASTHAMPTON, MA	OUT OF VEHICLE-INJURY-WIRES ARE DOWN- UNKNOWN IF TRANSFORMER - TELEPHONE POLE 167-***RANDOM ADDRESS***POLES CONNECT TO 868 BERKSHIRE ST	06/23/2012 16:11	06/23/2012 17:56	06/23/2012 18:30		06/23/2012 20:14	0.57	1.73	removed tree, repaired wire. herman/eah
02	KING'S LN, SPRINGFIELD, MA	RIGHT AT INTERSECTION WHEN YOU TAKE LEFT OFF OF PEMBROKE ST. ***RANDOM ADDRESS***ELECTRIC WIRE HANGING & FIRE & AMBULANCE CANT PASS. SHE DIDNT HAVE ALANDMARK.	09/24/2012 13:45	09/24/2012 13:47	09/24/2012 13:56		09/24/2012 13:58	0.15	0.03	made safe. grippin/eah
02	PEMBROKE CIR, SPRINGFIELD, MA	POLE #4 ON FIRE/ WIRES DOWN	05/07/2012 17:09	05/07/2012 17:14	05/07/2012 17:37		05/07/2012 17:39	0.37	0.03	CATV WIRE NOT AN EMERGENCY
02	POMONA ST, SPRINGFIELD, MA	TREE ON FIRE WIRES NOT BURNING YET FIRE DEPT ON SCENE	04/25/2012 18:11	04/25/2012 18:21	04/25/2012 18:29		04/25/2012 19:44	0.13	1.25	STREET LITE -- DISC IN ST MCQUEEN
02	DAVIS ST, GREENFIELD, MA	TRANSFORMER IS DANGLING FROM THE POLE POLE NUMBER 85/2//W4063 POLE NUMBER85/1 WERE WIRES ARE HANGING LOW PLZ CALL OFFICER 998 WITH ETA 413-259-3000	04/04/2012 20:43	04/04/2012 20:51	04/04/2012 20:56		04/04/2012 22:06	0.08	1.17	put guard on wires selanis jvf
02	MILL ST, AMHERST, MA	NORTH OF STOCKBRIDGE ROAD - ROUTE 47 WIRE DOWN IN ROAD ***RANDOM ADDRESS***	06/15/2012 16:00	06/15/2012 16:07	06/15/2012 16:35		06/15/2012 19:23	0.47	2.80	Straightened Pole and Re-hung Xfmers - Bang/RGC
02	RIVER DR, HADLEY, MA	OVER ROAD WAY. ADDITIONAL BEING PULLED DOWN. ON SCENE. ROAD BLOCKED POLE #6/6. OUTAGE. PLEASE CALL W/ETA	10/29/2012 16:50	10/29/2012 17:05	10/29/2012 17:20		10/29/2012 17:35	0.25	0.25	Nothing found
02	KELLOGG AVE, AMHERST, MA	LOOKING FOR ETA 413-259-3000.POLE 43 . POLE IS LEANING. VERY LOW HANGING WIRE OVER THE STREET. OFFICER ON SCENE. ** UPDATE - ENTER FROM MILL LN PER PUB WORKS	09/14/2012 23:40	09/14/2012 23:43	09/14/2012 23:53		09/15/2012 02:05	0.17	2.20	responded to emergency / chandler / edp
02	S EAST ST, AMHERST, MA	ON INTERSECTION TRACTOR TRAILER HIT POLE. POLE IS BROKEN AND WIRES ON GROUND 100T-INJURY UNKNOWN, 2 POLICE VEHICLES ON SITE.	05/11/2012 16:39	05/11/2012 16:42	05/11/2012 16:55		05/12/2012 00:32	0.22	7.62	PLE ROTTED OFF,SET & LATCHED NEW POLE SXC/MJG T 1200441-19
02	CHERRY ST, LUDLOW, MA	TREES AND WIRES ON THE GROUND.	02/27/2012 20:26	02/27/2012 20:29	02/27/2012 20:48		02/28/2012 07:55	0.32	11.12	PHBC - Replaced pole (Verizon Set)
02	BIRNAM RD, NORTHFIELD, MA	TREE DOWN ON WIRE AND IN RD, BRANCHES ALSO DOWN ON MULTIPLE LINES, TREE BEING WORKED ON, AREA HAS PWR STILL... PLS CALL WITH ETA TO (413)259-3000	08/05/2012 15:54	08/05/2012 16:10	08/05/2012 16:20		08/05/2012 16:33	0.17	0.22	Opened Fuses - Dyer/RGC
02	OLD BELCHERTOWN RD, MA	GUIDE WIRE IS DOWN ON GROUND...BOLT HOLDING GUIDE WIRES IS BROKEN.CABLE AND FON WIRES HAVE ALREADY BEEN REPAIRED...DISPATCHER SAID THIS IS NOT A CODE 1 BUT A CODE 3	09/18/2012 19:04	09/18/2012 19:05	09/18/2012 19:25		09/18/2012 19:29	0.33	0.07	Opened fuses to make safe chandler/RGC
03	BALANCE ROCK RD, LANESBORO, MA	NO INJURIES, NO ONE TRAPT. WIRES STILL ATTACHED TO POLE./	04/30/2012 07:06	04/30/2012 07:06	04/30/2012 07:18		04/30/2012 07:29	0.20	0.18	Notified Verizon of Low Cable / Broken Guy Wire
03	PECKS RD, PITTSFIELD, MA	***RANDOM ADDRESS*** POLE#18L....TREE HAS FALLEN ON WIRES AND LYING THERE.POLE#18L....TREE HAS FALLEN ON WIRES AND LYING THERE.	03/31/2012 00:53	03/31/2012 01:05	03/31/2012 01:27		03/31/2012 04:32	0.37	3.08	called in crews to replace broken pole maturevich/thurston/psm
03	VALENTINE RD, PITTSFIELD, MA	WIRES AND LYING THERE.	09/24/2012 10:53	09/24/2012 10:56	09/24/2012 11:05		09/24/2012 11:17	0.15	0.20	STREET LIGHT - OWNED BY PITTSFIELD HAMEL

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03	SOUTH ST, PITTSFIELD, MA	NO INJURIES. POLE DID FALL ON THE POLE. CALL #10435. RIGHT AT THE INTERSECTION. PD AND FIRE ON SCENE. ***RANDOM ADDRESS***	04/01/2012 02:36	04/01/2012 02:41	04/01/2012 02:58		04/01/2012 03:42	0.28	0.73	veh into traffic lite base made safe maturevich/psm
03	MERRIAM ST, PITTSFIELD	75 MERRIAM AND CROSSES WITH BUCHAN POLE # 100/1 ***RANDOM ADDRESS*** THE TRANSFORMER BLEW IS SMOKING AND IS LEAKING ON THE GROUND	08/18/2012 18:34	08/18/2012 18:40	08/18/2012 18:50		08/18/2012 21:42	0.17	2.87	xfmer blew lid. had spill. replaced 50 kva.
03	CRYSTAL ST, PITTSFIELD	POLE 2. PRIMARIES DOWN AROUND A CAR FD SCENE: ASK FOR CALL BACK WITH ETA REQUESTING ETA.	07/28/2012 15:27	07/28/2012 16:06	07/28/2012 16:28		07/28/2012 17:04	0.35	0.60	all set per holden / edp
03	ONOTA ST, PITTSFIELD, MA	WIRES DOWN BETWEEN POLE 34/35 & 51B/33 ... PART OF THE ROAD IS BEING BLOCKED.	05/22/2012 12:18	05/22/2012 12:20	05/22/2012 13:08		05/22/2012 13:08	0.80	0.00	fire alarm wires per ferrarin / edp
03	CASCADE ST, PITTSFIELD	BRANCHES IN WIRES AT POLE 120/5	10/30/2012 08:34	10/30/2012 14:01	10/30/2012 14:12		10/30/2012 14:15	0.18	0.05	
03	BLYTHWOOD DR, PITTSFIELD	WIRE IS DOWN GOING FROM POLE TO POLE ALONG THE STREET IN FRONT OF THIS ADDRESS/OFF POLE#24/24/FIRE DEPT AT SITE/JAAM/4165/IIIIII	10/30/2012 16:59	10/30/2012 17:10	10/30/2012 17:53		10/30/2012 18:53	0.72	1.00	Made safe, opened C/O Worked on trees, still out will fix tomorrow AM
03	CHURCH LN, RICHMOND, MA	TREE BROKEN /ACROSS WIRES /NOT DOWN YET BUT WILL BRING DOWN SOON PER POLICE SUPERINTENDENT JERRY COPPOLA BETWEEN POLES 3 AND 3M	11/02/2012 13:27	11/02/2012 13:38	11/02/2012 14:30		11/02/2012 15:11	0.87	0.68	rem limb dowing/psm
03	MAIN ST, DALTON, MA	NEED POLE CHECKED. TRUCK VS. POLE. NO POLE #. NEXT TO 556 MAIN ST. NO APPARENT DAMAGE. PLEASE CHECK. POLICE ON SCENE.	07/12/2012 09:32	07/12/2012 09:35	07/12/2012 09:37		07/12/2012 09:39	0.03	0.03	POLE CHK -- NO APPARENT DAMAGE -- NEAR HOUSE 556 MAIN FAXED TO PITTS AWC
03	HIGH ST, DALTON, MA	POLE # 38	04/09/2012 14:00	04/09/2012 14:05	04/09/2012 14:10		04/09/2012 14:17	0.08	0.12	CAR VS POLE NO DAMAGE FERRARIN
03	DELAWARE AVE, PITTSFIELD	BRANCHES IN BACK OF SCHOOL ON WRIES POLE TO POLE	10/30/2012 08:41	10/30/2012 09:20	10/30/2012 09:35		10/30/2012 09:35	0.25	0.00	Branches on street light cable on P 200/5-2. Mike Wilson said safe. JM
03	DELAWARE AVE, PITTSFIELD	TREES ARE LEANING ON LINES IN BACK OF SCHOOL	11/28/2012 10:04	11/28/2012 10:05	11/28/2012 10:21		11/28/2012 10:22	0.27	0.02	TREE LIMB ON SECONDARY ST LITE WIRE FERRARIN
03	LOWDEN ST, PITTSFIELD	TREE LAYING ON WIRE IN FRONT OF THIS HOUSE READY TO FALL WIRE GOES ACROSS MAIN ROAD	09/18/2012 12:59	09/18/2012 13:02	09/18/2012 13:34		09/18/2012 13:38	0.53	0.07	CLEARED LIMB FROM SERVICE KERN
03	EAST ST, DALTON, MA	HIT BY CAR//NO APPREARED DAMAGE BUT NEEDS TO BE CHECKED DUE TO EXTENT OF DAMAGE ON VEHICLE//POLE# 31/14	07/06/2012 14:21	07/06/2012 14:22	07/06/2012 16:55		07/06/2012 19:29	2.55	2.57	NOT IN NEED OF IMMEDIATE ATTENTION MAG pole ok
03	GILES RD, OTIS, MA	POLE # 2 - TREE LEANING DOWN ON WIRES//W4250	09/17/2012 15:41	09/17/2012 15:43	09/17/2012 16:16		09/17/2012 16:39	0.55	0.38	removed limb. barbour/eah
03	MINER RD, OTIS, MA	TREE ON WIRES POLE#30/12.	06/26/2012 08:49	06/26/2012 08:49	06/26/2012 09:15		06/26/2012 09:22	0.43	0.12	Opened fuse P 30/1 to remove tree- Filkins/RGC
03	MOODY GOODMAN RD, OTIS, MA	TREE AND WIRES DOWN BLOCKING ROAD. PER FIRE CHIEF LIVE WIRE DOWN ACCROSS RD	10/29/2012 17:21	10/30/2012 19:48	10/30/2012 19:48		10/30/2012 19:48	0.00	0.00	
03	PINE RD, OTIS, MA	TREE LIMB ON WIRES, POLE TO POLE SVC. KBW4495	09/19/2012 07:45	09/19/2012 08:10	09/19/2012 09:57		09/19/2012 11:31	1.78	1.57	TREE, REMOVED ASPL
03	ADAMS RD, SAVOY, MA	POLE#25***RANDOM ADDRESS***	01/12/2012 09:40	01/12/2012 09:48	01/12/2012 10:18		01/12/2012 12:11	0.50	1.88	patrolled found no problem or p# 25 possibly grid owned hjc
03	CENTER RD, SAVOY, MA	***RANDOM ADDRESS*** TREE CAME DOWN AND TOOK DOWN WIRE. NO EMERGENCY PERSONNEL REMAINING ON SCENE AND ROAD NOT OBSTRUCTED. NO CASE NUMBER PROVIDED AT THIS TIME.	08/04/2012 08:14	08/04/2012 08:16	08/04/2012 09:34		08/04/2012 09:34	1.30	0.00	no eta required. removed tree, repaired wire. herman/eah
03	CHESHIRE RD, WINDSOR, MA	NEAR INTERSECTION OF SAVOY RD AND CHESHIRE POLE # 5/9 TREE ON WIRES TENSION BUT NOT SAGGING YET***RANDOM ADDRESS***	02/01/2012 14:38	02/01/2012 14:49	02/01/2012 15:22		02/01/2012 15:48	0.55	0.43	removed tree
03	CLOVIS RD, HINSDALE, MA	UP THE STREET FROM THIS ADDRESS. WHEN TURN ON TO ASHMORE ROAD. IF YOU COMEUP ON RT 143 TAKE A LEFT ON ASHMORE DR THEN TAKE 1ST LEFT ON ASHMORE ROAD.***RANDOM ADDRESS***. TREE LEANING ON PRIMARIES, HANGING VERY LOW.	08/06/2012 09:16	08/06/2012 09:18	08/06/2012 09:35		08/06/2012 10:53	0.28	1.30	removed tree. hamel/eah
03	SMITH RD, PERU, MA		10/29/2012 15:35	10/29/2012 19:30	10/29/2012 20:48		10/29/2012 20:48	1.30	0.00	per patrollers no wires down
03	MONGUE RD, PERU, MA		10/30/2012 15:06	10/30/2012 15:49	10/30/2012 16:30		10/30/2012 18:45	0.68	2.25	Made safe
03	STATE RD, BECKET, MA	POLE 53/18 TREE LIMB SMOLDERING THE LINE// NOT BLOCKING POLICE ON SCENE NEAR CEMETARY***RANDOM ADDRESS***	03/26/2012 17:23	03/26/2012 17:30	03/26/2012 19:05		03/26/2012 19:05	1.57	0.00	responded to emergency / diorio / edp
03	SARGENT RD, WASHINGTON, MA	FIRE BRUCH ON A BRANCH	04/16/2012 11:42	04/16/2012 11:49	04/16/2012 12:45		04/16/2012 13:02	0.93	0.28	tree brushing against wire.made safe sxc/mjg
03	N MAIN RD, OTIS, MA	LIMB ON WIRES. POLE # 20/B/3	09/11/2012 07:23	09/11/2012 07:26	09/11/2012 07:55		09/11/2012 08:19	0.48	0.40	Removed tree on 20/3- RGC
03	BLANDFORD RD, GRANVILLE, MA	CLOSET HOUSE NAME IS RE. ROAD IS PARTIALLY BLOCK- ONLY ONE LANE OPEN. ***RANDOM ADDRESS*** NORTH OF RE RESTANIST SOUTH OF FELAND RD.	10/16/2012 14:41	10/16/2012 14:47	10/16/2012 14:47		10/16/2012 19:54	0.00	5.12	made safe. pirog
03	WEST ST, WORTHINGTON, MA		10/29/2012 15:17	10/29/2012 16:50	10/29/2012 17:50		10/30/2012 11:52	1.00	18.03	complete

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03	OLD WESTFIELD RD, GRA	ACROSS FROM GRANVILLE RESERVOIR, POLE # 15/65..... WRAPPED POLE AND BRUSH W/CAUTION TAPE, GUY WIRE OVER CROSS BAR WOOD, NOT TOUCHING PRIMARY***RANDOM ADDRESS***	12/14/2012 14:44	12/14/2012 14:52	12/14/2012 15:55		12/14/2012 17:41	1.05	1.77	Removed guy wire from X-Arm and made repair- Bailey/RGC
03	WORTHINGTON RD, HUN	STREET LIGHT RIGHT @ WORTHING AND MONTGOMERY RD WMCO 14B/UPDATE-CB TO INFORM THIS WAS NOT EMERGENCY- AWARE HE SHOULD NOT HAVE USED A PRIORITY CODE-JUST A DANGEROUS INTERSECTION/M6526	06/11/2012 11:28	06/11/2012 11:28	06/11/2012 11:28		06/11/2012 11:29	0.00	0.02	duplicate ticket to tell me that other ticket was not a priority jvf
03	WORTHINGTON RD, HUN	STREET LIGHT RIGHT @ WORTHING AND MONTGOMERY RD WMCO 14B	06/11/2012 08:30	06/11/2012 08:50	06/11/2012 09:40		06/11/2012 12:48	0.83	3.13	checked light needs to be replaced not an emergency nunez jvf
03	ROCKY BROOK DR, HUN	***RANDOM ADDRESS***JUST CHECK WHEN ABLE NO DAMAGE. M6311	04/24/2012 01:22	04/24/2012 01:23	04/24/2012 01:23		04/24/2012 01:24	0.00	0.02	chks ok. belfakih/eah
03	CITY VIEW AVE, WEST SP	@P# 257/4 - TRANSFORMER BLEW WITH PUFF, NO WIRES DOWN. POWER OUT. W4241	07/17/2012 20:46	07/17/2012 20:59	07/17/2012 22:05		07/17/2012 22:16	1.10	0.18	replaced xfmr. czub/eah
03	LAUREL RD, WEST SPRIN	TRANSFORMER EXPLODED POLE NUMBER 7	03/17/2012 08:12	03/17/2012 08:15	03/17/2012 08:26		03/17/2012 08:39	0.18	0.22	EXPLOSION,SEE OUTAGE LXG/MJG
03	WESTFIELD ST, WEST SP	ETA REQUESTED. TRANSFORMER HAS BLOWN POLE #321/117.	10/29/2012 12:06	10/29/2012 12:09	10/29/2012 12:26		10/29/2012 12:47	0.28	0.35	
03	OLD GREENFIELD RD, SH	POLE 53/46 WAS ARCHING BUT NOT ANYMORE, FIRE AND PD ONSITE.	08/05/2012 15:18	08/05/2012 15:38	08/05/2012 15:46		08/05/2012 18:15	0.13	2.48	Need tree crew, opened fuse
03	WHITE BIRCH LN, GREEN		04/04/2012 19:28	04/04/2012 20:14	04/04/2012 20:30		04/04/2012 23:39	0.27	3.15	restrung service jvf fanauf
03	OLD STAGE RD, HATFIELD	***RANDOM ADDRESS***POLE..#16	10/30/2012 07:56	10/30/2012 10:48	10/30/2012 10:48		10/30/2012 10:48	0.00	0.00	communications wiire down per stolarski 10/30/12 10:53 am dmc
03	EAST ST, EASTHAMPTON	POLE 106 DAMAGED...CAR ACCIDENT.....W4120	04/26/2012 11:45	04/26/2012 11:56	04/26/2012 12:05		04/26/2012 12:12	0.15	0.12	pole ok lovette/psm
03	WEST ST, EASTHAMPTON	POLE# 58 . DAMAGE AT BOTTOM.../W4250	06/25/2012 10:34	06/25/2012 10:46	06/25/2012 11:25		06/25/2012 11:36	0.63	0.18	Removed old abandoned stub pole that was left there about 15 years ago by cust. request- Taylor/RGC
03	DL MIDWAY-EASTHAMPT	BEHIND #116 PLEASANT ST POLE W/3 OR 4 XFRMRS ON IT ARCING AND CRACKLING/OFFICER AND FIRE CREW ON SCENE/	05/07/2012 15:36	05/07/2012 15:48	05/07/2012 16:00		05/07/2012 16:29	0.20	0.48	19B4-12T SW 1 BLADE ON FIRE LOVETT
03	PLAIN ST, EASTHAMPTON	LIMB ON LINES, WAS ARCING BUT IS NOT ANY LONGER. NEAR AN EMERGENCY SWITCH	10/29/2012 18:09	10/29/2012 18:28	10/29/2012 19:06		10/29/2012 19:06	0.63	0.00	
03	BOSTON RD, SPRINGFIELD	DOES NOT REQUIRE IMMEDIATE ATTENTION, POLE WAS JOLTED FROM IMPACT AT 809 BOSTON RD INTERSECTION OF WILKES ST. NO POLE # GIVEN. REQUEST ETA.	07/07/2012 12:56	07/07/2012 13:00	07/07/2012 13:20		07/07/2012 13:42	0.33	0.37	pole ok per bailey / edp
03	BERKSHIRE AVE, SPRING	IN BETWEEN HARVEY AND COTTAGE ON BERSHIRE POLE WAS HIT PLEASE AESS.. WIRES DOWN .. POLE BEING SUPPORTED BY PHONE LINES***RANDOM ADDRESS***	07/01/2012 08:47	07/01/2012 08:53	07/01/2012 08:56		07/01/2012 09:10	0.05	0.23	VERIZON POLE -- NONE OF OUR EQUIPMENT INVOLVED -ADVISED VERIZON GRIPPIN
03	LONGMEADOW ST, LONG	ALLUMINUM POLE HIT BY CAR POLE LOOKS LIKE IT COULD COME DOWN, LOCATED AT THE INTERSECTION OF LONGMEADOW AND HOMESTEAD, PLEASE MAKE SAFE W/4413	10/13/2012 12:03	10/13/2012 12:04	10/13/2012 13:15		10/13/2012 17:23	1.18	4.13	NON emergency dented Streelight pole-Grippin/RGC
03	LAUREL LN, LONGMEAD	CALL WAS PLACED BY MIKE .. STATING POLE WAS ON FIRE ON THE CORNER OF LAUREL AND HARWICH.. POLE IS NOT ON FIRE.. OFFICER ON SCENE WOULD LIKE US TO CHECK POLE.***RANDOM ADDRESS*** OFFICER ON SCENE BELIEVES UNDERGROUND INVOLMENT	08/13/2012 08:51	08/13/2012 08:56	08/13/2012 09:12		08/13/2012 12:04	0.27	2.87	REPAIRED SVC AT BASE OF POLE BUNNELL
03	MILL RD, LONGMEADOW	***RANDOM ADDRESS***SHAKER AT MILL BRANCH ON WIRES BURNING ACCESS ON STREET NO GOOD FIRE ON SCENE IN THE UNAPPROVE SECTION OF ROAD ON THE 17TH HOLE OF COUNTY CLUB WIRES SHOULD BE FALLING COMING DOWN	10/10/2012 13:31	10/10/2012 13:32	10/10/2012 13:51		10/10/2012 15:23	0.32	1.53	PHASE ON ARM BURNED DOWN OP 3-140'S ON 146/27 AND RESTORED CUSTOMERS- ALVAREZ/RGC
03	BEL AIR DR, LONGMEAD	PER POLC DISP / SEE REPORT ORIG REPORT / OF WIRE BURNING / NEAREST POLE JUST UP FROM #108 IS (POLE# 6) // W4233	05/29/2012 19:17	05/29/2012 19:27	05/29/2012 19:44		05/29/2012 20:20	0.28	0.60	removed limb from primary
03	E GLEN RD, LEYDEN, MA	***CALL ETA** RIGHT ON INT. ***RANDOM ADDRESS***	10/29/2012 17:19	10/29/2012 22:35	10/30/2012 03:22		10/30/2012 04:43	4.78	1.35	
03	GILL RD, BERNARDSTON	POLE#18 B/14 & 18 B/15 -- TREE WAS MARKED WITH ORANGE X -- TREE CLOSE TO THE SWAMP AREA -- NOW LEANING OVER	08/10/2012 10:36	08/10/2012 10:38	08/10/2012 10:50		08/10/2012 11:04	0.20	0.23	verizon only dyer jvf

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03	LEYDEN RD, GREENFIELD	CUT OUT HAS POPENED POLE#25T/93 LIMB ON WIRES WAS BURNING NOT NOW FIRE DEPT HAS CLEARED. PROPRITY 3, USED TO GO TO THE BUSINESS WHICH IS NO LONGER.	11/25/2012 02:29	11/25/2012 02:35	11/25/2012 02:55		11/25/2012 03:28	0.33	0.55	refused c/o
03	EUNICE WILLIAMS DR, GRY	POLE #197/1 LARGE BRANCH ON WIRE, WIRE IS HANGING LOW. ***RANDOM ADDRESS*** WIRE IS HANGING LOW BUT YOU CAN PASS UNDER	06/02/2012 12:41	06/02/2012 12:47	06/02/2012 13:03		06/02/2012 13:48	0.27	0.75	rem limb faneuf/psm
03	CHAPMAN ST, GREENFIELD	LIMB TOOK DOWN PRIMARY.	07/29/2012 06:48	07/29/2012 06:57	07/29/2012 06:57		07/29/2012 07:00	0.00	0.05	duplicate call
03	CHAPMAN ST, GREENFIELD	LIMB TOOK DOWN PRIMARY. PLEASE CALL WITH ETA	07/29/2012 06:48	07/29/2012 06:58	07/29/2012 07:20		07/29/2012 08:54	0.40	1.57	primary down made repairs
03	CONWAY ST, GREENFIELD	TRANSFORMER ON FIRE ON POLE # 27/26	08/10/2012 12:14	08/10/2012 12:16	08/10/2012 12:18		08/10/2012 12:19	0.03	0.02	dyer removed limb jvl
03	WARNER ST, GREENFIELD	POLE-HOUSE // TREE ON WIRES // FIRE DEPT ON SCENE // NOT BURNING // SAGGING // BRAIDED WIRE // POWER STILL AT LOCATION // M6375NEED ETR	10/30/2012 21:43	10/30/2012 22:30	10/30/2012 22:40		10/30/2012 23:13	0.17	0.55	
03	COUNTRY CLUB RD, GRE	TREE TOOK DOWN LIVE WIRES DOWN. TRANSFORMER PROBLEM.	08/05/2012 16:46	08/05/2012 16:53	08/05/2012 17:13		08/05/2012 17:53	0.33	0.67	Wire Down
03	LAKEVIEW DR, GREENFIELD	WOULD LIKE AN ETA/ POLE 15T 124	10/29/2012 14:12	10/29/2012 14:16	10/29/2012 14:51		10/29/2012 14:51	0.57	0.00	rem tree
03	WISDOM PL, GREENFIELD	IN FRONT OF 253 TELEPHONE POLE WAS SPARKING AT THE TOP	10/29/2012 18:25	10/30/2012 00:22	10/30/2012 02:59		10/30/2012 02:59	2.62	0.00	
03	E MINERAL RD, MONTAGU	TREE CAME DOWN WITH WIRES ATTACHED AND BLOCKING TRAFFIC. NEEDS POWER SHUT DOWN TO REMOVE TREE.***RANDOM ADDRESS***	10/29/2012 16:39	10/30/2012 02:58	10/30/2012 03:47		10/30/2012 03:58	0.82	0.18	
03	E MINERAL RD, MONTAGU	TREE CAME DOWN WITH WIRES ATTACHED AND BLOCKING TRAFFIC. NEEDS POWER SHUT DOWN TO REMOVE TREE.***RANDOM ADDRESS*** PLEASE CALL WITH TIME OF POSSIBLE	10/30/2012 08:44	10/30/2012 09:09	10/30/2012 09:30		10/30/2012 10:45	0.35	1.25	Tree limb cleared by Asplundh/chad's team
03	RIPLEY RD, MONTAGUE,	TREE AND WIRES DOWN ON ROAD. POLICE IN ROUTE TO LOCATION. NEAR TOP OF W CHESTNUT HILL ROAD...//CYN RIVERA 607-4438***RANDOM ADDRESS***	12/21/2012 11:42	12/21/2012 11:46	12/21/2012 12:07		12/21/2012 12:18	0.35	0.18	Tree took down service
03	RIPLEY RD, MONTAGUE,	***RANDOM ADDRESS*** RTE 63 POLE 4 WIRES PULLED DOWN	08/05/2012 13:16	08/05/2012 13:18	08/05/2012 13:44		08/05/2012 18:16	0.43	4.53	Opened Fuse Made safe-Lavallee/RGC
03	MASSACHUSETTS AVE, A	TRANSFORMER BLEW ON POLE 40T/93/40. POWER IS OUT IN THE AREA. POLICE WONT STAY ON SCENE. CALL W/ ETA ASAP	09/01/2012 17:36	09/01/2012 17:40	09/01/2012 18:00		09/01/2012 18:04	0.33	0.07	CAR VS PADMOUNT -- BLEW 2 FUSES BELFAKIH
03	KELLOGG AVE, AMHERST	TRE BRANCH ON WIRES AT THE INTERSECTION OF 25 KELLOGG AVE AND BOATWOOD WALK	06/07/2012 12:24	06/07/2012 12:30	06/07/2012 13:05		06/07/2012 13:09	0.58	0.07	removed limb from primary.
03	BAKER ST, AMHERST, MA	***CALL WITH ETA**	10/29/2012 15:45	10/29/2012 17:30	10/29/2012 17:40		10/29/2012 17:40	0.17	0.00	
03	PROSPECT ST, ERVING, N	STATES ADDRESS IS 8 PAPERMILL RD/PROSPECT ST AND ITS OUR SERVICE AREA- HERE REQUESTED PRIORITY LEVEL 3 AND CONFIRMED- STATES ELECTRIC SERVICE WIRE DOWN- NOTHING BURNING, ROAD NOT BLOCKED AND NO FIRE/POLICE ON SCENE***RANDOM AD	04/05/2012 17:12	04/05/2012 17:16	04/05/2012 17:53		04/05/2012 17:53	0.62	0.00	cut down secondary adc, put in work order. selanis/eah
03	CHESTNUT HILL LOOP, M	WIRES ARCHING AND STOPPED...// PD ON SCENE, POLE 27/9	04/07/2012 14:48	04/07/2012 15:01	04/07/2012 15:36		04/07/2012 15:39	0.58	0.05	SELANIS 40T OP TREES
03	CHESTNUT HILL LOOP, M	POLE 27/25. POLICE WILL BE BARRICADING ROAD. TREE IS 50' LONG, 8" DIAMETER. WIRES STILL CONNECTED BUT APPEAR HOT. SUGGESTS COMING FROM WEST CHESTNUT HILL LOOP.	07/29/2012 22:18	07/29/2012 22:54	07/29/2012 23:45		07/30/2012 04:59	0.85	5.23	removed tre from primary/ lavallee / edp
Averages								0.50	1.35	

* All repairs are considered permanent within WMECO's OMS. If follow-up action is needed, it is tracked to completion in WMECO's work management system.

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01	BRODIE MOUNTAIN RD, LANESBOROUGH, MA	POWDER HOUNDS RESTAURANT ON FIRE ***RANDOM ADDRESS***ETA REQUESTED	10/10/2012 14:24	10/10/2012 14:28	10/10/2012 14:29		10/10/2012 14:30	0.02	0.02	FIRE AT POWDER HOUNDS RESTAURANT CALLED COUNTY COMMUNICATIONS NAT GRID CUSTOMER
01	SOUTH ST, PITTSFIELD, MA	NEED POWER OFF TO POLE DUE TO WATER PROBLEM AT THIS LOCATION...CYN RIVERA 607-4438	01/19/2012 12:07	01/19/2012 12:07	01/19/2012 12:12		01/19/2012 12:22	0.08	0.17	DISCONNECT FOR PIPE BURST -- PRIORITY 1 FERRARIN DIORIO
01	ESSEX ST, PITTSFIELD, MA	WIRES ARCING, NOT ON THE GROUND, UNSURE WHY WIRES ARCING, NEXT TO HOUSE	09/12/2012 07:27	09/12/2012 07:30	09/12/2012 07:41		09/12/2012 07:58	0.18	0.28	Service connections burned siding- RGC
01	CAMBRIDGE AVE, PITTSFIELD, MA	LINES ON CAR THAT ARE BURNING. **CALL FOR ETA** POLICE AND FIRE ON SCENE.	08/12/2012 11:06	08/12/2012 11:22	08/12/2012 11:36		08/12/2012 11:37	0.23	0.02	CAR VS POLE BROKE POLE
01	WOODLAND RD, LEE, MA	STATES THIS IS AT 256 WOODLAND ROAD LEE, MA	09/18/2012 20:19	09/18/2012 20:36	09/18/2012 21:25		09/18/2012 21:43	0.82	0.30	responded to emergency / edp
01	CAPE ST, LEE, MA	POLE 51 NO INJ, POLE SNAPPED, UNK XFORMER, ROAD BLOCKED PD ON SCENE, UNK WIRES M6311	04/04/2012 23:02	04/04/2012 23:10	04/04/2012 23:30		04/05/2012 04:50	0.33	5.33	VERIZON SET NEW POLE,WE TRANSFERRED TO NEW POLE BXS/MJG
01	NEW BOSTON RD, TOLLAND, MA	POLE 48 OR 50 IN THE AREA OF 635 NEW BOSTON ROAD, WIRES DOWN SOMEONE STUCKINSIDE CAR. ***RANDOM ADDRESS***	04/10/2012 13:31	04/10/2012 13:40	04/10/2012 13:44		04/10/2012 18:07	0.07	4.38	replaced pole jvf ferrarin
01	S MAIN ST, SANDSFIELD, MA	DUMP TRUCK THAT WENT INTO BUILDING, PEOPLE INJURED WIRES DOWN/ FIRE AND POLICE ON SCENE, NEED ETA, AT INTERSECTION OF RTE 87 AND ROUTE 8 ***RANDOM ADDRESS***	10/02/2012 08:40	10/02/2012 08:42	10/02/2012 09:10		10/02/2012 09:11	0.47	0.02	responded to emergency / barbour / edp
01	N BLANDFORD RD, BLANDFORD, MA	BELIEVES MAY BE RELATED TO BECKET OUTAGE, SAYS THAT ONLY AWARE THAT WIRES ARE DOWN. UNAWARE IF ANYONE IS TRAPPED IN THE VEHICLE. FIRE AND POLICE AREENROUTE. NEAR ALGERY FOUR CORNERS ***RANDOM ADDRESS***	10/10/2012 21:33	10/10/2012 21:38	10/10/2012 21:47		10/10/2012 22:38	0.15	0.85	MADE SAFE, REPAIRED WIRE. KUROWSKI/EAH
01	W OTTER DR, TOLLAND, MA	CAR ACCIDENT, HIT POLE AND WIRE WENT DOWN ***ETA***** RANDOM ADDRESS*** POLE #39 HAS BEEN SNAPPED OFF AT THE BASE	11/30/2012 09:24	11/30/2012 09:29	11/30/2012 10:03		11/30/2012 10:30	0.57	0.45	truck caught wires. brokw pole. replaced pole
01	SHAW RD, WINDSOR, MA	***ETA REQ ASAP** PRIORITY ONE CONFIRMED. STRUCTURE FIRE	06/11/2012 16:30	06/11/2012 16:32	06/11/2012 16:58		06/11/2012 17:04	0.43	0.10	STRUCTURE FIRE,CUT DOWN 2 SERVICES BXM/MJG
01	WILLIAMSBURG RD, WORTHINGTON, MA	STRUCTURE FIRE, ***ETA***	12/31/2012 11:48	12/31/2012 11:54	12/31/2012 12:04		12/31/2012 12:58	0.17	0.90	no action needed jvf stevens
01	CUMMINGTON RD, WORTHINGTON, MA	CAR VS POLE, POLE IS DOWN BLOCKING ROAD, WIRES DOWN, NEXT CLOSEST POLE IS POLE #23	01/29/2012 20:57	01/29/2012 21:01	01/29/2012 21:45		01/29/2012 23:27	0.73	1.70	replaced pole. herman/eah
01	FEEDING HILLS RD, SOUTHWICK, MA	***RANDOM ADDRESS***POLE #6- DPW AGENT- AROUND 130 FEEDING HILLS ROAD. CONCERN FOR WATER SUPPLY IF TREE TAKES DOWN LINE- TREE IS ON ACCESS ROAD ACROSS FROM RED OAK INTERSECTION-POLE #40T 42B 48VZ32- CUT OUT LOCATED HEAR- LOOK	06/09/2012 09:43	06/09/2012 10:00	06/09/2012 10:20		06/09/2012 12:20	0.33	2.00	tree on line going to water pump station,removed by lewis axg/mjg
01	COLLEGE HWY, SOUTHWICK, MA		04/08/2012 22:16	04/08/2012 22:17	04/08/2012 22:38		04/09/2012 00:33	0.35	1.92	car vs pole replaced pole bailey jv
01	SOUTH ST, CHESTERFIELD, MA	WIRES DOWN NEAR POLE 31/20 ROAD IS CLOSED THE WIRES ARE ARCING / DO NOT KNOW WHAT BROUGHT THEM DOWN . LOOKS LIKE WIRES DOWN BETWEEN 4 POLE . OFFICER ON SITE	07/24/2012 11:30	07/24/2012 11:35	07/24/2012 12:27		07/24/2012 12:27	0.87	0.00	Opened 18K2-12 ABS to make safe and repair- Serra/RGC
01	MONTGOMERY RD, HUNTINGTON, MA	POLE # 14B FIRE AND POLICE ARE ON SCENE. LOOKING ETA. TRANSFORMER IS ON FIRE AS WELL AS WIRES ARCING AND ARE DOWN IN THE ROAD. THIS IS AT THE INTERSECTION OF MONTGOMERY ROAD AND WORTHINGTON ROAD. ***RANDOM ADDRESS***	10/10/2012 09:05	10/10/2012 09:08	10/10/2012 09:37		10/10/2012 11:08	0.48	1.52	ST TROOPER ACCIDENT / HOUSE FIRE
01	ROWLEY ST, AGAWAM, MA	STREET BLOCKED OFF/ / CALL BACK WITH ETA	08/05/2012 17:02	08/05/2012 17:05	08/05/2012 17:12		08/05/2012 18:56	0.12	1.73	removed tree, replaced fuse. conner/eah
01	GREEN RIVER LN, COLRAIN, MA	POLICE/FIRE/EMS ON SCENE. PLZ CALL WITH ETA. REMCO POLE NO. 29/65	06/20/2012 12:31	06/20/2012 12:31	06/20/2012 12:35		06/20/2012 12:57	0.07	0.37	NO ONE IN THE CAR SMITH \ HERMANN
01	COLRAIN SHELBURNE RD, SHELBURNE, MA	PEOPLE TRAPPED LIVE WIRE NEED POWER SHUT OFF ASAP. PLEASE CALL WITH ETA.	01/01/2012 07:56	01/01/2012 08:15	01/01/2012 08:45		01/01/2012 10:46	0.50	2.02	pole hit. replaced pole
01	MOHAWK TRL, SHELBURNE, MA	***RANDOM ADDRESS*** BUILDING IS CALLED COUNTRY GROOMERS. BUILDING ON FIRE.	11/30/2012 12:02	11/30/2012 12:08	11/30/2012 12:16		11/30/2012 12:26	0.13	0.17	STRUCTURE FIRE.DISC AT POLE GXs/MJG
01	MOHAWK TRL, SHELBURNE, MA	***RANDOM ADDRESS*** STATES 4 HIGHLAND AVE IS THE ACTUAL ADDRESS THERE IS AN ELDERLY HOME OXYGEN CONCENTRATORS AND AC THEY HAVE ALREADY TAKEN SOMEONE TO THE ER. HIGHLAND VILLAGE.	05/29/2012 21:23	05/29/2012 21:27	05/29/2012 21:27		05/29/2012 21:28	0.00	0.02	working on outage spoke with police and gave him information on outage hjc
01	DWIGHT ST, HATFIELD, MA	TWO PRIMARIES ON THE GROUND SMOKING... AT POLE #3 - FD AND PD ON SCENE - CALL WITH ETA	12/02/2012 21:39	12/02/2012 21:44	12/02/2012 21:55		12/02/2012 22:06	0.18	0.18	REPAIRED DOWNED WIRES. BRADLEY/EAH
01	PEPIN AVE, EASTHAMPTON, MA	STRUCTURE FIRE, PLEASE CUT POWER ASAP, PLEASE CONTACT WITH ETA ASAP	01/22/2012 10:16	01/22/2012 10:21	01/22/2012 10:45		01/22/2012 11:20	0.40	0.58	pulled meter for fire dept / selanis / edp
01	MAPLE ST, SOUTHAMPTON, MA	MAPLE AND RTE 10 TRANSFORMER BLEW POLE 417/B..... 26/5 POLE ON MAPLE HOLDING THE TREE UP	06/25/2012 15:42	06/25/2012 15:42	06/25/2012 16:00		06/25/2012 16:03	0.30	0.05	Limb on P 26B/6. Blew fuse P 102 Route 10
01	GUNN RD, SOUTHAMPTON, MA	LIVE WIRE ON VEHICLE POLE 101, INJURIES ON SCENE CALL #12-4911.	06/07/2012 21:33	06/07/2012 21:37	06/07/2012 21:56		06/08/2012 02:38	0.32	4.70	FISCHER ON SITE 21: 56 BROKEN POLE SERRA & SELANIS CARMODY BANG & RICHARD
01	INDUSTRY AVE, SPRINGFIELD, MA	1 POLE NORTH OF POLE #18 ON INDUSTRY AVE 100FT FROM INTERSECTION OF MEMORIAL AVE// CAR VS POLE (EARLIER TODAY) OFFICERS ON SCENE MAY LEAVE STATES NEEDS ATTENTION BUT NO INFO ON CONDITION/ NO CASE #	10/11/2012 18:12	10/11/2012 18:15	10/11/2012 18:23		10/11/2012 19:00	0.13	0.62	made safe. bailey/eah

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01	ELM ST, WEST SPRINGFIELD, MA	PROBLEM WITH SERVICE FEEDING THE BUILDING CHARD UP THE CONDUATE, WAS SMOKING BEFORE BUT NO FIRE AT THIS TIME, PLEASE CALL ONCE WE HAVE A ETA IS KEEPING CREW ON SITE UNTIL THEY HERE FROM US	04/06/2012 19:18	04/06/2012 19:26	04/06/2012 19:40		04/06/2012 19:58	0.23	0.30	inside trouble baily jvf
01	FRANKLIN ST, SPRINGFIELD, MA		11/11/2012 04:46	11/11/2012 04:57	11/11/2012 05:25		11/11/2012 06:54	0.47	1.48	HOUSE FIRE - NOT ABLE TO FIND XFMR
01	MAIN ST, SPRINGFIELD, MA	INTERSECTION OF HUNTINGTON & MAIN. STRUCTURE FIRE. ***RANDOM ADDRESS***	05/30/2012 05:32	05/30/2012 05:36	05/30/2012 05:52		05/30/2012 06:01	0.27	0.15	responded to emergency -- bldg completely burned -- need to come later & disc neighbors for meter panel repair CONNORS
01	WORTHINGTON ST, SPRINGFIELD, MA	GAS LEAK AND THE SOURCE IS IN A VAULT THAT WE OWN. BAY STATE GAS AND FIRE ON SCENE. THEY NEED US TO UNLOCK THE VAULT	12/21/2012 12:49	12/21/2012 12:59	12/21/2012 13:06		12/21/2012 13:43	0.12	0.62	customer owned cables. no gas in out vault.
01	WINTER ST, SPRINGFIELD, MA	PLEASE MAKE HIGH PRIORITY!!!!!!!!!!!!!!!!!!!!!!HIGH LEVEL OF NATURAL GAS,STREET LIGHTS ON AUTOMATIC TIMERS. NEED THERE ASAP, WERE GIVE 1/2, MAY BE TO LONG. PLEASE CALL	11/23/2012 16:37	11/23/2012 16:39	11/23/2012 17:14		11/23/2012 20:52	0.58	3.63	gas explosion. buildinds destroyed.
01	SAWMILL RD, SPRINGFIELD, MA	CIRCUITS IN HOME ON FIRE, NEED POWER TURNED OFF.	04/25/2012 18:09	04/25/2012 18:15	04/25/2012 18:47		04/25/2012 19:24	0.53	0.62	DISC AT POLE -- CUST TO CALL BACK WHEN REPAIRED & INSPECTED BAILEY \ SCOTT
01	KENYON ST, SPRINGFIELD, MA	FIRE HERE - FIRE DEPT ON SCENE. LOOKING FOR ETA	11/28/2012 10:14	11/28/2012 10:17	11/28/2012 10:24		11/28/2012 11:04	0.12	0.67	Service was already disconnected prior to fire- McQueen/RGC
01	ALBEMARLE ST, SPRINGFIELD, MA	FIRE ON THE SCENE, WORKING FIRE.	05/31/2012 10:46	05/31/2012 10:49	05/31/2012 11:02		05/31/2012 11:02	0.22	0.00	115 & 117 ALBERMARLE ST HOUSE FIRE
01	LOCUST ST, SPRINGFIELD, MA	POLE # 44- LARGE FIRE RIGHT NOW. ON SCENE RIGHT NOW- CALL WITH ETA.	05/15/2012 19:56	05/15/2012 20:00	05/15/2012 20:13		05/15/2012 20:57	0.22	0.73	op 22h1515 to put out pole top fire pirog/psm
01	JOHNSON ST, SPRINGFIELD, MA	HOUSE IS ON FIRE, PER FIRE DEPT, PLEASE DISCONNECT SERVICE AT POLE.	01/28/2012 08:16	01/28/2012 08:25	01/28/2012 08:55		01/28/2012 09:47	0.50	0.87	
01	HAYWOOD ST, GREENFIELD, MA	WIRES DOWN -- PERSON IN THE CAR . CNR OF FEDERAL & HAYWOOD . PLS CALL WITH ETA	02/29/2012 07:33	02/29/2012 07:38	02/29/2012 07:49		02/29/2012 08:52	0.18	1.05	truck hooked services made repairs lovett/psm
01	STATE RD, WHATLEY, MA	CAR STRUCK POLE, WIRES ON VEHICLE, PERSON INSIDE. POLE NUMBER 34/89. ***RANDOM ADDRESS*** POLE NUMBER 89-1 IS BROKEN. ***THIS ADDRESS IS CLOSE TO 261 STATE RD IN WHATLEY.	12/27/2012 09:15	12/27/2012 09:20	12/27/2012 09:34		12/27/2012 10:10	0.23	0.60	not our pole
01	LEVERETT RD, AMHERST, MA	REQUESTING ETA. DUMP TRUCK UNDER WIRES, DRIVER IS IN VEHICLE. OFFICER ON SCENE.../W4250 ***HANDLED BY E911 MACHINE/ENTERED FOR EDS***	05/25/2012 08:56	05/25/2012 08:57	05/25/2012 08:57		05/25/2012 09:49	0.00	0.87	already onsite. repaired service. lacroix/eah
01	E HADLEY RD, AMHERST, MA	POLE IS LEANING,NEAR DRIVE WAY WIRES ARE TOUCHING THE GROUND POLE #5/5	04/28/2012 15:46	04/28/2012 15:50	04/28/2012 16:16		04/28/2012 18:04	0.43	1.80	pole rotted off at base called crews to set new pole jacque/psm
01	S EAST ST, AMHERST, MA	CALL WITH ETA 413-259-3000. LIVE WIRES IN STREET. BLOWN TRANSFORMER	03/27/2012 13:02	03/27/2012 13:03	03/27/2012 13:15		03/27/2012 14:47	0.20	1.53	repaired primary. golosh/eah
01	AMITY ST, AMHERST, MA	POLICE AND FIRE ON SCENED POLE 4-15 IS THE NEXT POLE. NEEDS ETR	03/01/2012 19:19	03/01/2012 19:30	03/01/2012 19:50		03/01/2012 20:33	0.33	0.72	old pole. we already transfered to new pole.
01	LOWER WHITNEY ST, LUDLOW, MA	PLEASE SHUT POWER OFF - CALL WITH ETR. FIRE DEPARTMENT ON SCENE	02/26/2012 19:27	02/26/2012 19:29	02/26/2012 19:51		02/26/2012 20:22	0.37	0.52	Shut off power
01	S EAST ST, AMHERST, MA	POLE WAS STRUCK LAST NIGHT, PARTIAL POLE NUM 15 /63. LEANING.../W4120	02/16/2012 09:17	02/16/2012 09:21	02/16/2012 09:21		02/16/2012 09:23	0.00	0.03	not an emergency pole hit the night before just chk pole hjc
02	CASCADE ST, PITTSFIELD, MA	POLE 120 / 15 & 120B / 14 CAUSE BY STORM FD ON SCENE NO FIRES SMOKING	06/23/2012 15:25	06/23/2012 15:31	06/23/2012 15:49		06/23/2012 15:49	0.30	0.00	removed tree, repaired wire. maturevich/eah
02	CASCADE ST, PITTSFIELD, MA	LINES DOWN TREES ON FIRE... IN THE MIDDLE OF TRAFFIC... POLICE ON THE SCENE	08/04/2012 15:23	08/04/2012 15:26	08/04/2012 15:40		08/04/2012 16:07	0.23	0.45	removed tree. maturevich/eah
02	W HOUSATONIC ST, PITTSFIELD, MA	POLE # 89/67. POLE SNAPPED IN HALF. UNAWARE OF INJURIES. POLICE & FIRE ONSCENE	04/28/2012 22:36	04/28/2012 22:45	04/28/2012 23:06		04/29/2012 03:51	0.35	4.75	SMITH
02	W HOUSATONIC ST, PITTSFIELD, MA	@ W. HOUSATONIC AND HAWTHORNE WIRE DOWN SPARKING/BURNING POLE # 330/1	08/24/2012 12:58	08/24/2012 13:03	08/24/2012 13:13		08/24/2012 13:13	0.17	0.00	primary down / responded to emergency / hanson / edp
02	LEBANON MOUNTAIN RD, HANCOCK, MA	***RANDOM ADDRESS***	07/02/2012 11:13	07/02/2012 11:19	07/02/2012 11:29		07/02/2012 11:29	0.17	0.00	BROKEN POLE & WIRE DOWN FERRARIN
02	PLEASANT ST, LEE, MA	BLOWN XFOMER WIRE DOWN - ARCHING								
02	PLEASANT ST, LEE, MA	TWO POLES SNAPPED IN HALF POLE #9 AND #11 LEANING OVER ROAD IN FRONT OF 1445 PLEASANT ST, WIRES HANGING LOW BLOCKING ROAD. LEE POLICE AND FIRE ON SIGHT, LIMBS LOW ENOUGH TO TOUCH	05/29/2012 18:29	05/29/2012 18:30	05/29/2012 18:35		05/29/2012 19:02	0.08	0.45	made safe jvf barbour
02	LONGFELLOW AVE, PITTSFIELD, MA	***RANDOM ADDRESS***POLE IS HEAVILY DAMAGED AT INTERSECTION OF LOGFELLOW AVE AND NEWELL. POLE#497/28, NO WIRES DOWN/ NO TRANSFORMER MENTIONED, NO INJURIES PER EQUIPMENT. CALL#20774	06/28/2012 03:19	06/28/2012 03:21	06/28/2012 03:34		06/28/2012 04:02	0.22	0.47	CAR VS POLE.SEE OUTAGE MXL/MJG
02	DALTON AVE, PITTSFIELD, MA	FIRE DEPT REPORTING SERVICE WIRE ON THE GROUND, SOME SPARKING/BURNING INITIALLY BUT NOT AT THIS TIME.	09/08/2012 14:30	09/08/2012 14:47	09/08/2012 15:20		09/08/2012 17:11	0.55	1.85	REplace 150' service- Hansen/RGC
02	DELAWARE AVE, PITTSFIELD, MA	TREE ON WIRES IN FROBNT OF HOUSE STILL HAS POWER. REQUESTING ETA	09/08/2012 19:46	09/08/2012 19:58	09/08/2012 20:06		09/08/2012 20:13	0.12	0.12	Flipped limb off wires, all set
02	FENN ST, PITTSFIELD, MA	***RANDOM ADDRESS*** WATER COMING IN THROUGH BASEMENT THROUGH ELECTRICAL OUTLET PREVIOUS WMCO ISSUE PFD ON SCENE ISSUE IN COMPLEX BASEMENT.	01/27/2012 11:33	01/27/2012 11:37	01/27/2012 12:00		01/27/2012 12:01	0.38	0.02	
02	ORCHARD ST, PITTSFIELD, MA	***RANDOM ADDRESS***NEAR LOCATION OF 264 2ND ST. POLICE AND FIRE ON SCENE.NO ONE IN THE CAR. UNSURE IF CAR HIT POLE. LARGE ACCIDENT.	05/22/2012 13:21	05/22/2012 13:23	05/22/2012 13:28		05/22/2012 18:40	0.08	5.20	replaced pole ferrarin/psm
02	E NEW LENOX RD, PITTSFIELD, MA	TREE WORK BEING DONE. TREE HIT WIRES, WIRES BEING HELD UP BY FORKLIFT.	05/24/2012 09:14	05/24/2012 09:16	05/24/2012 09:16		05/24/2012 09:40	0.00	0.40	was already on-site, phone loop. ferrarin/eah
02	DIMMOCK RD, OTIS, MA	***CALL WITH ETA** TREE RESTING DOWN ON WIRES OVER ROAD...POLE#16 ...RIGHTBY INTERSECTION/W4250 ***RANDOM ADDRESS***	09/05/2012 07:40	09/05/2012 07:41	09/05/2012 07:57		09/05/2012 08:09	0.27	0.20	Removed Large Tree Limb- Zatorski/RGC
02	MAIN RD, SAVOY, MA	WIRE ON GROUND FIRE DEPT ON SCENE... **PLS CALL ETA**/W4250	06/29/2012 14:59	06/29/2012 15:57	06/29/2012 18:32		06/29/2012 18:33	2.57	0.02	primary down,made repairs bxh/edp

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02	FLINTSTONE RD, WINDSOR, MA	POLE 27. TREE DOWN ON PRIMARIES. PRIORITY 2. LINES ARE IN INTACT. WMECO LINE CREWS ALREADY ON SITE. CYN RIVERA 607-4438	12/21/2012 10:36	12/21/2012 10:37	12/21/2012 10:37		12/21/2012 10:38	0.00	0.02	On-site when called in - RGC/Stevens
02	OLD DALTON RD, HINSDALE, MA	CROSS OF OLD DALTON RD AND ROUTE 8: TREE ON PRIMARIES. JUST WEST OF RR TRACKS: POLE # 47B OVER 93 AND 84: LINES INTACKED. BLOCKING ROADWAY.	12/21/2012 11:31	12/21/2012 11:37	12/21/2012 11:39		12/21/2012 13:00	0.03	1.35	TREE ON WIRES BIRCH DOWLING
02	SURRINER RD, BECKET, MA	***RANDOM ADDRESS***POLE ON FIRE/ FIRE ON SCENE/ POLE 51/6	10/16/2012 20:02	10/16/2012 20:06	10/16/2012 20:36		10/16/2012 20:46	0.50	0.17	made safe. ferrarin/eah
02	ALGERIE RD, OTIS, MA	TREE ON PRIMARY WIRES	09/15/2012 15:10	09/15/2012 15:32	09/15/2012 16:12		09/15/2012 16:27	0.67	0.25	opened fuse, removed tree. maturevich/eah
02	MAIN RD, GRANVILLE, MA	XFRMR ON FIRE - WIRES DOWN BLOCKING ROAD - CALL W/ETA?? W4033	08/15/2012 07:52	08/15/2012 07:53	08/15/2012 08:33		08/15/2012 09:03	0.67	0.50	REPAIRED WIRE. BUNNELL/EAH
02	OLD POST RD, WORTHINGTON, MA	***RANDOM ADDRESS*** DISP ADV POLE #57 SMOKING NEAR TOP OF POLE. NEAREST HOUSE #375.	08/27/2012 11:38	08/27/2012 11:41	08/27/2012 12:07		08/27/2012 12:11	0.43	0.07	primary down,see outage dxs/mjg
02	DRESSER HILL RD, GOSHEN, MA	***RANDOM ADDRESS*** TREE DOWN BLOCKING ROAD POLE 30B/2 WMECO // SRG W4058	06/23/2012 16:07	06/23/2012 17:20	06/23/2012 17:27		06/23/2012 20:12	0.12	2.75	removed tree, repaired wire. lavallee/eah
02	SOUTH RD, WESTHAMPTON, MA		11/06/2012 13:22	11/06/2012 13:23	11/06/2012 13:50		11/06/2012 14:00	0.45	0.17	blown l/a on recloser. made safe
02	DRUIDS LN, WEST SPRINGFIELD, MA	WIRES GOING TO HOME AND METER ARE SPARKING//CONCERNED THAT FIRE MAY START//STATES THAT SMOKE IS ALSO COMING FROM METER...	05/12/2012 13:06	05/12/2012 13:12	05/12/2012 13:35		05/12/2012 14:25	0.38	0.83	replaced connections @ house. albano/eah
02	LOUDVILLE RD, WESTHAMPTON, MA	XFORMER FIRE / FIRE DEPT ONSITE ETA REQUESTED / 413 586 1508// SRG W4058	06/23/2012 16:10	06/23/2012 16:16	06/23/2012 16:50		06/23/2012 18:37	0.57	1.78	isolated downed wire and backfed nunez/psm
02	OLIVER ST, EASTHAMPTON, MA	****PLEASE CALL WITH ETA***** AND IS ON FIRE/ FD AND PD ON SCENE/ CALL BACK WITH ETA	06/23/2012 16:11	06/23/2012 17:56	06/23/2012 18:30		06/23/2012 20:14	0.57	1.73	removed tree, repaired wire. herman/eah
02	KING'S LN, SPRINGFIELD, MA	OUT OF VEHICLE-INJURY-WIRES ARE DOWN- UNKNOWN IF TRANSFORMER - TELEPHONE POLE 167-***RANDOM ADDRESS***POLES CONNECT TO 868 BERKSHIRE ST	09/24/2012 13:45	09/24/2012 13:47	09/24/2012 13:56		09/24/2012 13:58	0.15	0.03	made safe. grippin/eah
02	PEMBROKE CIR, SPRINGFIELD, MA	RIGHT AT INTERSECTION WHEN YOU TAKE LEFT OFF OF PEMBROKE ST. ***RANDOM ADDRESS***ELECTRIC WIRE HANGING & FIRE & AMBULANCE CANT PASS. SHE DIDNT HAVE A LANDMARK.	05/07/2012 17:09	05/07/2012 17:14	05/07/2012 17:37		05/07/2012 17:39	0.37	0.03	CATV WIRE NOT AN EMERGENCY
02	POMONA ST, SPRINGFIELD, MA	POLE #4 ON FIRE/ WIRES DOWN	04/25/2012 18:11	04/25/2012 18:21	04/25/2012 18:29		04/25/2012 19:44	0.13	1.25	STREET LITE -- DISC IN ST MCQUEEN
02	DAVIS ST, GREENFIELD, MA	TREE ON FIRE WIRES NOT BURNING YET FIRE DEPT ON SCENE	04/04/2012 20:43	04/04/2012 20:51	04/04/2012 20:56		04/04/2012 22:06	0.08	1.17	put guard on wires selanis jvf
02	MILL ST, AMHERST, MA	TRANSFORMER IS DANGLING FROM THE POLE POLE NUMBER 85/2//W4063 POLE NUMBER85/1 WERE WIRES ARE HANGING LOW PLZ CALL OFFICER 998 WITH ETA 413-259-3000	06/15/2012 16:00	06/15/2012 16:07	06/15/2012 16:35		06/15/2012 19:23	0.47	2.80	Straightened Pole and Re-hung Xfmers - Bang/RGC
02	KELLOGG AVE, AMHERST, MA	OVER ROAD WAY. ADDITIONAL BEING PULLED DOWN. ON SCENE. ROAD BLOCKED POLE #6/6. OUTAGE. PLEASE CALL W ETA	09/14/2012 23:40	09/14/2012 23:43	09/14/2012 23:53		09/15/2012 02:05	0.17	2.20	responded to emergency / chandler / edp
02	S EAST ST, AMHERST, MA	LOOKING FOR ETA 413-259-3000.POLE 43 . POLE IS LEANING. VERY LOW HANGING WIRE OVER THE STREET. OFFICER ON SCENE. ** UPDATE - ENTER FROM MILL LN PER PUB WORKS	05/11/2012 16:39	05/11/2012 16:42	05/11/2012 16:55		05/12/2012 00:32	0.22	7.62	PLE ROTTED OFF,SET & LATCHED NEW POLE SXC/MJG T 1200441-19
02	CHERRY ST, LUDLOW, MA	ON INTERSECTION TRACTOR TRAILER HIT POLE. POLE IS BROKEN AND WIRES ON GROUND 100T-INJURY UNKNOWN. 2 POLICE VEHICLES ON SITE.	02/27/2012 20:26	02/27/2012 20:29	02/27/2012 20:48		02/28/2012 07:55	0.32	11.12	PHBC - Replaced pole (Verizon Set)
02	BIRNAM RD, NORTHFIELD, MA	TREES AND WIRES ON THE GROUND.	08/05/2012 15:54	08/05/2012 16:10	08/05/2012 16:20		08/05/2012 16:33	0.17	0.22	Opened Fuses - Dyer/RGC
02	OLD BELCHERTOWN RD, AMHERST, MA	TREE DOWN ON WIRE AND IN RD, BRANCHES ALSO DOWN ON MULTIPLE LINES, TREE BEING WORKED ON, AREA HAS PWR STILL.. PLS CALL WITH ETA TO (413)259-3000	09/18/2012 19:04	09/18/2012 19:05	09/18/2012 19:25		09/18/2012 19:29	0.33	0.07	Opened fuses to make safe chandler/RGC
03	BALANCE ROCK RD, LANESBOROUGH, MA	GUIDE WIRE IS DOWN ON GROUND...BOLT HOLDING GUIDE WIRES IS BROKEN..CABLE AND FON WIRES HAVE ALREADY BEEN REPAIRED..DISPATCHER SAID THIS IS NOT A CODE 1 BUT A CODE 3	04/30/2012 07:06	04/30/2012 07:06	04/30/2012 07:18		04/30/2012 07:29	0.20	0.18	Notified Verizon of Low Cable / Broken Guy Wire
03	PECKS RD, PITTSFIELD, MA	NO INJURIES. NO ONE TRAPT. WIRES STILL ATTACHED TO POLE/	03/31/2012 00:53	03/31/2012 01:05	03/31/2012 01:27		03/31/2012 04:32	0.37	3.08	called in crews to replace broken pole maturevich/thurston/psm
03	VALENTINE RD, PITTSFIELD, MA	***RANDOM ADDRESS*** POLE#18.....TREE HAS FALLEN ON WIRES AND LYING THERE.POLE#18.....TREE HAS FALLEN ON WIRES AND LYING THERE.	09/24/2012 10:53	09/24/2012 10:56	09/24/2012 11:05		09/24/2012 11:17	0.15	0.20	STREET LIGHT - OWNED BY PITTSFIELD HAMEL
03	SOUTH ST, PITTSFIELD, MA	NO INJURIES. POLE DID FALL ON THE POLE. CALL #10435. RIGHT AT THE INTERSECTION. PD AND FIRE ON SCENE. ***RANDOM ADDRESS***	04/01/2012 02:36	04/01/2012 02:41	04/01/2012 02:58		04/01/2012 03:42	0.28	0.73	veh into traffic lite base made safe maturevich/psm
03	MERRIAM ST, PITTSFIELD, MA	75 MERRIAM AND CROSSES WITH BUCHAN POLE # 100/1 ***RANDOM ADDRESS*** THE TRANSFORMER BLEW IS SMOKING AND IS LEAKING ON THE GROUND	08/18/2012 18:34	08/18/2012 18:40	08/18/2012 18:50		08/18/2012 21:42	0.17	2.87	xfrmer blew lid. had spill. replaced 50 kva.
03	CRYSTAL ST, PITTSFIELD, MA	POLE 2, PRIMARIES DOWN AROUND A CAR FD SCENE; ASK FOR CALL BACK WITH ETA REQUESTING ETA.	07/28/2012 15:27	07/28/2012 16:06	07/28/2012 16:28		07/28/2012 17:04	0.35	0.60	all set per holden / edp
03	ONOTA ST, PITTSFIELD, MA	WIRES DOWN BETWEEN POLE 34/35 & 51B/33 ... PART OF THE ROAD IS BEING BLOCKED.	05/22/2012 12:18	05/22/2012 12:20	05/22/2012 13:08		05/22/2012 13:08	0.80	0.00	fire alarm wires per ferrarin / edp

Priority	Street Location	Nature of Emergency	Date & Time Notice Received	EMER Date & Time Dispatched	Date & Time Arrived	Date & Time of Temporary Repairs	Date & Time of Permanent Repairs	Time between Dispatched & Arrival (in hours)	Time between Arrival & Temporary Repairs (in hours)	Comments
03	CHURCH LN, RICHMOND, MA	TREE BROKEN /ACROSS WIRES /NOT DOWN YET BUT WILL BRING DOWN SOON PER POLICE SUPERINTENDENT JERRY COPPOLA BETWEEN POLES 3 AND 3M	11/02/2012 13:27	11/02/2012 13:38	11/02/2012 14:30		11/02/2012 15:11	0.87	0.68	rem limb dowing/psm
03	MAIN ST, DALTON, MA	NEED POLE CHECKED. TRUCK VS. POLE. NO POLE #. NEXT TO 556 MAIN ST. NO APPARENT DAMAGE. PLEASE CHECK. POLICE ON SCENE.	07/12/2012 09:32	07/12/2012 09:35	07/12/2012 09:37		07/12/2012 09:39	0.03	0.03	POLE CHK -- NO APPARENT DAMAGE -- NEAR HOUSE 556 MAIN FAXXED TO PITTS AWC
03	HIGH ST, DALTON, MA	POLE # 38	04/09/2012 14:00	04/09/2012 14:05	04/09/2012 14:10		04/09/2012 14:17	0.08	0.12	CAR VS POLE NO DAMAGE FERRARIN
03	DELAWARE AVE, PITTSFIELD, MA	TREES ARE LEANING ON LINES IN BACK OF SCHOOL	11/28/2012 10:04	11/28/2012 10:05	11/28/2012 10:21		11/28/2012 10:22	0.27	0.02	TREE LIMB ON SECONDARY ST LITE WIRE FERRARIN
03	LOWDEN ST, PITTSFIELD, MA	TREE LAYING ON WIRE IN FRONT OF THIS HOUSE READY TO FALL WIRE GOES ACROSS MAIN ROAD	09/18/2012 12:59	09/18/2012 13:02	09/18/2012 13:34		09/18/2012 13:38	0.53	0.07	CLEARED LIMB FROM SERVICE KERN
03	EAST ST, DALTON, MA	HIT BY CAR/NO APPREARED DAMAGE BUT NEEDS TO BE CHECKED DUE TO EXTENT OF DAMAGE ON VEHICLE/POLE# 31/14	07/06/2012 14:21	07/06/2012 14:22	07/06/2012 16:55		07/06/2012 19:29	2.55	2.57	NOT IN NEED OF IMMEDIATE ATTENTION MAG pole ok
03	GILES RD, OTIS, MA	POLE # 2 -- TREE LEANING DOWN ON WIRES./W4250	09/17/2012 15:41	09/17/2012 15:43	09/17/2012 16:16		09/17/2012 16:39	0.55	0.38	removed limb. barbour/eah
03	MINER RD, OTIS, MA	TREE ON WIRES POLE#30/12.	06/26/2012 08:49	06/26/2012 08:49	06/26/2012 09:15		06/26/2012 09:22	0.43	0.12	Opened fuse P 30/1 to remove tree- Filkins/RGC
03	PINE RD, OTIS, MA	TREE LIMB ON WIRES, POLE TO POLE SVC. KBW4495	09/19/2012 07:45	09/19/2012 08:10	09/19/2012 09:57		09/19/2012 11:31	1.78	1.57	TREE.REMOVED ASPL
03	ADAMS RD, SAVOY, MA	POLE#25***RANDOM ADDRESS***	01/12/2012 09:40	01/12/2012 09:48	01/12/2012 10:18		01/12/2012 12:11	0.50	1.88	patrolled found no problem or p# 25 possibly grid owned hj
03	CENTER RD, SAVOY, MA	***RANDOM ADDRESS*** TREE CAME DOWN AND TOOK DOWN WIRE. NO EMERGENCY PERSONNEL REMAINING ON SCENE AND ROAD NOT OBSTRUCTED. NO CASE NUMBER PROVIDED AT THIS TIME.	08/04/2012 08:14	08/04/2012 08:16	08/04/2012 09:34		08/04/2012 09:34	1.30	0.00	no eta required. removed tree, repaired wire. herman/eah
03	CHESHIRE RD, WINDSOR, MA	NEAR INTERSECTION OF SAVOY RD AND CHESHIRE POLE # 5/9 TREE ON WIRES TENSION BUT NOT SAGGING YET***RANDOM ADDRESS***	02/01/2012 14:38	02/01/2012 14:49	02/01/2012 15:22		02/01/2012 15:48	0.55	0.43	removed tree
03	CLOVIS RD, HINSDALE, MA	UP THE STREET FROM THIS ADDRESS, WHEN TURN ON TO ASHMORE ROAD. IF YOU COMEUP ON RT 143 TAKE A LEFT ON ASHMORE DR THEN TAKE 1ST LEFT ON ASHMORE ROAD.***RANDOM ADDRESS***. TREE LEANING ON PRIMARIES, HANGING VERY LOW.	08/06/2012 09:16	08/06/2012 09:18	08/06/2012 09:35		08/06/2012 10:53	0.28	1.30	removed tree. hamel/eah
03	STATE RD, BECKET, MA	POLE 53/18 TREE LIMB SMOLDERING THE LINE// NOT BLOCKING POLICE ON SCENE NEAR CEMETARY***RANDOM ADDRESS***	03/26/2012 17:23	03/26/2012 17:30	03/26/2012 19:05		03/26/2012 19:05	1.57	0.00	responded to emergency / diorio / edp
03	SARGENT RD, WASHINGTON, MA	FIRE BRUCH ON A BRANCH	04/16/2012 11:42	04/16/2012 11:49	04/16/2012 12:45		04/16/2012 13:02	0.93	0.28	tree brushing against wire,made safe sxc/mj
03	N MAIN RD, OTIS, MA	LIMB ON WIRES. POLE # 20/B/3	09/11/2012 07:23	09/11/2012 07:26	09/11/2012 07:55		09/11/2012 08:19	0.48	0.40	Removed tree on 20/3- RGC
03	BLANDFORD RD, GRANVILLE, MA	CLOSET HOUSE NAME IS RE. ROAD IS PARTIALLY BLOCK- ONLY ONE LANE OPEN. ***RANDOM ADDRESS*** NORTH OF RE RESTANIST SOUTH OF FELAND RD.	10/16/2012 14:41	10/16/2012 14:47	10/16/2012 14:47		10/16/2012 19:54	0.00	5.12	made safe. pirog
03	OLD WESTFIELD RD, GRANVILLE, MA	ACROSS FROM GRANVILLE RESERVOIR, POLE # 15/65... WRAPPED POLE AND BRUSH W/CAUTION TAPE, GUY WIRE OVER CROSS BAR WOOD, NOT TOUCHING PRIMARY***RANDOM ADDRESS***	12/14/2012 14:44	12/14/2012 14:52	12/14/2012 15:55		12/14/2012 17:41	1.05	1.77	Removed guy wire from X-Arm and made repair- BAiley/RGC
03	WORTHINGTON RD, HUNTINGTON, MA	STREET LIGHT RIGHT @ WORTHING AND MONTGOMERY RD WMECO 14B/UPDATE-CB TO INFORM THIS WAS NOT EMERGENCY-AWARE HE SHOULD NOT HAVE USED A PRIORITY CODE-JUST A DANGEROUS INTERSECTION/M6526	06/11/2012 11:26	06/11/2012 11:28	06/11/2012 11:28		06/11/2012 11:29	0.00	0.02	duplicate ticket to tell me that other ticket was not a priority jvf
03	WORTHINGTON RD, HUNTINGTON, MA	STREET LIGHT RIGHT @ WORTHING AND MONTGOMERY RD WMECO 14B	06/11/2012 08:30	06/11/2012 08:50	06/11/2012 09:40		06/11/2012 12:48	0.83	3.13	checked light needs to be replaced not an emergency nunez jvf
03	ROCKY BROOK DR, HUNTINGTON, MA	***RANDOM ADDRESS***JUST CHECK WHEN ABLE NO DAMAGE. M6311	04/24/2012 01:22	04/24/2012 01:23	04/24/2012 01:23		04/24/2012 01:24	0.00	0.02	chks ok. belfakih/eah
03	CITY VIEW AVE, WEST SPRINGFIELD, MA	@P# 25/74 - TRANSFORMER BLEW WITH PUFF, NO WIRES DOWN. POWER OUT. W4241	07/17/2012 20:46	07/17/2012 20:59	07/17/2012 22:05		07/17/2012 22:16	1.10	0.18	replaced xfmr. czub/eah
03	LAUREL RD, WEST SPRINGFIELD, MA	TRANSFORMER EXPLODED POLE NUMBER 7	03/17/2012 08:12	03/17/2012 08:15	03/17/2012 08:26		03/17/2012 08:39	0.18	0.22	EXPLOSION,SEE OUTAGE LXG/MJG
03	OLD GREENFIELD RD, SHELBURNE, MA	POLE 53/46 WAS ARCHING BUT NOT ANYMORE, FIRE AND PD ONSITE.	08/05/2012 15:18	08/05/2012 15:38	08/05/2012 15:46		08/05/2012 18:15	0.13	2.48	Need tree crew, opened fuse
03	WHITE BIRCH LN, GREENFIELD, MA		04/04/2012 19:28	04/04/2012 20:14	04/04/2012 20:30		04/04/2012 23:39	0.27	3.15	restrung service jvf fanaul
03	EAST ST, EASTHAMPTON, MA	POLE 106 DAMAGED...CAR ACCIDENT.....W4120	04/26/2012 11:45	04/26/2012 11:56	04/26/2012 12:05		04/26/2012 12:12	0.15	0.12	pole ok lovette/psm
03	WEST ST, EASTHAMPTON, MA	POLE# 58 , DAMAGE AT BOTTOM.../W4250	06/25/2012 10:34	06/25/2012 10:46	06/25/2012 11:25		06/25/2012 11:36	0.63	0.18	Removed old abandoned stub pole that was left there about 15 years ago by cust. request- Taylor/RGC
03	DL MIDWAY-EASTHAMPTON 3-4, EASTHAMPTON, MA	BEHIND #116 PLEASANT ST POLE W/3 OR 4 XFMRs ON IT ARCING AND CRACKLING/OFFICER AND FIRE CREW ON SCENE/	05/07/2012 15:36	05/07/2012 15:48	05/07/2012 16:00		05/07/2012 16:29	0.20	0.48	19B4-12T SW 1 BLADE ON FIRE LOVETT
03	BOSTON RD, SPRINGFIELD, MA	DOES NOT REQUIRE IMMEDIATE ATTENTION, POLE WAS JOLTED FROM IMPACT AT 809 BOSTON RD INTERSECTION OF WILKES ST. NO POLE # GIVEN. REQUEST ETA.	07/07/2012 12:56	07/07/2012 13:00	07/07/2012 13:20		07/07/2012 13:42	0.33	0.37	pole ok per bailey / edp
03	BERKSHIRE AVE, SPRINGFIELD, MA	IN BETWEEN HARVEY AND COTTAGE ON BERSHIRE POLE WAS HIT PLEASE ASESS.. WIRES DOWN .. POLE BEING SUPPORTED BY PHONE LINES***RANDOM ADDRESS***	07/01/2012 08:47	07/01/2012 08:53	07/01/2012 08:56		07/01/2012 09:10	0.05	0.23	VERIZON POLE -- NONE OF OUR EQUIPMENT INVOLVED -ADVISED VERIZON GRIPPIN
03	LONGMEADOW ST, LONGMEADOW, MA	ALLUMINUM POLE HIT BY CAR POLE LOOKS LIKE IT COULD COME DOWN, LOCATED AT THE INTERSECTION OF LONGMEADOW AND HOMESTEAD, PLEASE MAKE SAFE W4413	10/13/2012 12:03	10/13/2012 12:04	10/13/2012 13:15		10/13/2012 17:23	1.18	4.13	NON emergency dented Streelight pole-Grippin/RGC

Priority	Street Location	Nature of Emergency	Date & Time Notice Received	EMER Date & Time Dispatched	Date & Time Arrived	Date & Time of Temporary Repairs	Date & Time of Permanent Repairs	Time between Dispatched & Arrival (in hours)	Time between Arrival & Temporary Repairs (in hours)	Comments
03	LAUREL LN, LONGMEADOW, MA	CALL WAS PLACED BY MIKE . STATING POLE WAS ON FIRE ON THE CORNER OF LAUREL AND HARWICH. POLE IS NOT ON FIRE. OFFICER ON SCENE WOULD LIKE US TO CHECK POLE.***RANDOM ADDRESS*** OFFICER ON SCENE BELIEVES UNDERGROUND INVOLMENT	08/13/2012 08:51	08/13/2012 08:56	08/13/2012 09:12		08/13/2012 12:04	0.27	2.87	REPAIRED SVC AT BASE OF POLE BUNNELL
03	MILL RD, LONGMEADOW, MA	***RANDOM ADDRESS***SHAKER AT MILL BRANCH ON WIRES BURNING ACCESS ON STREET NO GOOD FIRE ON SCENE IN THE UNAPPROVE SECTION OF ROAD ON THE 17TH HOLE OF COUNTY CLUB WIRES SHOULD BE FALLING COMING DOWN	10/10/2012 13:31	10/10/2012 13:32	10/10/2012 13:51		10/10/2012 15:23	0.32	1.53	PHASE ON ARM BURNED DOWN OP 3-140t'S ON 146/27 AND RESTORED CUSTOMERS- ALVAREZ/RGC
03	BEL AIR DR, LONGMEADOW, MA	PER POLC DISP / SEE REPORT ORIG REPORT / OF WIRE BURNING / NEAREST POLE JUST UP FROM #108 IS (POLE# 6) // W4233	05/29/2012 19:17	05/29/2012 19:27	05/29/2012 19:44		05/29/2012 20:20	0.28	0.60	removed limb from primary
03	GILL RD, BERNARDSTON, MA	POLE#18 B/14 & 18 B/15 -- TREE WAS MARKED WITH ORANGE X -- TREE CLOSE TO THE SWAMP AREA -- NOW LEANING OVER	08/10/2012 10:36	08/10/2012 10:38	08/10/2012 10:50		08/10/2012 11:04	0.20	0.23	verizon only dyer jvf
03	LEYDEN RD, GREENFIELD, MA	CUT OUT HAS POPED POLE#25T/93 LIMB ON WIRES WAS BURNING NOT NOW FIRE DEPT HAS CLEARED. PROPRIOTY 3, USED TO GO TO THE BUSINESS WHICH IS NO LONGER.	11/25/2012 02:29	11/25/2012 02:35	11/25/2012 02:55		11/25/2012 03:28	0.33	0.55	refused c/o
03	EUNICE WILLIAMS DR, GREENFIELD, MA	POLE #197/1 LARGE BRANCH ON WIRE, WIRE IS HANGING LOW. ***RANDOM ADDRESS*** WIRE IS HANGING LOW BUT YOU CAN PASS UNDER	06/02/2012 12:41	06/02/2012 12:47	06/02/2012 13:03		06/02/2012 13:48	0.27	0.75	rem limb faneuf/psm
03	CHAPMAN ST, GREENFIELD, MA	LIMB TOOK DOWN PRIMARY.	07/29/2012 06:48	07/29/2012 06:57	07/29/2012 06:57		07/29/2012 07:00	0.00	0.05	duplicate call
03	CHAPMAN ST, GREENFIELD, MA	LIMB TOOK DOWN PRIMARY. PLEASE CALL WITH ETA	07/29/2012 06:48	07/29/2012 06:56	07/29/2012 07:20		07/29/2012 08:54	0.40	1.57	primary down made repairs
03	CONWAY ST, GREENFIELD, MA	TRANSFORMER ON FIRE ON POLE # 27/26	08/10/2012 12:14	08/10/2012 12:16	08/10/2012 12:18		08/10/2012 12:19	0.03	0.02	dyer removed limb jvf
03	COUNTRY CLUB RD, GREENFIELD, MA	TREE TOOK DOWN LIVE WIRES DOWN. TRANSFORMER PROBLEM.	08/05/2012 16:46	08/05/2012 16:53	08/05/2012 17:13		08/05/2012 17:53	0.33	0.67	Wire Down
03	RIPLEY RD, MONTAGUE, MA	TREE AND WIRES DOWN ON ROAD. POLICE IN ROUTE TO LOCATION. NEAR TOP OF W CHESTNUT HILL ROAD...//CYN RIVERA 607-4438***RANDOM ADDRESS***	12/21/2012 11:42	12/21/2012 11:46	12/21/2012 12:07		12/21/2012 12:18	0.35	0.18	Tree took down service
03	RIPLEY RD, MONTAGUE, MA	***RANDOM ADDRESS*** RTE 63 POLE 4 WIRES PULLED DOWN	08/05/2012 13:16	08/05/2012 13:18	08/05/2012 13:44		08/05/2012 18:16	0.43	4.53	Opened Fuse Made safe-Lavallee/RGC
03	MASSACHUSETTS AVE, AMHERST, MA	TRANSFORMER BLEW ON POLE 40T/93/40. POWER IS OUT IN THE AREA. POLICE WONT STAY ON SCENE. CALL W/ ETA ASAP	09/01/2012 17:36	09/01/2012 17:40	09/01/2012 18:00		09/01/2012 18:04	0.33	0.07	CAR VS PADMOUNT -- BLEW 2 FUSES BELFAKIH
03	KELLOGG AVE, AMHERST, MA	TRE BRANCH ON WIRES AT THE INTERSECTION OF 25 KELLOGG AVE AND BOATWOOD WALK	06/07/2012 12:24	06/07/2012 12:30	06/07/2012 13:05		06/07/2012 13:09	0.58	0.07	removed limb from primary.
03	PROSPECT ST, ERVING, MA	STATES ADDRESS IS 8 PAPERMILL RD/PROSPECT ST AND ITS OUR SERVICE AREA- HEREREQUESTED PRIORITY LEVEL 3 AND CONFIRMED- STATES ELECTRIC SERVICE WIRE DOWN- NOTHING BURNING, ROAD NOT BLOCKED AND NO FIRE/POLICE ON SCENE***RANDOM AD	04/05/2012 17:12	04/05/2012 17:16	04/05/2012 17:53		04/05/2012 17:53	0.62	0.00	cut down secondary adc, put in work order. selanis/eah
03	CHESTNUT HILL LOOP, MONTAGUE, MA	WIRES ARCHING AND STOPPED...// PD ON SCENE, POLE 27/9	04/07/2012 14:48	04/07/2012 15:01	04/07/2012 15:36		04/07/2012 15:39	0.58	0.05	SELANIS 40T OP TREES
03	CHESTNUT HILL LOOP, MONTAGUE, MA	POLE 27/25. POLICE WILL BE BARRICADING ROAD. TREE IS 50' LONG, 8" DIAMETER. WIRES STILL CONNECTED BUT APPEAR HOT. SUGGESTS COMING FROM WEST CHESTNUT HILL LOOP.	07/29/2012 22:18	07/29/2012 22:54	07/29/2012 23:45		07/30/2012 04:59	0.85	5.23	removed tre from primary/ lavallee / edp

Priority of Calls

Priority 1 - Life Threatening /Imminent Danger

Priority 2 - Hindering Emergency Operation

Priority 3 - Non Threatening Electrical Hazard

Type of Call

Should be those listed in the company's trouble order system or outage management system

WESTERN MASSACHUSETTS ELECTRIC COMPANY

Annual Service Quality Report

ATTACHMENT D

Year Ending December 31, 2012

FERC T&D 440 ACCOUNTS



**Northeast
Utilities System**

**WMECO
Q-DPU 12-SQ-14**

Year: 2012

Account	440.00	442.01	442.02	444.00	Total
DISTRIBUTION	68,409,769	48,888,225	13,057,739	3,079,339	133,435,073 (B)
PENSION TRACKER	7,218,918	7,041,468	3,138,635	88,385	17,487,406
DEFAULT SERVICE TRUE UP	(377,545)	(369,345)	(166,050)	(5,036)	(917,976)
EEPCA	7,259,096	6,799,574	3,011,997	85,928	17,156,596
TRANSITION	9,570,934	9,303,513	4,087,110	114,894	23,076,451
TRANSMISSION	19,658,762	16,518,696	6,534,425	163,579	42,875,463
RENEWABLES	759,280	739,671	327,571	9,128	1,835,650
DSM	3,796,526	3,699,025	1,642,248	45,668	9,183,467
STORM RECOVERY	1,850,459	1,804,288	801,467	22,529	4,478,743
ATTORNEY GENERAL FEES	75,634	73,885	32,957	909	183,385
NET METERING	106,017	103,479	46,101	1,292	256,888
SOLAR	485,287	473,277	210,913	5,912	1,175,390
GSC	94,680,668	28,574,793	7,481,602	167,948	130,905,011 (A)
TOTAL	213,493,806	123,650,549	40,206,715	3,780,476	381,131,545

(A) Includes revenues associated with the Basic Service Adder implemented on July 1, 2005 and the Uncollectible Tracker.

(B) Includes revenues associated with RAAC, Low Income Discount and Decoupling.

WESTERN MASSACHUSETTS ELECTRIC COMPANY

Annual Service Quality Report

ATTACHMENT E

Year Ending December 31, 2012

FERC Form 1 Pages 300 and 301



**Northeast
Utilities System**

Name of Respondent Western Massachusetts Electric Company	This Report Is: (1) <input checked="" type="checkbox"/> An Original (2) <input type="checkbox"/> A Resubmission	Date of Report (Mo, Da, Yr) 04/18/2013	Year/Period of Report End of 2012/Q4
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ELECTRIC OPERATING REVENUES (Account 400)

1. The following instructions generally apply to the annual version of these pages. Do not report quarterly data in columns (c), (e), (f), and (g). Unbilled revenues and MWH related to unbilled revenues need not be reported separately as required in the annual version of these pages.
2. Report below operating revenues for each prescribed account, and manufactured gas revenues in total.
3. Report number of customers, columns (f) and (g), on the basis of meters, in addition to the number of flat rate accounts; except that where separate meter readings are added for billing purposes, one customer should be counted for each group of meters added. The -average number of customers means the average of twelve figures at the close of each month.
4. If increases or decreases from previous period (columns (c),(e), and (g)), are not derived from previously reported figures, explain any inconsistencies in a footnote.
5. Disclose amounts of \$250,000 or greater in a footnote for accounts 451, 456, and 457.2.

Line No.	Title of Account (a)	Operating Revenues Year to Date Quarterly/Annual (b)	Operating Revenues Previous year (no Quarterly) (c)
1	Sales of Electricity		
2	(440) Residential Sales	213,493,805	213,167,155
3	(442) Commercial and Industrial Sales		
4	Small (or Comm.) (See Instr. 4)	123,650,549	127,525,687
5	Large (or Ind.) (See Instr. 4)	40,206,715	40,249,640
6	(444) Public Street and Highway Lighting	3,780,476	3,887,580
7	(445) Other Sales to Public Authorities		
8	(446) Sales to Railroads and Railways		
9	(448) Interdepartmental Sales		
10	TOTAL Sales to Ultimate Consumers	381,131,545	384,830,062
11	(447) Sales for Resale	4,232,827	8,488,871
12	TOTAL Sales of Electricity	385,364,372	393,318,933
13	(Less) (449.1) Provision for Rate Refunds	-6,472,669	10,676,301
14	TOTAL Revenues Net of Prov. for Refunds	391,837,041	382,642,632
15	Other Operating Revenues		
16	(450) Forfeited Discounts	149,870	117,290
17	(451) Miscellaneous Service Revenues	238,105	264,554
18	(453) Sales of Water and Water Power		
19	(454) Rent from Electric Property	1,260,911	1,188,894
20	(455) Interdepartmental Rents		
21	(456) Other Electric Revenues	3,129,039	-984,925
22	(456.1) Revenues from Transmission of Electricity of Others	46,994,441	37,714,788
23	(457.1) Regional Control Service Revenues		
24	(457.2) Miscellaneous Revenues		
25			
26	TOTAL Other Operating Revenues	51,772,366	38,300,601
27	TOTAL Electric Operating Revenues	443,609,407	420,943,233

Name of Respondent Western Massachusetts Electric Company	This Report Is: (1) <input checked="" type="checkbox"/> An Original (2) <input type="checkbox"/> A Resubmission	Date of Report (Mo, Da, Yr) 04/18/2013	Year/Period of Report End of 2012/Q4
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ELECTRIC OPERATING REVENUES (Account 400)

6. Commercial and industrial Sales, Account 442, may be classified according to the basis of classification (Small or Commercial, and Large or Industrial) regularly used by the respondent if such basis of classification is not generally greater than 1000 Kw of demand. (See Account 442 of the Uniform System of Accounts. Explain basis of classification in a footnote.)

7. See pages 108-109, Important Changes During Period, for important new territory added and important rate increase or decreases.

8. For Lines 2,4,5, and 6, see Page 304 for amounts relating to unbilled revenue by accounts.

9. Include unmetered sales. Provide details of such Sales in a footnote.

MEGAWATT HOURS SOLD		AVG.NO. CUSTOMERS PER MONTH		Line
Year to Date Quarterly/Annual (d)	Amount Previous year (no Quarterly) (e)	Current Year (no Quarterly) (f)	Previous Year (no Quarterly) (g)	No.
				1
1,517,772	1,532,362	187,910	187,529	2
				3
1,484,744	1,474,165	17,751	17,630	4
662,714	668,715	694	702	5
18,226	19,321	408	418	6
				7
				8
				9
3,683,456	3,694,563	206,763	206,279	10
56,574	131,447	16	16	11
3,740,030	3,826,010	206,779	206,295	12
				13
3,740,030	3,826,010	206,779	206,295	14

Line 12, column (b) includes \$ -85,584 of unbilled revenues.
Line 12, column (d) includes 2,433 MWH relating to unbilled revenues

WESTERN MASSACHUSETTS ELECTRIC COMPANY

Annual Service Quality Report

Supplemental Filing

2011 Poor Performing Circuits CKAIFI



**Northeast
Utilities System**

**WMECO 2011 SQI Report
Poor Performing Circuits
CKAIFI**

Circuit	Location	Reasons for Poor Performance	Years of Poor Performance	Steps Taken / Being Considered to Improve Reliability	CKAIFI
22B5	Greenfield, Shelburne, Buckland	79% of CKAIFI caused by backbone events of various causes. Nearly all of the customers are fed by a 8.32kV step-down bank at the end of a long right of way. Step-down bank had a load balancing issue which caused 2 major outages. Three other outages were caused by events in the right of way.	1	Completed project late in 2010 to balance the step-down load. Evaluating right of way for tree trimming needs. Established project to begin in 2011 to remove older 4kV underbuilt facilities from right of way poles that support backbone conductor.	5.0775
15E1	Lanesboro, New Ashford	64% of CKAIFI was due to the 15E108 recloser tripping out while tagged during Berkshire Wind Project construction for which no causes were found. 16% of CKAIFI was due to contractor error during the Berkshire Wind Project. 15% (7% backbone, 8% lateral) of CKAIFI was due to tree problems.	1	CKAIFI contribution from work associated with the Berkshire Wind Project is not expected to repeat. The 15E108 recloser was tested and found to work correctly. Tree trimming/removal and rebuild of the 15E1 backbone associated with the Berkshire Wind Project is expected to reduce CKAIFI from tree problems. Poorly performing laterals (Bridge St, Mallery Rd, Miner Rd, and Old Cheshire Rd) were reviewed and additional fusing was added.	3.965
17K7	Amherst	85% of CKAIFI was from 3 backbone events (2 tree related and 1 unknown suspected to be tree related).	1	Circuit will be reviewed for mid-cycle trim needs and risk tree mitigation in 2011 and problems found will be addressed.	3.2047
29A2	Southwick	73% of CKAIFI from backbone tree events, the majority from 2 separate large trees that came down and took out all 1500 customers.	1	Circuit was trimmed in 2009 and is currently having ETT work done on the backbone. Circuit will be assessed for mid-cycle trim needs in 2011 and problems found will be addressed.	3.2032
16B5	Lee	89% of CKAIFI (79% backbone, 10% lateral) was a result of tree problems associated with the March 13-14 and May 9 weather events. Pockets of poor performing reliability were identified on Landers Rd (backbone), Devon Rd (lateral), Laurel St (lateral), and Davis St (lateral).	1	Circuit backbone was trimmed in 2010 along with risk tree assessment and removal. Circuit lateral trimming began in 2010 and will be completed in 2011. Rehab projects were completed to address Landers Rd and Devon Rd reliability problems. Rehab projects are being planned to address Laurel St & Davis St. A new air break switch will be installed on the backbone to increase operability.	2.8984
6N4	Springfield	91% of CKAIFI was due to cable faults.	1	A cable fault was discovered on a riser pole that had evidence of previous multiple intermittent faults. This cable was replaced in early 2011 which should correct the problem.	2.7669
21S10	Springfield	52% of CKAIFI was a backbone cable fault when the recloser loop scheme was defeated due to planned work on the adjacent circuit. The next largest contributor was a vehicle accident on the backbone (19%).	1	Work in 2011 for the new service to Baystate Medical Center will redesign the recloser loop scheme such that the existing scheme will be divided into two smaller ones, using two circuits.	2.402

WMECO 2011 SQI Report
Poor Performing Circuits
CKAIFI

Circuit	Location	Reasons for Poor Performance	Years of Poor Performance	Steps Taken / Being Considered to Improve Reliability	CKAIFI
30A5	Agawam	46% of CKAIFI from backbone tree events, 26% from backbone lightning, 13% lateral animal, and 11% lateral tree.	1	Circuit was trimmed in 2010. Considering installing a recloser to place 800 customers at the end of the circuit into a loop scheme. Reviewing circuit lightning protection.	2.3969
8C25	Springfield	83% of CKAIFI from two backbone cable faults.	1	Faulted cable was replaced. Last cable faults on the circuit were in 2002. If circuit has additional cable faults will consider installing auto-transfer switchgear to mitigate the impact.	2.3958
18G4	Amherst, Hadley	68% of CKAIFI caused by a single circuit lockout caused by vehicle accident. 16% of CKAIFI was caused by two lateral cable faults at Pufon Village apartments.	1	Installed a new airbreak switch near the substation to allow for faster isolation and restoration. Requested town highway dept install signs warning of curve to prevent future accidents in same location. Evaluating future recloser loop scheme for circuit to improve the reliability. Poor performing section of cable at Pufon Village is scheduled for replacement.	2.2915
30A6	Agawam	56% of CKAIFI from backbone tree events, 25% DB equipment failures on laterals, and 15% lightning on laterals.	1	Circuit backbone was trimmed in late 2010 with the laterals scheduled for 2011. Majority of DB equipment failures (cable and transformers) were in a single development with a high customer count. Troublesome cable sections and transformers have been replaced. Reviewing circuit lightning protection.	2.2880
38A1*	Ashfield	49% of CKAIFI caused by backbone events. All backbone events were tree caused. 33% of CKAIFI was from tree caused events on laterals	1	In 2011, ETT was performed on 4 miles of backbone contributing to poor performance. Scheduled maintenance trimming was done on entire circuit. In 2010, DSCADA was added to an existing recloser loop scheme with the 22B1. In 2011, complete backbone hardening was performed on backbone from station breaker to first recloser. All transformers were fused and gap style lightning arresters were replaced on remaining part of backbone. Sectionalizing improvements and some rehab work was done on laterals that were significant contributors to poor performance	2.2746

* Per WMECO's 2011 SQ Filing (DPU 12-SQ-14), the 21C7 circuit was removed from the 2010 Poor Performing Circuits CKAIFI list after a detailed review of past outage events on the 21C7 circuit to determine steps to improve reliability revealed an event in 2010 that was miscoded and should have been partially excluded. Correction of the event resulted in the 21C7 circuit being replaced with the 38A1 circuit on the 2010 Poor Performing Circuits CKAIFI list.



231 W. Michigan St.
Milwaukee, WI 53203
www.we-energies.com



Public Service Commission of Wisconsin
RECEIVED: 04/30/09, 2:33:11 PM

Filed Electronically

April 30, 2009

Ms. Sandra J. Paske
Secretary to the Commission
Public Service Commission of Wisconsin
P.O. Box 7854
Madison, WI 53707-7854

Re: We Energies annual reliability performance report PSC 113.0604 – 05-GF-113

Dear Ms. Paske:

The Wisconsin Administrative code PSC 113.0604 requires that electric utilities with 100,000 or more customers annually file with the commission a report summarizing various measures of reliability for the preceding year. Wisconsin Electric Power Company (WEPCO) and Wisconsin Gas LLC, d/b/a We Energies submits the information for PSC 113.0604.

Satisfaction of Related Reporting Requirements

The information supplied here also partially fulfills the requirements of a plan to monitor electric, gas and steam service quality levels and trends that was developed by the Company in response to PSCW dockets 9401-YO-100 and 9402-YO-101, Order Point 14.

The following reports have already been filed at the PSCW:

PSC 113.0609 - Customer Satisfaction survey (electric only) was filed January 20, 2009/05-GF-113.

PSC 113.0612 – Safety Performance Report was filed January 19, 2009/05-GF-113. This report was for total WEC and could not be broken down by individual WEPCO reporting.

Ms. Sandra J. Paske
April 30, 2009
Page 2

Monthly reporting of daily performance statistics for Customer Call Centers has been filed in 6630-GF-100. Monthly summary data was also required by PSC 113.0604(3)(c). Monthly filings will no longer be required or necessary pursuant to Amelia Ramirez, PSC staff and We Energies agreement. The PSCW will no longer conduct and issue report of monthly justified complaints per Docket 6630-UR-110. We Energies will no longer submit monthly telephone statistics (ASA numbers) from our customer contact centers per Docket 6630-UR-110, but we will continue to submit the required annual service reliability report in 5-GF-113.

Responses to PSC 113.0604:

PSC 113.0604(2)(a). Provided as Attachment A.

PSC 113.0604(2)(b) and (c). Provided as Attachment B.

PSC 113.0604(2)(d). Provided as Attachment C.

PSC 113.0604(2)(e). Provided as Attachment D.

PSC 113.0604(2)(f). Provided as Attachment E.

PSC 113.0604(3)(a). Provided as Attachment F.

PSC 113.0604(3)(b). Provided as Attachment G.

PSC 113.0604(3)(c). Provided as Attachment H. (includes gas data)

PSC 113.0604(3)(d). Provided as Attachment I.

PSC 113.0604(3)(e). Provided as Attachment J. (includes gas data)

PSC 113.0604(3)(f). Total annual tree trimming budgeted and actual. For year 2008, the annual tree trimming budget was \$17,773,019 and the actual expenses were \$21,246,617.

PSC 113.0604(3)(g). Total annual projected and actual miles of distribution line tree trimmed. For year 2008 the annual projected miles of distribution line trimmed was 2,769 miles and the actual miles trimmed was 2,821 miles.

Note: The Company made forestry budget additions due to increase of reliability projects.

Ms. Sandra J. Paske
April 30, 2009
Page 3

Steam System Service Quality

The following steam service interruption data is provided in response to the aforementioned plan submitted by the Company in compliance with 9401-YO-100 and 9402-YO-101, Order Point 14.

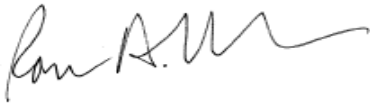
Forced and Unplanned Outages with Less Than 24 Hours Notice.

Severe flooding occurred on the Milwaukee County Grounds on June 7, 2008 requiring isolation of the west steam main. Steam service was interrupted to all steam customers west of Highway 45. Steam service was returned on June 11, 2008. The total outage duration was approximately 84 hours.

On August 14, 2008 a customer on the Milwaukee steam system incurred a service interruption so repairs could be made to a leaking steam main. The duration of the outage was 3 hours.

If you have any questions regarding the information provided in this report, please call Debbie Tschudy at 608-283-3007.

Sincerely,



Roman A. Draba
Vice President –Regulatory Affairs and Policy

cc: Mr. Robert Norcross/PSCW
Mr. Scot Cullen/PSCW
Mr. Dan Sage/PSCW

**We Energies RELIABILITY INDICES
PER PSC 113.0604 (2a)**

PSC 113.0604 (2a): “An overall assessment of the reliability performance including the aggregate SAIFI, SAIDI, and CAIDI indices by system and each operating area, as applicable.”

The attached information is derived from the database of all of We Energies’ service territory for 2008 and includes:

- System Performance
- Operating Area Performance

Note: The Iron Range Operating Area includes circuits that are partially or wholly within the upper peninsula of Michigan.

We Energies RELIABILITY INDICES**PER PSC 113.0604 (2a)**

YEAR 2008	OPERATING AREA			SYSTEM TOTAL
	Southeastern WI	Fox Valley	Iron Range	
SAIFI	0.69	0.63	1.55	0.71
SAIDI	81	43	164	80
CAIDI	118	68	105	112

Notes:

Ten ATC transmission system outages occurred in Iron Range during 2008 affecting more than 22,600 customers.

One ATC transmission system outages occurred in Southeastern WI during 2008 affecting more than 7,600 customers.

**We Energies ANNUAL RELIABILITY REPORT-
CIRCUIT PERFORMANCE
PER PSC 113.0604 (2b) and (2c)**

PSC 113.0604 (2b): “A list of the worst-performing circuits based on SAIFI, SAIDI, and CAIDI indexes, for the calendar year. This section of the report shall describe the actions that the utility has taken or will take to remedy the conditions responsible for each listed circuit’s unacceptable performance. The action(s) taken or planned should be briefly described. Target dates for corrective action(s) shall be included in the report. When the utility determines that actions on its part are unwarranted, its report shall provide adequate justification for such a conclusion.”

PSC 113.0604 (2c): “Utilities that use or prefer alternative criteria for measuring individual circuit performance to those described in s. PSC 113.0603 and which are required by this section to submit an annual report of reliability data, shall submit their alternative listing of circuits along with the criteria used to rank circuit performance.”

We Energies collects outage data and uses SAIFI, SAIDI, and CAIDI to assess circuit performance, however a number of different criteria are utilized to develop a list and rank worst performing distribution circuits. These criteria include SAIFI, SAIDI, customer concerns, and internal feedback and recommendations from Operating, Customer Service, and Area personnel. These criteria are calculated on a fourth quarter through third quarter basis rather than a calendar year basis, in order to allow We Energies personnel to perform field patrols, analysis and a substantial number of field improvements prior to the start of a given year’s storm season.

In order to focus improvement efforts on the portions the distribution system that will result in the most benefit to customers, localized outages affecting less than 100 kVA of load, outages to single utilization transformers affecting fewer than 10 customers, and secondary system and service drop outages are removed from the data set through the use of a filter prior to calculating reliability indices. These criteria were used to develop the worst performing circuit list for section 113.0604 (2b). In addition, in some years, major events occur that significantly affect the distribution system and can inappropriately bias the list of worst performing circuits if not taken into consideration. For this reason, the duration of the outages (which would unduly bias SAIDI) associated with two extraordinary storms were removed from the outage database prior to creating the worst performing circuit list reported in section 113.0604 (2b). The first storm was due to tornado activity in Kenosha County on January 7, 2008. The second storm was based on the Governor’s declared state of emergency in 29 Wisconsin counties which included most of the southeastern Wisconsin service territory of We Energies and occurred June 7–9, 2008 and was due to numerous thunderstorms passing through and the resulting flooding.

We Energies Y2008 Worst Performing Circuits Per PSC 113.0604 (2b) and (2c)

Attachment B

*Reliability Indices are based on filtered data from 10/07 through 9/08							
Circuit	Operating Area	Substation	SAIFI*	SAIDI*	CAIDI*	Completion Target Date	Corrective Action
5390	FV	Maes	1.000	508.0	508.0	Complete	No work required. 1 outage due to failed pothead. Repairs complete at time of outage.
BGW6	FV	Bridgewood	2.034	202.3	99.5	Q2 2009	Replace cutouts and surge arresters. Forestry spot trim.
BRL2	IR	Brule Plant	1.000	562.0	562.0	Complete	No work required. 1 outage due to fallen tree. Repairs complete at time of outage.
BRU1	IR	Bruce Crossing	2.044	43.1	21.1	Complete	No work required. 2 outages due to failing transformer tap changer on source line WSM1 accounted for feeder outages exceeding the Worst Performing Circuits criteria. Repairs complete at time of outages.
BRU2	IR	Bruce Crossing	2.097	45.0	21.5	Complete	No work required. 2 outages due to failing transformer tap changer on source line WSM1 accounted for feeder outages exceeding the Worst Performing Circuits criteria. Repairs complete at time of outages.
BRU3	IR	Bruce Crossing	2.104	56.4	26.8	Complete	No work required. 2 outages due to failing transformer tap changer on source line WSM1 accounted for feeder outages exceeding the Worst Performing Circuits criteria. Repairs complete at time of outages.
CON1	IR	Conover	3.424	203.0	59.3	Complete	Install wildlife protection. Move surge arresters to transformers. Forestry full trim.
CON2	IR	Conover	4.390	517.9	118.0	Complete	Install wildlife protection. Move surge arresters to transformers. Forestry full trim.
LOL1	IR	Land O Lakes	3.505	254.6	72.7	Complete	No work required. 2 outages due to failing transformer tap changer on source line WSM1 accounted for feeder outages exceeding the Worst Performing Circuits criteria. Repairs complete at time of outages.
LOL2	IR	Land O Lakes	4.831	586.2	121.3	Complete	No work required. 2 outages due to failing transformer tap changer on source line WSM1 accounted for feeder outages exceeding the Worst Performing Circuits criteria. Repairs complete at time of outages.
LOL3	IR	Land O Lakes	2.573	89.8	34.9	Complete	2 outages due to failing transformer tap changer. Install surge arresters and wildlife protection. Move surge arresters to transformers.
MSS2	IR	Mass	2.159	46.1	21.3	Complete	No work required. 2 outages due to failing transformer tap changer on source line WSM1 accounted for feeder outages exceeding the Worst Performing Circuits criteria. Repairs complete at time of outages.
TWL53	IR	Twin Lake	7.692	357.8	46.5	Complete	No work required. Additional customers temporarily bridged to this feeder during construction project accounted for feeder outages exceeding the Worst Performing Circuits criteria.
WSM1	IR	Watersmeet	2.164	89.7	41.5	Complete	No work required. 2 outages due to failing transformer tap changer. Repairs complete at time of outages.
1677	SEW	Racine	6.019	202.3	33.6	Q2 2009	Install surge arresters, wildlife protection, and faulted circuit indicators.
1693	SEW	Racine	3.007	439.5	146.2	Complete	Install faulted circuit indicators. Replace cutouts.
1841	SEW	Auburn	3.778	1009.7	267.2	Complete	Install surge arresters. Replace insulators.
3044	SEW	Saint Martins 24.9	2.005	31.1	15.5	Complete	No work required. 2 outages due to failed cable. Cable segment replaced.
3143	SEW	Albers 24.9	2.000	332.6	166.3	Complete	Install wildlife protection. Replace insulators, surge arrester and crossarm.
3154	SEW	Albers 24.9	3.000	130.7	43.6	Complete	Install surge arresters. Forestry full trim.
3274	SEW	Lincoln 26.4	2.200	25.2	11.5	Complete	No work required. 1 outage due to failed cable. Cable segment replaced.
3585	SEW	Merrill Hills	7.915	357.5	45.2	Complete	No work required. 7 outages during the same day due to failed cable. Cable segment replaced.
3647	SEW	Cornell 26.4	5.273	107.5	20.4	Complete	No work required. 1 outage due to lightning during extraordinary storm, 2nd outage due to vegetation during extraordinary storm and 3rd outage due to car/pole accident. Repairs complete at time of outages.
3881	SEW	Twenty-eighth Street 26.4	1.000	756.5	756.5	Complete	No work required. 1 outage due to failed cable. Repairs made at time of outage.
3966	SEW	Mequon	3.018	189.1	62.7	Complete	No work required. 2 outages due to failed cables and 3rd outage due to failed connector in substation control equipment. Repairs complete at time of outages and cable testing performed.
4052	SEW	Elkhart Lake 24.9	1.483	363.2	245.0	Complete	No work required. 1 outage due to vegetation during extraordinary storm (tornado). Repairs made at time of outage.
4953	SEW	Brown Deer	1.501	394.6	263.0	Q2 2009	Install faulted circuit indicators.
4961	SEW	Brown Deer	2.048	267.2	130.5	Complete	Forestry spot trim.
4972	SEW	Brown Deer	2.400	393.3	163.9	Complete	No work required. 1 outage due to failed cable. Repairs complete at time of outage.
5144	SEW	Hayes	3.059	255.2	83.4	Complete	Replaced failed connectors identified during infrared scan.
5953	SEW	Wildwood	2.079	105.7	50.8	Complete	No work required. 1 outage due to failed cable and 2nd outage due to lightning on source line Z4572 during extraordinary storm. Repairs complete at time of outages.
6073	SEW	Concordia	0.740	395.8	534.7	Q2 2009	Forestry full trim.
6582	SEW	Sugar Creek	3.674	314.0	85.5	Q2 2009	Install tap fuses, wildlife protection and surge arresters. Forestry spot trim.
6681	SEW	Jefferson	2.530	358.4	141.7	Complete	Install wildlife protection and surge arresters.

**We Energies Y2008 Worst Performing Circuits
Per PSC 113.0604 (2b) and (2c)**

Attachment B

Circuit	Operating Area	Substation	SAIFI*	SAIDI*	CAIDI*	Completion Target Date	Corrective Action
7062	SEW	Waukesha	2.208	138.3	62.6	Complete	Install and replace surge arresters.
7067	SEW	Waukesha	0.413	403.0	974.6	Complete	No work required. 1 outage due to flooded switch fuse unit during extraordinary storm. Repairs complete at time of outage.
7263	SEW	Kansas	3.129	295.4	94.4	Q2 2009	Install surge arresters and wildlife protection. Replace surge arresters and cutouts. Forestry full trim.
7472	SEW	Cameron	2.170	695.3	320.5	Complete	Replace surge arresters. Forestry spot trim.
8052	SEW	Saint Lawrence 24.9	2.909	842.2	289.5	Complete	2 outages due to lightning during extraordinary storms, 3rd outage due to failed insulator. Repairs complete at time of outages. Forestry full trim.
8161	SEW	Hartland	1.861	442.3	237.6	Complete	Install cutouts, surge arresters, wildlife protection and faulted circuit indicators. Replace cutouts. Forestry full trim.
8352	SEW	Fort Atkinson 24.9	2.195	147.5	67.2	Q2 2009	2 outages due to failed connector in switch fuse unit and 2 outages due to lightning during extraordinary storms. Repairs complete at time of outages. Install faulted circuit indicators.
8983	SEW	Paris	2.065	194.8	94.3	Complete	No work required. 1 outage due to car/pole accident and 2nd outage due to lightning during extraordinary storm. Repairs complete at time of outages.
8993	SEW	Paris	2.315	161.3	69.7	Q2 2009	Part of the load served from this feeder was transferred to a new feeder out of Raymond Substation. Install surge arresters, wildlife protection and tap fuses. Replace insulators and a load break switch. Forestry spot trim.
9084	SEW	Concord	3.762	260.2	69.2	Complete	Install wildlife protection. Replace cutouts and move surge arresters to transformers.
9474	SEW	Haymarket Square	2.048	421.8	206.0	Complete	Install wildlife protection. Replace cutouts.
9554	SEW	Layton	2.201	43.7	19.9	Complete	Install tap fuses and switch. Replace insulators. Forestry full trim.
9787	SEW	Barton 24.9	2.057	173.8	84.5	Complete	Install wildlife protection, surge arresters, tap fuse and faulted circuit indicators. Full forestry trim.
9853	SEW	Parkway	2.411	185.4	76.9	Q2 2009	Install tap fuses, surge arresters and wildlife protection. Full forestry trim.
9861	SEW	Parkway	1.103	421.4	382.1	Complete	Install wildlife protection and surge arresters. Forestry spot trim.
9993	SEW	Arcadian	2.067	100.2	48.5	Complete	1 outage due to crane contact and 2nd outage due to failed switch fuse unit. Repairs complete at time of outages. Forestry full trim.
10773	SEW	Derby	0.982	483.9	493.0	Complete	Install tap fuses, surge arresters and wildlife protection. Full forestry trim.
11151	SEW	Waukesha Beach	2.109	91.7	43.5	Complete	Install wildlife protection. Replace insulators.
12353	SEW	Southport	1.445	404.3	279.7	Q2 2009	Install wildlife protection and surge arresters. Replace pole and insulators.
15852	SEW	Wakoka	0.962	364.0	378.4	Q2 2009	2 outages due to lightning during extraordinary storm. Repairs complete at time of outages. Install faulted circuit indicators.
16593	SEW	Everett	1.400	328.2	234.4	Complete	No work required. 2 outages due to failed switch fuse unit. Repairs complete at time of outages.
18251	SEW	Mount Calvary	2.181	450.3	206.5	Complete	Forestry full trim.
18252	SEW	Mount Calvary	1.354	521.3	384.9	Complete	No work required. 1 outage due to tree during extraordinary storm. Repairs complete at time of outage.
18751	SEW	Calumet	2.381	279.4	117.4	Complete	Install wildlife protection and surge arresters. Replace cutouts. Forestry spot trim.
19661	SEW	Lannon	2.265	169.7	74.9	Complete	1 outage due to cable failure. Repairs complete at time of outage.
20851	SEW	Northridge	3.012	223.9	74.3	Complete	1 outage due to cable failure. Tested several other cable segments and replaced failing cables.
21751	SEW	Liberty	0.979	397.1	405.4	Complete	1 outage due to lightning during extraordinary storm and 3 outages due to trees during extraordinary storms. Repairs complete at time of outages. Forestry full trim.
21861	SEW	Pewaukee	3.211	151.0	47.0	Complete	Install wildlife protection, surge arresters, tap fuses and recloser. Replace poles.
22862	SEW	Douglas	2.103	40.2	19.1	Complete	1 outage due to down conductor during extraordinary storm and 2nd outage due to lightning during extraordinary storm. Repairs complete at time of outages. Forestry full trim.
24653	SEW	Elm Grove	0.994	292.8	294.5	Complete	Install surge arresters, wildlife protection and faulted circuit indicators. Forestry spot trim.
27097	SEW	Stoney Brook	3.509	236.4	67.4	Q2 2009	Install tap fuses. Full forestry trim.
32061	SEW	Prospect	2.934	492.1	167.7	Complete	3 outages due to lightning during extraordinary storms. Repairs complete at time of outages.
33574	SEW	Butternut	2.149	226.4	105.4	Complete	Replace insulators and surge arresters.
33582	SEW	Butternut	2.327	27.8	11.9	Complete	Install wildlife protection and surge arresters. Replace insulators.
33982	SEW	Spring Valley	2.368	256.3	108.2	Q2 2009	Install wildlife protection and surge arresters. Replace insulators. Forestry full trim.
36552	SEW	Springbrook	2.044	62.5	30.6	Q2 2009	Install wildlife protection and surge arresters. Replace insulators and crossarms. Forestry spot trim.
40588	SEW	Fredonia	2.058	347.9	169.1	Q2 2009	Install surge arresters. Full forestry trim.
42184	SEW	Branch	2.026	138.0	68.1	Complete	Install wildlife protection and surge arresters. Forestry spot trim.

**We Energies Y2008 Worst Performing Circuits
Per PSC 113.0604 (2b) and (2c)**

Attachment B

Circuit	Operating Area	Substation	SAIFI*	SAIDI*	CAIDI*	Completion Target Date	Corrective Action
42194	SEW	Branch	2.265	67.5	29.8	Complete	1 outage due to cable failure and 2nd outage due to transformer failure. Repairs complete at time of outages.
46181	SEW	Bark River	5.058	752.5	148.8	Complete	No work required. 5 outages due to failed mid-line recloser. Repairs complete.
46253	SEW	Center	3.177	118.5	37.3	Q2 2009	Install wildlife protection and tap fuses. Move surge arresters to transformers and tighten hardware. Forestry spot trim.
46262	SEW	Center	2.307	143.2	62.1	Q2 2009	During 1 outage additional customers temporarily bridged to this feeder accounted for feeder outages exceeding the Worst Performing Circuit criteria. Full forestry trim.
48371	SEW	Shirley	2.022	147.1	72.8	Complete	Install wildlife protection and faulted circuit indicators. Full forestry trim.
51281	SEW	Norwich	2.112	159.5	75.5	Complete	Install surge arresters and wildlife protection. Replace cutouts. Forestry spot trim.
56474	SEW	Dewey	0.667	543.3	815.0	Complete	No work required. 1 outage caused by 3rd party cable dig-in. Repairs complete at time of outage.
60671	SEW	Elkhart Lake 8.32	0.667	322.8	484.2	Complete	No work required. 1 outage due to lightning during extraordinary storm and 1 outage due to vegetation during extraordinary storm. Repairs complete at time of outages.
60672	SEW	Elkhart Lake 8.32	1.908	674.9	353.8	Complete	1 outage due to tree during extraordinary storm. Repairs complete at time of outage. Forestry spot trim.
60682	SEW	Elkhart Lake 8.32	0.878	300.9	342.9	Complete	No work required. 2 outages due to lightning during extraordinary storm (tornado). Repairs complete at time of outages.
69166	SEW	Twenty-eighth Street 13.2	2.222	183.8	82.7	Complete	No work required. 2 outages due to failed cable. Repairs complete at time of outages.
73574	SEW	Sixty-eighth Street	2.012	39.1	19.4	Complete	No work required. 1 outage due to failed switch fuse unit during extraordinary storm and 2nd outage due to lightning during extraordinary storm. Repairs complete at time of outages.
73584	SEW	Sixty-eighth Street	2.047	48.2	23.5	Complete	No work required. 2 outages due to lightning during extraordinary storms. Repairs complete at time of outages
74162	SEW	West Bend	3.224	207.6	64.4	Q2 2009	Install surge arresters, wildlife protection and faulted circuit indicators. Full forestry trim.
76352	SEW	Pike Lake	3.080	275.2	89.4	Q2 2009	No work required. 2 outages due to lightning on source line Z8062 during extraordinary storms accounted for feeder outages exceeding the Worst Performing Circuits criteria. Repairs complete at time of outages.
76361	SEW	Pike Lake	2.702	236.5	87.5	Complete	No work required. 2 outages due to failed cable and 3rd outage due to car/pole accident. Repairs complete at time of outages.
76362	SEW	Pike Lake	2.023	118.5	58.6	Complete	No work required. 2 outages due to lightning on source line Z8062 during extraordinary storms accounted for feeder outages exceeding the Worst Performing Circuits criteria. Repairs complete at time of outages.
77382	SEW	Mukwonago	2.607	409.9	157.2	Complete	No work required. Portions of this feeder's load moved to other feeders to reduce exposure.
77388	SEW	Mukwonago	1.391	381.2	274.0	Q2 2009	1 outage due to lightning and 2nd outage due to vegetation during extraordinary storms. Repairs complete at time of outages. Forestry full trim.
77389	SEW	Mukwonago	1.546	439.0	284.0	Complete	1 outage due to lightning during extraordinary storm. Repairs complete at time of outage. Forestry full trim.
82886	SEW	Cottonwood	2.244	130.9	58.4	Complete	Install surge arresters.
82888	SEW	Cottonwood	4.287	308.7	72.0	Complete	Install surge arresters and wildlife protection. Full forestry trim.

**We Energies ANNUAL RELIABILITY REPORT-
PRIOR YEARS' ACCOMPLISHMENTS
PER PSC 113.0604 (2d)**

PSC 113.0604 (2d): "A report on the accomplishment of the improvements proposed in prior reports for which completion has not been previously reported."

The attached report describes the accomplishment of the improvements/corrective actions that were performed on the circuits listed last year per PSC 113.0604 (2b) that were not previously reported as complete.

**We Energies Y2007 Worst Performing Circuits
Per PSC 113.0604 (2d)**

Attachment C

*Reliability Indices are based on filtered data from 10/06 through 9/07							
Circuit	Operating Area	Substation	SAIFI*	SAIDI*	CAIDI*	Completion Target Date	Corrective Action
SHC2	FV	Shiocton	2.410	118.1	49.0	Completed Q4 2008	Install anti-galloping spacers to segment of source line R5590 feeding Shiocton substation.
WCT61	FV	Wescott	2.039	153.5	75.3	Completed Q2 2008	Install wildlife protection and surge arresters. Replace cutouts, utilization transformers and missing grounds. Forestry full trim.
ZCH2	FV	Zachow	3.492	185.4	53.1	Completed Q2 2008	Install wildlife protection, surge arresters and faulted circuit indicators. Replace dead-end insulators and cutouts. Forestry spot trims.
BRU1	IR	Bruce Crossing	2.217	316.5	142.8	Completed Q3 2008	Install wildlife protection, surge arresters, cutouts and replace poles. Forestry full trim.
LOL1	IR	Land O Lakes	2.238	207.3	92.6	Completed Q2 2008	Install wildlife protection, surge arresters, cutouts and faulted circuit indicators. Forestry spot trim.
TWL51	IR	Twin Lake	2.092	184.9	88.4	Completed Q2 2008	Install wildlife protection and replace pole. Forestry spot trims.
TWL52	IR	Twin Lake	2.226	380.1	170.8	Completed Q2 2008	Install wildlife protection. Forestry spot trims.
1026	SEW	Harbor	2.873	250.5	87.2	Completed Q2 2008	Portions of this feeder will be converted to a new feeder out of Harbor SS by 6/1/2008. Forestry spot trims.
3255	SEW	Lincoln 13.2	14.857	266.3	17.9	Completed Q2 2008	Install additional surge arresters and replace surge arresters. Forestry spot trims.
3472	SEW	Granville	2.692	203.0	75.4	Completed Q2 2008	Install faulted circuit indicators. Forestry spot trims.
3653	SEW	Cornell 26.4	2.973	58.5	19.7	Completed Q2 2008	Replace surge arrester and crossarm. Forestry spot trims.
3754	SEW	Butler	5.644	504.8	89.4	Completed Q2 2008	Replace crossarm, pole, crossarm brace and pulled slack wire. Forestry spot trims.
4571	SEW	Ninety-sixth Street	2.510	261.0	104.0	Completed Q2 2008	Install wildlife protection. Forestry spot trims.
4575	SEW	Ninety-sixth Street	4.154	1044.1	251.4	Completed Q2 2008	Replace missing guy anchor. Forestry spot trims.
4751	SEW	Genesee	2.201	395.5	179.7	Completed Q2 2008	Install wildlife protection, surge arresters, replace cutouts and poles. Forestry spot trims.
4963	SEW	Brown Deer	2.076	678.8	326.9	Completed Q2 2008	Replace crossarms and remove slack from multiple spans. Forestry full trim.
6181	SEW	Forest Home	2.143	296.8	138.5	Completed Q2 2008	Install tap fuses. Forestry spot trims.
6581	SEW	Sugar Creek	2.904	278.4	95.9	Completed Q2 2008	Install wildlife protection and tap fuses. Forestry spot trims.
7263	SEW	Kansas	4.023	399.5	99.3	Completed Q2 2008	Install wildlife protection, move surge arresters to transformers, add tap fuses, and tighten hardware throughout feeder. Forestry full trim.
7653	SEW	Bradley 3.81	3.076	1400.1	455.1	Completed Q2 2008	Install tap fuses and tighten loose hardware in multiple locations. Forestry spot trim.
7671	SEW	Bradley 3.81	1.921	879.2	457.5	Completed Q2 2008	Install tap fuses and wildlife protection. Forestry spot trim.
7673	SEW	Bradley 3.81	1.044	822.7	788.1	Completed Q2 2008	Install wildlife protection. Forestry full trim.
7674	SEW	Bradley 3.81	1.191	1317.4	1106.4	Completed Q2 2008	Install wildlife protection. Forestry full trim.
8992	SEW	Paris	5.559	912.8	164.2	Completed Q2 2008	Install surge arresters. Forestry spot trims.
9862	SEW	Parkway	4.269	252.4	59.1	Completed Q2 2008	Forestry spot trims.
14662	SEW	O Connor	5.783	773.0	133.7	Completed Q2 2008	Install wildlife protection, move surge arresters to transformers, add tap fuses, and tighten hardware throughout feeder. Forestry spot trims.
15162	SEW	Church	2.058	423.4	205.7	Completed Q2 2008	Install surge arresters, wildlife protection, replace rotted poles. Forestry spot trims.
15351	SEW	Franksville	3.086	609.1	197.4	Completed Q2 2008	Install wildlife protection, surge arresters; replace insulators. Replaced station cable at time of outage. Forestry spot trims.
18652	SEW	Wirth Park	4.850	447.3	92.2	Completed Q2 2008	Forestry spot trims.
18762	SEW	Calumet	2.190	170.3	77.8	Completed Q2 2008	Install wildlife protection, surge arresters and cutouts. Forestry spot trims.
20152	SEW	Plainfield	3.171	476.5	150.3	Completed Q2 2008	Install wildlife protection and replace surge arresters, cutouts and crossarm. Forestry spot trims.
25162	SEW	Sunnyside	3.006	350.0	116.4	Completed Q2 2008	Replace cutouts, utilization transformers and poles. Forestry spot trims.
52651	SEW	Mallory	2.090	562.3	269.1	Completed Q2 2008	Forestry spot trims.
77389	SEW	Mukwonago	2.161	199.5	92.3	Completed Q2 2008	Install midline recloser and faulted circuit indicators. Forestry full trim.

**We Energies ANNUAL RELIABILITY REPORT-
NEW RELIABILITY PROGRAMS
PER PSC 113.0604 (2e)**

PSC 113.0604 (2e): “A description of any new reliability or power quality programs and changes that are made to existing programs”

In addition to the program to address the worst performing circuits as described in PSC 113.0604 sections (2b) and (2c), the following reliability programs were undertaken in 2008:

- Circuits that were addressed as part of previous years’ worst performing circuit programs, and did not improve to acceptable levels of performance were reexamined and will be addressed as part of the 2009 worst performing circuit program.
- Continued the process to address localized reliability problems based on customer input, resulted in approximately 150 field remediations.
- Developed and applied enhanced feeder patrol guidelines.
- Used enhanced lightning protection techniques developed in 2000, animal abatement measures developed in 2001, remediation options for identified equipment failure items as developed in 2002, Faulted Circuit Indicator (FCI) deployment strategies as developed in 2003, new wildlife protection measures developed in 2005 and 2006, and application of elbow surge arresters developed in 2007, and applied them to susceptible feeders as part of the 2008 worst performing circuit program.
- Developed a strategic cable replacement program and replaced 32 miles of cable as identified.
- Continually improved new Outage Management System process to improve customer restoration.
- Continued deployment of process enhancements to improve outage duration performance including holding weekly stand-up meetings during the summer storm season, and follow up on action items derived from 2007 storm debriefs.
- Reviewed past reliability programs to quantify their success.

**STATUS OF We Energies' LONG RANGE DISTRIBUTION PLANS
PSC 113.0604(2f)**

PSC 113.0604(2f): "A status report of any long range electric distribution plans."

4kV: Serves various areas throughout the service territory but is primarily located within the Milwaukee County and Appleton/Neenah areas. Plans for this system include eventual elimination through gradual conversion to 12kV, 13kV, and 25kV voltage levels. Periodic reviews of remaining facilities are made to determine the order of retirement and to schedule appropriate construction projects.

8kV: Serves residential and small commercial customers in the southeast Wisconsin area. Plans for this system include continued management of load growth through targeted conversion to the 25kV voltage level. In general, no major expansion of the 8kV system is planned. A high level review of the 8kV system was completed in 2000. Priorities for targeted system renewal and conversion/retirement have been identified for the 2001-2020 time period.

12kV: The current and future voltage level for service to residential, commercial, and light industrial customers in the Fox Valley area. New capacity will be added as needed to provide for new load, retirement of aging facilities, and conversion of 4kV substations and feeders. Annual reviews of the capacity needs for this system are performed to schedule appropriate construction projects.

13kV: The current and future voltage level for service to residential, commercial, and light industrial customers in eastern Milwaukee County and the area in and around Iron Mountain, Michigan. A portion of this system operates as a subtransmission system. New capacity will be added as needed to provide for new load and conversion of 4kV substations and feeders. Annual reviews of the capacity needs for this system are performed to schedule appropriate construction projects.

25kV: The current and future voltage level for service to all classes of customers in the southeast Wisconsin and the Michigan service areas. New capacity will be added as needed to provide for new load, reduction of line exposure reliability concerns, and conversion of lower voltage substations and feeders. Annual reviews of the capacity needs for this system are performed to schedule appropriate construction projects.

26kV: This subtransmission system serves large commercial and industrial customers and lower voltage distribution substations in the Milwaukee and Racine areas. A high level plan for conversion from 26kV to 25kV was developed in 2000. Conversion projects are being completed as needed to provide 25kV availability for conversion of 4kV and 8kV substations and feeders.

35kV: This subtransmission system is the current and future voltage level serving large industrial customers and lower voltage distribution substations in the Fox Valley area. New capacity will be added as needed to provide for new load and retirement of aging facilities. Annual reviews of the capacity needs for this system are performed to schedule appropriate construction projects.

**We Energies ROUTE MILES OF ELECTRIC DISTRIBUTION REBUILT DURING 2008
PSC 113.0604(3a)**

PSC 113.0604(3a): "Route miles of electric distribution line reconstructed during the year. Separate totals for single-and three-phase circuits shall be provided."

	Miles of Line		
	Projects	Annual Orders*	Total
Single Phase	187	37	224
Three Phase	212	42	254
Total	399	79	478

* Data on miles of lines rebuilt is not available for work performed under annual orders. Number of man-hours and total costs expended on annual orders approximate spending on Projects. It is assumed that labor productivity is lower on annual orders due to increased travel time and increased equipment set up time. A significant portion of annual orders is for new services rather than line rebuild. An estimate for miles of line rebuilt on the annual orders is approximately 20% of the special project work.

We Energies DISTRIBUTION LINE IN SERVICE 2008
PSC 113.0604(3b)

PSC 113.0604(3b): “Total route miles of electric distribution line in service at year’s end, segregated by voltage level.”

Total route miles (does not include abandon or non-operating line segments):

<u>Voltage Level</u>	<u>Miles</u>
3.81 kV	249
4.16 kV	585
6.9 kV	78
8.32 kV	10,957
12.47 kV	4,332
13.2 kV	1,327
13.8 kV	744
24.9 kV	11,045
26.4 kV	286
34.5 kV	443
Primary Total	30,046
Secondary Total	25,634
Grand Total	55,680

We Energies Monthly Performance Statistics for 2008
Customer Contact Center (CCC)

	January	February	March	April	May	June	July	August	September	October	November	December	Total
Total CCC Inbound Calls*													
Offered	192,409	198,525	245,619	400,461	316,202	373,862	373,047	331,947	309,732	379,195	183,623	186,659	3,491,281
Abandoned	15,959	17,122	17,443	50,594	34,997	43,803	70,419	61,734	40,383	73,635	10,113	11,632	447,834
Handled	176,450	181,403	228,176	349,867	281,205	330,862	302,628	270,213	269,349	305,560	173,510	175,027	3,043,447
Average Wait (sec.) - All Calls	81	74	67	179	111	119	147	156	131	205	45	50	114
Average Wait (sec.) - Rep Calls	116	108	102	313	182	203	232	235	184	300	56	69	175
Number of Emergency Calls**	1,428	1,597	1,541	1,473	1,980	6,749	5,051	2,214	2,243	2,474	1,241	2,531	30,522
Total Queuing Time (Sec.)	37,756	93,757	56,946	38,536	78,124	284,908	129,552	73,378	62,598	57,568	23,010	95,921	1,032,054
Average Wait (sec.) Emer. Calls	26	59	37	26	39	42	26	33	28	23	19	38	34

Flood 6/6-8

*Residential, Small Business, Large Business, Telecollections, Outage, Emergency, IVR

**Emergency, Fire/Police

We Energies
WI Admin. PSC 113.0604(3)(d)
New Service Installation Report 2008
Electric Only

Attachment I

Total Electric			
	Total	On time	% On Time
January	482	482	100.00%
February	339	339	100.00%
March	365	365	100.00%
April	457	457	100.00%
May	492	492	100.00%
June	580	580	100.00%
July	579	578	99.83%
August	596	596	100.00%
September	670	670	100.00%
October	689	689	100.00%
November	626	626	100.00%
December	404	404	100.00%
Total	6,279	6,278	99.98%

Avg Days to Install New Electric Service in 2008			
	Permanent Services	Temporary Services	Total
January	11.9	2.9	11.4
February	11.6	11.0	11.5
March	14.1	3.2	13.5
April	8.3	3.8	7.9
May	9.6	4.3	9.3
June	12.8	6.2	12.0
July	12.8	2.5	12.0
August	11.7	4.1	11.4
September	10.0	4.0	9.6
October	10.6	36.2	11.5
November	13.4	10.3	13.3
December	13.6	3.1	13.1
Total	11.6	7.0	11.4

						2008 Escalated PSC & Executive Complaints																				2008 Escalated PSC & Executive Complaints														
	Billing/Metering					Credit/Collections					Field Operations					Outage/Power Quality					Safety					TOTALS														
	Elec Only	"WE" Gas Only	"WG" Gas Only	Combined	Total	Elec Only	"WE" Gas Only	"WG" Gas Only	Combined	Total	Elec Only	"WE" Gas Only	"WG" Gas Only	Combined	Total	Elec Only	"WE" Gas Only	"WG" Gas Only	Combined	Total	Elec Only	"WE" Gas Only	"WG" Gas Only	Combined	Total	Elec Only	"WE" Gas Only	"WG" Gas Only	Combined	Total										
January	2	6	14	22	44	2	0	2	30	34	2	1	3	0	6	1	0	0	0	1	0	0	0	0	0	7	7	19	52	85										
February	5	7	12	23	47	3	1	0	43	47	2	0	4	0	6	1	0	0	0	1	0	0	0	0	0	11	8	16	66	101										
March	3	5	13	20	41	9	3	0	98	110	0	2	0	0	2	8	0	0	0	8	1	0	0	0	1	21	10	13	118	162										
April	8	17	24	24	73	28	7	11	462	508	1	0	2	0	3	7	0	0	0	7	0	0	0	0	0	44	24	37	486	591										
May	5	23	25	18	71	26	5	3	464	498	2	2	3	0	7	4	0	0	0	4	0	0	0	0	0	37	30	31	482	580										
June	8	17	17	16	58	40	3	8	632	683	3	0	2	1	6	2	0	0	0	2	0	0	0	0	0	53	20	27	649	749										
July	10	9	20	21	60	46	2	4	548	600	4	1	1	0	6	2	0	0	0	2	0	0	0	0	0	62	12	25	569	668										
August	11	15	12	30	68	28	1	6	468	503	3	2	2	0	7	3	0	0	0	3	0	0	0	0	0	45	18	20	498	581										
September	5	3	7	16	31	53	2	4	467	526	2	3	3	0	8	3	0	0	0	3	0	0	0	0	0	63	8	14	483	568										
October	11	3	4	20	38	55	6	16	517	594	7	1	3	1	12	2	0	0	0	2	0	0	0	0	0	75	10	23	538	646										
November	6	6	7	9	28	8	1	14	149	172	5	2	2	0	9	0	0	0	0	0	0	0	0	0	0	19	9	23	158	209										
December	4	4	8	11	27	3	1	10	47	61	2	1	1	0	4	2	0	0	0	2	0	0	0	0	0	11	6	19	58	94										
TOTAL 2008	78	115	163	230	586	301	32	78	3925	4336	33	15	26	2	76	35	0	0	0	35	1	0	0	0	1	448	162	267	4157	5034										



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Public Service Commission of Wisconsin
RECEIVED: 04/29/10, 2:00:32 PM

April 29, 2010

Ms. Sandra J. Paske
Secretary to the Commission
Public Service Commission of Wisconsin
P.O. Box 7854
Madison, WI 53707-7854

Re: We Energies annual reliability performance report PSC 113.0604 – 05-GF-113

Dear Ms. Paske:

The Wisconsin Administrative code PSC 113.0604 requires that electric utilities with 100,000 or more customers annually file with the commission a report summarizing various measures of reliability for the preceding year. Wisconsin Electric Power Company (WEPCO) and Wisconsin Gas LLC, d/b/a We Energies submits the information for PSC 113.0604.

Satisfaction of Related Reporting Requirements

The information supplied here also partially fulfills the requirements of a plan to monitor electric, gas and steam service quality levels and trends that was developed by the Company in response to PSCW dockets 9401-YO-100 and 9402-YO-101, Order Point 14.

The following reports have already been filed at the PSCW:

PSC 113.0609 - Customer Satisfaction survey (electric only) was filed January 18, 2010/05-GF-113.

PSC 113.0612 – Safety Performance Report was filed January 15, 2010/05-GF-113. This report was for total WEC and could not be broken down by individual WEPCO reporting.

Ms. Sandra J. Paske
April 29, 2010
Page 2

Monthly reporting of daily performance statistics for Customer Call Centers had been filed in 6630-GF-100. Monthly summary data was also required by PSC 113.0604(3)(c). Monthly filings will no longer be required or necessary pursuant to Amelia Ramirez, PSC staff and We Energies agreement. The PSCW will no longer conduct and issue report of monthly justified complaints per Docket 6630-UR-110. We Energies will no longer submit monthly telephone statistics (ASA numbers) from our customer contact centers per Docket 6630-UR-110, but we will continue to submit the required annual service reliability report in 5-GF-113.

Responses to PSC 113.0604:

PSC 113.0604(2)(a). Provided as Attachment A.

PSC 113.0604(2)(b) and (c). Provided as Attachment B.

PSC 113.0604(2)(d). Provided as Attachment C.

PSC 113.0604(2)(e). Provided as Attachment D.

PSC 113.0604(2)(f). Provided as Attachment E.

PSC 113.0604(3)(a). Provided as Attachment F.

PSC 113.0604(3)(b). Provided as Attachment G.

PSC 113.0604(3)(c). Provided as Attachment H. (includes gas data)

PSC 113.0604(3)(d). Provided as Attachment I.

PSC 113.0604(3)(e). Provided as Attachment J. (includes gas data)

PSC 113.0604(3)(f). Total annual tree trimming budgeted and actual expenses. For year 2009, the annual tree trimming budget was \$17,759,507 and the actual expenses were \$18,945,308.

PSC 113.0604(3)(g). Total annual projected and actual miles of distribution line tree trimmed. For year 2009 the annual projected miles of distribution line trimmed was 2,189 miles and the actual miles trimmed was 2,038 miles.

Note: Company made budget additions to support full-feeder trimming for construction projects, and as a result of numerous small weather events.

Ms. Sandra J. Paske
April 29, 2010
Page 3

Steam System Service Quality

The following steam service interruption data is provided in response to the aforementioned plan submitted by the Company in compliance with 9401-YO-100 and 9402-YO-101, Order Point 14.

Forced and Unplanned Outages with Less Than 24 Hours Notice.

On February 9, 2009, a city water main broke on the Milwaukee County Grounds, flooding a portion of the Wauwatosa Steam System. Steam service was interrupted to all steam customers west of Highway 45. The total outage duration was approximately 6 hours.

On December 15, 2009, all the units at Milwaukee County Power Plant tripped offline interrupting steam delivery to all of the steam customers on the Wauwatosa Steam System. The units were brought back online later that day. The duration of the outage was 8 hours.

If you have any questions regarding the information provided in this report, please call Debbie Tschudy at 608-283-3007.

Sincerely,



Roman A. Draba
Vice President –Regulatory Affairs and Policy

cc: Mr. Robert Norcross/PSCW
Mr. Scot Cullen/PSCW
Mr. Dan Sage/PSCW

**We Energies RELIABILITY INDICES
PER PSC 113.0604 (2a)**

PSC 113.0604 (2a): “An overall assessment of the reliability performance including the aggregate SAIFI, SAIDI, and CAIDI indices by system and each operating area, as applicable.”

The attached information is derived from the database of all of We Energies’ service territory for 2009 and includes:

- System Performance
- Operating Area Performance

Note: The Iron Range Operating Area includes circuits that are partially or wholly within the upper peninsula of Michigan.

We Energies RELIABILITY INDICES

PER PSC 113.0604 (2a)

YEAR 2009	OPERATING AREA			SYSTEM TOTAL
	Southeastern WI	Fox Valley	Iron Range	
SAIFI	0.57	0.54	0.82	0.58
SAIDI	85	38	86	80
CAIDI	148	72	106	138

Notes:

Three ATC transmission system outages occurred in Iron Range during 2009 affecting more than 5,300 customers.

**We Energies ANNUAL RELIABILITY REPORT-
CIRCUIT PERFORMANCE
PER PSC 113.0604 (2b) and (2c)**

PSC 113.0604 (2b): “A list of the worst-performing circuits based on SAIFI, SAIDI, and CAIDI indexes, for the calendar year. This section of the report shall describe the actions that the utility has taken or will take to remedy the conditions responsible for each listed circuit’s unacceptable performance. The action(s) taken or planned should be briefly described. Target dates for corrective action(s) shall be included in the report. When the utility determines that actions on its part are unwarranted, its report shall provide adequate justification for such a conclusion.”

PSC 113.0604 (2c): “Utilities that use or prefer alternative criteria for measuring individual circuit performance to those described in s. PSC 113.0603 and which are required by this section to submit an annual report of reliability data, shall submit their alternative listing of circuits along with the criteria used to rank circuit performance.”

We Energies collects outage data and uses SAIFI, SAIDI, and CAIDI to assess circuit performance, however a number of different criteria are utilized to develop a list and rank worst performing distribution circuits. These criteria include SAIFI, SAIDI, customer concerns, and internal feedback and recommendations from Operating, Customer Service, and Area personnel. These criteria are calculated on a fourth quarter through third quarter basis rather than a calendar year basis, in order to allow We Energies personnel to perform field patrols, analysis and a substantial number of field improvements prior to the start of a given year’s storm season.

In order to focus improvement efforts on the portions the distribution system that will result in the most benefit to customers, localized outages affecting less than 100 kVA of load, outages to single utilization transformers affecting fewer than 10 customers, and secondary system and service drop outages are removed from the data set through the use of a filter prior to calculating reliability indices. These criteria were used to develop the worst performing circuit list for section 113.0604 (2b).

**We Energies Y2009 Worst Performing Circuits
Per PSC 113.0604 (2b) and (2c)**

Attachment B

*Reliability Indices are based on filtered data from 10/08 through 9/09							
Circuit	Operating Area	Substation	SAIFI*	SAIDI*	CAIDI*	Completion Target Date	Corrective Action
5740	FV	White Clay 34.5	1.000	452.0	452.0	Complete	No work required. 1 outage due to car/pole accident. Repairs complete at time of outage.
COH4	FV	County Hospital 12.47	2.173	116.7	53.7	Q2 10	Install surge arresters. Replace cutouts. Forestry spot trim.
GRS3	IR	Greenstone	2.792	413.6	148.1	Complete	Install surge arresters and elbow arresters. Replace cutouts. Forestry full trim.
781	SEW	Port Washington	2.638	172.6	65.4	Complete	Install wildlife protection. Replace insulator. Forestry full trim.
1015	SEW	Harbor	1.187	490.5	413.1	Complete	Install surge arresters, wildlife protection and faulted circuit indicators. Replace cutouts. Forestry spot trim.
1016	SEW	Harbor	1.750	299.3	171.0	Complete	No work required. 1 outage due to failed transformer. Repairs complete at time of outage.
1032	SEW	Harbor	2.000	266.0	133.0	Complete	No work required. 1 outage due to lightning during extraordinary storm. Repairs complete at time of outage.
1152	SEW	Burlington 24.9	1.877	274.3	146.2	Q2 10	Install surge arresters, elbow arresters and faulted circuit indicators.
1842	SEW	Auburn	1.043	279.1	267.6	Complete	Replace cutouts. Forestry spot trim.
3149	SEW	Albers 24.9	2.206	143.9	65.2	Complete	Install faulted circuit indicators. Replace crossarm brace.
3255	SEW	Lincoln 13.2	4.011	235.2	58.6	Q2 10	Install surge arresters and faulted circuit indicators. Replace cutouts. Forestry full trim.
3266	SEW	Lincoln 13.2	2.805	361.7	128.9	Q2 10	Install surge arresters, wildlife protection and faulted circuit indicators. Replace cutouts. Forestry spot trim.
3581	SEW	Merrill Hills	2.054	109.1	53.1	Complete	2 outages due to lighting during extraordinary storm and 3rd outage due to failed cable. Repairs complete at time of outages. Install elbow arresters.
3599	SEW	Merrill Hills	3.176	348.9	109.9	Complete	No work required. 2 outages due to failed cable and 3rd outage due to fallen limb during extraordinary storm. Repairs complete at time of outages.
3653	SEW	Cornell 26.4	3.915	215.2	55.0	Complete	No work required. 2 outages due to failed customer equipment and 3rd outage due to car/pole accident. Repairs complete at time of outages.
3656	SEW	Cornell 26.4	2.111	119.4	56.6	Complete	No work required. 1 outage due to car/pole accident and 2nd outage due to failed cable. Repairs complete at time of outages.
3664	SEW	Cornell 26.4	0.444	267.6	602.0	Complete	No work required. 1 outage due to vandalism. Repairs complete at time of outage.
3877	SEW	Twenty-eighth Street 26.4	1.500	718.5	479.0	Complete	No work required. 1 outage due to flooding during extraordinary storm. Repairs complete at time of outage.
3956	SEW	Mequon	2.296	295.0	128.5	Complete	1 outage due to failed cable, 2nd outage due to salt contamination and 3rd outage due to foreign contact. Repairs complete at time of outages. Forestry spot trim.
4474	SEW	Whitewater	3.027	435.3	143.8	Complete	Install elbow arresters.
4575	SEW	Ninety-sixth Street	1.004	290.3	289.2	Complete	1 outage due to lightning during extraordinary storm, 2nd outage due to failed conductor during extraordinary storm and 3rd outage due to wildlife contact. Repairs complete at time of outages. Install elbow arresters.
5141	SEW	Hayes	2.167	517.3	238.8	Complete	No work required. 1 outage due to lightning during extraordinary storm and 2nd outage due to failed cable. Repairs complete at time of outages.
6447	SEW	Summit	2.073	62.5	30.1	Complete	Install elbow arresters and faulted circuit indicators. Replace cutouts and crossarm. Forestry full trim.
6451	SEW	Summit	2.121	199.0	93.8	Q2 10	Install elbow arresters, surge arresters. Replace cutouts and crossarm. Forestry full trim.
7042	SEW	Waukesha	3.973	551.9	138.9	Complete	Install elbow arresters. Repair sagging conductors. Forestry full trim.
7052	SEW	Waukesha	1.006	383.0	380.8	Complete	No work required. 1 outage due to failed switch. Repairs complete at time of outage.
7063	SEW	Waukesha	4.452	570.1	128.1	Complete	Install surge arresters and elbow arresters. Replace crossarm.
7262	SEW	Kansas	1.414	271.0	191.7	Q2 10	Install wildlife protection, surge arresters and faulted circuit indicators. Replace cutouts, transformer and crossarm.
7263	SEW	Kansas	2.391	115.7	48.4	Complete	Install surge arresters and wildlife protection. Replace cutouts.
7651	SEW	Bradley 3.81	1.000	278.0	278.0	Complete	No work required. 1 outage due to fallen tree. Repairs complete at time of outage.

**We Energies Y2009 Worst Performing Circuits
Per PSC 113.0604 (2b) and (2c)**

Attachment B

Circuit	Operating Area	Substation	SAIFI*	SAIDI*	CAIDI*	Completion Target Date	Corrective Action
7852	SEW	Greendale	1.235	362.3	293.4	Complete	4 outages due to trees. Forestry full trim.
7961	SEW	Medford	1.084	263.3	243.0	Q2 10	Install surge arresters and faulted circuit indicators. Replace cutouts. Forestry spot trim.
8443	SEW	Pennsylvania	3.081	294.1	95.5	Q2 10	Install wildlife protection. Move surge arresters to transformer. Forestry full trim.
8451	SEW	Pennsylvania	2.682	1073.0	400.1	Q2 10	Install wildlife protection, switch and faulted circuit indicators. Replace cutouts and insulators. Forestry full trim.
8552	SEW	Saint Rita	0.356	268.4	754.4	Complete	No work required. 2 outages due to trees and 1 outage due to lightning, all during extraordinary storm. Repairs complete at time of outages.
8556	SEW	Saint Rita	2.008	449.2	223.7		Install tap fuses and wildlife protection. Replace cutouts and insulators. Forestry full trim.
8754	SEW	Ohio	0.967	482.6	499.0	Complete	1 outage due to failed cable. Repairs complete at time of outage. Forestry full trim.
8993	SEW	Paris	2.158	146.2	67.8	Complete	Install tap fuses, elbow arresters, surge arresters and wildlife protection. Replace insulators and cutouts.
9372	SEW	Kenosha	1.643	267.9	163.0	Complete	Install surge arresters and elbow arresters. Replace cutouts. Forestry spot trim.
9391	SEW	Kenosha	1.016	318.7	313.6	Complete	No work required. 1 outage due to fallen limb and 2nd outage due to lightning, both during an extraordinary storm. 3rd outage due to dig-in. Repairs complete at time of outages.
9787	SEW	Barton 24.9	2.201	240.7	109.4	Complete	2 outages due to failing vacuum fault interrupter. Repairs complete after 2nd outage. Install elbow arresters.
9853	SEW	Parkway	2.111	59.0	27.9	Complete	2 outages due to lightning and 3rd outage due to failed cable. Repairs complete at time of outages. Forestry full trim.
11062	SEW	Orchard	1.217	263.7	216.6	Complete	No work required. 1 outage due to failed cutout and 2nd outage due to pole fire. Repairs complete at time of outages.
11553	SEW	Ixonia	1.603	289.5	180.6	Complete	Install faulted circuit indicators. Replace cutouts, insulators, pole and transformer.
12761	SEW	Six Mile	1.283	371.1	289.2	Complete	Install tap fuses, surge arresters and wildlife protection. Replace insulators and surge arresters.
13751	SEW	Eagle	0.987	304.8	309.0	Complete	Install surge arresters. Replace cutouts, insulators and crossarm.
13761	SEW	Eagle	1.404	378.7	269.7	Complete	1 outage due to lightning and 2nd outage due to fallen tree, both during extraordinary storm. Repairs complete at time of outages. Forestry full trim.
13762	SEW	Eagle	0.988	305.2	309.0	Complete	No work required. 1 outage due to lightning during extraordinary storm. Repairs complete at time of outage.
13851	SEW	Uptown	2.899	541.9	186.9	Complete	No work required. 1 outage due to failed conductor on source line Z3153 and 2nd outage due to wildlife on source line Z3143 accounted for feeder outages exceeding the Worst Performing Circuits criteria. 3rd outage due to failed cutout. Repairs complete at time of outages.
13852	SEW	Uptown	2.705	262.6	97.1	Complete	No work required. 1 outage due to failed conductor on source line Z3153 and 2nd outage due to wildlife on source line Z3143 accounted for feeder outages exceeding the Worst Performing Circuits criteria. 3rd outage due to tree. Repairs complete at time of outages.
13861	SEW	Uptown	2.573	260.8	101.4	Complete	No work required. 1 outage due to failed conductor on source line Z3153 and 2nd outage due to wildlife on source line Z3143 accounted for feeder outages exceeding the Worst Performing Circuits criteria. Repairs complete at time of outages.
13862	SEW	Uptown	2.685	246.6	91.9	Complete	No work required. 1 outage due to failed conductor on source line Z3153 and 2nd outage due to wildlife on source line Z3143 accounted for feeder outages exceeding the Worst Performing Circuits criteria. Repairs complete at time of outages.
13863	SEW	Uptown	2.619	268.2	102.4	Q2 10	1 outage due to failed conductor on source line Z3153 and 2nd outage due to wildlife on source line Z3143 accounted for feeder outages exceeding the Worst Performing Circuits criteria. 3rd outage due to car pole accident. Repairs complete at time of outages. Install faulted circuit indicators. Forestry full trim.
13864	SEW	Uptown	2.531	268.3	106.0	Complete	No work required. 1 outage due to failed conductor and 1 outage due to wildlife, both on source line Z3152 accounted for feeder outages exceeding the Worst Performing Circuits criteria. Repairs complete at time of outages.

**We Energies Y2009 Worst Performing Circuits
Per PSC 113.0604 (2b) and (2c)**

Attachment B

Circuit	Operating Area	Substation	SAIFI*	SAIDI*	CAIDI*	Completion Target Date	Corrective Action
14652	SEW	O Connor	3.052	125.3	41.1	Q2 10	Install surge arresters and wildlife protection. Replace cutouts. Forestry spot trim.
15051	SEW	Gatliff	0.994	411.6	414.0	Complete	No work required. 1 outage due to galloping conductors during extraordinary storm. Repairs complete at time of outage.
15052	SEW	Gatliff	1.111	447.8	403.2	Complete	No work required. 1 outage due to galloping conductors during extraordinary storm and 2nd outage due to fallen limb. Repairs complete at time of outages.
15152	SEW	Church	1.681	302.5	180.0	Complete	Install surge arresters and faulted circuit indicators. Replace cutouts, pole, switch and guy wire. Forestry full trim.
15561	SEW	Charles	1.113	281.8	253.1	Complete	No work required. 2 outages due to trees. Repairs complete at time of outages.
15563	SEW	Charles	1.040	351.2	337.8	Complete	No work required. 1 outage due to fallen tree and 2nd outage due to failed conductor, both during extraordinary storms. Repairs complete at time of outages.
17761	SEW	Salem	2.143	253.0	118.1	Q2 10	Install surge arresters and faulted circuit indicators. Replace cutouts, insulators and crossarm. Forestry full trim.
19552	SEW	Goodrich	0.996	288.6	289.9	Complete	Install surge arresters. Replace cutouts. Forestry spot trim.
19951	SEW	Caledonia	3.828	434.6	113.5	Complete	No work required. 1 outage due to lightning and 2nd outage due to failed conductor, both during extraordinary storms. Repairs complete at time of outages.
19952	SEW	Caledonia	0.616	612.8	994.6	Complete	No work required. 2 outages due to trees and 3rd outage due to failed conductor, both during an extraordinary storm. Repairs complete at time of outages.
20851	SEW	Northridge	2.838	364.2	128.4	Complete	No work required. 1 outage due to failed cable and 2nd outage due to failed transformer. Repairs complete at time of outages.
21491	SEW	Bradley 8.32	2.924	393.5	134.6	Q2 10	Install wildlife protection and faulted circuit indicators.
21861	SEW	Pewaukee	1.007	432.4	429.5	Complete	No work required. 2 outages due to lightning during extraordinary storm. Repairs complete at time of outages.
22352	SEW	Glendale	2.216	286.4	129.2	Q2 10	Install tap fuse, wildlife protection and surge arresters. Forestry spot trim.
22553	SEW	Erie	1.330	258.1	194.0	Complete	No work required. 2 outages due to slapping conductors during extraordinary storm and 3rd outage due to failed connector. Repairs complete at time of outages.
22786	SEW	Moorland	2.014	245.4	121.9	Complete	No work required. 2 outages due to failed cables. Repairs complete at time of outages.
22871	SEW	Douglas	2.001	207.2	103.6	Complete	No work required. 1 outage due to failed cable. Repairs complete at time of outages. 2 outages due to trees.
23162	SEW	Ramsey	8.106	410.5	50.6	Complete	No work required. 3 outages due to failed cables. Repairs complete at time of outages.
24261	SEW	Gibbsville	2.766	335.2	121.2	Complete	No work required. 2 outages due to failed cables. Repairs complete at time of outages.
24653	SEW	Elm Grove	2.282	410.4	179.9	Complete	Replaced cutouts and surge arrester. Forestry full trim.
25163	SEW	Sunnyside	1.067	463.2	434.2	Complete	1 outage due to slapping conductors during extraordinary storm. Repairs complete at time of outage. Forestry full trim.
28651	SEW	Waldo	1.877	422.0	224.8	Complete	No work required. 2 outages due to car/pole accidents. Repairs complete at time of outages.
29671	SEW	High	2.155	107.2	49.7	Complete	No work Required. 1 outage due to failed cable and 2nd outage due to lightning during extraordinary storm, both on source line J5141 accounted for feeder outages exceeding the Worst Performing Circuits criteria. Repairs complete at time of outages.
33982	SEW	Spring Valley	2.318	194.3	83.8	Complete	Install wildlife protection and elbow arresters. Replace surge arresters, insulators and down guy.
40588	SEW	Fredonia	2.164	210.8	97.4	Complete	Install surge arresters. Replace cutouts. Forestry spot trim.
41561	SEW	Des Plaines	3.054	763.9	250.1	Q2 10	Install wildlife protection and surge arresters. Replace cutouts and crossarms.
42194	SEW	Branch	2.224	167.8	75.4	Complete	No work required. 1 outage due to lightning during extraordinary storm and 2nd outage due to failed surge arrester. Repairs complete at time of outages.
46171	SEW	Bark River	0.968	357.3	369.0	Complete	1 outage due to tree. Repairs complete at time of outage. Install faulted circuit indicators.
47784	SEW	Brookdale	2.706	275.6	101.8	Complete	3 outages due to trees during extraordinary storms. Forestry spot trim.
48361	SEW	Shirley	2.393	260.8	109.0	Complete	Install surge arresters and faulted circuit indicators. Replace crossarm. Forestry full trim.

**We Energies Y2009 Worst Performing Circuits
Per PSC 113.0604 (2b) and (2c)**

Attachment B

Circuit	Operating Area	Substation	SAIFI*	SAIDI*	CAIDI*	Completion Target Date	Corrective Action
48364	SEW	Shirley	1.034	397.5	384.4	Q2 10	Install switches and faulted circuit indicators. Forestry full trim.
62562	SEW	Pretty Lake	2.021	34.5	17.1	Complete	No work required. 1 outage due to failed switch and 2nd outage due to car/pole accident, both on source line Z6447 accounted for feeder outages exceeding Worst Performing Circuits criteria. Repairs complete at time of outages.
66183	SEW	Glacier	3.157	192.3	60.9	Q2 10	Install tap fuses and faulted circuit indicators. Forestry spot trim.
66471	SEW	Holland	2.178	309.5	142.1	Complete	Install surge arresters. Replace crossarm. Forestry spot trim.
69147	SEW	Twenty-eighth Street 13.2	1.271	257.0	202.3	Q2 10	Install surge arresters. Forestry full trim.
72582	SEW	Raymond	0.271	258.6	955.0	Complete	No work required. 2 outages due to fallen limbs and 2 outages due to lightning, all during extraordinary storms. 1 outage due to car/pole accident. Repairs complete at time of outages.
72584	SEW	Raymond	1.315	332.2	252.6	Complete	Install recloser, tap fuses, surge arresters and faulted circuit indicators. Replace cutouts. Forestry spot trim.
79692	SEW	Cedarsauk	2.153	152.4	70.8	Complete	No work required. Feeder Z9785 was temporarily bridged to this feeder; outage was due to fallen tree on Z9785.
81661	SEW	Edgerton	2.976	124.0	41.7	Complete	Forestry full trim.
81663	SEW	Edgerton	2.066	318.8	154.3	Complete	Install surge arresters and faulted circuit indicators.

**We Energies ANNUAL RELIABILITY REPORT-
PRIOR YEARS' ACCOMPLISHMENTS
PER PSC 113.0604 (2d)**

PSC 113.0604 (2d): "A report on the accomplishment of the improvements proposed in prior reports for which completion has not been previously reported."

The attached report describes the accomplishment of the improvements/corrective actions that were performed on the circuits listed last year per PSC 113.0604 (2b) that were not previously reported as complete.

**We Energies Y2007 Worst Performing Circuits
Per PSC 113.0604 (2d)**

Attachment C

*Reliability Indices are based on filtered data from 10/07 through 9/08							
Circuit	Operating Area	Substation	SAIFI*	SAIDI*	CAIDI*	Completion Target Date	Corrective Action
BGW6	FV	Bridgewood	2.034	202.3	99.5	Completed Q2 2009	Replace cutouts and surge arresters. Forestry spot trim.
1677	SEW	Racine	6.019	202.3	33.6	Completed Q2 2009	Install surge arresters, wildlife protection, and faulted circuit indicators.
4953	SEW	Brown Deer	1.501	394.6	263.0	Completed Q2 2009	Install faulted circuit indicators.
6073	SEW	Concordia	0.740	395.8	534.7	Completed Q2 2009	Forestry full trim.
6582	SEW	Sugar Creek	3.674	314.0	85.5	Completed Q2 2009	Install tap fuses, wildlife protection and surge arresters. Forestry spot trim.
7263	SEW	Kansas	3.129	295.4	94.4	Completed Q2 2009	Install surge arresters and wildlife protection. Replace surge arresters and cutouts. Forestry full trim.
8352	SEW	Fort Atkinson 24.9	2.195	147.5	67.2	Completed Q2 2009	2 outages due to failed connector in switch fuse unit and 2 outages due to lightning during extraordinary storms. Repairs complete at time of outages. Install faulted circuit indicators.
8993	SEW	Paris	2.315	161.3	69.7	Completed Q2 2009	Part of the load served from this feeder was transferred to a new feeder out of Raymond Substation. Install surge arresters, wildlife protection and tap fuses. Replace insulators and a load break switch. Forestry spot trim.
9853	SEW	Parkway	2.411	185.4	76.9	Completed Q2 2009	Install tap fuses, surge arresters and wildlife protection. Full forestry trim
12353	SEW	Southport	1.445	404.3	279.7	Completed Q2 2009	Install wildlife protection and surge arresters. Replace pole and insulators.
15852	SEW	Wakoka	0.962	364.0	378.4	Completed Q2 2009	2 outages due to lightning during extraordinary storm. Repairs complete at time of outages. Install faulted circuit indicators.
27097	SEW	Stoney Brook	3.509	236.4	67.4	Completed Q2 2009	Install tap fuses. Full forestry trim.
33982	SEW	Spring Valley	2.368	256.3	108.2	Completed Q2 2009	Install wildlife protection and surge arresters. Replace insulators. Forestry full trim.
36552	SEW	Springbrook	2.044	62.5	30.6	Completed Q2 2009	Install wildlife protection and surge arresters. Replace insulators and crossarms. Forestry spot trim
40588	SEW	Fredonia	2.058	347.9	169.1	Completed Q2 2009	Install surge arresters. Full forestry trim.
46253	SEW	Center	3.177	118.5	37.3	Completed Q2 2009	Install wildlife protection and tap fuses. Move surge arresters to transformers and tighten hardware. Forestry spot trim
46262	SEW	Center	2.307	143.2	62.1	Completed Q2 2009	During 1 outage additional customers temporarily bridged to this feeder accounted for feeder outages exceeding the Worst Performing Circuit criteria. Full forestry trim.
74162	SEW	West Bend	3.224	207.6	64.4	Completed Q2 2009	Install surge arresters, wildlife protection and faulted circuit indicators. Full forestry trim
76352	SEW	Pike Lake	3.080	275.2	89.4	Completed Q2 2009	No work required. 2 outages due to lightning on source line Z8062 during extraordinary storms accounted for feeder outages exceeding the Worst Performing Circuits criteria. Repairs complete at time of outages.
77388	SEW	Mukwonago	1.391	381.2	274.0	Completed Q2 2009	1 outage due to lightning and 2nd outage due to vegetation during extraordinary storms. Repairs complete at time of outages. Forestry full trim

**We Energies ANNUAL RELIABILITY REPORT-
NEW RELIABILITY PROGRAMS
PER PSC 113.0604 (2e)**

PSC 113.0604 (2e): “A description of any new reliability or power quality programs and changes that are made to existing programs”

In addition to the program to address the worst performing circuits as described in PSC 113.0604 sections (2b) and (2c), the following reliability programs were undertaken in 2009:

- Circuits that were addressed as part of previous years’ worst performing circuit programs, and did not improve to acceptable levels of performance were reexamined and will be addressed as part of the 2010 worst performing circuit program.
- Continued the process to address localized reliability problems based on customer input, resulted in approximately 85 field remediations.
- Developed and applied enhanced feeder patrol guidelines.
- Used enhanced lightning protection techniques developed in 2000, animal abatement measures developed in 2001, remediation options for identified equipment failure items as developed in 2002, Faulted Circuit Indicator (FCI) deployment strategies as developed in 2003, new wildlife protection measures developed in 2005 and 2006, and application of elbow surge arresters developed in 2007, and applied them to susceptible feeders as part of the 2009 worst performing circuit program.
- Developed a strategic cable replacement program and replaced 52 miles of cable as identified.
- Initialized pilot program to replace suspect porcelain cutouts on 11 circuit mainlines.
- Began to utilize customer-level outage data to identify problem areas and remediate as appropriate.
- Continually improved new Outage Management System process to improve customer restoration.
- Continued deployment of process enhancements to improve outage duration performance including holding weekly stand-up meetings during the summer storm season, and follow up on action items derived from 2008 storm debriefs.
- Reviewed past reliability programs to quantify their success.

**STATUS OF We Energies' LONG RANGE DISTRIBUTION PLANS
PSC 113.0604(2f)**

PSC 113.0604(2f): "A status report of any long range electric distribution plans."

4 kV: Serves various areas throughout the service territory but is primarily located within the Milwaukee County and Appleton/Neenah areas. Plans for this system include eventual elimination through gradual conversion to 12 kV, 13 kV, and 25 kV voltage levels. Periodic reviews of remaining facilities are made to determine the order of retirement and to schedule appropriate construction projects.

8 kV: Serves residential and small commercial customers in the southeast Wisconsin area. Plans for this system include continued management of load growth through targeted conversion to the 25 kV voltage level. In general, no major expansion of the 8 kV system is planned. A high level review of the 8 kV system was completed in 2009. Priorities for targeted system renewal and conversion/retirement have been identified for the 2010-2030 time period.

12 kV: The current and future voltage level for service to residential, commercial, and light industrial customers in the Fox Valley area. New capacity will be added as needed to provide for new load, retirement of aging facilities, and conversion of 4 kV substations and feeders. Annual reviews of the capacity needs for this system are performed to schedule appropriate construction projects.

13 kV: The current and future voltage level for service to residential, commercial, and light industrial customers in eastern Milwaukee County, the Milwaukee Regional Medical Center, and the area in and around Iron Mountain, Michigan. A portion of this system operates as a subtransmission system. New capacity will be added as needed to provide for new load and conversion of 4 kV substations and feeders. Annual reviews of the capacity needs for this system are performed to schedule appropriate construction projects.

25 kV: The current and future voltage level for service to all classes of customers in the southeast Wisconsin and the Michigan service areas. New capacity will be added as needed to provide for new load, reduction of line exposure reliability concerns, and conversion of lower voltage substations and feeders. Annual reviews of the capacity needs for this system are performed to schedule appropriate construction projects.

26 kV: This subtransmission system serves large commercial and industrial customers and lower voltage distribution substations in the Milwaukee area. Annual reviews of the capacity needs for this system are performed to schedule appropriate construction projects.

35 kV: This subtransmission system is the current and future voltage level serving large industrial customers and lower voltage distribution substations in the Fox Valley area. New capacity will be added as needed to provide for new load and retirement of aging facilities. Annual reviews of the capacity needs for this system are performed to schedule appropriate construction projects.

**We Energies ROUTE MILES OF ELECTRIC DISTRIBUTION REBUILT DURING 2009
PSC 113.0604(3a)**

PSC 113.0604(3a): "Route miles of electric distribution line reconstructed during the year. Separate totals for single-and three-phase circuits shall be provided."

	Miles of Line		
	Projects	Annual Orders*	Total
Single Phase	212	43	255
Three Phase	205	41	246
Total	417	84	501

* Data on miles of lines rebuilt is not available for work performed under annual orders. Number of man-hours and total costs expended on annual orders approximate spending on Projects. It is assumed that labor productivity is lower on annual orders due to increased travel time and increased equipment set up time. A significant portion of annual orders is for new services rather than line rebuild. An estimate for miles of line rebuilt on the annual orders is approximately 20% of the special project work.

We Energies DISTRIBUTION LINE IN SERVICE 2009
PSC 113.0604(3b)

PSC 113.0604(3b): “Total route miles of electric distribution line in service at year’s end, segregated by voltage level.”

Total route miles (does not include abandon or non-operating line segments):

<u>Voltage Level</u>	<u>Miles</u>
3.81 kV	248
4.16 kV	573
6.9 kV	78
8.32 kV	10,624
12.47 kV	4,367
13.2 kV	1,332
13.8 kV	744
24.9 kV	11,365
26.4 kV	297
34.5 kV	454
Primary Total	30,082
Secondary Total	25,687
Grand Total	55,769

We Energies Monthly Performance Statistics for 2009
Customer Contact Center (CCC)
Monthly average speed of answer 113.0604(3)(c)

	January	February	March	April	May	June	July	August	September	October	November	December	Total
Total CCC Inbound Calls*													
Offered	196,357	182,354	244,943	315,965	269,146	302,727	259,278	290,375	275,404	318,924	195,427	207,115	3,058,015
Abandoned	14,095	7,636	8,405	23,669	15,425	18,018	13,105	15,861	17,694	24,885	8,311	9,240	176,344
Handled	182,262	174,718	236,538	292,296	253,721	284,709	246,173	274,514	257,710	294,039	187,116	197,875	2,881,671
Average Wait (sec.) - All Calls	64	34	26	110	58	61	54	55	67	83	36	42	58
Average Wait (sec.) - Rep Calls	88	45	35	134	74	80	66	73	84	110	45	63	75
Number of Emergency Calls**	2,036	1,118	2,107	874	1,780	3,720	1,496	2,856	2,233	2,632	1,034	5,641	27,527
Total Queuing Time (Sec.)	115,354	18,201	137,798	18,788	63,356	84,355	35,103	327,256	48,359	209,068	31,587	703,180	1,792,405
Average Wait (sec.) Emer. Calls	57	16	65	21	36	23	23	115	22	79	31	125	65
								Flash Flood 8/9		High Winds 10/6		Ice/Snow Storm 12/8	

*Residential, Small Business, Large Business, Telecollections, Outage, Emergency, IVR

**Emergency, Fire/Police

We Energies
WI Admin. PSC 113.0604(3)(d)
New Service Installation Report 2009
Electric Only

Attachment I

Total Electric			
	Total	On time	% On Time
January	323	323	100.00%
February	212	212	100.00%
March	188	188	100.00%
April	225	225	100.00%
May	302	302	100.00%
June	371	371	100.00%
July	377	377	100.00%
August	376	376	100.00%
September	461	461	100.00%
October	518	518	100.00%
November	466	466	100.00%
December	444	444	100.00%
Total	4,263	4,263	100.00%

Avg Days to Install New Electric Service in 2009			
	Permanent Services	Temporary Services	Total
January	17.0	14.6	16.9
February	14.3	5.8	13.8
March	8.6	1.8	8.1
April	8.1	2.1	7.4
May	9.4	0.8	8.9
June	7.3	3.2	6.9
July	7.4	1.0	6.7
August	7.3	2.4	7.0
September	8.0	2.3	7.6
October	8.9	2.1	8.7
November	7.2	4.8	7.1
December	14.1	1.5	14.0
Total	9.7	3.4	9.3

Total Customer Complaints 2009
WI Admin. 113.0604 (3)(e)

Attachment J

						2009 Escalated PSC & Executive Complaints																				2009 Escalated PSC & Executive Complaints														
	Billing/Metering					Credit/Collections					Field Operations					Outage/Power Quality					Safety					TOTALS														
	Elec Only	"WE" Gas Only	"WG" Gas Only	Combined	Total	Elec Only	"WE" Gas Only	"WG" Gas Only	Combined	Total	Elec Only	"WE" Gas Only	"WG" Gas Only	Combined	Total	Elec Only	"WE" Gas Only	"WG" Gas Only	Combined	Total	Elec Only	"WE" Gas Only	"WG" Gas Only	Combined	Total	Elec Only	"WE" Gas Only	"WG" Gas Only	Combined	Total										
January	10	6	19	29	64	1	0	3	33	37	3	0	1	1	5	4					4	18	6	23	63	110														
February	11	6	15	24	56	3	2	5	53	63	3	1	1	0	5	0					0	17	9	21	77	124														
March	10	5	7	28	50	6	1	4	97	108	2	0	8	0	10	1					1	19	6	19	125	169														
April	8	9	9	24	50	26	3	11	408	448	5	1	3	0	9	2					2	41	13	23	432	509														
May	5	10	8	8	31	25	4	7	397	433	0	1	4	0	5	3					3	33	15	19	405	472														
June	7	5	12	13	37	32	4	13	391	440	4	1	3	0	8	3					3	46	10	28	404	488														
July	9	2	11	19	41	50	0	12	414	476	2	0	0	0	2	0					0	61	2	23	433	519														
August	7	4	10	11	32	38	6	9	339	392	2	0	3	1	6	3					3	50	10	22	351	433														
September	5	2	2	13	22	55	3	6	299	363	4	1	5	2	12	2					2	66	6	13	314	399														
October	11	3	2	10	26	44	4	18	374	440	4	1	4	1	10	4					4	63	8	24	385	480														
November	3	5	3	12	23	17	2	11	150	180	3	1	1	0	5	1					1	24	8	15	162	209														
December	1	2	2	15	20	9	1	3	58	71	1	0	1	3	5	1					1	12	3	6	76	97														
TOTAL 2009	87	59	100	206	452	306	30	102	3013	3451	33	7	34	8	82	24	0	0	0	0	24	0	0	0	0	0	450	96	236	3227	4009									



231 W. Michigan St.
Milwaukee, WI 53203
www.we-energies.com



Public Service Commission of Wisconsin
RECEIVED: 04/28/11, 5:13:31 PM

April 28, 2011

Ms. Sandra J. Paske
Secretary to the Commission
Public Service Commission of Wisconsin
P.O. Box 7854
Madison, WI 53707-7854

Re: We Energies annual reliability performance report PSC 113.0604 – 05-GF-113

Dear Ms. Paske:

The Wisconsin Administrative code PSC 113.0604 requires that electric utilities with 100,000 or more customers annually file with the commission a report summarizing various measures of reliability for the preceding year. Wisconsin Electric Power Company (WEPCO) and Wisconsin Gas LLC, d/b/a We Energies submits the information for PSC 113.0604.

Satisfaction of Related Reporting Requirements

The information supplied here also partially fulfills the requirements of a plan to monitor electric, gas and steam service quality levels and trends that was developed by the Company in response to PSCW dockets 9401-YO-100 and 9402-YO-101, Order Point 14.

The following reports have already been filed at the PSCW:

PSC 113.0609 - Customer Satisfaction survey (electric only) was filed January 19, 2011/05-GF-113.

PSC 113.0612 – Safety Performance Report was filed January 13, 2011/05-GF-113. This report was for total WEC and could not be broken down by individual WEPCO reporting.

Ms. Sandra J. Paske
April 28, 2011
Page 2

Monthly reporting of daily performance statistics for Customer Call Centers had been filed in 6630-GF-100. Monthly summary data was also required by PSC 113.0604(3)(c). Monthly filings will no longer be required or necessary pursuant to Amelia Ramirez, PSC staff and We Energies agreement. The PSCW will no longer conduct and issue report of monthly justified complaints per Docket 6630-UR-110. We Energies will no longer submit monthly telephone statistics (ASA numbers) from our customer contact centers per Docket 6630-UR-110, but we will continue to submit the required annual service reliability report in 5-GF-113.

Responses to PSC 113.0604:

PSC 113.0604(2)(a). Provided as Attachment A.

PSC 113.0604(2)(b) and (c). Provided as Attachment B.

PSC 113.0604(2)(d). Provided as Attachment C.

PSC 113.0604(2)(e). Provided as Attachment D.

PSC 113.0604(2)(f). Provided as Attachment E.

PSC 113.0604(3)(a). Provided as Attachment F.

PSC 113.0604(3)(b). Provided as Attachment G.

PSC 113.0604(3)(c). Provided as Attachment H. (includes gas data)

PSC 113.0604(3)(d). Provided as Attachment I.

PSC 113.0604(3)(e). Provided as Attachment J. (includes gas data)

PSC 113.0604(3)(f). Total annual tree trimming budgeted and actual expenses. For year 2010, the annual tree trimming budget was \$18,220,747 and the actual expenses were \$22,870,279.

PSC 113.0604(3)(g). Total annual projected and actual miles of distribution line tree trimmed. For year 2010 the annual projected miles of distribution line trimmed was 2,069 miles and the actual miles trimmed was 2,203 miles.

Note: Company made budget additions to support additional full-feeder trimming that arose from various weather events.

Ms. Sandra J. Paske

April 28, 2011

Page 3

Steam System Service Quality

The following steam service interruption data is provided in response to the aforementioned plan submitted by the Company in compliance with 9401-YO-100 and 9402-YO-101, Order Point 14.

Forced and Unplanned Outages with Less Than 24 Hours Notice.

2010 events

On the evening of July 22, 2010, the Milwaukee downtown area experienced more than 7 inches of rain over the course of the evening. This created flash flood conditions in the Milwaukee area which severely impacted the district heating system. Several unplanned customer outages occurred from July 22 through August 20 which were related to this flooding event.

July 22 – the high pressure system lost pressure several times during a 12 hour period from 7:30 pm to 7:30 am causing service interruptions throughout the entire system.

July 22 to July 26 – A ruptured low pressure main caused an outage on 3rd street from State Street heading north. Several low pressure customers were out of service until the line was repaired on the evening of July 25. The duration of this outage was approximately 3 ½ days.

July 30 – Failure of a retired service connection caused a steam outage on 3rd Street north of State Street, taking several customers out of service. Repairs were completed the next day and the outage duration was approximately 28 hours.

August 2 – While isolating the high pressure system for additional repairs, the high pressure service on the west side of the downtown system was out of service for 3 hours starting at 11 am.

August 24 – While performing piping inspections on the system, a section of steam main had to be removed from service for repairs affecting 2 customers on 3rd Street. The duration of this outage was 10 hours.

November 21 -- a water main break on 4th and Wells flooded the steam system on 4th street. A high pressure steam main had to be removed from service for repairs. The duration of this outage was 2 hours.

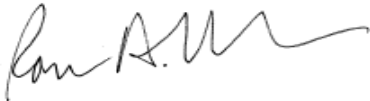
Ms. Sandra J. Paske

April 28, 2011

Page 4

If you have any questions regarding the information provided in this report, please call Debbie Tschudy at 608-283-3007.

Sincerely,

A handwritten signature in black ink, appearing to read "Roman A. Draba". The signature is fluid and cursive, with the first name "Roman" written in a larger, more prominent script than the last name "Draba".

Roman A. Draba

Vice President –Regulatory Affairs and Policy

Attachments

cc: Mr. Robert Norcross/PSCW
Mr. Scot Cullen/PSCW
Mr. Dan Sage/PSCW

**We Energies RELIABILITY INDICES
PER PSC 113.0604 (2a)**

PSC 113.0604 (2a): “An overall assessment of the reliability performance including the aggregate SAIFI, SAIDI, and CAIDI indices by system and each operating area, as applicable.”

The attached information is derived from the database of all of We Energies’ service territory for 2010 and includes:

- System Performance
- Operating Area Performance

Note: The Iron Range Operating Area includes circuits that are partially or wholly within the upper peninsula of Michigan.

We Energies RELIABILITY INDICES
PER PSC 113.0604 (2a)

YEAR 2009	OPERATING AREA			SYSTEM TOTAL
	Southeastern WI	Fox Valley	Iron Range	
SAIFI	0.85	0.91	1.22	0.87
SAIDI	148	107	430	153
CAIDI	174	117	354	176

Notes:

Three ATC transmission system outages occurred in Southeastern Wisconsin during 2010 affecting more than 27,900 customers.

**We Energies ANNUAL RELIABILITY REPORT-
CIRCUIT PERFORMANCE
PER PSC 113.0604 (2b) and (2c)**

PSC 113.0604 (2b): “A list of the worst-performing circuits based on SAIFI, SAIDI, and CAIDI indexes, for the calendar year. This section of the report shall describe the actions that the utility has taken or will take to remedy the conditions responsible for each listed circuit’s unacceptable performance. The action(s) taken or planned should be briefly described. Target dates for corrective action(s) shall be included in the report. When the utility determines that actions on its part are unwarranted, its report shall provide adequate justification for such a conclusion.”

PSC 113.0604 (2c): “Utilities that use or prefer alternative criteria for measuring individual circuit performance to those described in s. PSC 113.0603 and which are required by this section to submit an annual report of reliability data, shall submit their alternative listing of circuits along with the criteria used to rank circuit performance.”

We Energies collects outage data and uses SAIFI, SAIDI, and CAIDI to assess circuit performance, however a number of different criteria are utilized to develop a list and rank worst performing distribution circuits. These criteria include SAIFI, SAIDI, customer concerns, and internal feedback and recommendations from Operating, Customer Service, and Area personnel. These criteria are calculated on a fourth quarter through third quarter basis rather than a calendar year basis, in order to allow We Energies personnel to perform field patrols, analysis and a substantial number of field improvements prior to the start of a given year’s storm season.

In order to focus improvement efforts on the portions the distribution system that will result in the most benefit to customers, localized outages affecting less than 100 kVA of load, outages to single utilization transformers affecting fewer than 10 customers, and secondary system and service drop outages are removed from the data set through the use of a filter prior to calculating reliability indices. These criteria were used to develop the worst performing circuit list for section 113.0604 (2b). In addition, in some years, major events occur that significantly affect the distribution system and can inappropriately bias the list of worst performing circuits if not taken into consideration. For this reason, the duration of the outages (which would unduly bias SAIDI) associated with five extraordinary storms was removed from the outage database prior to creating the worst performing circuit list reported in section 113.0604 (2b). An Extraordinary Storm is a significant event that occurs and is declared when one of the following conditions are met: severe weather conditions that result in 100,000 or more unplanned and sustained customer interruptions within a single day, or events of sufficient intensity to give rise to a state of emergency declaration by the local, state, or federal government. In addition, outage events from two other major storms that did not meet the extraordinary storm definition, but had excessive CAIDI indices of over 300 minutes, also had their durations excluded in the worst performing feeder list.

**We Energies Y2010 Worst Performing Circuits
Per PSC 113.0604 (2b) and (2c)**

Attachment B

*Reliability Indices are based on filtered data from 10/09 through 9/10							
Circuit	Operating Area	Substation	SAIFI*	SAIDI*	CAIDI*	Completion Target Date	Corrective Action
5310	FV	City Limits 34.5	3.000	800.8	266.9	Complete	Install tap fuses. Replace insulators.
BHT2	FV	Bell Heights	2.658	748.2	281.5	Complete	Install faulted circuit indicators. Forestry full trim.
FRT1	FV	Fremont	2.287	50.3	22.0	Complete	No work required. 2 outages on source feeder R5530 accounted for feeder outages exceeding Worst Performing Circuits criteria. Repairs complete at time of outages.
FRT2	FV	Fremont	2.672	150.1	56.2	Complete	No work required. 2 outages on source feeder R5530 accounted for feeder outages exceeding Worst Performing Circuits criteria. Repairs complete at time of outages.
FRT3	FV	Fremont	3.368	181.9	54.0	Complete	No work required. 2 outages on source feeder R5530 accounted for feeder outages exceeding Worst Performing Circuits criteria. Repairs complete at time of outages.
LND61	FV	Lind	2.562	302.2	118.0	Complete	No work required. 2 outages on source feeder R5530 accounted for feeder outages exceeding Worst Performing Circuits criteria. Repairs complete at time of outages.
LND62	FV	Lind	2.436	151.2	62.1	Complete	No work required. 2 outages on source feeder R5530 accounted for feeder outages exceeding Worst Performing Circuits criteria. Repairs complete at time of outages.
LND63	FV	Lind	2.216	115.7	52.2	Complete	No work required. 2 outages on source feeder R5530 accounted for feeder outages exceeding Worst Performing Circuits criteria. Repairs complete at time of outages.
RDF2	FV	Readfield	2.227	256.9	115.3	Complete	Install wildlife protection. Replace cutouts and surge arresters. Full forestry trim.
RDF3	FV	Readfield	2.035	247.3	121.5	Complete	Install tap fuses and wildlife protection. Replace cutouts and surge arresters.
WAK52	FV	Waukechon	2.025	21.2	10.5	Complete	No work required. 2 outages on source feeder R5710 accounted for feeder outages exceeding Worst Performing Circuits criteria. Repairs complete at time of outages.
WCT62	FV	Wescott	3.150	351.0	111.4	Complete	2 outages due to fallen tree; 1 outage due to vehicle. Repairs complete at time of outages.
LOL2	IR	Land O Lakes	2.500	310.2	124.1	Complete	Replaced surge arresters and cutout. Forestry spot trim.
SBH1	IR	Strawberry Hill	2.091	354.2	169.5	Q3 11	Replace crossarm and pole. Repair leaning poles and remove conductor slack. Forestry spot trim.
TWL51	IR	Twin Lake	2.011	266.2	132.4	Complete	Replace pole, crossarm and surge arresters. Forestry spot trim.
774	SEW	Port Washington	2.232	169.4	75.9	Complete	Install faulted circuit indicators.
1152	SEW	Burlington 24.9	2.388	133.7	56.0	Complete	Install wildlife protection. Replace insulators, surge arresters, pole and crossarm.
1686	SEW	Racine	2.971	239.9	80.8	Complete	No work required. 1 outage due to tornado. 1 outage due to cable failure. Repairs complete at time of outages.
2252	SEW	Atkinson	2.014	289.9	143.9	Complete	1 outage due to dig-in, 1 outage due to tree trimmer. Repairs complete at time of outages.
2751	SEW	County Line	2.466	101.4	41.1	Complete	Install wildlife protection and faulted circuit indicators. Replace cutouts, insulators and surge arresters.
3052	SEW	Saint Martins 24.9	2.551	357.9	140.3	Complete	Install wildlife protection. Replace insulators and surge arresters.
3473	SEW	Granville	2.055	205.9	100.2	Complete	Feeder patrol complete, no follow-up work identified.
3585	SEW	Merrill Hills	2.102	328.6	156.3	Complete	Replace surge arresters, insulators and missing ground wire. Full forestry trim.
3588	SEW	Merrill Hills	2.020	111.8	55.3	Complete	No work required. 2 outages due to failed cable. Repairs complete at time of outages.
3592	SEW	Merrill Hills	3.545	133.6	37.7	Q3 11	Install wildlife protection. Replace surge arrester. Full feeder trim.
3643	SEW	Cornell 26.4	2.818	406.8	144.4	Complete	No work required. 1 outage due to wildlife, 1 outage due to lightning. Repairs complete at time of outages.
3652	SEW	Cornell 26.4	2.167	186.6	86.1	Complete	No work required. 1 outage due to failed insulator during storm. 1 outage due to failed switch fuse unit. Repairs complete at time of outages.
3653	SEW	Cornell 26.4	4.941	165.9	33.6	Q4 11	Replace insulators. Full forestry trim.
3655	SEW	Cornell 26.4	4.818	75.6	15.7	Complete	No work required. 1 outage due to wildlife contact, 2 outages during major storm due to lightning. Repairs complete at time of outages.
4474	SEW	Whitewater	2.014	112.2	55.7	Complete	Install wildlife protection, elbow arresters and faulted circuit indicators. Replace insulators.

**We Energies Y2010 Worst Performing Circuits
Per PSC 113.0604 (2b) and (2c)**

Attachment B

Circuit	Operating Area	Substation	SAIFI*	SAIDI*	CAIDI*	Completion Target Date	Corrective Action
4483	SEW	Whitewater	2.570	193.0	75.1	Complete	Move surge arresters to transformer case to minimize wildlife contact. Repair broken/missing ground wires.
4484	SEW	Whitewater	2.024	55.0	27.2	Complete	Install wildlife protection and surge arresters.
4961	SEW	Brown Deer	2.462	231.3	93.9	Complete	No work required. 1 outage on source feeder Z61481 due to wildlife contact and 2 outages during storms. Repairs complete at time of outages.
6452	SEW	Summit	2.411	57.7	23.9	Complete	Install surge arresters. Replace crossarm and riser u-guard. Full forestry trim.
7154	SEW	Westown	3.378	340.9	100.9	Complete	Feeder patrol complete, no follow-up work identified.
7261	SEW	Kansas	2.039	232.5	114.1	Complete	Install surge arresters. Replace insulators, cutouts, crossarm and pole.
7263	SEW	Kansas	2.181	242.9	111.3	Complete	Install wildlife protection and surge arresters. Replace cutouts and insulators.
7454	SEW	Cameron	3.094	332.5	107.5	Complete	Install wildlife protection and faulted circuit indicators. Replace cutouts.
7462	SEW	Cameron	2.445	282.6	115.6	Complete	Install tap fuses. Replace pole and cutouts.
7472	SEW	Cameron	4.673	425.0	91.0	Complete	Install faulted circuit indicators.
7982	SEW	Medford	2.964	194.8	65.7	Complete	Install wildlife protection and faulted circuit indicators. Replace insulators and surge arresters. Forestry spot trim.
8364	SEW	Fort Atkinson 24.9	2.211	59.9	27.1	Q3 11	Full forestry trim.
8445	SEW	Pennsylvania	2.072	135.3	65.3	Complete	No work required. 1 outage due to fallen tree, 1 outage due to failed insulator. Repairs complete at time of outages.
8451	SEW	Pennsylvania	2.094	136.3	65.1	Complete	Install wildlife protection. Replace surge arresters and crossarm.
8682	SEW	Burleigh	2.045	632.6	309.3	Q3 11	Install faulted circuit indicators and wildlife protection. Replace surge arresters and cutouts. Full forestry trim.
8783	SEW	Ohio	2.317	421.8	182.0	Complete	Forestry spot trim.
8993	SEW	Paris	2.659	127.2	47.8	Complete	Install wildlife protection. Replace cutouts, surge arresters, insulators and crossarm.
9082	SEW	Concord	2.699	247.4	91.6	Complete	Replace surge arresters and re-guy poles.
9785	SEW	Barton 24.9	2.442	128.0	52.4	Complete	Modify substation and line recloser settings. Replace insulators and cutouts. Forestry spot trim.
10962	SEW	Wind Lake	3.397	447.5	131.7	Complete	Install tap fuses, wildlife protection and switches. Replace crossarm and cutouts.
11352	SEW	Trenton	2.282	85.3	37.4	Complete	No work required. 2 outages on source Z79681 caused this circuit to exceed worst performing circuit criteria. Repairs complete at time of outages.
11552	SEW	Ixonia	3.125	536.3	171.6	Complete	Replace pole, crossarms, insulators, cutouts and surge arresters.
11674	SEW	Fiebrantz	2.863	476.5	166.4	Complete	Replace cutouts. Full forestry trim.
13451	SEW	Nashotah	2.800	1011.5	361.3	Complete	No work required. 1 outage due to tree growth and 1 outage due to failed recloser. Repairs complete at time of outages.
14652	SEW	O Connor	3.108	280.4	90.2	Complete	Install wildlife protection. Replace cutouts and ground conductors.
15651	SEW	Gilbert	2.014	340.0	168.8	Complete	Install faulted circuit indicators. Full forestry trim.
16062	SEW	Rusco	2.488	82.4	33.1	Complete	Install faulted circuit indicators. Replace insulators. Full forestry trim.
18751	SEW	Calumet	2.290	269.1	117.5	Complete	Install wildlife protection and faulted circuit indicators. Replace cutouts and surge arresters. Full forestry trim.
18762	SEW	Calumet	2.975	589.9	198.3	Complete	Install wildlife protection and faulted circuit indicators. Replace cutouts, crossarms and surge arresters.
19251	SEW	Fond du Lac	3.102	481.1	155.1	Complete	Install wildlife protection and faulted circuit indicators. Replace cutouts and surge arresters. Full forestry trim.
19551	SEW	Goodrich	2.045	174.9	85.5	Complete	Install faulted circuit indicators. Replace cutouts, insulators and surge arresters. Full forestry trim.
19563	SEW	Goodrich	2.986	482.2	161.5	Complete	No work required. 2 outages due to fallen limb, 1 outage due to dig-in. Repairs complete at time of outages.
20863	SEW	Northridge	2.014	143.0	71.0	Complete	No work required. 2 outages due to failed cables. Repairs complete at time of outages.

**We Energies Y2010 Worst Performing Circuits
Per PSC 113.0604 (2b) and (2c)**

Attachment B

Circuit	Operating Area	Substation	SAIFI*	SAIDI*	CAIDI*	Completion Target Date	Corrective Action
21061	SEW	Barton 8.32	2.022	172.2	85.2	Complete	Install faulted circuit indicators and wildlife protection. Replace surge arresters. Full forestry trim.
22263	SEW	Robin	2.696	161.9	60.1	Complete	Install tap fuses and faulted circuit indicators. Replace insulators, cutouts, and surge arresters.
22852	SEW	Douglas	2.911	366.0	125.7	Q3 11	Install wildlife protection and faulted circuit indicators. Replace cutouts and surge arresters. Full forestry trim.
22871	SEW	Douglas	3.033	400.6	132.0	Q3 11	Install faulted circuit indicators. Full forestry trim.
24162	SEW	La Belle	2.212	150.3	67.9	Complete	Full forestry trim.
24251	SEW	Gibbsville	3.114	265.6	85.3	Complete	No work required. 2 outages due to failed cable on source circuit Z53794 and 1 outage due to fallen tree on alternate source circuit Z66482, caused this circuit to exceed Worst Performing Circuit criteria. Repairs complete at time of outages.
24261	SEW	Gibbsville	3.490	309.6	88.7	Complete	No work required. 2 outages due to failed cable on source circuit Z53794 and 1 outage due to fallen tree on alternate source circuit Z66482, caused this circuit to exceed Worst Performing Circuit criteria. Repairs complete at time of outages.
24262	SEW	Gibbsville	3.119	268.1	86.0	Complete	No work required. 2 outages due to failed cable on source circuit Z53794 and 1 outage due to fallen tree on alternate source circuit Z66482, caused this circuit to exceed Worst Performing Circuit criteria. Repairs complete at time of outages.
24662	SEW	Elm Grove	2.051	91.4	44.6	Complete	No work required. 1 outage due to tree growth and 1 outage due to fallen limb. Repairs complete at time of outages.
32052	SEW	Prospect	3.609	343.0	95.1	Complete	Replace surge arrester. Feeder spot trim.
32362	SEW	Marcy	3.045	161.5	53.0	Complete	Install faulted circuit indicators.
33575	SEW	Butternut	2.406	110.2	45.8	Complete	No work required. 1 outage due to lightning, 1 outage due to car-pole accident. Repairs complete at time of outages.
33582	SEW	Butternut	2.925	320.4	109.6	Complete	Replace insulator and cable termination. Install faulted circuit indicators.
34662	SEW	Sturtevant	2.291	392.9	171.5	Complete	Install switches. Replace pole, cutouts and surge arresters.
35782	SEW	Somers	2.522	162.6	64.5	Complete	Install wildlife protection. Replace cutouts and surge arresters.
35853	SEW	Water 8.32	2.060	104.7	50.8	Complete	Install wildlife protection and faulted circuit indicators. Replace surge arrester.
35872	SEW	Water 8.32	2.271	117.1	51.5	Complete	Install faulted circuit indicators. Replace cutouts and surge arrester.
40588	SEW	Fredonia	2.305	147.0	63.8	Complete	Full feeder trim.
41461	SEW	Vernon	4.604	330.4	71.8	Complete	Install wildlife protection and faulted circuit indicators. Replace surge arresters and cutouts.
42184	SEW	Branch	2.053	170.6	83.1	Complete	No work required. 1 outage due to failed pole, 1 outage due to failed conductor. Repairs complete at time of outages.
42193	SEW	Branch	2.154	153.6	71.3	Complete	Install wildlife protection. Replace cutouts, insulators and surge arresters.
46172	SEW	Bark River	2.024	395.8	195.6	Q3 11	Install wildlife protection. Full forestry trim.
46252	SEW	Center	4.137	478.8	115.7	Complete	No work required. 1 outage due to fallen tree, 1 outage due to Mylar ballon, 1 outage due to lightning. Repairs complete at time of outages.
47784	SEW	Brookdale	2.558	842.7	329.4	Complete	Install fuses. Replace transformer. Remove switch fuse unit.
51267	SEW	Norwich	2.489	182.9	73.5	Q3 11	Install wildlife protection. Replace cutouts and surge arresters. Full feeder trim.
52651	SEW	Mallory	3.042	181.7	59.7	Complete	Install wildlife protection. Replace poles, cutouts and surge arresters.
61484	SEW	Range Line 24.9	2.037	114.9	56.4	Q4 11	Full forestry trim.
64561	SEW	Shepard	3.095	155.0	50.1	Complete	Install wildlife protection and faulted circuit indicators. Replace surge arresters.
66472	SEW	Holland	2.220	145.3	65.4	Complete	Install wildlife protection, tap fuses, and faulted circuit indicators. Replace cutouts. Full feeder trim.
73573	SEW	Sixty-eighth Street	2.015	210.8	104.6	Complete	No work required. 2 outages caused by cable failures. Repairs complete at time of outages.
81663	SEW	Edgerton	2.127	331.2	155.7	Q3 11	Full forestry trim.

**We Energies Y2010 Worst Performing Circuits
Per PSC 113.0604 (2b) and (2c)**

Attachment B

Circuit	Operating Area	Substation	SAIFI*	SAIDI*	CAIDI*	Completion Target Date	Corrective Action
82886	SEW	Cottonwood	4.068	819.9	201.6	Complete	Install wildlife protection. Full forestry trim.

**We Energies ANNUAL RELIABILITY REPORT-
PRIOR YEARS' ACCOMPLISHMENTS
PER PSC 113.0604 (2d)**

PSC 113.0604 (2d): "A report on the accomplishment of the improvements proposed in prior reports for which completion has not been previously reported."

The attached report describes the accomplishment of the improvements/corrective actions that were performed on the circuits listed last year per PSC 113.0604 (2b) that were not previously reported as complete.

**We Energies Y2009 Worst Performing Circuits
Per PSC 113.0604 (2d)**

Attachment C

<i>*Reliability Indices are based on filtered data from 10/08 through 9/09</i>							
Circuit	Operating Area	Substation	SAIFI*	SAIDI*	CAIDI*	Completion Target Date	Corrective Action
COH4	FV	County Hospital 12.47	2.173	116.7	53.7	Completed Q2 10	Install surge arresters. Replace cutouts. Forestry spot trim.
1152	SEW	Burlington 24.9	1.877	274.3	146.2	Completed Q2 10	Install surge arresters, elbow arresters and faulted circuit indicators.
3255	SEW	Lincoln 13.2	4.011	235.2	58.6	Completed Q2 10	Install surge arresters and faulted circuit indicators. Replace cutouts. Forestry full trim.
3266	SEW	Lincoln 13.2	2.805	361.7	128.9	Completed Q2 10	Install surge arresters, wildlife protection and faulted circuit indicators. Replace cutouts. Forestry spot trim.
6451	SEW	Summit	2.121	199.0	93.8	Completed Q2 10	Install elbow arresters, surge arresters. Replace cutouts and crossarm. Forestry full trim.
7262	SEW	Kansas	1.414	271.0	191.7	Completed Q2 10	Install wildlife protection, surge arresters and faulted circuit indicators. Replace cutouts, transformer and crossarm.
7961	SEW	Medford	1.084	263.3	243.0	Completed Q2 10	Install surge arresters and faulted circuit indicators. Replace cutouts. Forestry spot trim.
8443	SEW	Pennsylvania	3.081	294.1	95.5	Completed Q2 10	Install wildlife protection. Move surge arresters to transformer. Forestry full trim.
8451	SEW	Pennsylvania	2.682	1073.0	400.1	Completed Q2 10	Install wildlife protection, switch and faulted circuit indicators. Replace cutouts and insulators. Forestry full trim.
14652	SEW	O Connor	3.052	125.3	41.1	Completed Q2 10	Install surge arresters and wildlife protection. Replace cutouts. Forestry spot trim.
17761	SEW	Salem	2.143	253.0	118.1	Completed Q2 10	Install surge arresters and faulted circuit indicators. Replace cutouts, insulators and crossarm. Forestry full trim.
21491	SEW	Bradley 8.32	2.924	393.5	134.6	Completed Q2 10	Install wildlife protection and faulted circuit indicators.
22352	SEW	Glendale	2.216	286.4	129.2	Completed Q2 10	Install tap fuse, wildlife protection and surge arresters. Forestry spot trim.
41561	SEW	Des Plaines	3.054	763.9	250.1	Completed Q2 10	Install wildlife protection and surge arresters. Replace cutouts and crossarms.
48364	SEW	Shirley	1.034	397.5	384.4	Completed Q2 10	Install switches and faulted circuit indicators. Forestry full trim.
66183	SEW	Glacier	3.157	192.3	60.9	Completed Q2 10	Install tap fuses and faulted circuit indicators. Forestry spot trim.
69147	SEW	Twenty-eighth Street 13.2	1.271	257.0	202.3	Completed Q2 10	Install surge arresters. Forestry full trim.

**We Energies ANNUAL RELIABILITY REPORT-
NEW RELIABILITY PROGRAMS
PER PSC 113.0604 (2e)**

PSC 113.0604 (2e): “A description of any new reliability or power quality programs and changes that are made to existing programs”

In addition to the program to address the worst performing circuits as described in PSC 113.0604 sections (2b) and (2c), the following reliability programs were undertaken in 2010:

- Circuits that were addressed as part of previous years’ worst performing circuit programs, and did not improve to acceptable levels of performance were reexamined and will be addressed as part of the 2011 worst performing circuit program.
- Continued the process to address localized reliability problems based on customer input, resulted in approximately 100 field remediations.
- Developed and applied enhanced feeder patrol guidelines.
- Used enhanced lightning protection techniques developed in 2000, animal abatement measures developed in 2001, remediation options for identified equipment failure items as developed in 2002, Faulted Circuit Indicator (FCI) deployment strategies as developed in 2003, new wildlife protection measures developed in 2005 and 2006, application of elbow surge arresters developed in 2007, and mainline riser pole hardening techniques developed in 2009, and applied them to susceptible feeders as part of the 2010 worst performing circuit program.
- Developed a strategic cable replacement program and replaced 87 miles of cable as identified.
- Initialized pilot program to replace suspect porcelain cutouts on 69 circuit mainlines.
- Continued to utilize customer-level outage data to identify problem areas and remediate as appropriate.
- Continually improved new Outage Management System process to improve customer restoration.
- Continued deployment of process enhancements to improve outage duration performance including holding weekly stand-up meetings during the summer storm season, and follow up on action items derived from 2009 storm debriefs.
- Reviewed past reliability programs to quantify their success.

STATUS OF We Energies' LONG RANGE DISTRIBUTION PLANS
PSC 113.0604(2f)

PSC 113.0604(2f): "A status report of any long range electric distribution plans."

4 kV: Serves various areas throughout the service territory but is primarily located within the Milwaukee County and Appleton/Neenah areas. Plans for this system include eventual elimination through gradual conversion to 12 kV, 13 kV, and 25 kV voltage levels. Periodic reviews of remaining facilities are made to determine the order of retirement and to schedule appropriate construction projects.

8 kV: Serves residential and small commercial customers in the southeast Wisconsin area. Plans for this system include continued management of load growth through targeted conversion to the 25 kV voltage level. In general, no major expansion of the 8 kV system is planned. A high level review of the 8 kV system was completed in 2009. Priorities for targeted system renewal and conversion/retirement have been identified for the 2010-2030 time period.

12 kV: The current and future voltage level for service to residential, commercial, and light industrial customers in the Fox Valley area. New capacity will be added as needed to provide for new load, retirement of aging facilities, and conversion of 4 kV substations and feeders. Annual reviews of the capacity needs for this system are performed to schedule appropriate construction projects.

13 kV: The current and future voltage level for service to residential, commercial, and light industrial customers in eastern Milwaukee County, the Milwaukee Regional Medical Center, and the area in and around Iron Mountain, Michigan. A portion of this system operates as a subtransmission system. New capacity will be added as needed to provide for new load and conversion of 4 kV substations and feeders. Annual reviews of the capacity needs for this system are performed to schedule appropriate construction projects.

25 kV: The current and future voltage level for service to all classes of customers in the southeast Wisconsin and the Michigan service areas. New capacity will be added as needed to provide for new load, reduction of line exposure reliability concerns, and conversion of lower voltage substations and feeders. Annual reviews of the capacity needs for this system are performed to schedule appropriate construction projects.

26 kV: This subtransmission system serves large commercial and industrial customers and lower voltage distribution substations in the Milwaukee area. Annual reviews of the capacity needs for this system are performed to schedule appropriate construction projects.

35 kV: This subtransmission system is the current and future voltage level serving large industrial customers and lower voltage distribution substations in the Fox Valley area. New capacity will be added as needed to provide for new load and retirement of aging facilities. Annual reviews of the capacity needs for this system are performed to schedule appropriate construction projects.

**We Energies ROUTE MILES OF ELECTRIC DISTRIBUTION REBUILT DURING 2010
PSC 113.0604(3a)**

PSC 113.0604(3a): "Route miles of electric distribution line reconstructed during the year. Separate totals for single-and three-phase circuits shall be provided."

	Miles of Line		
	Projects	Annual Orders*	Total
Single Phase	212	43	255
Three Phase	205	41	246
Total	417	84	501

* Data on miles of lines rebuilt is not available for work performed under annual orders. Number of man-hours and total costs expended on annual orders approximate spending on Projects. It is assumed that labor productivity is lower on annual orders due to increased travel time and increased equipment set up time. A significant portion of annual orders is for new services rather than line rebuild. An estimate for miles of line rebuilt on the annual orders is approximately 20% of the special project work.

We Energies DISTRIBUTION LINE IN SERVICE 2010
PSC 113.0604(3b)

PSC 113.0604(3b): “Total route miles of electric distribution line in service at year’s end, segregated by voltage level.”

Total route miles (does not include abandon or non-operating line segments):

<u>Voltage Level</u>	<u>Miles</u>
3.81 kV	218
4.16 kV	543
6.9 kV	73
8.32 kV	10,387
12.47 kV	4,406
13.2 kV	1,341
13.8 kV	754
24.9 kV	11,842
26.4 kV	163
34.5 kV	462
Primary Total	30,189
Secondary Total	25,682
Grand Total	55,871

We Energies Monthly Performance Statistics for 2010
Customer Contact Center (CCC)
Monthly average speed of answer 113.0604(3)(c)

	January	February	March	April	May	June	July	August	September	October	November	December	Total
Total CCC Inbound Calls*													
Offered	171,235	165,966	219,642	293,190	253,827	356,797	332,908	320,535	303,566	323,486	195,927	194,487	3,131,566
Abandoned	11,617	9,924	9,408	21,563	20,106	26,758	24,342	27,776	31,225	23,282	17,175	11,831	235,007
Handled	159,618	156,042	210,234	271,627	233,721	330,039	308,566	292,759	272,341	300,204	178,752	182,656	2,896,559
Average Wait (sec.) - All Calls	63	45	38	65	65	54	63	77	92	64	62	51	63
Average Wait (sec.) - Rep Calls	84	58	49	84	84	82	85	106	122	89	75	74	85
Number of Emergency Calls**	1,166	780	1,129	1,951	2,465	7,067	6,253	5,377	3,669	7,249	1,725	4,043	42,874
Total Queuing Time (Sec.)	45,460	20,248	83,590	49,893	133,512	688,464	181,064	443,436	99,198	122,339	53,660	606,705	2,527,569
Average Wait (sec.) Emer. Calls	39	26	74	26	54	97	29	82	27	17	31	150	59
			3/19 & 3/28 Storms			6/21 & 6/29 Storms 6/22 - 23 Tornados		8/9 & 8/13 Storms				12/11 - 12 Snowstorm & Heavy Winds	

*Residential, Small Business, Large Business, Telecollections, Outage, Emergency, IVR

**Emergency, Fire/Police

We Energies
WI Admin. PSC 113.0604(3)(d)
New Service Installation Report 2010
Electric Only

Attachment I

Total Electric			
	Total	On time	% On Time
January	246	246	100.00%
February	197	197	100.00%
March	202	202	100.00%
April	299	299	100.00%
May	303	303	100.00%
June	313	313	100.00%
July	342	342	100.00%
August	364	364	100.00%
September	358	358	100.00%
October	362	362	100.00%
November	409	409	100.00%
December	367	367	100.00%
Total	3,762	3,762	100.00%

Avg Days to Install New Electric Service in 2010			
	Permanent Services	Temporary Services	Total
January	7.2	6.4	7.2
February	7.6	9.5	7.8
March	4.2	2.8	4.2
April	5.8	1.2	5.4
May	6.0	1.4	5.7
June	5.8	3.0	5.6
July	6.2	2.5	5.7
August	5.6	1.4	5.3
September	6.1	1.3	5.7
October	5.2	3.1	5.1
November	6.2	3.4	6.0
December	8.9	3.8	8.8
Total	6.3	2.8	6.0

	2010 Escalated PSC & Executive Complaints										2010 Escalated PSC & Executive Complaints																				
	Billing/Metering					Credit/Collections					Field Operations					Outage/Power Quality					Safety					TOTALS					
	Elec Only	"WE" Gas Only	"WG" Gas Only	Combined	Total	Elec Only	"WE" Gas Only	"WG" Gas Only	Combined	Total	Elec Only	"WE" Gas Only	"WG" Gas Only	Combined	Total	Elec Only	"WE" Gas Only	"WG" Gas Only	Combined	Total	Elec Only	"WE" Gas Only	"WG" Gas Only	Combined	Total	Elec Only	"WE" Gas Only	"WG" Gas Only	Combined	Total	
January	10	8	6	14	38	2	1	6	40	49	3	0	1	0	4	1	0	0	0	1	0	0	0	0	0	16	9	13	54	92	
February	7	5	4	25	41	6	0	3	52	61	0	0	1	1	2	1	0	0	0	0	1	0	0	0	0	14	5	8	78	105	
March	5	5	9	14	33	9	1	2	84	96	1	0	4	0	5	3	0	0	0	0	3	0	0	0	0	18	6	15	98	137	
April	11	4	5	17	37	21	4	6	324	355	2	0	1	0	3	1	0	0	0	0	1	0	0	0	0	35	8	12	341	396	
May	6	8	6	9	29	42	3	10	326	381	5	0	3	1	9	0	0	0	0	0	0	0	0	0	0	53	11	19	336	419	
June	10	7	3	14	34	42	3	4	379	428	4	0	1	0	5	4	0	0	0	1	5	0	0	0	0	60	10	8	394	472	
July	7	2	0	8	17	50	6	9	306	371	2	0	3	1	6	5	0	0	0	0	5	0	0	0	0	64	8	12	315	399	
August	8	2	3	10	23	58	2	4	317	381	8	0	0	1	9	3	0	0	0	0	3	0	0	0	0	77	4	7	328	416	
September	5	2	1	8	16	47	4	7	251	309	5	1	1	0	7	1	0	0	0	0	1	0	0	0	0	58	7	9	259	333	
October	9	3	6	10	28	28	4	9	253	294	2	1	0	0	3	2	0	0	0	0	2	0	0	0	0	41	8	15	263	327	
November	8	1	2	10	21	13	3	9	79	104	2	1	3	0	6	1	0	0	0	0	1	0	0	0	1	24	5	14	90	133	
December	3	5	3	3	14	3	2	4	32	41	2	1	1	0	4	10	0	0	0	0	10	0	0	0	0	18	8	8	35	69	
TOTAL 2010	89	52	48	142	331	321	33	73	2443	2870	36	4	19	4	63	32	0	0	0	1	33	0	0	0	1	1	478	89	140	2591	3298



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Milwaukee, WI 53203
www.we-energies.com



Public Service Commission of Wisconsin
RECEIVED: 04/30/12, 11:52:19 AM

April 30, 2012

Ms. Sandra J. Paske
Secretary to the Commission
Public Service Commission of Wisconsin
P.O. Box 7854
Madison, WI 53707-7854

Re: We Energies annual reliability performance report PSC 113.0604 – 05-GF-113

Dear Ms. Paske:

The Wisconsin Administrative code PSC 113.0604 requires that electric utilities with 100,000 or more customers annually file with the commission a report summarizing various measures of reliability for the preceding year. Wisconsin Electric Power Company (WEPCO) and Wisconsin Gas LLC, d/b/a We Energies submits the information for PSC 113.0604.

Satisfaction of Related Reporting Requirements

The information supplied here also partially fulfills the requirements of a plan to monitor electric, gas and steam service quality levels and trends that was developed by the Company in response to PSCW dockets 9401-YO-100 and 9402-YO-101, Order Point 14.

The following reports have already been filed at the PSCW:

PSC 113.0609 - Customer Satisfaction survey (electric only) was filed January 10, 2012/05-GF-113.

PSC 113.0612 – Safety Performance Report was filed January 12, 2012/05-GF-113. This report was for total WEC and could not be broken down by individual WEPCO reporting.

Ms. Sandra J. Paske
April 30, 2012
Page 2

Monthly reporting of daily performance statistics for Customer Call Centers had been filed in 6630-GF-100. Monthly summary data was also required by PSC 113.0604(3)(c). Monthly filings will no longer be required or necessary pursuant to PSC Amelia Ramirez, PSC staff and We Energies agreement. We will no longer conduct and issue a report of monthly justified complaints per Docket 6630-UR-110. We Energies will no longer submit monthly telephone statistics (ASA numbers) from our customer contact centers per Docket 6630-UR-110, but we will continue to submit the required annual service reliability report in 5-GF-113.

Responses to PSC 113.0604:

PSC 113.0604(2)(a). Provided as Attachment A.

PSC 113.0604(2)(b) and (c). Provided as Attachment B.

PSC 113.0604(2)(d). Provided as Attachment C.

PSC 113.0604(2)(e). Provided as Attachment D.

PSC 113.0604(2)(f). Provided as Attachment E.

PSC 113.0604(3)(a). Provided as Attachment F.

PSC 113.0604(3)(b). Provided as Attachment G.

PSC 113.0604(3)(c). Provided as Attachment H. (includes gas data)

PSC 113.0604(3)(d). Provided as Attachment I.

PSC 113.0604(3)(e). Provided as Attachment J. (includes gas data)

PSC 113.0604(3)(f). Total annual tree trimming budgeted and actual expenses. For year 2011, the annual tree trimming budget was \$21,507,556 and the actual expenses were \$27,065,432.

PSC 113.0604(3)(g). Total annual projected and actual miles of distribution line tree trimmed. For year 2011 the annual projected miles of distribution line trimmed was 2,838 miles and the actual miles trimmed was 2,051 miles.

Note: Company made budget additions to support catch-up of planned full-feeder trimming, which was affected by major weather events that occurred throughout the year.

Ms. Sandra J. Paske
April 30, 2012
Page 3

Steam System Service Quality

The following steam service interruption data is provided in response to the aforementioned plan submitted by the Company in compliance with 9401-YO-100 and 9402-YO-101, Order Point 14.

Forced and Unplanned Outages with Less Than 24 Hours Notice.

2011 events

There were two outages on the Milwaukee steam system in 2011.

On January 26, Valley Power Plant went off line causing a system outage that lasted 2 ½ hours. The outage began at 10:30 am and the system was restored by 1 pm.

On February 1, a transformer on Wells Street failed causing a power outage in the area which also affected our pressure reducing station. This caused a steam outage on West Wisconsin avenue west of 11th Street from 5:20 pm until 7pm.

If you have any questions regarding the information provided in this report, please call Debbie Tschudy at 608-283-3007.

Sincerely,



Roman A. Draba
Vice President –Regulatory Affairs and Policy

Attachments

cc: Mr. Robert Norcross/PSCW
Mr. Scot Cullen/PSCW
Mr. Dan Sage/PSCW

**We Energies RELIABILITY INDICES
PER PSC 113.0604 (2a)**

PSC 113.0604 (2a): “An overall assessment of the reliability performance including the aggregate SAIFI, SAIDI, and CAIDI indices by system and each operating area, as applicable.”

The attached information is derived from the database of all of We Energies’ service territory for 2011 and includes:

- System Performance
- Operating Area Performance

Note: The Iron Range Operating Area includes circuits that are partially or wholly within the upper peninsula of Michigan.

We Energies RELIABILITY INDICES
PER PSC 113.0604 (2a)

YEAR 2011	OPERATING AREA			SYSTEM TOTAL
	Southeastern WI	Fox Valley	Iron Range	
SAIFI	0.75	1.52	2.25	0.88
SAIDI	137	546	342	189
CAIDI	183	359	152	214

Notes:

These statistics include nine ATC transmission system outages that occurred during 2011 and affected more than 68,000 customers: six in Southeastern Wisconsin, one in Fox Valley, and two in Iron Range.

**We Energies ANNUAL RELIABILITY REPORT-
CIRCUIT PERFORMANCE
PER PSC 113.0604 (2b) and (2c)**

PSC 113.0604 (2b): “A list of the worst-performing circuits based on SAIFI, SAIDI, and CAIDI indexes, for the calendar year. This section of the report shall describe the actions that the utility has taken or will take to remedy the conditions responsible for each listed circuit’s unacceptable performance. The action(s) taken or planned should be briefly described. Target dates for corrective action(s) shall be included in the report. When the utility determines that actions on its part are unwarranted, its report shall provide adequate justification for such a conclusion.”

PSC 113.0604 (2c): “Utilities that use or prefer alternative criteria for measuring individual circuit performance to those described in s. PSC 113.0603 and which are required by this section to submit an annual report of reliability data, shall submit their alternative listing of circuits along with the criteria used to rank circuit performance.”

We Energies collects outage data and uses SAIFI, SAIDI, and CAIDI to assess circuit performance, however a number of different criteria are utilized to develop a list and rank worst performing distribution circuits. These criteria include SAIFI, SAIDI, customer concerns, and internal feedback and recommendations from Operating, Customer Service, and Area personnel. These criteria are calculated on a fourth quarter through third quarter basis rather than a calendar year basis, in order to allow We Energies personnel to perform field patrols, analysis and a substantial number of field improvements prior to the start of a given year’s storm season.

In order to focus improvement efforts on the portions the distribution system that will result in the most benefit to customers, localized outages affecting less than 100 kVA of load, outages to single utilization transformers affecting fewer than 10 customers, and secondary system and service drop outages are removed from the data set through the use of a filter prior to calculating reliability indices. These criteria were used to develop the worst performing circuit list for section 113.0604 (2b). In addition, in some years, major events occur that significantly affect the distribution system and can inappropriately bias the list of worst performing circuits if not taken into consideration. For this reason, the duration of the outages (which would unduly bias SAIDI) associated with two extraordinary storms was removed from the outage database prior to creating the worst performing circuit list reported in section 113.0604 (2b). An Extraordinary Storm is a significant event that occurs and is declared when one of the following conditions are met: severe weather conditions that result in 100,000 or more unplanned and sustained customer interruptions within a single day, or events of sufficient intensity to give rise to a state of emergency declaration by the local, state, or federal government. In addition, outage events from four other major storms that did not meet the extraordinary storm definition, but had excessive CAIDI indices of over 300 minutes, also had their durations excluded in the worst performing feeder list.

**We Energies Y2011 Worst Performing Circuits
Per PSC 113.0604 (2b) and (2c)**

Attachment B

*Reliability Indices are based on filtered data from 10/2010 through 9/2011, SAIDI & CAIDI calculations exclude Customer Minutes of Interruption for six storms							
Circuit	Operating Area	Substation	SAIFI*	SAIDI*	CAIDI*	Completion Target Date	Corrective Action
5500	FV	Ellington 34.5	6.601	0.0	0.0	Complete	Install wildlife protection. Replace crossarm and insulators.
CAS71	FV	Casaloma 12.47	4.913	58.2	11.9	Complete	Install wildlife protection. Replace cutouts and surge arresters.
WNC61	FV	Winneconne	4.046	282.9	69.9	Q2 12	Install faulted circuit indicators and wildlife protection. Replace cutouts and surge arresters. Full forestry trim.
5330	FV	City Limits 34.5	3.692	226.6	61.4	Complete	Install faulted circuit indicators.
5480	FV	Casaloma 34.5	3.500	53.7	15.3	Complete	2 outages due to crossarm failure. 3 outages due to lightning. Repairs complete at time of outages.
MEA4	FV	Meade Street	3.373	180.1	53.4	Complete	6 outages due to major storms, 3 due to vegetation. Repairs complete at time of outages.
NCH51	FV	Nichols	3.229	284.4	88.1	Q3 12	Install wildlife protection. Replace cutouts and surge arresters. Full forestry trim.
5740	FV	White Clay 34.5	3.210	173.1	53.9	Complete	Install faulted circuit indicators.
FRT2	FV	Fremont	3.202	456.7	142.6	Complete	Install wildlife protection. Install cutout. Replace cutouts. Repair ground wire.
RDF2	FV	Readfield	3.044	1201.3	394.7	Complete	Install wildlife protection. Replace cutouts and surge arresters. Full forestry trim.
VIN53	FV	Vine	2.983	247.1	82.9	Complete	3 outages due to vegetation. Repairs complete at time of outage.
CCL4	FV	Cecil Street	2.904	566.7	195.1	Complete	2 outages due to vegetation during storms. Repairs complete at time of outages.
BRC62	FV	Bear Creek Village	2.734	135.8	49.7	Complete	Forestry spot trim. 1 outage due to public-vehicle. Repairs complete at time of outage.
WCT61	FV	Wescott	2.612	67.0	25.6	Complete	3 outages due to fallen trees. 1 outage due to fallen tree during major storm. Repairs complete at time of outages.
WST4	FV	Western Avenue	2.359	227.3	96.4	Q4 12	Replace station cables.
MEA1	FV	Meade Street	2.232	120.4	53.9	Complete	Forestry spot trim.
LPK52	FV	Lake Park	2.147	31.9	14.8	Q4 12	1 outage due to failed cutout. Repairs complete at time of outage. Full forestry trim.
RDF3	FV	Readfield	2.142	486.2	227.1	Q4 12	Install tap fuse and wildlife protection. Replace cutouts and surge arresters. Full Feeder trim.
LOL2	IR	Land O Lakes	5.030	689.5	137.1	Complete	Replace surge arresters and cutout. Forestry spot trim.
GRS3	IR	Greenstone	4.659	550.6	118.2	Complete	Replace cutouts and surge arresters.
ARA51	IR	Aragon	4.581	335.7	73.3	Q2 12	Install tap fuses. Replace cutout and surge arresters.
LOL3	IR	Land O Lakes	3.757	186.5	49.6	Q2 12	Replace crossarms, recloser and surge arrester.
LOL1	IR	Land O Lakes	3.707	388.3	104.7	Complete	Forestry spot trims.
CON2	IR	Conover	3.300	203.2	61.6	Complete	Replace poles and wildlife protection. Forestry spot trims.
CON1	IR	Conover	3.023	170.8	56.5	Complete	Patrol complete. No follow-up work identified.
ARA52	IR	Aragon	2.953	253.8	86.0	Q2 12	Full forestry trim.
SBH1	IR	Strawberry Hill	2.921	777.5	266.2	Q2 12	Full forestry trim.
WSM1	IR	Watersmeet	2.206	6.9	3.1	Q2 12	Full forestry trim.
BAS51	IR	Bass Lake	2.141	263.7	123.2	Q2 12	Install tap fuse. Replace cutouts and surge arresters. Forestry spot trim.
6447	SEW	Summit	5.946	190.9	32.1	Complete	Outages due to cable failures. Major storm affected feeder due to numerous trees down. Repairs complete at time of outages. Moved significant portion of feeder on to Z6452.
8992	SEW	Paris	5.592	214.9	38.4	Complete	Full forestry trim.
9372	SEW	Kenosha	5.198	432.1	83.1	Complete	Install tap fuse. Forestry spot trim.
8364	SEW	Fort Atkinson 24.9	5.073	212.1	41.8	Complete	1 outage due to cable failure. Repair complete at time of outage. Full forestry trim.
3253	SEW	Lincoln 13.2	5.000	1120.0	224.0	Complete	Install wildlife protection. Replace insulators and surge arresters.
7063	SEW	Waukesha	4.964	90.7	18.3	Complete	Patrol and IR scan complete. No follow-up work identified. Outages caused by slapping conductors and failed surge arresters. Repairs completed at time of outages.

**We Energies Y2011 Worst Performing Circuits
Per PSC 113.0604 (2b) and (2c)**

Attachment B

Circuit	Operating Area	Substation	SAIFI*	SAIDI*	CAIDI*	Completion Target Date	Corrective Action
74162	SEW	West Bend	4.948	204.1	41.3	Complete	Multiple outages due to 2011 ice storm in West Bend. Repairs complete at time of outages. Install faulted circuit indicators.
72451	SEW	Chenequa	4.432	243.8	55.0	Q2 12	Install wildlife protection. Replace cutout and surge arresters. Full forestry trim.
774	SEW	Port Washington	4.404	228.7	51.9	Complete	Tighten hardware due to inspection following galloping conductors. Forestry spot trim.
5262	SEW	Silver Lake	4.250	106.6	25.1	Q2 12	Replace cutouts and surge arresters. Replace pole, cutout and transformer. Move surge arresters to transformers. Full feeder trim.
4484	SEW	Whitewater	4.187	345.4	82.5	Q2 12	Forestry spot trim.
22452	SEW	Knellsville	4.030	159.4	39.5	Q2 12	Install faulted circuit indicators and wildlife protection. Replace insulator, cutouts and surge arresters. Forestry spot trim.
30963	SEW	Sowauk	3.940	154.1	39.1	Q2 12	1 outage due to cable failure. 1 outage due to tree trimmer. Repairs complete at time of outages. Full forestry trim.
2851	SEW	Phantom Lake	3.799	254.2	66.9	Complete	Install faulted circuit indicators, tap fuses and wildlife protection. Replace crossarms, switches, cutouts and surge arresters. Move surge arresters to transformers. Straighten pole. Full forestry trim.
27952	SEW	Gebhardt	3.683	135.4	36.8	Complete	1 outage due to cable failure. 4 outages due to fallen trees. Repairs complete at time of outages.
30764	SEW	Birch	3.620	339.4	93.8	Complete	Replace switches, cutouts and surge arresters. Forestry spot trim.
6581	SEW	Sugar Creek	3.565	723.9	203.1	Complete	Replace surge arresters.
36563	SEW	Springbrook	3.343	227.0	67.9	Complete	Install wildlife protection. Replace cutouts and surge arresters. Forestry spot trim.
3965	SEW	Mequon	3.291	76.3	23.2	Q2 12	1 outage due to fallen tree. 1 outage due to cable dig-in. 1 outage due to cable failure. Repairs complete at time of outages. Full forestry trim.
7872	SEW	Greendale	3.259	137.8	42.3	Q2 12	Install faulted circuit indicators, fuses, surge arresters and wildlife protection. Replace insulators, cutouts, transformer and surge arresters. Full feeder trim.
40588	SEW	Fredonia	3.240	65.5	20.2	Complete	Install wildlife protection and surge arresters. Replace voltage regulator. 1 outage due to fallen tree. Repairs complete at time of outage.
7981	SEW	Medford	3.053	220.4	72.2	Q2 12	Install wildlife protection and fuses. Replace cutouts and surge arresters. Forestry spot trim.
2697	SEW	Germantown	3.012	198.5	65.9	Q2 12	Install wildlife protection. Forestry spot trim.
13863	SEW	Uptown	3.006	116.3	38.7	Complete	Install wildlife protection. Replace switches, cutouts and surge arresters.
66481	SEW	Holland	3.005	516.8	172.0	Complete	Install faulted circuit indicators. Full forestry trim.
34371	SEW	Swan	2.992	276.0	92.3	Complete	Full forestry trim.
64551	SEW	Shepard	2.974	383.7	129.0	Complete	Install faulted circuit indicators.
30763	SEW	Birch	2.963	60.4	20.4	Complete	1 outage due to fallen tree limb during major storm. Repairs complete at time of outages.
18052	SEW	College	2.955	121.6	41.1	Complete	Install faulted circuit indicators, wildlife protection and surge arresters. Repair crossarm. Replace insulators, switches, aluminum jumpers, cutouts and surge arresters. Reroute service drop to avoid large tree limb. Move surge arresters to transformer. Forestry spot trim.
4963	SEW	Brown Deer	2.953	63.1	21.4	Complete	Install fuses. Forestry spot trim.
4953	SEW	Brown Deer	2.922	155.6	53.3	Complete	Install faulted circuit indicators and wildlife protection. Upgrade fuse. Replace cutouts.
12353	SEW	Southport	2.916	115.3	39.6	Complete	Replace cutouts and surge arresters.
6582	SEW	Sugar Creek	2.883	475.2	164.8	Complete	Install faulted circuit indicators.
1031	SEW	Harbor	2.857	278.4	97.5	Complete	1 outage caused by customer. 1 outage due to cable failure. 1 outage due to car-pole accident, and 1 outage due to weather (ice buildup). Repairs complete at time of outage.

**We Energies Y2011 Worst Performing Circuits
Per PSC 113.0604 (2b) and (2c)**

Attachment B

Circuit	Operating Area	Substation	SAIFI*	SAIDI*	CAIDI*	Completion Target Date	Corrective Action
72462	SEW	Chenequa	2.847	328.5	115.4	Q2 12	Install wildlife protection and surge arresters.
6073	SEW	Concordia	2.800	153.3	54.7	Complete	Install wildlife protection. Replace cutouts and surge arresters.
3154	SEW	Albers 24.9	2.740	58.7	21.4	Complete	Moved significant portion of feeder on to Z3145.
46171	SEW	Bark River	2.734	0.0	0.0	Complete	3 outages during storms. Repairs completed at time of outages. Full feeder trim.
3581	SEW	Merrill Hills	2.721	187.2	68.8	Complete	2 outages due to cable failures. 1 outage due to broken insulator. Repairs completed at time of outages.
8354	SEW	Fort Atkinson 24.9	2.703	206.2	76.3	Complete	Patrol and IR scan complete. No follow-up work identified.
8063	SEW	Saint Lawrence 24.9	2.677	0.0	0.0	Complete	1 outage due to fallen limb. 1 outage due to failed insulator caused by lightning during extraordinary event. Repairs complete at time of outages.
21061	SEW	Barton 8.32	2.623	278.5	106.2	Complete	Multiple outages caused by 2011 ice storm in West Bend. Repairs complete at time of outages. Install faulted circuit indicators and wildlife protection. Forestry full trim.
23152	SEW	Ramsey	2.544	237.5	93.3	Complete	Install wildlife protection and surge arresters. Replace insulators, cutouts and surge arresters. Forestry spot trim.
2682	SEW	Germantown	2.529	94.9	37.5	Q2 12	Install wildlife protection. Replace crossarms and surge arresters. Forestry spot trim.
22561	SEW	Erie	2.411	488.0	202.4	Complete	Install wildlife protection. Replace crossarm, u-guard, cutouts and surge arresters. Forestry spot trim.
28651	SEW	Waldo	2.321	270.9	116.7	Q2 12	Install faulted circuit indicators and wildlife protection. Replace cutouts and surge arresters. Full forestry trim.
41552	SEW	Des Plaines	2.277	42.0	18.5	Complete	1 outage due to vehicle. Repairs completed at time of outage.
82888	SEW	Cottonwood	2.254	166.2	73.7	Complete	3 outages due to vine growth. Repairs complete at time of outages. Forestry spot trim.
66183	SEW	Glacier	2.244	94.2	42.0	Complete	Install wildlife protection. Replace surge arresters. Forestry spot trim.
7961	SEW	Medford	2.239	181.4	81.0	Q2 12	Install wildlife protection. Replace cutouts and surge arresters. Forestry full trim.
18751	SEW	Calumet	2.236	190.7	85.3	Complete	Install wildlife protection and surge arresters. Replace cutouts and cable.
11151	SEW	Waukesha Beach	2.227	240.6	108.0	Complete	Patrol and IR Scan complete. No follow-up work identified.
21051	SEW	Barton 8.32	2.225	71.2	32.0	Complete	Multiple outages caused by 2011 ice storm in West Bend. Repairs completed at time of outages. Install wildlife protection, faulted circuit indicators and fuses.
22794	SEW	Moorland	2.219	78.7	35.4	Q2 12	Install tap fuse and wildlife protection. Replace surge arresters. Forestry spot trim.
9381	SEW	Kenosha	2.216	156.5	70.6	Complete	1 outage due to primary cable fault. Repair complete at time of outage.
51264	SEW	Norwich	2.205	15.2	6.9	Complete	Install wildlife protection. Replace insulators, cutouts and surge arresters.
25164	SEW	Sunnyside	2.203	100.0	45.4	Complete	Install wildlife protection. Replace cutouts and surge arresters. Full forestry trim.
33982	SEW	Spring Valley	2.192	138.3	63.1	Q2 12	Install faulted circuit indicators and wildlife protection. Replace crossarms, switches, insulators, cutouts and surge arresters. Forestry spot trim.
31453	SEW	Elmwood	2.176	82.3	37.8	Complete	Full forestry trim.
11664	SEW	Fiebrantz	2.176	86.0	39.5	Complete	Install wildlife protection. Replace transformers, crossarms, cutouts and surge arresters.
45552	SEW	West Junction 13.2	2.155	104.7	48.6	Q2 12	Install faulted circuit indicators. Forestry spot trim.
2681	SEW	Germantown	2.145	79.3	37.0	Q2 12	Install wildlife protection. Replace surge arresters. Full forestry trim.
5261	SEW	Silver Lake	2.141	340.0	158.8	Complete	1 outage due to vehicle. Repairs complete at time of outage.
5496	SEW	Sussex	2.136	119.3	55.8	Complete	Install wildlife protection. Replace insulator and surge arresters.
52652	SEW	Mallory	2.131	131.0	61.5	Complete	Install faulted circuit indicators and wildlife protection. Replace crossarms, cutouts and surge arresters. Forestry spot trim.
9862	SEW	Parkway	2.130	1.8	0.9	Complete	Install wildlife protection and switches. Replace insulators, crossarm, surge arresters and cable terminations. Forestry spot trim.

**We Energies ANNUAL RELIABILITY REPORT-
PRIOR YEARS' ACCOMPLISHMENTS
PER PSC 113.0604 (2d)**

PSC 113.0604 (2d): "A report on the accomplishment of the improvements proposed in prior reports for which completion has not been previously reported."

The attached report describes the accomplishment of the improvements/corrective actions that were performed on the circuits listed last year per PSC 113.0604 (2b) that were not previously reported as complete.

**We Energies Y2010 We Energies Y2010 Worst Performing Circuits
Per PSC 113.0604 (2d)**

Attachment C

**Reliability Indices are based on filtered data from 10/2009 through 9/2010*

Circuit	Operating Area	Substation	SAIFI*	SAIDI*	CAIDI*	Completion Target Date	Corrective Action
SBH1	IR	Strawberry Hill	2.091	354.2	169.5	Completed Q2 12	Replace crossarm and pole. Repair leaning poles and remove conductor slack. Forestry spot trim.
3592	SEW	Merrill Hills	3.545	133.6	37.7	Completed Q4 12	Install wildlife protection. Replace surge arrester. Full feeder trim.
3653	SEW	Cornell 26.4	4.941	165.9	33.6	Completed Q2 12	Replace insulators. Full forestry trim. Please note: After further review it was determined forestry was not a driving issue and full forestry trim is schedule for completion by Q2 2013.
8364	SEW	Fort Atkinson 24.9	2.211	59.9	27.1	Completed Q1 12	Full forestry trim.
8682	SEW	Burleigh	2.045	632.6	309.3	Completed Q3 12	Install faulted circuit indicators and wildlife protection. Replace surge arresters and cutouts. Full forestry trim.
22852	SEW	Douglas	2.911	366.0	125.7	Completed Q1 12	Install wildlife protection and faulted circuit indicators. Replace cutouts and surge arresters. Full forestry trim.
22871	SEW	Douglas	3.033	400.6	132.0	Completed Q1 12	Install faulted circuit indicators. Full forestry trim.
46172	SEW	Bark River	2.024	395.8	195.6	Completed Q4 11	Install wildlife protection. Full forestry trim.
51267	SEW	Norwich	2.489	182.9	73.5	Completed Q2 12	Install wildlife protection. Replace cutouts and surge arresters. Full feeder trim. Please note: After further review it was determined forestry was not a driving issue and a full feed trim is scheduled for completion by Q3 2013.
61484	SEW	Range Line 24.9	2.037	114.9	56.4	Completed Q2 12	Full forestry trim. Please note: After further review it was determined forestry was not a driving issue and full forestry trim is scheduled for completion by Q3 2014.
81663	SEW	Edgerton	2.127	331.2	155.7	Completed Q2 11	Full forestry trim.

**We Energies ANNUAL RELIABILITY REPORT-
NEW RELIABILITY PROGRAMS
PER PSC 113.0604 (2e)**

PSC 113.0604 (2e): “A description of any new reliability or power quality programs and changes that are made to existing programs”

In addition to the program to address the worst performing circuits as described in PSC 113.0604 sections (2b) and (2c), the following reliability programs were undertaken in 2011:

- Circuits that were addressed as part of previous years’ worst performing circuit programs, and did not improve to acceptable levels of performance were reexamined and will be addressed as part of the 2012 worst performing circuit program.
- Used enhanced lightning protection techniques developed in 2000, animal abatement measures developed in 2001, remediation options for identified equipment failure items as developed in 2002, Faulted Circuit Indicator (FCI) deployment strategies as developed in 2003, new wildlife protection measures developed in 2005 and 2006, application of elbow surge arresters developed in 2007, and mainline riser pole hardening techniques developed in 2009, cutout inspection and storm damage patrols developed in 2010, and applied them to susceptible feeders as part of the 2011 worst performing circuit program.
- Continued a strategic cable replacement program and replaced 90 miles of cable.
- Completed second year of a program to replace porcelain cutouts at risk of failure; inspected and remediated 17 circuit mainlines.
- Continued to use customer-level outage data to identify problem areas and remediate as appropriate, and to address localized reliability problems based on customer input.
- Continued to improve the outage management process, including weekly stand-up meetings during summer storm season, follow up on action items derived from 2011 storm debriefs, and deploying enhancements to the Outage Management System.
- Reviewed past reliability programs to quantify their success.

**STATUS OF We Energies' LONG RANGE DISTRIBUTION PLANS
PSC 113.0604(2f)**

PSC 113.0604(2f): "A status report of any long range electric distribution plans."

4 kV: Serves various areas throughout the service territory but is primarily located within the Milwaukee County and Appleton/Neenah areas. Plans for this system include eventual elimination through gradual conversion to 12 kV, 13 kV, and 25 kV voltage levels. Periodic reviews of remaining facilities are made to determine the order of retirement and to schedule appropriate construction projects.

8 kV: Serves residential and small commercial customers in the southeast Wisconsin area. Plans for this system include continued management of load growth through targeted conversion to the 25 kV voltage level. In general, no major expansion of the 8 kV system is planned. A high level review of the 8 kV system was completed in 2009. Priorities for targeted system renewal and conversion/retirement have been identified for the 2010-2030 time period.

12 kV: The current and future voltage level for service to residential, commercial, and light industrial customers in the Fox Valley area. New capacity will be added as needed to provide for new load, retirement of aging facilities, and conversion of 4 kV substations and feeders. Annual reviews of the capacity needs for this system are performed to schedule appropriate construction projects.

13 kV: The current and future voltage level for service to residential, commercial, and light industrial customers in eastern Milwaukee County, the Milwaukee Regional Medical Center, and the area in and around Iron Mountain, Michigan. A portion of this system operates as a subtransmission system. New capacity will be added as needed to provide for new load and conversion of 4 kV substations and feeders. Annual reviews of the capacity needs for this system are performed to schedule appropriate construction projects.

25 kV: The current and future voltage level for service to all classes of customers in the southeast Wisconsin and the Michigan service areas. New capacity will be added as needed to provide for new load, reduction of line exposure reliability concerns, and conversion of lower voltage substations and feeders. Annual reviews of the capacity needs for this system are performed to schedule appropriate construction projects.

26 kV: This subtransmission system serves large commercial and industrial customers and lower voltage distribution substations in the Milwaukee area. Annual reviews of the capacity needs for this system are performed to schedule appropriate construction projects.

35 kV: This subtransmission system is the current and future voltage level serving large industrial customers and lower voltage distribution substations in the Fox Valley area. New capacity will be added as needed to provide for new load and retirement of aging facilities. Annual reviews of the capacity needs for this system are performed to schedule appropriate construction projects.

**We Energies ROUTE MILES OF ELECTRIC DISTRIBUTION REBUILT DURING 2011
PSC 113.0604(3a)**

PSC 113.0604(3a): "Route miles of electric distribution line reconstructed during the year. Separate totals for single-and three-phase circuits shall be provided."

	Miles of Line		
	Projects	Annual Orders*	Total
Single Phase	219	44	263
Three Phase	227	45	272
Total	446	89	535

* Data on miles of lines rebuilt is not available for work performed under annual orders. Number of man-hours and total costs expended on annual orders is approximate spending on Projects. It is assumed that labor productivity is lower on annual orders due to increased travel time and increased equipment set up time. A significant portion of annual orders is for new services rather than line rebuild. An estimate for miles of line rebuilt on the annual orders is approximately 20% of the special project work.

We Energies DISTRIBUTION LINE IN SERVICE 2011
PSC 113.0604(3b)

PSC 113.0604(3b): “Total route miles of electric distribution line in service at year’s end, segregated by voltage level.”

Total route miles (does not include abandoned or non-operating line segments):

<u>Voltage Level</u>	<u>Miles</u>
3.81 kV	189
4.16 kV	527
6.9 kV	73
8.32 kV	10,169
12.47 kV	4,426
13.2 kV	1,350
13.8 kV	756
24.9 kV	12,119
26.4 kV	163
34.5 kV	466
Primary Total	30,238
Secondary Total	25,689
Grand Total	55,927

We Energies Monthly Performance Statistics for 2011
Customer Contact Center (CCC)

	January	February	March	April	May	June	July	August	September	October	November	December	Total
Total CCC Inbound Calls*													
Offered	155,781	172,924	220,212	280,160	297,470	348,940	370,222	325,739	365,360	298,509	200,685	164,771	3,200,773
Abandoned	7,067	6,330	8,336	12,546	18,982	23,027	29,590	23,163	28,532	16,750	6,868	8,321	189,512
Handled	148,714	166,594	211,876	267,614	278,488	325,913	340,632	302,576	336,828	281,759	193,817	156,450	3,011,261
Average Wait (sec.) - All Calls	39	28	27	42	55	58	50	62	55	51	24	37	44
Average Wait (sec.) - Rep Calls	48	36	34	55	73	82	76	81	80	66	30	50	59
Number of Emergency Calls**	1,104	1,909	1,608	1,748	3,332	6,201	8,779	2,624	6,431	2,172	1,693	918	38,519
Total Queuing Time (Sec.)	72,178	185,844	70,563	113,422	400,946	1,199,835	371,091	68,537	245,538	59,761	35,019	25,650	2,848,384
Average Wait (sec.) Emer. Calls	65	97	44	65	120	193	42	26	38	28	21	28	74
	Storms 1/1, 1/2	Storm 2/2		Storm 4/10 and High Winds 4/17	Storms 5/15, 5/22 and 5/23	Storms 6/8, 6/21 and 6/30							

*Residential, Small Business, Large Business, Telecollections, Outage, Emergency, IVR

**Emergency, Fire/Police

We Energies
WI Admin. Code PSC 113.0604(3)(d)
New Service Installation Report 2011
Electric Only

Attachment I

Total Electric			
	Total	On time	% On Time
January	223	223	100.00%
February	136	136	100.00%
March	144	144	100.00%
April	141	141	100.00%
May	245	245	100.00%
June	318	318	100.00%
July	283	283	100.00%
August	367	367	100.00%
September	353	353	100.00%
October	318	318	100.00%
November	346	346	100.00%
December	355	355	100.00%
Total	3,229	3,229	100.00%

Avg Days to Install New Electric Service in 2011			
	Permanent Services	Temporary Services	Total
January	8.5	4.3	8.3
February	7.9	4.3	7.6
March	7.0	5.1	6.8
April	8.3	1.9	8.0
May	7.5	2.5	6.9
June	5.9	2.8	5.7
July	6.0	2.0	5.6
August	5.4	2.5	5.2
September	6.3	2.6	6.0
October	7.3	4.2	7.1
November	12.0	7.4	11.7
December	13.7	8.7	13.4
Total	8.1	3.8	7.8

	2011 Escalated PSCW & Executive Complaints															2011 Escalated PSCW & Executive Complaints WI Admin. Code PSC 113.0604 (3)(e)															
	Billing/Metering					Credit/Collections					Field Operations					Outage/Power Quality					Safety					TOTALS					
	Elec Only	"WE" Gas Only	"WG" Gas Only	Combined	Total	Elec Only	"WE" Gas Only	"WG" Gas Only	Combined	Total	Elec Only	"WE" Gas Only	"WG" Gas Only	Combined	Total	Elec Only	"WE" Gas Only	"WG" Gas Only	Combined	Total	Elec Only	"WE" Gas Only	"WG" Gas Only	Combined	Total	Elec Only	"WE" Gas Only	"WG" Gas Only	Combined	Total	
January	15	3	5	7	30	4	1	1	29	35	0	0	0	0	0	8	0	0	0	0	8	0	0	0	0	0	27	4	6	36	73
February	6	0	6	7	19	4	0	1	23	28	1	1	0	0	2	2	0	0	0	0	2	0	0	0	0	0	13	1	7	30	51
March	5	4	7	15	31	12	2	2	61	77	2	2	1	0	5	2	0	0	0	0	2	0	0	0	0	0	21	8	10	76	115
April	5	2	6	10	23	24	1	9	220	254	0	1	1	1	3	0	0	0	0	0	0	0	0	0	0	0	29	4	16	231	280
May	5	1	8	8	22	31	2	9	244	286	1	1	1	1	4	3	0	0	0	0	3	0	0	0	0	0	40	4	18	253	315
June	7	0	2	10	19	30	2	4	286	322	0	0	3	0	3	4	0	0	0	0	4	0	0	0	1	1	41	2	9	297	349
July	3	0	0	14	17	44	1	6	236	287	1	1	3	1	6	1	0	0	0	1	2	0	0	0	0	0	49	2	9	252	312
August	3	0	2	12	17	30	3	8	284	325	2	1	3	2	8	4	0	0	0	0	4	0	0	0	0	0	39	4	13	298	354
September	3	0	2	12	17	26	2	2	304	334	4	0	0	2	6	2	0	0	0	0	2	0	0	0	0	0	35	2	4	318	359
October	2	0	2	6	10	20	0	2	241	263	1	0	4	0	5	2	0	0	0	1	3	0	0	0	0	0	25	0	8	248	281
November	3	0	2	12	17	6	0	8	77	91	2	1	2	3	8	2	0	0	0	0	2	0	0	0	0	0	13	1	12	92	118
December	4	1	0	6	11	3	2	2	37	44	3	0	0	0	3	1	0	0	0	0	1	0	0	0	0	0	11	3	2	43	59
TOTAL 2011	61	11	42	119	233	234	16	54	2042	2346	17	8	18	10	53	31	0	0	0	2	33	0	0	0	1	1	343	35	114	2174	2666



231 W. Michigan St.
Milwaukee, WI 53203
www.we-energies.com

April 25, 2013

Ms. Sandra J. Paske
Secretary to the Commission
Public Service Commission of Wisconsin
P.O. Box 7854
Madison, WI 53707-7854

Re: We Energies annual reliability performance report PSC 113.0604 – 05-GF-113

Dear Ms. Paske:

The Wisconsin Administrative code PSC 113.0604 requires that electric utilities with 100,000 or more customers annually file with the commission a report summarizing various measures of reliability for the preceding year. Wisconsin Electric Power Company (WEPCO) and Wisconsin Gas LLC, d/b/a We Energies submits the information for PSC 113.0604.

Satisfaction of Related Reporting Requirements

The information supplied here also partially fulfills the requirements of a plan to monitor electric, gas and steam service quality levels and trends that was developed by the Company in response to PSCW dockets 9401-YO-100 and 9402-YO-101, Order Point 14.

The following reports have already been filed at the PSCW:

PSC 113.0609 - Customer Satisfaction survey (electric only) was filed January 23, 2013/05-GF-113.

PSC 113.0612 – Safety Performance Report was filed January 16, 2013/05-GF-113. This report was for total WEC and could not be broken down by individual WEPCO reporting.

Responses to PSC 113.0604:

PSC 113.0604(2)(a). Provided as Attachment A.

PSC 113.0604(2)(b) and (c). Provided as Attachment B.

PSC 113.0604(2)(d). Provided as Attachment C.

PSC 113.0604(2)(e). Provided as Attachment D.

PSC 113.0604(2)(f). Provided as Attachment E.

PSC 113.0604(3)(a). Provided as Attachment F.

PSC 113.0604(3)(b). Provided as Attachment G.

PSC 113.0604(3)(c). Provided as Attachment H. (includes gas data)

PSC 113.0604(3)(d). Provided as Attachment I.

PSC 113.0604(3)(e). Provided as Attachment J. (includes gas data)

PSC 113.0604(3)(f). Total annual tree trimming budgeted and actual expenses. For year 2012, the annual tree trimming budget was \$22,797,538 and the actual expenses were \$27,236,109.

PSC 113.0604(3)(g). Total annual projected and actual miles of distribution line tree trimmed. For year 2012 the annual projected miles of distribution line trimmed was 2,582 miles and the actual miles trimmed was 2,654 miles.

Note: The Company made budget additions to support catch-up of planned full-feeder trimming, which was affected by major weather events that occurred throughout the year.

Note: The Company made budget additions to support additional full-feeder trimming.

Steam System Service Quality

The following steam service interruption data is provided in response to the aforementioned plan submitted by the Company in compliance with 9401-YO-100 and 9402-YO-101, Order Point 14.

Forced and Unplanned Outages with Less Than 24 Hours Notice.

There were no forced or unplanned outages on the Milwaukee Steam system in 2012.

Ms. Sandra J. Paske
April 25, 2013
Page 3

If you have any questions regarding the information provided in this report, please call
Debbie Tschudy at 608-283-3007.

Sincerely,

A handwritten signature in cursive script, reading "J Schubilske".

James A. Schubilske
Vice President –State Regulatory Affairs

Attachments

cc: Mr. Robert Norcross/PSCW
Mr. Scot Cullen/PSCW
Mr. Dan Sage/PSCW

**We Energies RELIABILITY INDICES
PER PSC 113.0604 (2a)**

PSC 113.0604 (2a): “An overall assessment of the reliability performance including the aggregate SAIFI, SAIDI, and CAIDI indices by system and each operating area, as applicable.”

The attached information is derived from the database of all of We Energies’ service territory for 2012 and includes:

- System Performance
- Operating Area Performance

Note: The Iron Range Operating Area includes circuits that are partially or wholly within the upper peninsula of Michigan.

We Energies RELIABILITY INDICES
PER PSC 113.0604 (2a)

YEAR 2012	OPERATING AREA			SYSTEM TOTAL
	Southeastern WI	Fox Valley	Iron Range	
SAIFI	0.61	0.73	1.23	0.65
SAIDI	80	61	157	80
CAIDI	131	83	128	124

Notes:

Eight ATC transmission system outages occurred in during 2012: two in Southeastern Wisconsin, one in Fox Valley, and five in Iron Range affecting more than 18,000 customers.

**We Energies ANNUAL RELIABILITY REPORT-
CIRCUIT PERFORMANCE
PER PSC 113.0604 (2b) and (2c)**

PSC 113.0604 (2b): “A list of the worst-performing circuits based on SAIFI, SAIDI, and CAIDI indexes, for the calendar year. This section of the report shall describe the actions that the utility has taken or will take to remedy the conditions responsible for each listed circuit’s unacceptable performance. The action(s) taken or planned should be briefly described. Target dates for corrective action(s) shall be included in the report. When the utility determines that actions on its part are unwarranted, its report shall provide adequate justification for such a conclusion.”

PSC 113.0604 (2c): “Utilities that use or prefer alternative criteria for measuring individual circuit performance to those described in s. PSC 113.0603 and which are required by this section to submit an annual report of reliability data, shall submit their alternative listing of circuits along with the criteria used to rank circuit performance.”

We Energies collects outage data and uses SAIFI, SAIDI, and CAIDI to assess circuit performance, however a number of different criteria are utilized to develop a list and rank worst performing distribution circuits. These criteria include SAIFI, SAIDI, customer concerns, and internal feedback and recommendations from Operating, Customer Service, and Area personnel. These criteria are calculated on a fourth quarter through third quarter basis rather than a calendar year basis, in order to allow We Energies personnel to perform field patrols, analysis and a substantial number of field improvements prior to the start of a given year’s storm season.

In order to focus improvement efforts on the portions the distribution system that will result in the most benefit to customers, localized outages affecting less than 100 kVA of load, outages to single utilization transformers affecting fewer than 10 customers, and secondary system and service drop outages are removed from the data set through the use of a filter prior to calculating reliability indices. These criteria were used to develop the worst performing circuit list for section 113.0604 (2b). In addition, in some years, major events occur that significantly affect the distribution system and can inappropriately bias the list of worst performing circuits if not taken into consideration. For this reason, the duration of the outages (which would unduly bias SAIDI) associated with one extraordinary storm was removed from the outage database prior to creating the worst performing circuit list reported in section 113.0604 (2b). An Extraordinary Storm is a significant event that occurs and is declared when one of the following conditions are met: severe weather conditions that result in 100,000 or more unplanned and sustained customer interruptions within a single day, or events of sufficient intensity to give rise to a state of emergency declaration by the local, state, or federal government.

**We Energies Y2012 Worst Performing Circuits
Per PSC 113.0604 (2b) and (2c)**

Attachment B

<i>*Reliability Indices are based on filtered data from 10/2011 through 9/2012, SAIDI & CAIDI calculations exclude Customer Minutes of Interruption for one extraordinary storm</i>							
Circuit	Operating Area	Substation	SAIFI*	SAIDI*	CAIDI*	Completion Target Date	Corrective Action
3662	SEW	Cornell 26.4	5.00	621.00	124.20	Complete	Replace crossarms, ground wire and insulators.
47784	SEW	Brookdale	5.00	552.08	110.50	Complete	2 outages due to cable failures. 2 outages due to dig-ins. 2 outages due to wildlife. Repairs complete at time of outages.
72451	SEW	Chenequa	4.39	528.92	120.42	Complete	Full forestry trim.
23163	SEW	Ramsey	4.26	187.79	44.03	Complete	Replace crossarm, cutouts, insulators, surge arresters and transformer. Rebuild risers. Move surge arresters to transformer. Install tap fuses and wildlife protection. Forestry spot trim.
76352	SEW	Pike Lake	4.13	426.61	103.39	Q2 13	Replace crossarms, insulators and surge arresters. Install wildlife protection. Full forestry trim.
33981	SEW	Spring Valley	4.01	316.35	78.92	Complete	Replace cutouts, insulators, surge arresters and u-guards. Replace bare jumpers with insulated jumpers. Tighten hardware. Straighten poles. Repair crossarms and ground wires. Install wildlife protection. Full forestry trim.
3875	SEW	Twenty-eighth Street 26.4	4.00	2088.00	522.00	Complete	3 outages due to cable failures. 1 outage due to major storm. Repairs complete at time of outages. Patrol complete. No follow-up work identified.
5261	SEW	Silver Lake	3.97	264.88	66.78	Q2 13	Replace crossarm, cutouts, hardware, insulators and poles. Move surge arresters to transformers. Repair ground wires. Install faulted circuit indicators and wildlife protection. Forestry spot trim.
76362	SEW	Pike Lake	3.89	362.32	93.21	Complete	Repair DA. Replace cutouts. Tighten Hardware. Forestry spot trim.
15262	SEW	Norwauk	3.86	213.59	55.40	Complete	Replace cutouts, surge arresters and transformer. Move surge arresters to transformers. Install tap fuses and wildlife protection. Full Forestry trim.
6446	SEW	Summit	3.82	280.53	73.47	Complete	Replace cutouts and insulators. Straighten pole. Install surge arresters, tap fuses and wildlife protection. Forestry spot trim
5252	SEW	Silver Lake	3.79	262.03	69.16	Q2 13	Replace crossarms, cutouts, surge arresters. Install tap fuses and wildlife protection.
FRT2	FV	Fremont	3.58	520.70	145.42	Complete	Replace cross arm brace, cutouts, and ground wire. Install tap fuses, fusing to 5 CSP transformers and wildlife protection. Forestry spot trim.
21402	SEW	Bradley 8.32	3.49	489.86	140.37	Q4 13	Replace crossarm, cutouts and surge arresters. Install wildlife protection.
8653	SEW	Burleigh	3.41	574.47	168.31	Q2 13	Replace cutouts, surge arrester and transformer. Full forestry trim.
5251	SEW	Silver Lake	3.40	194.93	57.33	Complete	3 outages due to loss of source line. Repairs complete at time of outages.
18061	SEW	College	3.36	209.62	62.46	Complete	2 outages due to cable failures. Repairs complete at time of outages.
42193	SEW	Branch	3.15	263.21	83.56	Complete	Repair crossarm. Replace surge arresters. Move surge arresters to transformers. Install faulted circuit indicators and wildlife protection. Reinstall improperly applied wildlife protection. Full forestry trim complete Oct. 2012.
LOL2	IR	Land O Lakes	3.13	301.69	96.24	Q2 13	Install faulted circuit indicators. Full forestry trim.
66183	SEW	Glacier	3.13	161.78	51.75	Complete	Perform multiple feeder patrols. Repair crossarms. Replace surge arresters. Tighten hardware. Install tap fuse and wildlife protection. Forestry spot trim.
8052	SEW	Saint Lawrence 24.9	3.11	352.82	113.50	Q3 13	Perform multiple feeder patrols. Repair DA. Replace pole and switch. Rebuild 1.5 miles of remote section of feeder. Install wildlife protection. Full forestry trim.
ARM51	IR	Armory	3.08	181.81	59.00	Complete	Replace cutout and insulators. Move surge arresters to transformers. Install fusing to CSP transformers and wildlife protection. Forestry spot trim.
9862	SEW	Parkway	3.06	639.47	209.31	Q3 13	Replace insulators and switches. Install wildlife protection. Full forestry trim.
6683	SEW	Jefferson	3.04	399.71	131.47	Complete	Full forestry trim complete in Nov. 2012. Forestry spot trim patrol complete. No follow-up work identified.
11051	SEW	Orchard	3.02	218.01	72.29	Complete	Full forestry trim.

**We Energies Y2012 Worst Performing Circuits
Per PSC 113.0604 (2b) and (2c)**

Attachment B

Circuit	Operating Area	Substation	SAIFI*	SAIDI*	CAIDI*	Completion Target Date	Corrective Action
33782	SEW	Parkland	3.01	237.01	78.84	Complete	2 outages due to cable failures. 1 outage due to fallen limb. Repairs complete at time of outages.
5262	SEW	Silver Lake	2.98	170.61	57.31	Complete	3 outages due to loss of source line. Repairs complete at time of outages.
35861	SEW	Water 8.32	2.96	209.90	70.95	Complete	Install faulted circuit indicators and wildlife protection. Forestry spot trim.
MPC2	FV	Maple Creek	2.95	656.28	222.26	Q2 13	Install faulted circuit indicators. Full forestry trim.
6445	SEW	Summit	2.95	389.93	132.30	Complete	1 outage due to cable failure. 1 outage due to high loads during extreme hot weather. 1 outage due to major storm. Repairs complete at time of outages.
COR3	IR	Cornell 13.8	2.91	660.61	227.22	Q2 13	Install faulted circuit indicators. Forestry spot trim.
27095	SEW	Stoney Brook	2.89	255.74	88.40	Complete	Replace hardware, u-guard and wildlife protection. Tighten hardware. Remove slack from guy wire. Install faulted circuit indicators and wildlife protection.
GRS3	IR	Greenstone	2.78	446.53	160.83	Complete	Replace cutouts. Install faulted circuit indicators.
CRF51	IR	Crystal Falls	2.70	180.64	66.85	Complete	Replace cutouts. Install faulted circuit indicators, fusing to CSP transformers and wildlife protection. Forestry spot trim.
18252	SEW	Mount Calvary	2.69	278.72	103.65	Complete	Forestry spot trims.
5120	FV	City Limits 34.5	2.61	57.05	21.87	Complete	Install faulted circuit indicators and wildlife protection.
GRS2	IR	Greenstone	2.43	280.38	115.30	Q2 13	Replace surge arresters. Move surge arresters to transformers. Install tap fuses and wildlife protection. Forestry spot trim.
17661	SEW	Viewport	2.37	149.79	63.13	Q2 13	Replace insulators. Install faulted circuit indicators and tap fuses. Forestry spot trim.
7851	SEW	Greendale	2.33	268.69	115.39	Q2 13	Replace crossarm, cutouts, insulators, surge arresters, switches and u-guards. Install faulted circuit indicators, tap fuses and wildlife protection. Full forestry trim.
LOL1	IR	Land O Lakes	2.32	257.23	110.66	Complete	Replace cutouts and insulators. Install wildlife protection.
37282	SEW	Deerfield	2.31	309.46	133.82	Q2 13	Full forestry trim.
4591	SEW	Ninety-sixth Street	2.26	204.65	90.72	Complete	1 outage due to insulator failure. 2 outages due to cable failures. 1 outage due to tree growth. Repairs complete at time of outage.
72461	SEW	Chenequa	2.24	667.07	297.34	Complete	2 outages due to overload conditions. Load moved to alternate phases. 1 outage due to cable failure. 1 outage due to major storm. Repairs complete at time of outages.
VIN53	FV	Vine	2.22	233.92	105.32	Complete	Full forestry trim.
36553	SEW	Springbrook	2.19	166.54	76.14	Complete	2 outages due to public-vehicle. Repairs complete at time of outages.
9371	SEW	Kenosha	2.18	103.76	47.67	Complete	Replace surge arresters and wildlife protection. Move surge arresters to transformers. Tighten hardware. Install tap fuses and wildlife protection. Forestry spot trim
48351	SEW	Shirley	2.16	290.00	133.96	Q2 13	Replace cutouts, insulator, surge arresters and switches. Move surge arresters to transformers. Replace goathead construction with crossarm construction. Replace pole and rebuild main line riser. Pull slack out of primary. Install wildlife protection, surge arresters, tap fuse and u-guard. Forestry spot trim.
77389	SEW	Mukwonago	2.12	282.73	133.56	Complete	Replace jumper, surge arresters and u-guard. Move surge arresters to transformers. Install wildlife protection.
62873	SEW	Shorewood	2.10	161.11	76.59	Q3 13	Replace crossarm, cutouts, surge arresters and transformer. Install wildlife protection. Full forestry trim.
19552	SEW	Goodrich	2.10	175.90	83.86	Complete	Replace cutouts, insulators, surge arresters and transformer. Install wildlife protection.
3255	SEW	Lincoln 13.2	2.09	233.89	111.75	Q2 13	Replace cutouts, insulators and surge arresters. Install wildlife protection.
46251	SEW	Center	2.07	348.53	168.40	Q2 13	Tighten loose hardware. Install wildlife protection. Full forestry trim.
9394	SEW	Kenosha	2.05	253.42	123.48	Complete	Replace surge arresters. Move surge arresters to transformer. Repair u-guard. Reinstall improperly applied wildlife protection. Install faulted circuit indicators and wildlife protection.

**We Energies Y2012 Worst Performing Circuits
Per PSC 113.0604 (2b) and (2c)**

Attachment B

Circuit	Operating Area	Substation	SAIFI*	SAIDI*	CAIDI*	Completion Target Date	Corrective Action
52663	SEW	Mallory	2.05	156.58	76.32	Complete	Replace crossarms, cutout, ground wire, insulator, surge arresters and transformer. Install faulted circuit indicators and wildlife protection.
RCH52	FV	Richmond Street	2.03	102.14	50.24	Complete	Replace cutouts, surge arresters and transformers. Move surge arresters to transformers. Install faulted circuit indicators, fusing to CSP transformer and wildlife protection. Forestry spot trim.
20851	SEW	Northridge	2.03	225.35	111.09	Complete	Installed faulted circuit indicators.
774	SEW	Port Washington	2.03	305.69	150.86	Q2 13	Perform multiple feeder patrols. Install tap fuses. Forestry spot trim.
64551	SEW	Shepard	2.02	134.67	66.66	Complete	Replace crossarms, cutouts, surge arresters, switches, transformer and transformer bolted connector. Repair ground wire. Move surge arresters to transformer. Install wildlife protection.
77884	SEW	Root River	2.01	147.74	73.44	Complete	Replace surge arresters. Repair crossarm. Install faulted circuit indicators and wildlife protection. Forestry spot trim.
82887	SEW	Cottonwood	2.01	178.01	88.73	Q2 13	Replace surge arresters. Install faulted circuit indicators, tap fuse and wildlife protection. Forestry spot trim.
783	SEW	Port Washington	2.00	168.29	83.96	Complete	Replace crossarms, insulators and surge arresters. Install wildlife protection.
25671	SEW	Air Liquide	2.00	2203.00	1101.50	Complete	2 outages due to cable failures. Repairs complete at time of outages.
MPC4	FV	Maple Creek	1.14	770.19	673.69	Complete	Multiple outages due to major storm. Repairs complete at time of outages. Install faulted circuit indicators. Forestry spot trim.
72462	SEW	Chenequa	1.97	735.42	373.91	Complete	1 outage due to cable failure. 1 outage due to major storm. Repairs complete at time of outages.
9271	SEW	Greenfield	1.07	465.71	433.92	Q2 13	1 outage due to tree growth. 2 outages due to major storms. Repairs complete at time of outages. Forestry spot trim.
9851	SEW	Parkway	1.02	415.08	408.69	Complete	1 outage due to insulator failure. Repairs complete at time of outage. Replace insulators.
19162	SEW	Fort Atkinson 8.32	1.63	401.31	245.99	Complete	1 outage due to cable failure. Repairs complete at time of outage.
6674	SEW	Jefferson	1.22	400.15	327.77	Complete	1 outage due to fallen tree. Repairs complete at time of outage.
SAG52	IR	Sagola	1.58	399.12	252.64	Q2 13	Replace cutouts. Install faulted circuit indicators and wildlife protection. Forestry spot trim.
13761	SEW	Eagle	1.87	366.57	196.54	Complete	Replace cutouts, surge arresters and switches. Install wildlife protection.
32061	SEW	Prospect	1.96	365.69	186.50	Complete	1 outage due to public vehicle. 1 outage due to connector. 1 outage due to lightning. Repairs complete at time of outages.
5760	FV	White Clay 34.5	2.00	344.60	172.30	Complete	Install faulted circuit indicators. Full forestry trim in 2012.
40353	SEW	Delafield	0.92	332.70	361.01	Q3 13	Rebuild of feeder due to road-widening project. Install faulted circuit indicators.
79681	SEW	Cedarsauk	1.00	322.83	321.58	Complete	1 outage due to fallen tree during major storm. Repairs complete at time of outage.
9993	SEW	Arcadian	1.01	318.36	315.25	Q3 13	Full Forestry trim.
7166	SEW	Westown	0.98	317.80	323.00	Complete	1 outage due to public vandalism. 1 outage due to operator error. Repairs complete at time of outages.
7472	SEW	Cameron	1.03	314.14	306.32	Complete	1 outage due to fallen limb during major storm. Repairs complete at time of outage.
73573	SEW	Sixty-eighth Street	0.78	312.53	403.00	Complete	1 outage due to cable failure. Repairs complete at time of outage.
22162	SEW	Lomira	1.71	309.16	181.15	Q2 13	Replace surge arresters. Install wildlife protection. Forestry spot trim.
11674	SEW	Fiebrantz	1.35	305.57	226.07	Q2 13	Install faulted circuit indicators.
24161	SEW	La Belle	1.59	302.59	190.04	Q2 13	Full Forestry trim.
27097	SEW	Stoney Brook	0.97	297.75	307.66	Complete	1 outage due to fallen tree. Repairs complete at time of outage.
21851	SEW	Pewaukee	1.63	291.50	178.46	Complete	Full forestry trim.
46262	SEW	Center	0.99	287.19	289.08	Complete	Replace connectors, cutouts, ground wire and surge arresters. Install wildlife protection.

**We Energies Y2012 Worst Performing Circuits
Per PSC 113.0604 (2b) and (2c)**

Attachment B

Circuit	Operating Area	Substation	SAIFI*	SAIDI*	CAIDI*	Completion Target Date	Corrective Action
45562	SEW	West Junction 13.2	1.09	281.38	259.13	Q2 13	Replace connectors, cutouts, ground wire, insulators, and surge arresters. Install faulted circuit indicators and wildlife protection. Forestry spot trim.
WAK52	FV	Waukechon	1.08	279.26	257.62	Complete	Multiple outages due to major storm. Repairs complete at time of outages.
5740	FV	White Clay 34.5	1.99	270.49	135.95	Q2 13	Multiple outages due to 2 major storms. Repairs complete at time of outages. Full forestry trim.
33582	SEW	Butternut	1.74	269.86	155.02	Complete	Replace cutout and surge arrester. Install wildlife protection.
5972	SEW	Wildwood	1.48	268.06	181.22	Q3 13	Replace cutouts, insulators and surge arresters. Install faulted circuit indicators. Full forestry trim.
10352	SEW	Eden	1.99	266.21	133.51	Q2 13	Replace surge arresters. Install faulted circuit indicators, tap fuses and wildlife protection. Forestry spot trim.
7953	SEW	Medford	1.34	263.11	196.73	Q2 13	Full forestry trim.
TWL51	IR	Twin Lake	0.69	261.06	379.14	Complete	Replace crossarm, cutouts, insulator and faulted circuit indicator. Install faulted circuit indicators. Forestry spot trim.
53453	SEW	Calhoun	1.01	260.87	258.61	Complete	Install faulted circuit indicators.
16462	SEW	Grafton	0.87	260.11	298.71	Complete	Replace primary jumper. Install faulted circuit indicators and tap fuses.
21062	SEW	Barton 8.32	0.80	259.59	322.65	Complete	Install faulted circuit indicators.

**We Energies ANNUAL RELIABILITY REPORT-
PRIOR YEARS' ACCOMPLISHMENTS
PER PSC 113.0604 (2d)**

PSC 113.0604 (2d): "A report on the accomplishment of the improvements proposed in prior reports for which completion has not been previously reported."

The attached report describes the accomplishment of the improvements/corrective actions that were performed on the circuits listed last year per PSC 113.0604 (2b) that were not previously reported as complete.

**We Energies Y2011 Worst Performing Circuits
Per PSC 113.0604 (2d)**

Attachment C

*Reliability Indices are based on filtered data from 10/10 through 9/11

Circuit	Operating Area	Substation	SAIFI*	SAIDI*	CAIDI*	Completion Target Date	Corrective Action
WNC61	FV	Winneconne	4.046	282.9	69.9	Completed Q2 12	Install faulted circuit indicators and wildlife protection. Replace cutouts and surge arresters. Full forestry trim.
NCH51	FV	Nichols	3.229	284.4	88.1	Completed Q2 12	Install wildlife protection. Replace cutouts and surge arresters. Full forestry trim.
WST4	FV	Western Avenue	2.359	227.3	96.4	Completed Q4 12	Replace station cables.
LPK52	FV	Lake Park	2.147	31.9	14.8	Completed Q3 12	1 outage due to failed cutout. Repairs complete at time of outage. Full forestry trim.
RDF3	FV	Readfield	2.142	486.2	227.1	Completed Q4 12	Install tap fuse and wildlife protection. Replace cutouts and surge arresters. Full Feeder trim.
ARA51	IR	Aragon	4.581	335.7	73.3	Completed Q2 12	Install tap fuses. Replace cutout and surge arresters.
LOL3	IR	Land O Lakes	3.757	186.5	49.6	Completed Q2 12	Replace crossarms, recloser and surge arrester.
ARA52	IR	Aragon	2.953	253.8	86.0	Completed Q2 12	Full forestry trim.
SBH1	IR	Strawberry Hill	2.921	777.5	266.2	Completed Q2 12	Full forestry trim.
WSM1	IR	Watersmeet	2.206	6.9	3.1	Completed Q2 12	Full forestry trim.
BAS51	IR	Bass Lake	2.141	263.7	123.2	Completed Q2 12	Install tap fuse. Replace cutouts and surge arresters. Forestry spot trim. Please note: Feeder patrolled by forestry. No follow-up work identified.
72451	SEW	Chenequa	4.432	243.8	55.0	Completed Q3 12	Install wildlife protection. Replace cutout and surge arresters. Full forestry trim.
5262	SEW	Silver Lake	4.250	106.6	25.1	Completed Q2 12	Replace cutouts and surge arresters. Replace pole, cutout and transformer. Move surge arresters to transformers. Full feeder trim.
4484	SEW	Whitewater	4.187	345.4	82.5	Completed Q2 12	Forestry spot trim.
22452	SEW	Knellsville	4.030	159.4	39.5	Completed Q2 12	Install faulted circuit indicators and wildlife protection. Replace insulator, cutouts and surge arresters. Forestry spot trim.
30963	SEW	Sowauk	3.940	154.1	39.1	Completed Q2 12	No work required. 1 outage due to cable failure. 1 outage due to tree trimmer. Repairs complete at time of outages. Full forestry trim.
3965	SEW	Mequon	3.291	76.3	23.2	Completed Q2 12	No work required. 1 outage due to fallen tree. 1 outage due to cable dig-in. 1 outage due to cable failure. Repairs complete at time of outages. Full forestry trim.
7872	SEW	Greendale	3.259	137.8	42.3	Completed Q2 12	Install faulted circuit indicators, fuses, surge arresters and wildlife protection. Replace insulators, cutouts, transformer and surge arresters. Full feeder trim.
7981	SEW	Medford	3.053	220.4	72.2	Completed Q2 12	Install wildlife protection and fuses. Replace cutouts and surge arresters. Forestry spot trim.
2697	SEW	Germantown	3.012	198.5	65.9	Completed Q2 12	Install wildlife protection. Forestry spot trim.
72462	SEW	Chenequa	2.847	328.5	115.4	Completed Q2 12	Install wildlife protection and surge arresters.
2682	SEW	Germantown	2.529	94.9	37.5	Completed Q2 12	Install wildlife protection. Replace crossarms and surge arresters. Forestry spot trim.
28651	SEW	Waldo	2.321	270.9	116.7	Completed Q3 12	Install faulted circuit indicators and wildlife protection. Replace cutouts and surge arresters. Full forestry trim.
7961	SEW	Medford	2.239	181.4	81.0	Completed Q2 12	Install wildlife protection. Replace cutouts and surge arresters. Forestry full trim.
22794	SEW	Moorland	2.219	78.7	35.4	Completed Q2 12	Install tap fuse and wildlife protection. Replace surge arresters. Forestry spot trim.
33982	SEW	Spring Valley	2.192	138.3	63.1	Completed Q2 12	Install faulted circuit indicators and wildlife protection. Replace crossarms, switches, insulators, cutouts and surge arresters. Forestry spot trim. Please note: Feeder patrolled by forestry. No follow-up work identified.
45552	SEW	West Junction 13.2	2.155	104.7	48.6	Completed Q2 12	Install faulted circuit indicators. Forestry spot trim.
2681	SEW	Germantown	2.145	79.3	37.0	Completed Q2 12	Install wildlife protection. Replace surge arresters. Full forestry trim.

**We Energies ANNUAL RELIABILITY REPORT-
NEW RELIABILITY PROGRAMS
PER PSC 113.0604 (2e)**

PSC 113.0604 (2e): “A description of any new reliability or power quality programs and changes that are made to existing programs”

In addition to the program to address the worst performing circuits as described in PSC 113.0604 sections (2b) and (2c), the following reliability programs were undertaken in 2012:

- Circuits that were addressed as part of previous years’ worst performing circuit programs, and did not improve to acceptable levels of performance were reexamined and will be addressed as part of the 2013 worst performing circuit program.
- Used enhanced lightning protection techniques developed in 2000, animal abatement measures developed in 2001, remediation options for identified equipment failure items as developed in 2002, Faulted Circuit Indicator (FCI) deployment strategies as developed in 2003, new wildlife protection measures developed in 2005 and 2006, application of elbow surge arresters developed in 2007, and mainline riser pole hardening techniques developed in 2009, cutout inspection and storm damage patrols developed in 2010, and applied them to susceptible feeders as part of the 2012 worst performing circuit program.
- Continued a strategic cable replacement program and replaced 92 miles of cable.
- Continued program to replace porcelain cutouts at risk of failure.
- Continued to use customer-level outage data to identify problem areas and remediate as appropriate, and to address localized reliability problems based on customer input.
- Continued to improve the outage management process, including weekly stand-up meetings during summer storm season, follow up on action items derived from 2012 storm debriefs, and deploying enhancements to the Outage Management System.
- Expanded the use of infrared scanning as a tool for inspection of distribution feeder equipment.
- Reviewed past reliability programs to quantify their success.

**STATUS OF We Energies' LONG RANGE DISTRIBUTION PLANS
PSC 113.0604(2f)**

PSC 113.0604(2f): "A status report of any long range electric distribution plans."

4 kV: Serves various areas throughout the service territory but is primarily located within the Milwaukee County and Appleton/Neenah areas. Plans for this system include eventual elimination through gradual conversion to 12 kV, 13 kV, and 25 kV voltage levels. Periodic reviews of remaining facilities are made to determine the order of retirement and to schedule appropriate construction projects.

8 kV: Serves residential and small commercial customers in the southeast Wisconsin area. Plans for this system include continued management of load growth through targeted conversion to the 25 kV voltage level. In general, no major expansion of the 8 kV system is planned. A high level review of the 8 kV system was completed in 2009. Priorities for targeted system renewal and conversion/retirement have been identified for the 2010-2030 time period.

12 kV: The current and future voltage level for service to residential, commercial, and light industrial customers in the Fox Valley area. New capacity will be added as needed to provide for new load, retirement of aging facilities, and conversion of 4 kV substations and feeders. Annual reviews of the capacity needs for this system are performed to schedule appropriate construction projects.

13 kV: The current and future voltage level for service to residential, commercial, and light industrial customers in eastern Milwaukee County, the Milwaukee Regional Medical Center, and the area in and around Iron Mountain, Michigan. A portion of this system operates as a subtransmission system. New capacity will be added as needed to provide for new load and conversion of 4 kV substations and feeders. Annual reviews of the capacity needs for this system are performed to schedule appropriate construction projects.

25 kV: The current and future voltage level for service to all classes of customers in the southeast Wisconsin and the Michigan service areas. New capacity will be added as needed to provide for new load, reduction of line exposure reliability concerns, and conversion of lower voltage substations and feeders. Annual reviews of the capacity needs for this system are performed to schedule appropriate construction projects.

26 kV: This subtransmission system serves large commercial and industrial customers and lower voltage distribution substations in the Milwaukee area. Annual reviews of the capacity needs for this system are performed to schedule appropriate construction projects.

35 kV: This subtransmission system is the current and future voltage level serving large industrial customers and lower voltage distribution substations in the Fox Valley area. New capacity will be added as needed to provide for new load and retirement of aging facilities. Annual reviews of the capacity needs for this system are performed to schedule appropriate construction projects.

**We Energies ROUTE MILES OF ELECTRIC DISTRIBUTION REBUILT DURING 2012
PSC 113.0604(3a)**

PSC 113.0604(3a): "Route miles of electric distribution line reconstructed during the year. Separate totals for single-and three-phase circuits shall be provided."

	Miles of Line		
	Projects	Annual Orders*	Total
Single Phase	207	42	249
Three Phase	230	46	276
Total	437	88	525

* Data on miles of lines rebuilt is not available for work performed under annual orders. Number of man-hours and total costs expended on annual orders is approximate spending on Projects. It is assumed that labor productivity is lower on annual orders due to increased travel time and increased equipment set up time. A significant portion of annual orders is for new services rather than line rebuild. An estimate for miles of line rebuilt on the annual orders is approximately 20% of the special project work.

We Energies DISTRIBUTION LINE IN SERVICE 2012
PSC 113.0604(3b)

PSC 113.0604(3b): “Total route miles of electric distribution line in service at year’s end, segregated by voltage level.”

Total route miles (does not include abandoned or non-operating line segments):

<u>Voltage Level</u>	<u>Miles</u>
3.81 kV	150
4.16 kV	506
6.9 kV	55
8.32 kV	10,045
12.47 kV	4,454
13.2 kV	1,359
13.8 kV	765
24.9 kV	12,429
26.4 kV	161
34.5 kV	469
Primary Total	30,392
Secondary Total	26,415
Grand Total	56,807

We Energies Monthly Performance Statistics for 2012
Customer Contact Center (CCC)

PSC 113.0604(3)(c) Attachment H

	January	February	March	April	May	June	July	August	September	October	November	December	Total
Total CCC Inbound Calls*													
Offered	168,116	174,019	228,352	293,679	283,132	283,749	338,825	311,761	287,623	306,148	189,312	190,808	3,055,524
Abandoned	8,433	6,548	9,424	17,863	18,094	18,150	24,797	20,290	22,512	20,478	11,380	14,589	192,558
Handled	159,683	167,471	218,928	275,816	265,038	265,599	314,028	291,471	265,111	285,670	177,932	176,219	2,862,966
Average Wait (sec.) - All Calls	50	28	21	56	33	45	51	53	66	62	42	40	46
Average Wait (sec.) - Rep Calls	54	38	30	78	46	60	74	69	89	79	53	64	61
Number of Emergency Calls**	1,488	1,067	2,660	1,407	2,844	2,230	4,119	1,631	1,823	1,550	1,076	3,613	25,508
Total Queuing Time (sec.)	41,591	26,898	233,560	58,722	142,788	54,548	230,265	38,657	66,539	30,666	25,609	245,342	1,195,185
Average Wait (sec.) Emer. Calls	28	25	88	42	50	24	56	24	36	20	24	68	47

Storm/High Winds
3/2
Storms/High Winds
5/15
5/24-25
5/29
Storms
7/25-26
Snowstorm/High Winds
12/20-21

*Residential, Small Business, Large Business, Telecollections, Outage, Emergency, IVR

**Emergency, Fire/Police

We Energies
WI Admin. Code PSC 113.0604(3)(d)
New Service Installation Report 2012
Electric Only

Attachment I

Total Electric			
	Total	On time	% On Time
January	209	209	100.00%
February	175	175	100.00%
March	170	170	100.00%
April	186	186	100.00%
May	284	284	100.00%
June	283	283	100.00%
July	287	287	100.00%
August	350	350	100.00%
September	344	344	100.00%
October	409	409	100.00%
November	351	351	100.00%
December	302	302	100.00%
Total	3,350	3,350	100.00%

Avg Days to Install New Electric Service in 2012			
	Permanent Services	Temporary Services	Total
January	13.5	5.9	13.0
February	12.3	6.6	11.9
March	13.5	4.4	12.9
April	13.9	4.2	12.9
May	12.8	3.2	12.1
June	9.7	2.0	9.2
July	14.1	5.9	13.6
August	10.8	7.8	10.6
September	10.9	2.6	10.5
October	10.3	4.0	10.0
November	12.5	9.3	12.4
December	12.2	5.7	12.0
Total	12.0	5.0	11.6

2012 Escalated PSCW & Executive Complaints

2012 Escalated PSCW & Executive Complaints

Attachment J
PSC 113.0604 (3) e

	Billing/Metering					Credit/Collections					Field Operations					Outage/Power Quality					Safety					TOTALS				
	Elec Only	"WE" Gas Only	"WG" Gas Only	Combined	Total	Elec Only	"WE" Gas Only	"WG" Gas Only	Combined	Total	Elec Only	"WE" Gas Only	"WG" Gas Only	Combined	Total	Elec Only	"WE" Gas Only	"WG" Gas Only	Combined	Total	Elec Only	"WE" Gas Only	"WG" Gas Only	Combined	Total	Elec Only	"WE" Gas Only	"WG" Gas Only	Combined	Total
January	5	0	2	7	14	5	0	1	20	26	2	0	1	3	6	0	0	0	2	2	0	0	0	0	0	12	0	4	32	48
February	2	0	0	17	19	4	0	1	27	32	3	0	0	0	3	1	0	0	1	2	0	0	0	0	0	10	0	1	45	56
March	5	1	5	10	21	4	0	1	34	39	1	0	2	1	4	0	0	0	0	0	0	0	0	0	10	1	8	45	64	
April	1	0	0	9	10	15	1	4	137	157	1	1	1	1	4	1	0	0	0	1	0	0	0	0	18	2	5	147	172	
May	3	0	2	6	11	20	1	3	192	216	4	1	2	4	11	1	0	0	0	1	0	0	0	0	28	2	7	202	239	
June	3	1	3	6	13	26	5	6	233	270	3	0	0	2	5	1	0	0	0	1	0	0	0	0	33	6	9	241	289	
July	3	0	3	13	19	30	0	2	177	209	1	1	0	0	2	0	0	0	0	0	0	0	0	0	34	1	5	190	230	
August	5	1	3	3	12	37	1	2	202	242	4	0	0	1	5	3	0	0	0	3	0	0	0	0	49	2	5	206	262	
September	6	2	3	4	15	35	1	4	186	226	1	0	0	0	1	1	0	0	0	1	0	0	0	0	43	3	7	190	243	
October	8	0	1	8	17	44	1	7	232	284	1	0	1	1	3	1	0	0	1	2	0	0	0	0	54	1	9	242	306	
November	7	1	1	8	17	9	0	4	83	96	4	0	3	0	7	0	0	0	0	0	0	0	0	0	20	1	8	91	120	
December	3	1	3	11	18	2	0	2	11	15	2	0	1	1	4	1	0	0	1	2	0	0	0	0	8	1	6	24	39	
TOTAL 2012	51	7	26	102	186	231	10	37	1,534	1,812	27	3	11	14	55	10	0	0	5	15	0	0	0	0	319	20	74	1,655	2,068	



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Public Service Commission of Wisconsin
RECEIVED: 05/01/08, 4:31:19 PM

May 1, 2008

Ms. Sandra J. Paske
Secretary to the Commission
Public Service Commission of Wisconsin
610 N Whitney Way
Madison Wisconsin 53707

**RE: Wisconsin Power and Light Company
PSC 113.0604, Annual Reliability Performance**

05-GF-113

Dear Ms. Paske:

Please find included with this letter, Wisconsin Power and Light Company's errata filing of its 2008 report of Annual Reliability Performance pursuant to PSC 113.0604 correcting information located on page 3 of this report.

If you have any questions regarding this filing please contact Jennifer Harrington at (608) 458-3075 or via email at JenniferHarrington@alliantenergy.com.

Sincerely,

/s/Sharolyn D. Heiser

Sharolyn D. Heiser
Regulatory Planning Associate

Wisconsin Power and Light Company

PSCW 113 Section 0604 Report
2008 Data

April 30, 2009

Table of Contents

PSCW 113.0604 2a) Overall Reliability	3
PSCW 113.0604 2b) 5% Worst Performing Circuits.....	4
PSCW 113.0604 2c) Alternative Criteria.....	5
PSCW 113.0604 2b) 5% Worst Performing Circuits (cont)	6
PSCW 113.0604 2d) Accomplishment of Improvements in Prior Reports	28
PSCW 113.0604 2e) New Reliability or Power Quality Programs	33
PSCW 113.0604 2f) Long Range Electric Distribution Plans	33
PSCW 113.0604 3a) Miles Reconstructed by Phase	33
PSCW 113.0604 3b) Total Miles by Voltage Level.....	33
PSCW 113.0604 3c) Monthly Average Speed of Answer for Calls	34
PSCW 113.0604 3d) Average Number Days to Install and Energize a New Service	36
PSCW 113.0604 3e) Total Number of Customer Complaints	37
PSCW 113.0604 3f) Total Annual Tree Trimming Budget and Actual Expenses.....	38
PSCW 113.0604 3g) Total Annual Miles of Line Tree Trimmed.....	38

PSCW 113.0604 2a) Overall Reliability

	2008		
Zone	SAIFI (hrs)	SAIDI (hrs)	CAIDI (hrs)
Baraboo	2.20	5.85	2.66
Beaver Dam	0.80	2.44	3.07
Beloit	0.47	1.03	2.18
Berlin	1.22	1.90	1.55
Elkhorn	1.18	2.33	1.98
Fond du Lac	1.09	1.87	1.72
Janesville	0.83	1.17	1.40
Mineral Point	1.19	2.00	1.68
Portage	1.96	4.69	2.40
Stoughton	0.80	1.19	1.48
Verona	1.02	1.01	0.99
Wautoma	1.13	1.46	1.29
Wisconsin Rapids	0.38	0.61	1.59
2008 All WPL Total	1.10	2.12	1.84
Average of 2002 – 2007	1.11	1.88	1.63
WPL Total 2007	1.18	1.92	1.55
WPL Total 2006	0.92	1.92	1.64
WPL Total 2005	1.09	2.15	1.97
WPL Total 2004	0.97	1.63	1.69
WPL Total 2003	1.14	1.46	1.28
WPL Total 2002	1.35	2.21	1.64

PSCW 113.0604 2b) 5% Worst Performing Circuits

The following table is a summary of the 5% worst performing circuits for Wisconsin Power and Light (WPL). The circuits were ranked using an alternative method, described in section 2c) Alternative Criteria. Detailed analysis of the performance of each circuit follows the explanation of the selection criteria.

5% Worst Performing Circuits

<u>Zone</u>	<u>Circuit ID</u>	<u>Sub</u>	<u>Zone</u>	<u>Circuit ID</u>	<u>Sub</u>
Baraboo	BARB81	BAR	Fond du Lac	NFLP351	NFL
Dane County	BEEN6280	BEE	Fond du Lac	NFLP411	NFL
Dane County	CAMN5164	CAM	Fond du Lac	NFLP442	NFL
Beloit	CBSM2245	CBS	Fond du Lac	NFLP746	NFL
Beaver Dam	DADE1464	DAD	Fond du Lac	NOSS1607	NOS
Beaver Dam	DADE909	DAD	Baraboo	OKEB482	OKE
Fond du Lac	ESSP1670	ESS	Baraboo	PDSB1040	PDS
Baraboo	HAMC1076	HAM	Beaver Dam	PLDD752	PLD
Fond du Lac	HISP2116	HIS	Berlin	PLRD1229	PLR
Baraboo	ISLB445	ISL	Baraboo	PTEC167	PTE
Mineral Point	LDSK687	LDS	Baraboo	REEB682	REE
Fond du Lac	LGVP2318	LGV	Baraboo	RIOC409	RIO
Baraboo	LHMB783	LHM	Beloit	SODM2193	SOD
WI Rapids	LYSA497	LYS	Mineral Point	TROB1293	TRO
Baraboo	MASC1107	MAS	Baraboo	TROB1294	TRO
Baraboo	MASC464	MAS	Beloit	TURJ534	TUR
Dane County	MOHN1077	MOH	Beloit	TWLM1653	TWL
Dane County	MOHN1081	MOH	Beloit	WIBM2556	WIB
Janesville	MONN2044	MON	Beloit	WIBM2557	WIB
Beaver Dam	MOOE594	MOO	Berlin	WIND565	WIN
Baraboo	NCKE934	NCK	Beloit	ZENM1231	ZEN

PSCW 113.0604 2c) Alternative Criteria

WPL uses this process to identify only feeders whose reliability performance might be improved by WPL action. Distribution feeder performance outages due to circumstances beyond WPL's control or outages that may not reflect the physical condition of the equipment have been excluded from the analysis.

The types of events excluded from this analysis are:

- Planned interruptions,
- Interruptions caused by the failure of another utility's transmission or distribution system which feeds the WPL distribution system,
- Interruptions caused by the public, such as vehicle accidents, customers dropping tree-limbs in lines while trimming, etc.
- Interruptions caused by personnel errors such as switching errors or accidental contact during live utility work.

A circuit's ranking is based on the sum of all the duration points and frequency points for every customer served by the circuit. Points for a customer are calculated as detailed below based on individual reliability experience during the year.

If a customer experiences zero or one interruption in the calendar year, no points are assigned. For customers with two or more interruptions, each interruption is assigned a duration point value based on its length as shown in the table below. Additionally, each individual customer is assigned a point value based on the number of times their service was interrupted due to qualifying outages. The frequency points rise exponentially as the number of occurrences increases as shown on the following table.

Duration Scoring

<u>Duration</u>	<u>Points</u>
Outage less than 1 hr duration	1
Outage between 1 and 3 hr duration	2
Outage between 3 and 6 hr duration	3
Outage between 6 and 12 hr duration	4
Outage between 12 and 24 hr duration	5
Outage over 24 hr duration	6

Frequency Scoring

<u>Number of Outages</u>	<u>Points</u>	<u>Number of Outages</u>	<u>Points</u>
1	0	6	35
2	1	7	70
3	4	8	150
4	8	9	300
5	16	10 or more	500

For example, a customer with four outages, each less than one hr duration, would score four points for duration and eight points for frequency—a total of twelve points.

This method allows WPL to target circuits with pockets of customers with poorer reliability which might not be indicated by the SAIDI or SAIFI of a circuit with a large customer count.

PSCW 113.0604 2b) 5% Worst Performing Circuits (cont)

Circuit ID	BARB81		
Distribution Engineer	Pernsteiner	SAIDI	101.35
Zone	Baraboo	SAIFI	1.42
Customer Count	1296	CAIDI	71.19

Root Cause

This circuit experienced 131,345 customer outage minutes for 2008. The percent of outages by cause are as follows:

Animal	Equipment	Lightning	Other	Tree	Unknown	Weather
27%	25%	22%	0%	20%	4%	2%

SADI and SAIFI performance is acceptable; however, even after adding wild life protection to the riser, fuse B1239 has still had nine outages during 2008. The transformer located on this pole provides a platform for squirrels and needs to be moved. This circuit was on the worst performing list for 2006 and 2008 due to trees and animals mostly on fuse B 1239.

This circuit is currently scheduled to be trimmed in 2009. 19 of 54 outages were tree related.

Solution/Action

Move transformer on riser pole B1239 to pole 43/52.

Justification for No Additional Action

N/A

Circuit ID	BEEN6280		
Distribution Engineer	Batson	SAIDI	162.41
Zone	Dane County	SAIFI	2.07
Customer Count	864	CAIDI	78.39

Root Cause

This circuit experienced 140,321 customer outage minutes for 2008. The percent of outages by cause are as follows:

Animal	Equipment	Lightning	Other	Tree	Unknown	Weather
23%	23%	23%	0%	3%	20%	7%

Substation recloser lock-outs are the primary reason for high customer outage minutes on this circuit. There were two substation recloser outages, both of unknown cause, one during windy weather and the other in clear weather. These accounted for 134,400 of the 140,321 customer outage minutes.

Solution/Action

This circuit will be tree trimmed in 2009. If this circuit continues to experience outages of unknown cause, we will install faulted circuit indicators to identify the problem area.

Justification for No Additional Action

This is the final report.

Circuit ID	CAMN5164		
Distribution Engineer	Batson	SAIDI	271.14
Zone	Dane County	SAIFI	2.99
Customer Count	1727	CAIDI	90.75

Root Cause

This circuit experienced 468,265 customer outage minutes for 2008. The percent of outages by cause are as follows:

Animal	Equipment	Lightning	Other	Tree	Unknown	Weather
13%	23%	15%	0%	38%	13%	0%

Substation recloser lock-outs are the primary reason for high customer outage minutes on this circuit. There were three substation recloser outages, the largest was caused by a failed switch, the second had an unknown cause, and the third cause was caused by a failed arrester. These accounted for 440,177 of the 468,265 customer outage minutes.

Solution/Action

The failed equipment was replaced at time of the outage.

The majority of this main feeder has been rebuilt in the last 5 years. The two equipment outages were on an older section of line and the equipment was replaced at the time of the outage.

Justification for No Additional Action

This is the final report.

Circuit ID	CBSM2245		
Distribution Engineer	Kueng	SAIDI	103.48
Zone	Beloit	SAIFI	1.27
Customer Count	975	CAIDI	81.36

Root Cause

This circuit experienced 100,888 customer outage minutes for 2008. The percent of outages by cause are as follows:

Animal	Equipment	Lightning	Other	Tree	Unknown	Weather
8%	15%	31%	0%	8%	31%	8%

Three major outages caused 90,121 of the customer outage minutes. The first was unknown. The second was also unknown but the resulting fault burnt open a main line jumper. The third was caused by the need to fix the second outage where the recloser at the substation was opened to repair the failed jumper.

Solution/Action

Review and modify as needed the substation breaker settings to the Alliant Energy standard settings. Review increasing the open times between reclose operations to mitigate the possibility that temporary faults are turning into permanent outages due to fault condition galloping.

Justification for No Additional Action

N/A

Circuit ID	DADE909		
Distribution Engineer	Damyen	SAIDI	348.59
Zone	Beaver Dam	SAIFI	2.36
Customer Count	729	CAIDI	147.66

Root Cause

This circuit experienced 254,124 customer outage minutes for 2008. The percent of outages by cause are as follows:

Animal	Equipment	Lightning	Other	Tree	Unknown	Weather
4%	38%	21%	0%	33%	4%	0%

Storms with winds causing tree contacts are the causes for the majority of the outages. The exposure on this circuit is high and the performance can be improved by increased sectionalizing. Feeder DADE909 is scheduled for tree trimming in 2011 which will improve reliability.

Solution/Action

A three-phase recloser will be installed midway on Feeder DADE909. This action will reduce exposure to outages located on the second half of the distribution feeder.

Justification for No Additional Action

N/A

Circuit ID	DADE1464		
Distribution Engineer	Damyen	SAIDI	281.89
Zone	Beaver Dam	SAIFI	2.33
Customer Count	766	CAIDI	120.90

Root Cause

This circuit experienced 215,925 customer outage minutes for 2008. The percent of outages by cause are as follows:

Animal	Equipment	Lightning	Other	Tree	Unknown	Weather
35%	15%	9%	0%	38%	3%	0%

The substation recloser operated twice during storms with high winds that blew tree limbs onto the lines. These storms occurred in February and April. These two outages accounted for 69% of the customer outage minutes on this circuit. Tree trimming was completed on this circuit in May 2008. This feeder is scheduled for tree trimming in 2011.

Solution/Action

Justification for No Additional Action

The majority of the outage minutes were related to tree limbs on the line. Tree trimming has been completed.

This is the final report.

Circuit ID	ESSP1670		
Distribution Engineer	Warntjes	SAIDI	157.76
Zone	Fond du Lac	SAIFI	1.26
Customer Count	1930	CAIDI	124.94

Root Cause

This circuit experienced 304,481 customer outage minutes for 2008. The percent of outages by cause are as follows:

Animal	Equipment	Lightning	Other	Tree	Unknown	Weather
6%	44%	25%	0%	14%	8%	3%

The majority of the outage minutes on this circuit were caused by failing equipment on the main feeder trunk.

Solution/Action

A rebuild project has been developed for a segment of the main feeder trunk. This project is approved and waiting to be released for construction.

Justification for No Additional Action

N/A

Circuit ID	HAMC1076		
Distribution Engineer	Pernsteiner	SAIDI	213.25
Zone	Baraboo	SAIFI	1.37
Customer Count	1303	CAIDI	155.23

Root Cause

This circuit experienced 277,867 customer outage minutes for 2008. The percent of outages by cause are as follows:

Animal	Equipment	Lightning	Other	Tree	Unknown	Weather
2%	27%	32%	2%	11%	7%	18%

In early June there were a series of storms (June 5-8) that accounted for 55.42% of the outage minutes. Fifteen percent of the outage minutes were due to two arresters failing on April 15. Another 4.86% of the outage minutes were due to a November 8 primary cable failure in the Saddle Ridge East area.

Solution/Action

Downstream of recloser C387 along CT EE will be scoped for upgrade. Sections of this line are 1938 vintage #8A CW conductor. This section of line was out due to storms on June 5 and 8.

Justification for No Additional Action

N/A

Circuit ID	HISP2116		
Distribution Engineer	Warntjes	SAIDI	143.98
Zone	Fond du Lac	SAIFI	1.99
Customer Count	763	CAIDI	72.37

Root Cause

This circuit experienced 109,856 customer outage minutes for 2008. The percent of outages by cause are as follows:

Animal	Equipment	Lightning	Other	Tree	Unknown	Weather
0%	50%	0%	0%	50%	0%	0%

Four of the eight outages on this circuit were caused by the same event. An underground section of the main feeder failed. The troubleshooting, sectionalizing, and repair approach required for this type of failure is why it resulted in four outages. These outages accounted for 96% of the customer outage minutes on this circuit.

Solution/Action

A rebuild project, HISP2116 PETERS AVE UG REBUILD, WR # 3427475, is approved and waiting to be released for construction. This circuit is also scheduled for tree trimming in 2010.

Justification for No Additional Action

N/A

Circuit ID	ISLB445		
Distribution Engineer	Pernsteiner	SAIDI	99.15
Zone	Baraboo	SAIFI	1.54
Customer Count	1142	CAIDI	64.59

Root Cause

This circuit experienced 113,235 customer outage minutes for 2008. The percent of outages by cause are as follows:

Animal	Equipment	Lightning	Other	Tree	Unknown	Weather
48%	9%	22%	0%	13%	9%	0%

The substation recloser opened once due to a tree in the main line and accounted for 33,720 customer outage minutes, or 30% of the total outage minutes. One device fuse B831 operated four times, affecting 108 customers accounting for 46,656 outage minutes or 39% primarily caused by tree growth.

The circuit is scheduled for tree trimming in 2009.

Solution/Action

Add additional fusing down stream of B831.

Justification for No Additional Action

N/A

Circuit ID	LDSK687		
Distribution Engineer	Bauman	SAIDI	233.02
Zone	Mineral Point	SAIFI	2.05
Customer Count	996	CAIDI	113.49

Root Cause

This circuit experienced 232,092 customer outage minutes for 2008. The percent of outages by cause are as follows:

Animal	Equipment	Lightning	Other	Tree	Unknown	Weather
36%	36%	14%	0%	7%	7%	0%

A major outage in 2008 was caused by a large dead branch falling on the line. The entire tree has been removed.

Solution/Action

A project will be scoped to rebuild lines on Locust and Tyler Streets. This will address the second of the two major outages in 2008.

Justification for No Additional Action

N/A

Circuit ID	LGVP2318		
Distribution Engineer	Warntjes	SAIDI	200.22
Zone	Fond du Lac	SAIFI	1.56
Customer Count	628	CAIDI	128.04

Root Cause

This circuit experienced 125,736 customer outage minutes for 2008. The percent of outages by cause are as follows:

Animal	Equipment	Lightning	Other	Tree	Unknown	Weather
14%	27%	27%	0%	0%	9%	23%

Recloser P3492, on the main feeder trunk, operated two times due to lightning and equipment failure. Fuse P3490 operated three times due to lightning and high winds. Tap P2192 was out two time, due to equipment failure and high wind. Several sections of this circuit are in poor condition.

Solution/Action

Two rebuild projects will improve this circuit; they are: ARTESIAN ROAD OH REBUILD, WR # 3357107, which is released for construction, and AG-BUTTERNUT RD LGV P2318 1M 1P OH, WR # 3362141, which is approved and waiting to be released.

A section of the main feeder was rebuilt in early 2009.

Justification for No Additional Action

N/A

Circuit ID	LHMB783		
Distribution Engineer	Pernsteiner	SAIDI	237.99
Zone	Baraboo	SAIFI	4.76
Customer Count	743	CAIDI	50.02

Root Cause

This circuit experienced 176,823 customer outage minutes for 2008. The percent of outages by cause are as follows:

Animal	Equipment	Lightning	Other	Tree	Unknown	Weather
3%	20%	20%	0%	33%	13%	10%

Three substation breaker operations causing 101,728 customer outage minutes or 58% of the total were caused by storms and trees. 590 of the total 749 customers are down stream of recloser B190 on Canyon Rd. which operated two times causing an additional 51,600 customer outage minutes or 30% caused by a broken tree limb and lightning. 0.7 miles of this section were trimmed due to a road move project in 2008. Fuse B442 on Flarth Rd. is down stream of REC B190 and had three outages caused by trees and failing equipment on this 1936 vintage line. Transformer Fuse 1306E1540 28 10 off CTH A, also down stream of Recloser B190, experienced five outages due to trees and storms. The customers on the Fuse B442 experienced eight outages and on transformer fuse 1306E1540 28 10 experienced ten outages.

This circuit is scheduled for tree trimming in 2010.

Solution/Action

Rebuild project, FLATH RD RBLD 0.6M UDG 1PH, is being planned.

A local project to extend 300' of UDG 1PH to transformer location 1306E1540 29 34 and install new pad mounted transformer is also being planned.

Justification for No Additional Action

N/A

Circuit ID	LYSA497		
Distribution Engineer	McTavish	SAIDI	360.7
Zone	Wisconsin Rapids	SAIFI	1.89
Customer Count	468	CAIDI	190.53

Root Cause

This circuit experienced 168,808 customer outage minutes for 2008. The percent of outages by cause are as follows:

Animal	Equipment	Lightning	Other	Tree	Unknown	Weather
16%	32%	28%	0%	24%	0%	0%

There were 25 outages in 2008. On April 9, 2008 there was a tree related outage: recloser A4130 should have operated and did not but the next device upstream, recloser A472, operated instead. Therefore the outages affected more customers than necessary. Recloser A4130 was replaced on July 3, 2008. This accounted for 57.03% of the outage minutes. In early June there were a series of storms (June 5-8) that accounted for another 38.24% of the outage minutes. There were four transformers and three cutouts, two of which were Chance cutouts, replaced in 2008 due to outages.

Solution/Action

Recloser A4130 has been replaced.

Justification for No Additional Action

This is the final report.

Circuit ID**MASC464**

Distribution Engineer	Pernsteiner	SAIDI	757.00
Zone	Baraboo	SAIFI	4.66
Customer Count	149	CAIDI	162.53

Root Cause

This circuit experienced 112,793 customer outage minutes for 2008. The percent of outages by cause are as follows:

Animal	Equipment	Lightning	Other	Tree	Unknown	Weather
13%	38%	6%	0%	13%	13%	19%

In early June there were a series of storms (June 5-8) that accounted for 55.23% of the outage minutes for this circuit. Fuse C290 operated several times, accounting for 69.99% of the total outage minutes for this circuit due to failed older equipment. Fuse C2686 also operated several times, accounting for 14.04% of the outage minutes.

Solution/Action

Rebuild the section of line downstream of the fuse C290 to replace old equipment.

Rebuild the section of line downstream of fuse C2686 from overhead back lot line to underground to replace older equipment.

Justification for No Additional Action

N/A

Circuit ID**MASC1107**

Distribution Engineer	Pernsteiner	SAIDI	421.32
Zone	Baraboo	SAIFI	2.67
Customer Count	822	CAIDI	157.56

Root Cause

This circuit experienced 346,322 customer outage minutes for 2008. The percent of outages by cause are as follows:

Animal	Equipment	Lightning	Other	Tree	Unknown	Weather
2%	27%	27%	0%	22%	5%	17%

In early June there were a series of storms (June 5-8) that accounted for 46.47% of the total outage minutes for the year. On January 4, the substation breaker operated for a failed arrester, accounting for 16.59% of the total minutes. Recloser C1267 operated twice (once wind related and the other a squirrel), accounting for 15.67% of the total outage minutes. Fuse C803 operated twice accounting for 6.11% of the total outage minutes.

Solution/Action

Rebuild the section of line downstream of fuse C803.

Justification for No Additional Action

N/A

Circuit ID**MOHN1077**

Distribution Engineer	Batson	SAIDI	423.39
Zone	Dane County	SAIFI	3.48
Customer Count	493	CAIDI	121.78

Root Cause

This circuit experienced 208,732 customer outage minutes for 2008. The percent of outages by cause are as follows:

Animal	Equipment	Lightning	Other	Tree	Unknown	Weather
14%	18%	25%	0%	14%	21%	7%

Substation and main feeder recloser lock-outs are the primary reason for high customer outage minutes on this circuit. There were four recloser outages; the largest was caused by lightning during a storm, the second was caused by a tree limb blown onto the line during a storm, the third was caused by a squirrel, and the fourth was a failed arrestor in the substation. These accounted for 92% of customer outage minutes. A section of the main feeder is in poor condition.

Solution/Action

Failed equipment was replaced at time of the outage. Tree clearance was completed in March 2008.

A project to rebuild the main feeder is approved and waiting to be released for construction. This project is STH 92 Mt. Horeb to Mt. Vernon RBLD - 5 miles 1/0 ACSR 3 Phase Rebuild.

Justification for No Additional Action

N/A

Circuit ID**MOHN1081**

Distribution Engineer	Batson	SAIDI	135.59
Zone	Dane County	SAIFI	1.39
Customer Count	589	CAIDI	97.63

Root Cause

This circuit experienced 79,864 customer outage minutes for 2008. The percent of outages by cause are as follows:

Animal	Equipment	Lightning	Other	Tree	Unknown	Weather
17%	33%	25%	0%	13%	8%	4%

One substation recloser lock-out was the largest contributor to customer outage minutes. The remaining larger outages were caused by lightning, equipment, trees and weather and occurred on the same segment of line. Recloser outage and poor performing segments accounted for 86% of customer outage minutes.

Solution/Action

The poor performing segment of line was rebuilt in mid-summer of 2008 in response to these outages.

Justification for No Additional Action

This is the final report.

Circuit ID**MONN2044**

Distribution Engineer	Runde	SAIDI	145.36
Zone	Janesville	SAIFI	1.36
Customer Count	1294	CAIDI	106.63

Root Cause

This circuit experienced 188,090 customer outage minutes for 2008. The percent of outages by cause are as follows:

Animal	Equipment	Lightning	Other	Tree	Unknown	Weather
18%	14%	32%	0%	21%	11%	4%

A tree fell on the line during a storm on June 28, which took out the entire circuit. This outage accounted for 53% of the customer outage minutes.

Solution/Action

Trees were trimmed on this circuit in September 2008.

Justification for No Additional Action

This is the final report.

Circuit ID**MOOE594**

Distribution Engineer	Damyen	SAIDI	167.20
Zone	Beaver Dam	SAIFI	2.41
Customer Count	1129	CAIDI	69.25

Root Cause

This circuit experienced 188,769 customer outage minutes for 2008. The percent of outages by cause are as follows:

Animal	Equipment	Lightning	Other	Tree	Unknown	Weather
16%	21%	5%	0%	37%	21%	0%

Storms with high winds causing tree contacts are the cause for the majority of the outages. Feeder MOOE594 was tree trimmed in 2006. This feeder is scheduled for tree trimming again in 2010.

Solution/ActionJustification for No Additional Action

The majority of the outages were associated with the major storms and flooding that occurred in July of 2008.

This is the final report.

Circuit ID	NCKE934		
Distribution Engineer	Pernsteiner	SAIDI	291.4
Zone	Baraboo	SAIFI	3.04
Customer Count	295	CAIDI	95.94

Root Cause

This circuit experienced 85,962 customer outage minutes for 2008. The percent of outages by cause are as follows:

Animal	Equipment	Lightning	Other	Tree	Unknown	Weather
0%	15%	46%	0%	8%	0%	31%

In early June there were a series of storms (June 5-8) that accounted for 76.68% of the total outage minutes. The substation breaker E934 operated twice, once on April 10 (wind related) and again during the June storms, accounting for 36.51% of the total outage minutes.

Solution/Action

This area is currently being studied by the Planning department. Projects will be reported in the 2010 follow up to this report.

Justification for No Additional Action

N/A

Circuit ID	NFLP351		
Distribution Engineer	Wartjes	SAIDI	231.14
Zone	Fond du Lac	SAIFI	2.37
Customer Count	1506	CAIDI	97.4

Root Cause

This circuit experienced 348,104 customer outage minutes for 2008. The percent of outages by cause are as follows:

Animal	Equipment	Lightning	Other	Tree	Unknown	Weather
9%	55%	9%	0%	9%	18%	0%

There were two significant outages on this circuit in 2008. These included a substation exit terminator failure and a tree falling on the line during a severe thunderstorm. These two outages accounted for 87% of the customer outage minutes on this circuit.

Solution/Action

The substation exit terminator was repaired at the time of the outage.

Justification for No Additional Action

This is the final report.

Circuit ID	NFLP411		
Distribution Engineer	Warntjes	SAIDI	68.29
Zone	Fond du Lac	SAIFI	2.06
Customer Count	1401	CAIDI	33.10

Root Cause

This circuit experienced 95,669 customer outage minutes for 2008. The percent of outages by cause are as follows:

Animal	Equipment	Lightning	Other	Tree	Unknown	Weather
8%	8%	42%	0%	0%	42%	0%

The sub recloser operated twice in 2008, accounting for 91% of the customer outage minutes. These outages were the result of a poor condition segment of the main feeder.

Solution/Action

A rebuild of a section of the main feeder, WR#3395254, is approved and waiting to be released for construction.

Justification for No Additional Action

N/A

Circuit ID	NFLP442		
Distribution Engineer	Warntjes	SAIDI	287.07
Zone	Fond du Lac	SAIFI	3.14
Customer Count	488	CAIDI	91.50

Root Cause

This circuit experienced 140,093 customer outage minutes for 2008. The percent of outages by cause are as follows:

Animal	Equipment	Lightning	Other	Tree	Unknown	Weather
21%	11%	58%	0%	5%	5%	0%

Recloser P265 operated three times in 2008. The recloser was found to be defective. The substation recloser operated once due to defective cutout, which was replaced. A transmission pole broke during a severe thunderstorm, also causing an outage to the whole circuit.

Solution/Action

The defective equipment was replaced at the time of the outage.

Justification for No Additional Action

This is the final report.

Circuit ID	NFLP746		
Distribution Engineer	Warntjes	SAIDI	95.14
Zone	Fond du Lac	SAIFI	2.18
Customer Count	1035	CAIDI	43.63

Root Cause

This circuit experienced 98,475 customer outage minutes for 2008. The percent of outages by cause are as follows:

Animal	Equipment	Lightning	Other	Tree	Unknown	Weather
33%	22%	22%	0%	6%	6%	11%

The substation recloser operated twice on the same day, due to a heavy snow/ice storm. These two outages accounted for 73% of the customer outage minutes on this circuit. No defects or equipment failures were identified as the root cause of these outages.

Solution/Action

Justification for No Additional Action

A heavy snow/ice storm was the main cause of outages on this circuit.

This is the final report.

Circuit ID	NOSS1607		
Distribution Engineer	Warntjes	SAIDI	770.44
Zone	Fond du Lac	SAIFI	2.81
Customer Count	753	CAIDI	274.17

Root Cause

This circuit experienced 580,170 customer outage minutes for 2008. The percent of outages by cause are as follows:

Animal	Equipment	Lightning	Other	Tree	Unknown	Weather
0%	12%	24%	0%	8%	3%	53%

There were 60 outages on this circuit, 48 of them occurred during a severe thunderstorm on July 16, 2008. The damage from this thunderstorm was widespread in the city of Sheboygan; many customers were out for several days.

Solution/Action

Justification for No Additional Action

Severe thunderstorms were the main cause of outages on this circuit.

This is the final report.

Circuit ID**OKEB482**

Distribution Engineer	Pernsteiner	SAIDI	132.90
Zone	Baraboo	SAIFI	1.91
Customer Count	1396	CAIDI	69.51

Root Cause

This circuit experienced 185,529 customer outage minutes for 2008. The percent of outages by cause are as follows:

Animal	Equipment	Lightning	Other	Tree	Unknown	Weather
8%	25%	25%	0%	25%	13%	4%

This circuit experienced 24 outages, 50% of which were individual transformer fuse operations. Of the remaining 12 outages, severe storms and wide spread flooding from June 5-9 caused three outages, creating 93,506 of the total 185,529 customer outage minutes or 50%.

Two other fuses experienced multiple outages. C336 operated three times totaling 7,606 customer outage minutes and Fuse C630 operated two times for 2,291 customer outage minutes. Lightning and storms were the driving factor behind these outages.

Solution/Action**Justification for No Additional Action**

Outages and customer outage minutes were mainly driven by unusually severe weather. This is the final report.

Circuit ID**PDSB1040**

Distribution Engineer	Pernsteiner	SAIDI	198.69
Zone	Baraboo	SAIFI	1.54
Customer Count	1472	CAIDI	129.41

Root Cause

This circuit experienced 292,465 customer outage minutes for 2008. The percent of outages by cause are as follows:

Animal	Equipment	Lightning	Other	Tree	Unknown	Weather
21%	13%	32%	0%	16%	17%	2%

This is a long rural circuit with over 95 miles of exposure and 1,472 customers. The substation recloser B1040 operated once due to lightning causing 208,035 customer outage minutes or 71% of the total customer outage minutes for this circuit. The June 5-9 storms and flooding accounted for eight outages and 15,000 customer outage minutes. There were 37 individual transformer fuse operations totaling 4,566 customer outage minutes. Fuse B951 operated three times and created 195 customer outage minutes. The remaining 24 outages were scattered and totaled 52,133 customer outage minutes.

Solution/Action**Justification for No Additional Action**

The substation recloser operation due to lightning, and the extreme storms and flooding in June were the driving factor behind the performance of this circuit. This is the final report.

Circuit ID	PLDD752		
Distribution Engineer	Damyen	SAIDI	242.28
Zone	Beaver Dam	SAIFI	1.95
Customer Count	526	CAIDI	124.33

Root Cause

This circuit experienced 127,442 customer outage minutes for 2008. The percent of outages by cause are as follows:

Animal	Equipment	Lightning	Other	Tree	Unknown	Weather
24%	29%	10%	0%	38%	0%	0%

Storms with winds causing tree contacts caused the majority of outages. Feeder PLDD752 is scheduled for tree trimming in 2009 which will improve reliability.

Solution/Action

A project will be scoped to convert approximately two miles of single-phase overhead distribution line to single-phase underground. This conversion to underground will mitigate equipment failure, wildlife and tree contacts to this section of distribution line.

Justification for No Additional Action

N/A

Circuit ID	PLRD1229		
Distribution Engineer	Resch	SAIDI	97.62
Zone	Berlin	SAIFI	1.13
Customer Count	1420	CAIDI	86.53

Root Cause

This circuit experienced 138,618 customer outage minutes for 2008. The percent of outages by cause are as follows:

Animal	Equipment	Lightning	Other	Tree	Unknown	Weather
3%	31%	3%	0%	48%	14%	0%

Fuse D1401 was out five times with four outages being tree related. Recloser D2261 operated due to a tree falling on the line, accounting for 46.5% of the outage minutes.

Solution/Action

A project will be scoped to rebuild past D1401 as underground. An additional project will be scoped to rebuild along Grudgeville Rd to eliminate 1 mile of 3PH line in right of way.

Justification for No Additional Action

N/A

Circuit ID	PTEC167		
Distribution Engineer	Pernsteiner	SAIDI	237.88
Zone	Baraboo	SAIFI	2.19
Customer Count	1023	CAIDI	108.44

Root Cause

This circuit experienced 243,349 customer outage minutes for 2008. The percent of outages by cause are as follows:

Animal	Equipment	Lightning	Other	Tree	Unknown	Weather
9%	23%	32%	5%	18%	7%	7%

In early June there were a series of storms (June 5-8) that accounted for 29.06% of the total outage minutes. The substation breaker operated on May 23 due to a squirrel, accounting for 23.81% of the outage minutes. Fuse C49 operated three times and accounted for 15.28% of the outage minutes.

Solution/Action

A project will be scoped to rebuild the section of line downstream of fuse C49.

Justification for No Additional Action

N/A

Circuit ID	REEB682		
Distribution Engineer	Pernsteiner	SAIDI	392.29
Zone	Baraboo	SAIFI	3.42
Customer Count	986	CAIDI	114.71

Root Cause

This circuit experienced 386,793 customer outage minutes for 2008. The percent of outages by cause are as follows:

Animal	Equipment	Lightning	Other	Tree	Unknown	Weather
3%	15%	44%	0%	25%	7%	5%

Twenty-six of the 58 outages or 54% of the outages on this circuit resulted from blown transformer fuses caused mainly by storms and lightning. The severe weather of June 5-9 and subsequent flooding increased the response times driving up customer outage minutes as many roads in this area were not passable. Five of the outages and 99,191 customer outage minutes or 26% were attributable to these issues. Three fuses experienced multiple outages. B2903 had three operations creating 7,252 customer outage minutes. B2905 also experienced 3 outages accounting for 4,096 customer outage minutes and Fuse B785 provided for an additional three outages and 3,833 customer outage minutes. These were mainly driven by blown arresters and outages due to lightning. Switch B775 feeds a section of heavily wooded right of way line and has been used to sectionalize three times creating 130,760 customer outage minutes or 34% of the outages.

The severe storm caused many issues on this circuit however the long two phase line and right of way sections are also a driving factor affecting the reliability of this circuit.

Solution/Action

A project will be scoped to rebuild the existing 2PH Line from switch B176 including B775 along STH 33 and CTH V to Douglas Rd. with new 3PH (REEB682 STH33 RBLD 6.3M 3PH OH).

Justification for No Additional Action

N/A

Circuit ID**RIOC409**

Distribution Engineer	Pernsteiner	SAIDI	5528.83
Zone	Baraboo	SAIFI	14.03
Customer Count	157	CAIDI	394.02

Root Cause

This circuit experienced 868,026 customer outage minutes for 2008. The percent of outages by cause are as follows:

Animal	Equipment	Lightning	Other	Tree	Unknown	Weather
3%	16%	31%	0%	16%	9%	25%

In early June, there were a series of storms (June 5-8) that accounted for 82.17% of the outage minutes. The substation breaker accounted for 41.92% of the outage minutes (a tree on the line on July 20, and twice during the June storms).

Solution/ActionJustification for No Additional Action

The substation breaker operation and the extreme storms and flooding in June were the driving factor behind the performance of this circuit. This is the final report.

Circuit ID**SODM2193**

Distribution Engineer	Kueng	SAIDI	261.32
Zone	Beloit	SAIFI	2.46
Customer Count	801	CAIDI	106.25

Root Cause

This circuit experienced 209,320 customer outage minutes for 2008. The percent of outages by cause are as follows:

Animal	Equipment	Lightning	Other	Tree	Unknown	Weather
14%	32%	18%	0%	29%	4%	4%

Fused tap M4114 was out twice due to the mechanical condition of the line. Eight tree related outages accounted for 199,835 customer outage minutes or 95.4% of the circuit outage minutes.

Solution/Action

A project will be scoped to rebuild fused tap M4114 1-Phase overhead 0.4 MI to address the poor mechanical condition of this tap. This circuit was tree trimmed in 2006 and is scheduled again in 2010

Justification for No Additional Action

N/A

Circuit ID	TROB1293		
Distribution Engineer	Bauman	SAIDI	2814.25
Zone	Mineral Point	SAIFI	2.33
Customer Count	1045	CAIDI	1205.28

Root Cause

This circuit experienced 2,940,889 customer outage minutes for 2008. The percent of outages by cause are as follows:

Animal	Equipment	Lightning	Other	Tree	Unknown	Weather
15%	23%	36%	3%	13%	8%	3%

This circuit experienced a significant outage due to June flooding. One outage on June 12-13, 2008 accounted for 70% of the customer outage minutes on this circuit.

Solution/Action

Justification for No Additional Action

This circuit was severely impacted by the June 2008 floods.

This is the final report.

Circuit ID	TROB1294		
Distribution Engineer	Pernsteiner	SAIDI	287.98
Zone	Baraboo	SAIFI	2.05
Customer Count	825	CAIDI	140.17

Root Cause

This circuit experienced 237,580 customer outage minutes for 2008. The percent of outages by cause are as follows:

Animal	Equipment	Lightning	Other	Tree	Unknown	Weather
14%	12%	43%	2%	24%	3%	2%

Two rounds of severe weather pounded this area and the subsequent flooding created many scattered outages that were difficult to respond to due the high number of washed out roads. The first storm ranged from June 5-9 and brought high volumes of rain. The second storm June 11-15 brought additional rain, winds and lightning that mixed with the already saturated ground accounted for a high number of falling and leaning trees. The first storm accounted for four outages and 130,073 customer outage minutes. The second storm (with more lightning) caused 13 outages and accounted from 97,574 customer outage minutes. These two storms accounted for 17 outages and 227,647 customer outage minutes or 96% of the total for this circuit. One area in particular Seitz road and Cassel road accounted for 41% of the customer outage minutes for this circuit and will have projects scoped to address this issue.

Solution/Action

The following projects will be scoped to rebuild the poor performing sections of this circuit:
TROB1294 SEITZ RD RBLD 1.8M UDG 1PH; TROB1994 CASSEL RD RBLD-P1 2.4M OH 3PH;
TROB1994 CASSEL RD RBLD-P2 1.7M OH 3PH

Justification for No Additional Action

N/A

Circuit ID	TURJ534		
Distribution Engineer	Kueng	SAIDI	430.72
Zone	Beloit	SAIFI	3.49
Customer Count	658	CAIDI	123.38

Root Cause

This circuit experienced 283,415 customer outage minutes for 2008. The percent of outages by cause are as follows:

Animal	Equipment	Lightning	Other	Tree	Unknown	Weather
18%	18%	35%	3%	15%	3%	9%

241,027 customer outage minutes were associated with three outages on the same stretch of line affecting the substation recloser. The stretch of line is transmission underbuild and was associated with a galloping lines outage on 11/30/08 and a floating neutral outage on 12/31/08 possibly weakened by the galloping line outage on 11/30/08. There was one other sub recloser outage associated with wind/weather on 7/12/08 potentially in the same stretch of line. Both fused taps J349 and J143 had multiple outages associated with lightning/weather.

Solution/Action

The Y3 UNDERBUILD RBLD 0.5 MI project is scheduled for 2009 construction. This project will replace mid-span poles and install 12 ft crossarms, new pins, insulators, install lightning arresters and re-sag existing 336.4 ACSR East of Turtle substation to address the three substation recloser outages in 2008.

Upgraded fuse J349 to avoid a melt-out due to lightning as experienced on 6-12-08. Added a lightning arrester on the source side of the fuse.

Upgraded J311 for improved coordination until the 2nd phase of Lathers Rd rebuild is completed. Added a lightning arrester on the source side of the fuse.

Upgraded fuse J143 to avoid a melt-out due to lightning. Added a lightning arrester on the source side of the fuse.

Justification for No Additional Action

N/A

Circuit ID	TWLM1653		
Distribution Engineer	Kueng	SAIDI	267.91
Zone	Beloit	SAIFI	2.58
Customer Count	1852	CAIDI	103.85

Root Cause

This circuit experienced 496,172 customer outage minutes for 2008. The percent of outages by cause are as follows:

Animal	Equipment	Lightning	Other	Tree	Unknown	Weather
0%	20%	14%	0%	37%	14%	14%

There were 13 tree related outages resulting in 343,207 customer outage minutes, 10 lightning/weather outages resulting in 144,708 customer outage minutes. One of the lightning related outages was associated with the substation recloser for 130,144 customer outage minutes.

Solution/Action

Justification for No Additional Action

This circuit was cycle trimmed in Dec 2008. No other circuit problems were identified.

This is the final report.

Circuit ID	WIBM2556		
Distribution Engineer	Kueng	SAIDI	165.30
Zone	Beloit	SAIFI	2.15
Customer Count	1700	CAIDI	77.01

Root Cause

This circuit experienced 281,018 customer outage minutes for 2008. The percent of outages by cause are as follows:

Animal	Equipment	Lightning	Other	Tree	Unknown	Weather
10%	19%	26%	0%	19%	10%	16%

There were five wind/weather related outages totaling 145,001 customer outages minutes. One of the weather related outages was for 143,923 customer outage minutes which was a result of the substation recloser being out for 86 minutes. There were six tree related outages totaling 113,341 customer outage minutes. One of the tree related outages was for 100,471 customer outage minutes which was a result of the substation recloser being out for 60 minutes. Also an underground primary cable section failed causing 921 customer outage minutes.

Solution/Action

Justification for No Additional Action

The underground cable section was replaced with a span of overhead as it was installed in 1973 for a grass air strip that is now condo property. Circuit WIBM2556 was cycle trimmed in 2006 and is scheduled for 2010. No other circuit problems were identified.

This is the final report.

Circuit ID	WIBM2557		
Distribution Engineer	Kueng	SAIDI	396.91
Zone	Beloit	SAIFI	1.44
Customer Count	1932	CAIDI	276.14

Root Cause

This circuit experienced 766,839 customer outage minutes for 2008. The percent of outages by cause are as follows:

Animal	Equipment	Lightning	Other	Tree	Unknown	Weather
19%	19%	2%	0%	30%	13%	19%

There were sixteen tree related outages in 2008 on WIBM2557 for a total of 626,499 customer outage minutes. There were an additional 10 weather related outages for 47,169 customer outage minutes. Wildlife outages were minimal but transformer 1-17E-6.2 43/00 had two squirrel related outages in 2008. A failed jumper on July 2, 2008, caused 47,169 customer outage minutes.

Solution/Action

Wildlife-proof overhead transformer 1-17E-6.2 43/00. WIBM2557 was cycle trimmed in October 2008.

Justification for No Additional Action

N/A

Circuit ID	WIND565		
Distribution Engineer	Resch	SAIDI	160.01
Zone	Berlin	SAIFI	2.00
Customer Count	755	CAIDI	80.00

Root Cause

This circuit experienced 120,804 customer outage minutes for 2008. The percent of outages by cause are as follows:

Animal	Equipment	Lightning	Other	Tree	Unknown	Weather
24%	24%	24%	0%	24%	6%	0%

On August 9, 2008, two hawks became entangled in the lines, causing the sub recloser to lock out. This accounted for 39.2% of the outage minutes. The majority of the remaining outages were caused by failed equipment and lightening arrestors. Two sections of this circuit are in poor condition.

Solution/Action

Two projects will be scoped to rebuild along Oak Hill Rd. and to rebuild past fuse D21.

Justification for No Additional Action

N/A

Circuit ID**ZENM1231**

Distribution Engineer

Kueng

SAIDI

722.5

Zone

Beloit

SAIFI

4.99

Customer Count

656

CAIDI

144.76

Root Cause

This circuit experienced 473,957 customer outage minutes for 2008. The percent of outages by cause are as follows:

Animal	Equipment	Lightning	Other	Tree	Unknown	Weather
5%	23%	3%	0%	58%	8%	5%

There were 22 tree related outages resulting in 219,874 customer outage minutes, 9 equipment outages resulting in 130,075 customer outage minutes and two storm related outages for 71,053 customer outage minutes. The 9 equipment outages were a result of five cutout failures for 27,856 customer outage minutes and a failed switch connector outage for 100,764 customer outage minutes.

Solution/ActionJustification for No Additional Action

The major tree related outages that affected the substation recloser twice were due to a stretch of the feeder that travels through the Bigfoot State park. Permission was granted to trim trees, and this area was heavily trimmed in Dec 2008-Jan 2009. Also, the entire feeder was cycle-trimmed at the same time. The failed cutouts were replaced at the time of the outages. Switch M1341 was replaced as a result of the failed switch connector and the other two switches were inspected.

This is the final report.

PSCW 113.0604 2d) Accomplishment of Improvements in Prior Reports

In 2009, a new streamlined format has been adopted for tracking and reporting the accomplishment of improvements recommended in prior Worst Performing Circuit Reports. This format is more efficient to produce.

Zone	Circuit ID	Data Year	Proposed Projects	Status	Final Report
Baraboo	BARB595	2007	Tree trimming	Scheduled for 2009	No
	BARB81	2007	Add animal protection to B1239	Completed	No
			Tree trimming	Scheduled for 2009	No
	MECB934	2007	Construct rebuild project named Tower Rd RBLD 2M OH 1PH	Released	No
			Construct rebuild project named Tower Rd RBLD 1M UG 1PH	Released	No
	PDSB1060	2006	Tree trimming	Scheduled for 2009	No
			Construct rebuild project named Dam Rd UDG 1M 3PH	Completed	No
			Construct rebuild project named CTH Z 1.2M 3PH Part 1	Completed	No
			Construct rebuild project named CTH Z 1.2M 3PH Part 2	Completed	No
			Construct rebuild project named Old Bluff TRL RBLD 1.33M 3P Part 1	Completed	No
			Construct rebuild project named Old Bluff TRL RBLD 1.8M 3P Part 2	Completed	No
			Construct rebuild project named Old Bluff TRL RBLD 1.5M 3P Part 3	Completed	No
			Construct rebuild project named Old Bluff TRL RBLD .64M 3P Part 4	Released	No
		2007	Construct Old Bluff Trl rebuild projects Parts 1 - 4	Rebuild part 4 scheduled for 2009	No
Beaver Dam	CESF911	2003	Construct rebuild project named Francis Ct. rebuild 0.4 mile, 1 phase	Approved	No
	FOVD356	2002	Construct rebuild project named CTH "H" RBLD 2.5 MI 3PH OH PART 2	Completed	Yes
			Construct rebuild project named CTH "H" RBLD & ADD PHASE WIRE 2.0 MI 3PH OH	Completed	Yes
			Construct rebuild project named CTH "W" RBLD 2.3MI 3PH OH SAXEVILLE (RENAMED)	Completed	Yes
	HAND570	2002	Construct rebuild project named REBUILD DROP NEUT .2MI 3PH OH	Completed	Yes

Zone	Circuit ID	Data Year	Proposed Projects	Status	Final Report
Beaver Dam (cont)			Construct rebuild project named REBUILD 1.6MI 3PH OH	This circuit has performed satisfactorily for the past two years. No additional circuit modifications to improve performance are recommended at this time	Yes
			Construct rebuild project named CTH V-S LAKE RBLD 2.3MI 3PH OH (RENAMED)	Completed	Yes
	RDRE1404	2002	Construct rebuild project named STH 73 & CTH T RBLD 1.6MI 1PH OH	Approved	No
			Construct rebuild project named Pleasant Run Rd REBD 0.2MI 1PH UG	Released	No
	WAUD720	2002	Construct rebuild project named CTH "C" RBLD 3.0MI 3PH OH	Released	No
			Construct rebuild project named CAMBRIDGE ST. RBLD 0.6MI 3PH OH	Approved	No
Berlin	BERD528	2007	Add main feeder recloser and sectionalizing past D642 & D643	Will be addressed in rebuild projects	No
			Rebuild 1.5 miles of 3 phase from transmission to end of three phase	Approved	No
	BRAE328	2005	Construct rebuild project named BRANDON RD & STH 49 3PH 0.7MI RBLD	Completed	Yes
	MOOE594	2002	Construct rebuild project named Doty St. RBLD 0.6 3PH OH MONTELLO (RENAMED)	Released	No
			Construct rebuild project named CTH "C" Rebuild 1.4 miles single-phase	The scope of this project will be re-evaluated in 2009	No
	MOOE741	2002	Construct rebuild project named Fox Ln. & Sunrise Resort Rebuild 1.0 miles 1PH	Approved	No
	OMRD308	2003	Construct rebuild project named D525-12T Rebuild 2 miles of single phase 7.2KV distribution line	Approved	No
			Construct rebuild project named D394-30T Replace 0.8 miles of single phase 7.2KV #2 AL underground cable	Will be constructed as a local project	No
	OMRD416	2003	Construct rebuild project named Kennedy HWY 116 0.9MI 1PH UG, Omro	Completed	Yes

Zone	Circuit ID	Data Year	Proposed Projects	Status	Final Report
Berlin (cont)			Construct rebuild project named CTH "E" Rebuild 2.2 miles, 3-phase, 477 ACSR, Eureka	Completed	Yes
	PLDD752	2002	Construct rebuild project named 8 th Dr. & Long Lake Rd. Convert to 1 phase UG, 4 miles	Released	No
			Construct rebuild project named 3 rd Ave & 3 rd St. Rebuild 2.5 miles, 1 phase, Almond	Released	No
	SILD6462	2002	Construct rebuild project named Cypress Rd. Rebuild 1.6 miles, 1 phase, Neshkoro	Approved	No
			Construct rebuild project named W. Wall St. & 19 th Ct. Rebuild 4.5 miles, 3 & 1-phase, Neshkoro	Approved	No
		2007	Construct rebuild project named HN368 Cypress Rd 1.8MI 1PH OH UG Neshkoro	Approved	No
			Construct rebuild project named HN371c Pearl 22 nd Ave 3.6MI 1PH UG Neshkoro	Released	No
			Construct rebuild project named Czech Line & 19 th Rd 2.0MI 3PH OH Neshkoro	Released	No
			Construct rebuild project named HN371a 22 nd Ave 0.7MI 1PH UG Neshkoro	Completed	No
			Construct rebuild project named HN371b CTH DD Duck Creek 3.5MI 1PH UG Neshkoro	Released	No
			Construct rebuild project named CTH 73 RBLD 2.5MI 3PH Neshkoro	Released	No
	WIND831	2003	Construct rebuild project named Lasley Shore Dr Convert 1ph to 3ph 0.5MI 3PH OH Winneconne	Completed	Yes
			Construct rebuild project named Courtney-Plummer Rd Rebuild 1.3MI 1PH UG Winneconne	Completed	Yes
	WIRD459	2003	Maple Ave & Jackson St Rebuild 0.5 mile, 1 phase overhead	The performance of this circuit has been satisfactory for the past three years. The Maple Ave & Jackson St. project will not be scoped unless subsequent need is identified	Yes
			Construct rebuild project named HN337e 14 th AVE & 14 th CT 4.3MI 1PH UG WILD ROSE	Released	Yes
			Construct rebuild project named HN345 CTHAA 3.0MI 1PH UG	Released	Yes

Zone	Circuit ID	Data Year	Proposed Projects	Status	Final Report
Elkhorn	BOLM2425	2006	Install wildlife protection at 2-16E-17.2 1/44	Completed	Yes
	DELM1516	2006	Construct rebuild project named CHANNEL DRIVE RBLD 1.7MI 1PH UG WR# 3186522	Completed	Yes
	KATM432	2006	Construct rebuild project named CENTER DR RBLD 1.5 MI 1PH #1AL UG	Approved	No
		2007	Wildlife protect fused tap M2387	Completed	No
	NLGM1243	2005	Construct rebuild project named Snake Rd east half	Released	No
			Construct rebuild project named Snake Rd west half	Released	No
		2007	Tree trimming	Completed	No
			Wildlife protect transformer 2-17E-34.2 14/49	Completed - Transformer was retired and customer fed from pad-mounted transformer	No
	NLGM1315	2007	Develop Action Plan for Raychem splices	Completed-Included in evaluation project	Yes
			Tree trimming	Completed	Yes
	SLGM2728	2007	Tree trimming	Completed	Yes
	TWLM1652	2007	Tree trimming	Completed	No
	TWLM1653	2007	Tree trimming	Completed	Yes
	WALM821	2007	Install a fuse on 3ph tap at HWY 67 & RR tracks; revised - replace 4 span of old wire	Will be constructed as a local project	No
	WIBM2555	2007	Develop Action Plan for Raychem splices	Completed-Included in evaluation project	Yes
Fond du Lac	ESSP1670	2007	Rebuild a segment of main feeder trunk	Approved	No
	ESSP1674	2004	Construct rebuild project named ESS #16172 Sub RBLD & FDR Addition	Approved	No
	MSTP1658	2004	Construct rebuild project named MSTP1658 Maria Ln 0.65MI 1PH RBLD	Approved	No
	NFLP351	2006	Rebuild section of main feeder	Released	No
	NFLP411	2006	Rebuild section of main feeder	Released	No
Janesville	SCKN645	2004	Construct rebuild project named SCKN645 2.5MI 3PH OH EDGERTON	Released	No
			Construct rebuild project named GOEDE RD 1MI 1PHOH	Released	No
	VNTN3523	2007	Local project to install fusing on tap N6580 to Motel	Completed	Yes
	WION1076	2005	Construct rebuild project named HN-South Wayne to Gratiot East	Approved	No
			Construct rebuild project named HN-South Wayne to Gratiot West	Completed	No

Zone	Circuit ID	Data Year	Proposed Projects	Status	Final Report
Marion	PLRD1229	2001	Construct rebuild project named Flak RD RBLD	Completed	Yes
Mineral Point	HVLK3338	2007	Construct rebuild project named HN#1142 Main St & CTH HHH Ridgeway	Released	No
	REWK142	2007	Evaluate conductor condition for repair or replace decision; add lightning arresters	Scheduled for 2009	No
Monroe	MONN2044	2007	Construct rebuild project named Greenbush Rd 1.5 MI Monroe	Released	No
	SMEL729	2007	ATC rebuild and Roadmove projects pending	On hold for ATC and DOT projects	No
Platteville	PIOK263	2003	Construct rebuild project named CEDAR & CHESTNUT STS PLATTEVILLE OH RBLD	Released	No
Port Edwards	AUBA443	2000	Construct rebuild project named AUBA443 Hwy 10 Convert 1.0 mi 2ph to 3 ph	Completed	Yes
Portage	PORC757	2007	Tree trimming	Scheduled for 2010	No
			Construct rebuild project named STH 33 River Crossing 3PH UDG	Released	No
Sheboygan	EDGG72	2004	Construct rebuild project named EDG G72 Sunnyside AVE 0.5 MI 1PH RBLD	Completed	Yes
Tomah	COCA1990	2007	Split feeder to reduce exposure	Completed	Yes
	FLAA3681	2006	Construct new substation near Warrens	Released	No
Wisconsin Rapids	RUDA202	2006	Victory Rd 2.1mi 1ph rblD RUDA202	Completed	Yes
			HN Robin Rd 1.4mi 1ph rpl w/UG RUDA202	Completed	Yes
			HN E Robin Rd 0.82mi 1ph rpl w/UG RUDA202	Completed	Yes
			HN S Trestik Rd 0.75mi 1ph rblD RUDA202	Completed	Yes
			HN Stashek Ln 2.05mi 1ph rblD RUDA202	Completed	Yes
			HN N Trestik 0.55mi 1ph rpl/w UG RUDA202	Completed	Yes
			Meadow Ln 0.8mi 1ph rpl w/ UG	Completed	Yes
			N Victory Rd 1.0mi rpl w/UG RUDA202	Completed	Yes
			DEER RUN DR 4.3MI 1PH RUDA202	Completed	Yes

PSCW 113.0604 2e) New Reliability or Power Quality Programs

WPL continues to look for ways to improve managing reliability while balancing customer costs. In 2008, WPL developed an initiative to identify and prioritize underground and overhead electric infrastructure replacement.

PSCW 113.0604 2f) Long Range Electric Distribution Plans

- **Rural Agricultural-Related Rebuilds** - WPL invested in 21 large rebuild projects, which directly impacted areas with stray voltage concerns, replacing approximately 18.8 miles of line at a cost of approximately \$1.6 million in 2008.
- **System Studies** – System Studies were conducted on the distribution system for the Berlin, Iola, East Sheboygan, Camp Douglas, Mauston, Hampden, Fall River, Southeast Beloit, Lone Rock, Plain and Sun Prairie areas in 2008.
- **High Neutral** –WPL completed 86 High Neutral projects that replaced approximately 157 miles of line at an estimated cost of \$8.5 million in 2008.
- **Copper weld Replacement** – In 2008, WPL estimates that 157 miles of copper weld conductor were replaced.

PSCW 113.0604 3a) Miles Reconstructed by Phase

Number of Phases	Miles Constructed
Single Phase	268
Three Phase	122

PSCW 113.0604 3b) Total Miles by Voltage Level

	12/2008
Under 22 kV	20,458
22 to 30 kV	519
31 to 40 kV	81
41 to 50 kV	0
Total Miles in Service	21,058

Note: The total of 21,092 miles in 2007 was miscalculated by 124 miles. The actual 2007 total miles was 20,968.

PSCW 113.0604 3c) Monthly Average Speed of Answer for Calls

Customer Service and Billing

Month	Number of calls to live Agent	Number of calls completed by IVR ⁵	Total Queue time for a live agent	Live Agent Speed of answer (secs) ^{1,3}	OVERALL Speed of Answer (secs) ²
January	38,813	5,264	2,300,672	59.28	52.20
February	39,980	5,528	2,785,996	69.68	61.22
March	46,859	6,071	4,563,792	97.39	86.22
April	64,920	6,893	8,782,655	135.28	122.30
May	60,610	8,762	8,689,718	143.37	125.26
June	49,070	8,175	10,176,091	207.38	177.76
July	62,271	11,932	13,482,862	216.52	181.70
August	57,302	11,691	15,700,399	273.99	227.57
September	55,644	12,668	17,382,125	312.38	254.45
October	55,389	11,993	19,461,273	351.36	288.82
November	37,152	7,599	4,796,173	129.10	107.17
December	34,559	7,365	4,284,498	123.98	102.20
Year 2008	602,569	103,941	112,406,254	186.55	159.10

Gas Emergencies

Month	Number of calls to live Agent	Number of calls completed by IVR ⁴	Total Queue time for a live agent	Live Agent Speed of answer (secs) ^{1,3}
January	3,201	0	64,923	20.28
February	3,417	0	78,356	22.93
March	3,078	0	73,144	23.76
April	4,463	0	105,587	23.66
May	4,028	0	112,437	27.91
June	5,612	0	209,240	37.28
July	6,675	0	239,408	35.87
August	4,349	0	174,419	40.11
September	4,324	0	140,098	32.40
October	5,095	0	178,644	35.06
November	3,035	0	95,481	31.46
December	3,401	0	100,835	29.65
Year 2008	50,678	0	1,572,572	31.03

Outages

Month	Number of calls to live Agent	Number of calls completed by IVR	Total Queue time for a live agent	Live Agent Speed of answer (secs) ¹	OVERALL Speed of Answer (secs) ²
January	1,408	3,125	126,836	90.08	27.98
February	1,735	4,633	200,459	115.54	31.48
March	1,387	3,694	164,852	118.86	32.44
April	2,348	5,490	248,355	105.77	31.69
May	1,573	3,979	225,632	143.44	40.64
June	3,695	15,473	768,880	208.09	40.11
July	4,855	15,841	885,857	182.46	42.80
August	1,588	4,075	299,895	188.85	52.96
September	1,093	2,481	195,868	179.20	54.80
October	1,307	3,558	229,370	175.49	47.15
November	1,237	2,518	144,489	116.81	38.48
December	1,486	3,276	174,373	117.34	36.62
Year 2008	23,712	68,143	3,664,866	154.56	39.90

Notes:

1) The calculation for Live Agent speed of answer is as follows:

Total queue time for a live agent / Number of call to live agent = Live Agent speed of answer

2) The calculation for overall speed of answer is as follows:

(Total queue time for a live agent + zero queue time for IVR calls) /
(Number of calls to live agent + number of calls completed by IVR) = Overall speed of answer

3) Response time was impacted due to two primary reasons -- In June 2008, catastrophic flooding in Iowa prevented full operation of the utility's primary phone system which is housed in that location. During this time, the WPL call center continued to take calls, but all calls were routed via the back-up phone system. The back-up phone system has limited reporting capability, giving statistics on only the number of calls, not the ASA or the reason for the call. Given limited reporting capability during this time, the 15,588 calls taken from 6/12/08 through 6/18/08 are not included in calculations. In addition to the impact of the catastrophic flooding on the utility's primary phone system, 2008 call volume increased by 4% as did average handle time. The utility hired 21 customer service representatives in 2008 to assist in meeting increases in typical customer call volume. The utility continues to closely monitor staffing levels required for typical customer call volume in 2009 and, as a result, recently hired and trained an additional 8 customer service representatives. WPL also provides the virtual hold option for customers with a non-emergency situation. This popular feature allows a customer to request a call back while maintaining their place in the call queue.

4) All calls to the gas emergency line are handled by a live agent. In addition, calls in all categories identified by a customer as an emergency are included in the number of emergency calls to a live agent. After answering a particular call, it may become apparent that it is not an emergency, but until the call is answered, we treat it as though it is an emergency, as identified by the customer.

5) WPL uses an Interactive Voice Response unit – calls in certain areas of customer service and outage reporting is completed by the IVR with zero queue time.

Changes in the utility's telephone system allow us to more accurately define and report calls by specified categories. **Therefore, 2008 reporting may not correspond directly with 2007 reporting, particularly with reference to calls categorized as emergency.**

PSCW 113.0604 3d) Average Number Days to Install and Energize a New Service

Electric New Service Data

	2006		2007		2008	
Month	Projects	Avg. Days	Projects	Avg. Days	Projects	Avg. Days
January	386	15.4	423	15.6	232	11.8
February	302	12.4	175	18.4	89	14.6
March	260	11.1	183	11.6	92	14.0
April	486	9.7	440	12.1	273	13.2
May	573	10.5	535	8.3	368	17.8
June	617	10.4	571	10.6	322	6.9
July	495	11.1	581	9.6	348	8.0
August	586	10.2	508	10.2	342	7.6
September	467	11.6	474	14.2	285	8.0
October	551	10.0	577	10.8	371	6.7
November	529	10.5	560	9.8	303	8.2
December	566	13.7	456	13.8	247	26.7
Grand Total	5,818	11.4	5,483	11.5	3,272	11

PSCW 113.0604 3e) Total Number of Customer Complaints

2008 Customer Complaints

Complaints by Month							
	2002	2003	2004	2005	2006	2007	2008
January	232	294	341	368	446	311	380
February	225	338	310	349	440	295	385
March	290	452	422	372	469	444	430
April	489	642	588	517	596	752	620
May	518	632	557	518	720	722	520
June	488	545	792	559	610	558	460
July	437	602	988	492	598	581	625
August	437	563	741	700	662	637	604
September	375	567	633	715	484	536	547
October	474	682	680	567	613	582	479
November	297	391	493	394	366	435	265
December	294	291	406	359	307	422	486
Total	4,556	5,999	6,951	5,910	6,311	6,275	5,801

Complaints by Category								
<u>Code</u>	<u>Category</u>	2002	2003	2004	2005	2006	2007	2008
100-199	Billing	1,879	2,627	2,669	2,534	2,569	2,896	2,780
214, 299	Collections (Payment Arrangements)	677	930	586	331	493	445	329
	Other *	1,196	1,588	3,014	2,427	2,650	2,270	2,033
804-806	Outages	114	113	87	112	108	81	58
807, 802	Power Quality	110	100	94	90	100	120	74
406	Property Damage	573	628	494	413	387	458	520
412, 914 & 801	Safety	7	13	7	3	4	5	7
	TOTAL	4,556	5,999	6,951	5,910	6,311	6,275	5,801

*WPL initiated an Interactive Voice Response Unit in June 2004; feedback was solicited from customers and documented as complaints. Changes in electronic bill presentment and payment in September and October resulted in an increase in customer complaints.

PSCW 113.0604 3f) Total Annual Tree Trimming Budget and Actual Expenses

	2008
Actual Expenses	\$ 6,846,971
Budget	\$ 6,825,413

PSCW 113.0604 3g) Total Annual Miles of Line Tree Trimmed

Miles Trimmed	2008
Projected	4,689
Actual	3,866



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Public Service Commission of Wisconsin
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April 17, 2013

Ms. Sandra J. Paske
Secretary to the Commission
Public Service Commission of Wisconsin
610 N Whitney Way
Madison Wisconsin 53707

**RE: Wisconsin Power and Light Company
PSC 113.0604, Annual Reliability Performance**

05-GF-113

Dear Ms. Paske:

Please find included with this letter, Wisconsin Power and Light Company's 2012 report of Annual Electric Reliability Performance pursuant to PSC 113.0604.

Should you have any questions please feel free to contact me directly at (608) 458-3924.

Sincerely,

/s/ **Scott R. Smith**

Scott R. Smith
Director, Regulatory Affairs

Wisconsin Power and Light Company

PSCW 113 Section 0604 Report

2012 Data

May 1, 2013

Table of Contents

PSCW 113.0604 2a) Overall Reliability.....	3
PSCW 113.0604 2b) 5% Worst Performing Circuits	4
PSCW 113.0604 2c) Alternative Criteria	9
PSCW 113.0604 2d) Accomplishment of Improvements in Prior Reports.....	10
PSCW 113.0604 2e) New Reliability or Power Quality Programs	15
PSCW 113.0604 2f) Long Range Electric Distribution Plans.....	15
PSCW 113.0604 3a) Miles Reconstructed by Phase.....	15
PSCW 113.0604 3b) Total Miles by Voltage Level	15
PSCW 113.0604 3c) Monthly Average Speed of Answer for Calls.....	16
PSCW 113.0604 3d) Average Number Days to Install and Energize a New Service.....	16
PSCW 113.0604 3e) Total Number of Customer Complaints.....	17
PSCW 113.0604 3f) Total Annual Tree Trimming Budget and Actual Expenses	17
PSCW 113.0604 3g) Total Annual Miles of Line Tree Trimmed	17

PSCW 113.0604 2a) Overall Reliability

	2012		
Zone	SAIFI	SAIDI (hrs)	CAIDI (hrs)
Baraboo	1.34	2.28	1.70
Beaver Dam	0.56	1.08	1.92
Beloit	0.85	2.08	2.45
Berlin	0.90	2.20	2.43
Elkhorn	0.87	2.72	3.11
Fond du Lac	0.78	2.72	3.48
Janesville	0.92	1.79	1.94
Mineral Point	0.91	2.12	2.34
Portage	1.19	3.52	2.96
Stoughton	1.04	3.21	3.09
Verona	0.58	1.59	2.73
Wautoma	0.67	1.14	1.71
Wisconsin Rapids	0.73	1.23	1.68
All WPL Total	0.85	2.04	2.41

Historical Comparison	SAIFI	SAIDI (hrs)	CAIDI (hrs)
2012 All WPL Total	0.85	2.04	2.41
Average of 2005-2011	1.02	2.11	1.98
WPL Total 2011	1.07	3.21	3.00
WPL Total 2010	1.03	1.97	1.92
WPL Total 2009	0.74	1.45	1.95
WPL Total 2008	1.10	2.12	1.84
WPL Total 2007	1.18	1.92	1.55
WPL Total 2006	0.92	1.92	1.64
WPL Total 2005	1.09	2.15	1.97

PSCW 113.0604 2b) 5% Worst Performing Circuits

The following table is a summary of the 5% worst performing circuits for Wisconsin Power and Light (WPL). The circuits were ranked using an alternative method, described in section 2c) Alternative Criteria.

5% Worst Performing Circuits

Zone	Engineer	Circuit	Major Root Cause	Solution Activity Type	Activity Description	Target Date	Justification for No Further Action	Final Report?
Baraboo	McTavish	BARB595	Tree	None	No further action planned	2012	Breaker operation, unknown cause	Yes
		BARB81	Tree	None	No further action planned	2012	Lightning and non-preventable tree outage	Yes
		MECB938	Tree	Done	No further action planned	2012	Resolved at time of outage	Yes
		MECB962	Tree	Large Project	Rebuild projects downstream of B1705, B4176, and B474	2014	(blank)	No
		MRSB231	Tree	Large Project	Rebuild downstream of B1398	2014	(blank)	No
		OKEB861	Tree	Done	No further action planned	2012	Failed equipment replaced at time of outage	Yes
		TROB1294	Lightning	Done	No further action planned	2012	Failed equipment replaced at time of outage	Yes
		BARB1272	Animal	None	No further action planned	2012	Breaker operations due to trees and weather	Yes
		DHTB1060	Animal	None	No further action planned	2012	Non-preventable tree outage	Yes
		KILX69	Tree	None	No further action planned	2012	Rebuild project is underway in this area.	Yes
Beaver Dam	Damyen	HONF80	Tree	Large Project	MAIN STREET RD 1.7MI 3PH OH HORICON	2014	(blank)	No

Wisconsin Power and Light Company PSCW 113 Section 0604

May 1, 2013

Beloit	Kuang	NLGM1315	Animal	Done	No further action planned	2012	Wildlife protection installed at time of outage	Yes
		SLGM2728	Tree	Done	No further action planned	2012	Rebuild project completed in December 2012	Yes
		SODM2197	Tree	Large Project	Rebuild line with galloping issues	2014	(blank)	No
		WIBM2556	Tree	Done	No further action planned	2012	Failed equipment replaced at time of outage	Yes
		WIBM2557	Animal	None	No further action planned	2012	Outages caused by Ice Storm	Yes
Berlin	Resch	ZENM1231	Animal	Large Project	Rebuild old OH line to UG to reduce tree and wildlife exposure	2014	(blank)	No
		NLGM835	Tree	Line Clearance	Tree Trimming	2014	(blank)	No
		KESD1922	Tree	Large Project	WP10-WP11-WP12 KESD1922 CTH M 0.7MI #2 AL UG	2014	(blank)	No
					WP10-WP11-WP12 KESD1922 STH 55 2MI #2 AL UG	2014	(blank)	No
		BERD505	Equip	Done	No further action planned	2012	Control Setting Error; corrected	Yes
Dane County	Batson	OMRD427	Animal	Done	No further action planned	2012	Resolved at time of outage	Yes
		SHND7069	Equip	Done	No further action planned	2012	Resolved at time of outage	Yes
		MOHN1077	Animal	Done	No further action planned	2012	Outages caused by Ice Storm	Yes
		MOHN1081	Tree	Large Project	CTH ID 3P RBLD Blue Mounds	2014	(blank)	No
		BYNN4373	Animal	Line Clearance Life Extension Project	Tree Trimming Life Extension Project	2013 2013	(blank) (blank)	No No

Fond du Lac	Trochinski	KTMP1816	Tree	Life Extension Project	Life Extension Project	2013	(blank)	No
		MYSP309	Animal	Life Extension Project	Life Extension Project	2014	(blank)	No
		NFLP411	Equip	Done	No further action planned	2012	Failed equipment replaced at time of outage	Yes
		NFLP746	Tree	Life Extension Project	Life Extension Project	2014	(blank)	No
Janesville	Runde	ALBN4233	Tree	Large Project	Norwegian Rd 4.3M 1ph OH-Albany	2014	(blank)	No
					Norwegian Rd 0.6M 1ph UG-Albany	2014	(blank)	No
					Attica Rd (N1797) north of Albany project	2014	(blank)	No
		DACN2737	Tree	Large Project	Lake Drive OH to UG 3ph project	2013	(blank)	No
		JANN1236	Equip	Large Project	Janesville Craig Inteliteam Control updates & remove Witco & Freedom	2013	(blank)	No
		BRNL1478	Tree	None	No further action planned	2012	Non-preventable trees during storms	Yes
		MLSN572	Animal	None	No further action planned	2012	Non-preventable trees during storms	Yes
Mineral Point	Bauman	TROB1293	Lightning	None	No further action planned	2012	Storm outages were wind/weather related with increased outage response times due to the number of outages in the area.	Yes

Mineral Point	Bauman	LORK892	Lightning	None	No further action planned	2012	Storm outages were wind/weather related with increased outage response times due to the number of outages in the area.	Yes
		DODK182	Animal	None	No further action planned	2012	Storm outages were wind/weather related with increased outage response times due to the number of outages in the area. Failed equipment was replaced.	Yes
		DODK466	Lightning	None	No further action planned	2012	Storm outages were wind/weather related with increased outage response times due to the number of outages in the area. Failed equipment was replaced.	Yes
		WKAK857	Lightning	None	No further action planned	2012	Storm outages were wind/weather related with increased outage response times due to the number of outages in the area.	Yes

Platteville	Bauman	BLOK270	Tree	None	No further action planned	2012	Storm outages were wind/weather related with increased outage response times due to the number of outages in the area.	Yes
Portage	Batson	OKEB482	Unknown	Large Project	N. Lake Rd RBLD	2014	(blank)	No
		PTEC167	Tree	Line Clearance	Tree Trimming	2014	(blank)	No
		PTEC631	Unknown	Life Extension Project	Life Extension Project	2013	(blank)	No
				Large Project	Pine Hollow Rd RBLD 1.64 miles	2014	(blank)	No
Wisconsin Rapids	McTavish				CTH J RBLD .83 Miles	2014	(blank)	No
				Line Clearance	Tree Trimming	2014	(blank)	No
		RUDA203	Animal	Done	No further action planned	2012	Failed equipment replaced at time of outage	Yes
		SARA1336	Animal	Done	No further action planned	2012	Failed equipment replaced at time of outage	Yes

PSCW 113.0604 2c) Alternative Criteria

WPL uses this process to identify only feeders whose reliability performance might be improved by WPL action. Distribution feeder performance outages due to circumstances beyond WPL's control or outages that may not reflect the physical condition of the equipment have been excluded from the analysis.

The types of events excluded from this analysis are:

- Planned interruptions,
- Interruptions caused by the failure of another utility's transmission or distribution system which feeds the WPL distribution system,
- Interruptions caused by the public, such as vehicle accidents, customers dropping tree-limbs in lines while trimming, etc.
- Interruptions caused by personnel errors such as switching errors or accidental contact during live utility work.

A circuit's ranking is based on the sum of all the duration points and frequency points for every customer served by the circuit. Points for a customer are calculated as detailed below based on individual reliability experience during the year.

If a customer experiences zero or one interruption in the calendar year, no points are assigned. For customers with two or more interruptions, each interruption is assigned a duration point value based on its length as shown in the table below. Additionally, each individual customer is assigned a point value based on the number of times their service was interrupted due to qualifying outages. The frequency points rise exponentially as the number of occurrences increases as shown on the following table.

Duration Scoring

<u>Duration</u>	<u>Points</u>
Outage less than 1 hr duration	1
Outage between 1 and 3 hr duration	2
Outage between 3 and 6 hr duration	3
Outage between 6 and 12 hr duration	4
Outage between 12 and 24 hr duration	5
Outage over 24 hr duration	6

Frequency Scoring

<u>Number of Outages</u>	<u>Points</u>	<u>Number of Outages</u>	<u>Points</u>
1	0	6	35
2	1	7	70
3	4	8	150
4	8	9	300
5	16	10 or more	500

For example, a customer with four outages, each less than one hour duration, would score four points for duration and eight points for frequency—a total of twelve points.

This method allows WPL to target circuits with pockets of customers with poorer reliability which might not be indicated by the SAIDI or SAIFI of a circuit with a large customer count.

PSCW 113.0604 2d) Accomplishment of Improvements in Prior Reports

Zone	Circuit	Data Year	Activity Description	Status	Final Report?
Baraboo	BARB595	2010	Rebuild project downstream of Recloser B309	Approved	No
	BWDB3543	2011	Rebuild project downstream of RECB1934 and FUSB1180 is scoped	Approved	No
	ISLB445	2009	Replace ug cable on segment B1515	Being engineered	No
	LHMB783	2008	Flath Rd Rebuild 0.6M UDG 1PH	Approved	No
	MECB938	2011	Rebuild project downstream of FUSB914 will be scoped	Approved	No
			Rebuild project downstream of RECB473 will be scoped	In Construction	Yes
	MECB962	2010	Convert the existing OH to UG downstream of B1439	In Construction	Yes
			Reconductor the UG cable downstream of B818	Approved	No
		2011	Rebuild project downstream of FUSB1439 & B1705	In Construction	Yes
			Rebuild project downstream of FUSB909 & FUSB910	Approved	No
	MRSB231	2011	Rebuild project downstream of FUSB163 and RECB306 is scoped	Approved	No
			Rebuild project downstream of FUSB4097 is scoped	Completed	Yes
	OKEB861	2010	Rebuild project on Rapp Rd (B1999)	Approved	No
	REEB1028	2011	Rebuild project downstream of FUSB1362	Approved	No
			Rebuild project downstream of RECB611	Approved	No
	REEB682	2008	Scope REEB682 STH33 RBLD 6.3M 3PH OH	In Construction	Yes
		2009	Rebuild project downstream of device B1733 on CTH K	Approved	No
			Rebuild project downstream of device B1733 on Larue Rd.	Approved	No
			Rebuild project downstream of device B744.	Approved	No
			Rebuild project downstream of device B776 on STH 33.	In Construction	Yes
		2010	Rebuild project on Cty Hwy V (B774)	Approved	No
			Rebuild project on Douglas Rd (B476)	Approved	No
			Rebuild project on Pearson Rd (B723)	Approved	No
	ROSB1003	2010	Rebuild project downstream of B4202	Approved	No
			Rebuild project downstream of B632	Completed	Yes
			Rebuild project downstream of recloser B636	In Construction	Yes
	ROSB1005	2009	Relocate segment B869 to run along Grote Rd.	Approved	No
	TROB1294	2008	TROB1294 SEITZ RD RBLD 1.8M UDG 1PH	Completed	Yes
			TROB1994 CASSEL RD RBLD-P1 2.4M OH 3PH	Completed	Yes
			TROB1994 CASSEL RD RBLD-P2 2.4M OH 3PH	Completed	Yes

Beaver Dam	CESF911	2003	Construct rebuild project named Francis Ct. rebuild 0.4 mile, 1 phase	Approved	No
	DADE1464	2010	Shore Dr. ABA Rebuild Project Install 0.8MI 1PH 1.5MI 3PH UG Green Lake	In Construction	No
		2011	NORTH ST SCOTT ST RBLD 0.8MI 3PH 0.4MI 1PH OH CONVERSION GREEN LAKE project will be scoped	Scoping	No
	DADE909	2009	Main feeder stem rebuild/relocate project	Being engineered	No
		2011	Main feeder stem rebuild/relocate project is scoped in conjunction with pending road move	Being engineered	No
	HONF86	2010	Install lightning arresters and install two tap fuses	Circuit performing well- further action not needed	Yes
	MAYF1187	2011	Install fuses and a recloser	Being engineered	No
	MOOE594	2011	New 3rd ug feeder out of Montello Sub project will be scoped	Scoping	No
	RDRE1404	2002	Construct rebuild project named STH 73 & CTH T RBLD 1.6MI 1PH OH	Approved	No
	SPBF378	2010	Rebuild project JOHN STREET 0.8MI 3PH OH MAYVILLE	Scoping	No
Beloit	CBSM2245	2011	A project will be scoped to replace primary cable downstream of fuse M1698	Approved	No
	CRNJ991	2010	Install a recloser at fuse J629-65T	In Construction	No
			Install a recloser at fused tap J637-40T	Completed	Yes
	CRNJ993	2009	Convert 1.8 miles 1 ph Oh to UG	In Construction	No
	KATM1437	2011	Rebuild project downstream of fuse M1105 will be scoped	Scoping	No
			Rebuild project downstream of recloser M1192 will be scoped	Scoping	No
	KATM433	2010	Rebuild single-phase line to three-phase along Wildrose Rd to loop the radial three-phase underground system	In Construction	Yes
	NITJ971	2009	Rebuild 1300 ft 1PH OH to UG	Engineering Complete	No
	RMRM5233	2011	Rebuild project named MUSIAL RD RBLD 1.2 MI 1&3PH 1/0 ACSR OH is scoped	In Construction	Yes
	SODM2197	2011	Underground primary cable will be scoped for replacement off fuse M1967	Scoping	No
	TWLM1653	2011	Rebuild project to replace underground cable in the Legion Dr Subdivision will be scoped	Scoping	No
	WIBM2556	2011	Fuse M1993-12T will be increased in size since this may have been weakened by lightning or overload	Completed	Yes
			A project will be scoped for rebuild along Bailey Rd fuse M552	Scoping	No

Beloit	WIBM2557	2009	Construct Schofield Rd substation	On hold until 2022. WIB and NLG have been approved for 2015, 2014 to address not being able to obtain a site for Schofield Rd substation	No
			Rebuild project to replace UG cable downstream of device M493	In Construction	Yes
		2011	Proposed Schofield Rd substation and associated feeder work	On hold until 2022. WIB and NLG have been approved for 2015, 2014 to address not being able to obtain a site for Schofield Rd substation	No
	WIBM2558	2011	A rebuild project on tap M184 will be scoped	Scoping	No
			A cable replacement project will be scoped	Scoping	No
Berlin	ARND2108	2011	Monitoring for additional lightning related outages	Resolved in conjunction with ATC project	No
	ARND2109	2011	County road move project will address performance issues on this circuit	In Construction	No
	IOLD1648	2011	0.5 mile 3PH rebuild on main feeder scheduled for 2012	Completed	Yes
	KESD1922	2011	Rebuild project downstream of D2062	Scoping	No
	MAND1131	2011	0.5 mile rebuild on main feeder	In Construction	Yes
	MRND1541	2010	Rebuild project on CTH S	Completed	Yes
	OMRD308	2003	Construct rebuild project named D525-12T Rebuild 2 miles of single phase 7.2KV distribution line	Completed	Yes
	PLRD1229	2011	Rebuild project downstream of D1365 will be scoped	Approved	No
	SILD6462	2002	Cypress Rd. Rebuild 1.6 miles, 1-phase, Neshkoro	Approved	No
		2007	Construct rebuild project named HN368 Cypress Rd 1.8MI 1PH OH UG Neshkoro	Approved	No
		2011	Perform Coordination Study on feeder	Completed	Yes
	WAUD720	2002	Construct rebuild project named CAMBRIDGE ST. RBLD 0.6MI 3PH OH	Approved	No
Dane County	BYNN4372	2011	Tree trimming	Completed	Yes
	CAMN5161	2010	Submit small life extension projects	Approved	No
	CAMN5163	2010	Submit life extension project	Approved	No
	CAMN5164	2010	Tree Trimming scheduled for 2013	Scheduled	No
	FORK3306	2011	Tree Trimming	Completed	Yes
	MOHN1077	2008	Construct rebuild project named STH 92 Mt Horeb to Mt. Vernon Rblid	Completed	Yes
	PLVN8401	2010	Submit life extension project	Approved	No

Dane County	STON3214	2011	Tree trimming	Completed	Yes
Fond du Lac	HISP1690	2010	Rebuild on Brooke Street	In Construction	Yes
	HUES193	2010	Rebuild on CTH EE	In Construction	Yes
	KTMP1816	2010	Perform life extension project	Approved	No
	MSTP1658	2004	Construct rebuild project named MSTP1658 Maria Ln 0.65MI 1PH RBLD	Approved	No
	MYSP309	2010	Rebuild on Brooke Street	In Construction	Yes
Janesville	ALBN4232	2009	Tin Can Road rebuild	Approved	No
			Tree trimming scheduled for 2012	Completed	Yes
	ALBN4233	2010	Scope 1ph rebuild along Norwegian Rd north of CTH EE	Approved	No
	BRON2088	2010	Scope project to rebuild 3ph OH line north of CTH F (N10885-S) to end-of-line	Scoping	No
	DACN2737	2009	Bingham Road rebuild	Completed	Yes
			Three <\$25k projects	In Construction	No
		2010	Edgerton Rd OH rebuild east 4.3mi 3ph 266 ACSR	Completed	Yes
			Edgerton Rd OH rebuild West 3.5mi OH	Completed	Yes
			Lake Drive UG-1.3mi 3p #1AL	In Construction	No
			Remove line from ROW and bury under I-90	Completed	Yes
	FOON445	2009	Tree trimming scheduled for 2012	Completed	Yes
	LMRN1219	2010	Rebuild Clear Lake Rd and convert portions to underground	Approved	No
	SCKN645	2009	Tree trimming is scheduled for 2013	Scheduled	No
		2010	Rebuild Mallwood Area	Scoping	No
			Rebuild outside Leisure Estates (3 projects)	Approved	No
			Rebuild Trescher Rd south of Vincent Rd-1ph	Approved	No
			Rebuild Watts Springs Rd west of River	Scoping	No
	SMEL729	2007	ATC rebuild for Y33 to be constructed 2012	Completed	Yes
	VIKN6442	2009	Rebuild project to complete Linden Ave OH to UG loops	Completed	Yes
	WION1076	2005	HN-South Wayne to Gratiot East	Canceled	Yes
Mauston	CADA344	2011	Rebuild projects downstream of RECA194 are scoped	In Construction	Yes
	NECA951	2010	Convert the existing OH to UG downstream of A247	Completed	Yes
Mineral Point	HIEK89	2010	Rebuild line on Webster St	In Construction	Yes
	SENK925	2010	Replace red tag poles and add lightning arrestors	In Construction	Yes
Platteville	LDSK687	2008	Rebuild on Tyler & Locust Sts.	Completed	Yes
Portage	AGNC1570	2011	A project to rebuild downstream of C1296 is scoped	Approved	No
			Rebuild project on Theile Rd	Approved	No
	HAMC1076	2008	Scope upgrade of line downstream of C387 along CT EE	Approved	No
		2011	Tree Trimming	Scheduled	No
			A project to rebuild the C3632 section of line is scoped	Approved	No
	KILX40	2011	Tree Trimming	Scheduled	No
	MASC1107	2008	Rebuild section of line downstream of fuse C803	Completed	Yes
	MASC464	2008	Rebuild section of line downstream of fuse C2686	Scoped	No
			Rebuild section of line downstream of fuse C290	Scoping	No

Portage	NCKE934	2008	NCKC1557_1st. ST. RBLD 1.2M UDG 1PH	Completed	Yes
			NCKC1557_CTH M RBLD 1.5M OH 3PH LE Project	Approved	No
		2010	Submit a Large Life Extension Project	Approved	No
	OKEB482	2009	Rebuild project downstream of device C336	Scoped	No
		2011	Tree Trimming	Scheduled	No
			Re-coordination of over-loaded tap fuse	Completed	Yes
	PORC757	2007	Tree Trimming	Completed	Yes
		2010	Submit Large Rebuild Project for Blackhawk Park Area	Re-evaluating the need for rebuild	No
			Tree Trimming	Scheduled	No
			Re-coordination to minimize number of impacted customers	In Construction	No
Tomah	DOCA81	2010	rebuild a section of line downstream of fuse C49	Completed	Yes
			Life Extension Project - Bielke Rd Life Extension	Approved	No
		2011	Reroute overhead line along Hwy 71	Completed	Yes
Wisconsin Rapids	PITA1329	2010	The solution for DOCA81 has been scoped and released for construction	Completed	Yes
			Rebuild project in Lindsey (A4540)	In Construction	Yes
			Rebuild project on Bluff Dr (A1828)	Approved	No
	ROZA1331	2010	Rebuild project on Woehrle Ln (A441)	Approved	No
			Hwy 97 OH to UG	Approved	No
	RUDA203	2010	Rebuild project starting on 1st St (A2046)	In Construction	Yes

PSCW 113.0604 2e) New Reliability or Power Quality Programs

WPL continues to look for ways to improve reliability while balancing customer costs. WPL developed a long term initiative to identify and prioritize projects that will extend the life of the assets and improve overall system reliability. This initiative is intended to extend the life of the distribution system through a combination of rebuilds and improvements, while optimizing the useful life of existing components and efficient use of capital dollars. The objective is to effectively address more miles of line with the same capital spending levels.

PSCW 113.0604 2f) Long Range Electric Distribution Plans

- **Rural Agricultural-Related Rebuilds** – WPL invested in 15 large rebuild projects, which directly impacted areas with potential stray voltage concerns, replacing approximately 29.7 miles of line at a cost of approximately \$1.8 million in 2012.
- **System Studies** – System Studies were conducted on the distribution system for the Portage, Lyndon Station, Pittsville/Rozellville, Deforest/Sun Prairie, Lake Geneva/Williams Bay/Walworth, Platteville/Darlington, New Glarus/Monticello, Green Lake, Brandon/Fairwater and Keshena areas in 2012.
- **Copper weld Replacement** – In 2012, WPL estimates that 71 miles of copper weld conductor were replaced.

PSCW 113.0604 3a) Miles Reconstructed by Phase

Number of Phases	Miles Constructed - 2011	Miles Constructed – 2012*
Single Phase	456	178
Three Phase	345	146

*Work Orders that were completely processed and closed as of 12/31/12

PSCW 113.0604 3b) Total Miles by Voltage Level

Voltage Level	12/2012
Under 22 kV	20,631
22 to 30 kV	600
31 to 40 kV	78
41 to 50 kV	0
Total Miles in Service	21,310

PSCW 113.0604 3c) Monthly Average Speed of Answer for Calls

Monthly average speed of answer, as defined in s. PSC 113.0503 (1) (b), for telephone calls received regarding emergencies, outages and customer billing problems. Data is reported in seconds to answer the call.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Billing	42.6	49.4	32.9	74.5	60.0	58.8	71.7	57.0	69.4	67.9	49.4	58.7
Outages	26.0	35.4	39.4	30.6	52.0	51.4	45.3	32.8	46.0	46.1	102.0	41.5
Emergencies	15.8	15.9	14.1	14.8	17.7	18.4	35.7	15.8	29.2	16.7	15.7	92.7

PSCW 113.0604 3d) Average Number Days to Install and Energize a New Service

Electric New Service Data

Month		2010		2011		2012	
		Projects	Avg. Days	Projects	Avg. Days	Projects	Avg. Days
January	1	135	11.3	97	7.9	121	7.7
February	2	93	10.5	55	18.9	92	23.1
March	3	159	8.9	99	7.0	126	23.0
April	4	224	9.4	155	3.2	180	9.8
May	5	221	5.3	224	9.4	235	8.5
June	6	215	4.0	254	5.1	253	7.7
July	7	253	5.8	224	10.9	209	4.5
August	8	231	10.6	241	4.7	272	3.9
September	9	252	6.4	229	3.5	216	8.0
October	10	245	5.8	222	11.7	260	6.3
November	11	274	19.4	243	5.8	268	31.5
December	12	218	31.0	204	10.6	169	10.1
Grand Total		2,520	11.1	2,247	7.8	2,401	11.4

PSCW 113.0604 3e) Total Number of Customer Complaints

The total number of written and telephone customer complaints received in the areas of safety, customer billing, outages, power quality, customer property damage and other areas, by month filed.

The following table shows the total complaints by category and month for 2012.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Grand Total
Safety	1	2	5	6	6	2	2	10	5	2	3	1	45
Customer Billing	27	29	33	20	23	11	28	23	23	31	14	15	277
Outages	4	10	5	11	15	21	12	16	30	26	10	46	206
Power Quality	1	1	1	1	1	1	2	4	3	1	1	4	21
Customer Property Damage	12	14	51	50	55	41	40	41	35	34	29	23	425
Collections	16	14	13	33	40	21	37	31	52	82	29	20	388
Other areas *	121	89	83	87	92	82	87	73	86	105	93	77	1075
Grand Total	182	159	191	208	232	179	208	198	234	281	179	186	2437

*Includes items such as Customer Programs, Customer Service, Payments, Miscellaneous Field/Engineering/Construction/Maintenance, Service & Repair, Technology and Sales

PSCW 113.0604 3f) Total Annual Tree Trimming Budget and Actual Expenses

	2012
Budget	\$ 5,637,999
Actual Spend	\$ 6,466,752

PSCW 113.0604 3g) Total Annual Miles of Line Tree Trimmed

Miles Trimmed	2012
Projected	3,071
Actual	3,522



Wisconsin Public Service Corporation
(a subsidiary of WPS Resources Corporation)
700 North Adams Street
P.O. Box 19001
Green Bay, WI 54307-9001

Public Service Commission of Wisconsin
RECEIVED: 04/30/04, 11:10:20 AM

April 30, 2004

Ms. Lynda Dorr
Public Service Commission of Wisconsin
610 N. Whitney Way
Madison, WI 53705-2729

Dear Ms. Dorr:

File 6690
RE: PSC 113.0604 Annual Report

Enclosed is Wisconsin Public Service Corporation's filing to meet the requirements for the PSC-113.0604 Annual Report.

Please call me at (920) 433-2566 if you have any questions or concerns.

Sincerely,

A handwritten signature in black ink, appearing to read "Maryam Sultana", with a horizontal line underneath.

Maryam Sultana
Distribution Planning Engineer

dd

Enclosures

Section I **Aggregate System Reliability Indices**

PSC 113.0604 (2)(a)

An overall assessment of the reliability performance including the aggregate SAIFI, SAIDI and CAIDI indices by system and each operating area, as applicable.

2003 ELECTRIC DISTRIBUTION CUSTOMER INTERRUPTIONS TOTAL DISTRIBUTION SYSTEM RELIABILITY INDICES WITH MAJOR STORMS AND TRANSMISSION OUTAGES WITHOUT MOMENTARIES (5 MINUTES OR LESS DURATION)

DISTRICT	SAIFI	CAIDI	SAIDI
GREEN BAY DIV	0.74	129	96
LAKESHORE DIV	0.83	193	160
TWO RIVERS	0.92	266	245
CHILTON	0.8	120	96
STURGEON BAY	0.51	142	72
KEWAUNEE	1.24	197	245
OSHKOSH DIV	0.89	72	64
WAUSAU DIV	0.52	86	44
WAUSAU	0.43	101	44
MERRILL	1.26	61	77
STEVENS PT	0.23	99	23
WAUPACA	0.92	76	70
RHINELANDER DIV	2.38	309	734
EAGLE RIVER	2.43	145	351
TOMAHAWK	1.51	314	474
MINOCQUA	2.81	192	538
RHINELANDER	3	530	1590
ANTIGO	0.96	72	70
M&M DIV	1.41	108	152
MENOMINEE	0.89	83	74
MARINETTE	1.24	56	70
WABENO	2.29	147	336
WAUSAUKEE	1.06	109	116
TOTAL COMPANY	1.09	189	206

Section II

Individual Circuit Reliability Performance

PSC 113.0603(2) INDIVIDUAL CIRCUIT RELIABILITY PERFORMANCE

Each utility shall, at the end of each calendar year, calculate the SAIFI, SAIDI, and CAIDI indices for each circuit in each operating area. Each circuit in each operating area shall then be listed in order separately according to its SAIFI index, its SAIDI index and also its CAIDI index, beginning with the highest values for each index.

TOTAL DISTRIBUTION SYSTEM RELIABILITY INDICES

SUBSTATION FEEDERS-INCLUDING MAJOR STORMS

AND TRANSMISSION CAUSED OUTAGES/EXCLUDING MTY'S LE 5 MIN

SAIFI			SAIDI			CAIDI		
SUBSTATION	FEEDER	FREQUENCY PER CUSTOMER SERVED (SAIFI)	SUBSTATION	FEEDER	DURATION MINS PER CUSTOMER SERVED (SAIDI)	SUBSTATION	FEEDER	DURATION MINS PER CUSTOMER OUTAGED (CAIDI)
THIRTIETH AVE.	122	5.00	HIGHWAY 8	242	1968	VENUS	242	673
PREBLE	241	4.13	VENUS	241	1653	HIGHWAY 8	242	630
HODAG	241	3.87	HIGHWAY 8	241	1541	EAST KROK	242	543
CLEAR LAKE	243	3.75	HODAG	241	1261	WESMARK	241	520
GOODMAN	241	3.51	WESMARK	241	1148	MISHICOT	122	512
WELLS STREET	122	3.51	VENUS	242	1137	HIGHWAY 8	241	510
MASON STREET	243	3.49	EASTOM	241	882	VENUS	241	505
CLEAR LAKE	242	3.44	THREE LAKES	121	873	THREE LAKES	121	495
BEARDSLEY STREET	122	3.37	CLEAR LAKE	243	870	LIBERTY STREET	243	402
WESMARK	242	3.28	MISHICOT	122	720	JOHNSON FALLS D	241	388
VENUS	241	3.27	WESMARK	242	715	MISHICOT	121	363
HIGHWAY 8	242	3.12	EAST KROK	242	665	EASTOM	241	361
ELLINWOOD	242	3.06	ST. GERMAIN	241	657	ROTHSCHILD	241	349
HIGHWAY 8	241	3.02	PREBLE	241	628	HODAG	241	326
ST. GERMAIN	241	3.02	MISHICOT	121	534	ROSIERE	241	322
GLORY ROAD	242	2.46	CLEAR LAKE	242	510	KELLNERSVILLE	121	315
EASTOM	241	2.45	GOODMAN	241	490	HOWARD	242	280
CRANBERRY SUB	244	2.39	ROSIERE	241	476	ALGOMA	121	261
WEST MARINETTE	241	2.22	EAST KROK	241	383	EAST KROK	241	257
WESMARK	241	2.21	CRANBERRY SUB	244	351	DYCKESVILLE	242	252
CLEAR LAKE	241	2.2	CLEAR LAKE	241	313	KELLNERSVILLE	122	250
BOWEN STREET	241	2.11	SILVER CLIFF	241	313	CLEAR LAKE	243	232
SILVER CLIFF	241	2.05	GLENVIEW	241	293	RED MAPLE	241	227
PEARL AVE.	121	2	THIRTIETH AVE.	122	283	ST. GERMAIN	241	218
WELLS STREET	121	2	ST. GERMAIN	242	270	ST. GERMAIN	242	218
OCONTO	242	1.87	MOUNTAIN	241	267	WESMARK	242	218
PINE	242	1.84	BEARDSLEY STREET	122	262	SHOTO	241	208
KELLY	241	1.79	GLORY ROAD	242	260	DYCKESVILLE	241	207
MOUNTAIN	241	1.79	SUMMIT LAKE	241	246	SOBIESKI	241	206
GLENVIEW	241	1.76	OSHKOSH	241	220	ALGOMA	122	205
THREE LAKES	121	1.76	SUAMICO	241	209	AVIATION	241	205
VENUS	242	1.69	LUXEMBURG	241	206	CALDRON F. STEP	121	203
SUMMIT LAKE	241	1.68	WINTON STREET	122	194	HOWARD	241	194
HARRISON	241	1.6	OSHKOSH	242	192	ROOSEVELT ROAD	121	194

SAIFI			SAIDI			CAIDI		
SUBSTATION	FEEDER	FREQUENCY PER CUSTOMER SERVED (SAIFI)	SUBSTATION	FEEDER	DURATION MINS PER CUSTOMER SERVED (SAIDI)	SUBSTATION	FEEDER	DURATION MINS PER CUSTOMER OUTAGED (CAIDI)
THUNDER	241	1.6	OSHKOSH	243	192	OSHKOSH	242	192
LUXEMBURG	242	1.56	LENA	241	189	OSHKOSH	243	192
HIGHWAY V	242	1.53	SHOTO	241	182	EASTOM	242	187
EAST KROK	241	1.49	ELLINWOOD	242	180	EASTMAN AVE.	242	185
ROSIERE	241	1.48	THUNDER	241	175	KRONEN	242	183
MISHICOT	121	1.47	MASON STREET	243	172	RED MAPLE	242	182
GLORY ROAD	241	1.44	AVIATION	241	161	OAK STREET	241	178
LENA	241	1.44	WELLS STREET	122	159	WINTON STREET	122	174
LUXEMBURG	241	1.41	MAINE	241	158	OSHKOSH	241	170
MISHICOT	122	1.41	EASTMAN AVE.	242	156	ST. NAZIANZ	242	168
SHERWOOD	242	1.41	SISTER BAY	242	149	GLENVIEW	241	167
OCONTO	241	1.4	DYCKESVILLE	241	148	LIBERTY STREET	242	167
HENRY STREET	122	1.38	MANRAP	121	140	BRUSBAY	122	165
PEARL AVE.	122	1.33	ROSIERE	242	139	POUND	241	164
SUAMICO	241	1.32	ST. NAZIANZ	242	136	KRONEN	241	163
OSHKOSH	241	1.3	HENRY STREET	122	131	BRUSBAY	121	162
AURORA STREET	241	1.29	OCONTO	242	130	GRAND RAPIDS	241	159
ROSIERE	242	1.29	PLOVER	242	130	SUNNYVALE	241	159
DAVES FALLS	242	1.27	HARRISON	241	126	SUAMICO	241	158
SHERWOOD	241	1.26	LIBERTY STREET	243	126	JAMES STREET	241	156
ST. GERMAIN	242	1.24	HIGHWAY V	242	120	SILVER CLIFF	241	153
HIGHWAY V	243	1.23	ALGOMA	122	118	MAINE	241	152
EAST KROK	242	1.22	GRAND RAPIDS	241	117	PREBLE	241	152
WAUPACA	241	1.19	PINE	242	117	MASON STREET	241	150
THIRTIETH AVE.	121	1.18	LUXEMBURG	242	113	ONTARIO	241	150
BEARDSLEY STREET	121	1.14	ALGOMA	121	112	MOUNTAIN	241	149
WINTON STREET	122	1.11	CALDRON F. STEP	121	106	BAY DE NOC	121	148
GRAVESVILLE	242	1.09	KELLY	241	106	CLEAR LAKE	242	148
WAUPACA	242	1.09	HIGHWAY V	243	101	CRANBERRY SUB	244	147
VELP AVE	242	1.08	MYSTERY HILLS	241	99	SHERMAN STREET	241	147
SISTER BAY	242	1.05	MASON STREET	241	96	GOLDEN SANDS	241	146
MAINE	241	1.04	GLORY ROAD	241	95	LUXEMBURG	241	146
MYSTERY HILLS	241	1.04	WAUPACA	241	95	SUMMIT LAKE	241	146
MANRAP	121	1.03	DUNN ROAD	121	91	ASHLAND AVE.	241	143
MERRILL	122	1.03	GRAVESVILLE	244	91	CLEAR LAKE	241	142
OSHKOSH	242	1	KELLNERSVILLE	122	91	MAPLEWOOD	241	141
OSHKOSH	243	1	ROCKLAND	241	90	SISTER BAY	242	141
PLOVER	242	1	SOBIESKI	241	90	DUNN ROAD	121	140
HARRISON	242	0.9	EASTOM	243	89	GOODMAN	241	139
SHOTO	241	0.88	THIRTIETH AVE.	121	88	GRAVESVILLE	244	139
EASTMAN AVE.	242	0.84	CASSEL	241	86	BLUESTONE	121	137
AURORA STREET	242	0.83	OCONTO	241	86	LOST DAUPHIN	241	135
ST. NAZIANZ	242	0.81	POUND	241	85	MANRAP	121	135
AVIATION	241	0.79	AURORA STREET	241	81	VELP AVE	241	134
GRAND RAPIDS	241	0.74	GLENVIEW	242	79	PREBLE	242	132
DYCKESVILLE	241	0.72	WEST MARINETTE	241	77	LENA	241	131

SAIFI			SAIDI			CAIDI		
SUBSTATION	FEEDER	FREQUENCY PER CUSTOMER SERVED (SAIFI)	SUBSTATION	FEEDER	DURATION MINS PER CUSTOMER SERVED (SAIDI)	SUBSTATION	FEEDER	DURATION MINS PER CUSTOMER OUTAGED (CAIDI)
ROCKLAND	241	0.72	BRUSBAY	122	75	PLOVER	242	130
CASSEL	241	0.69	DAVES FALLS	242	70	EASTOM	243	128
EASTOM	243	0.69	MERRILL	122	69	ASHLAND AVE.	242	127
GLENVIEW	242	0.69	AURORA STREET	242	66	ROCKLAND	241	125
DUNN ROAD	121	0.65	EASTOM	242	66	CASSEL	241	123
GRAVESVILLE	244	0.65	WAUPACA	242	65	ST. NAZIANZ	241	122
MASON STREET	241	0.64	DAVES FALLS	241	62	PLOVER	241	121
STROWBRIDGE ST.	121	0.64	BEARDSLEY STREET	121	59	ROCKLAND	242	121
DAVES FALLS	241	0.63	GRAVESVILLE	242	58	WHITING AVE.	241	121
ALGOMA	122	0.57	HOWARD	242	56	LIBERTY STREET	241	120
CALDRON F. STEP	121	0.52	JAMES STREET	241	55	GOLDEN SANDS	242	117
POUND	241	0.52	STROWBRIDGE ST.	121	55	SOUTH BROADWAY	242	117
MEARS CORNERS	241	0.5	PEARL AVE.	122	54	GLENVIEW	242	114
KELLY	242	0.47	WELLS STREET	121	53	EASTMAN AVE.	241	113
BRUSBAY	122	0.45	PEARL AVE.	121	52	MASON STREET	242	113
HENRY STREET	241	0.44	BRUSBAY	121	49	KELLY	243	112
SOBIESKI	241	0.44	GOLDEN SANDS	242	49	SISTER BAY	241	112
ALGOMA	121	0.43	VELP AVE	242	49	ROSIERE	242	109
GOLDEN SANDS	242	0.42	SHERWOOD	242	47	THUNDER	241	109
SANDSTONE DIST.	241	0.42	LIBERTY STREET	242	45	NORTHPOINT	241	107
ELLINWOOD	241	0.4	KELLNERSVILLE	121	44	GLORY ROAD	242	106
SHOTO	242	0.39	SHERWOOD	241	44	HOOVER	241	104
JAMES STREET	241	0.36	LOST DAUPHIN	241	43	MYSTERY HILLS	242	103
KELLNERSVILLE	122	0.36	MEARS CORNERS	241	42	STRATFORD	241	103
EASTOM	242	0.35	HENRY STREET	241	40	EGG HARBOR	242	101
HOOVER	242	0.35	SHERMAN STREET	241	40	DAVES FALLS	241	98
SISTER BAY	241	0.34	ASHLAND AVE.	242	39	HILLTOP	241	98
LOST DAUPHIN	241	0.32	SISTER BAY	241	38	MORRISON AVE.	242	98
MYSTERY HILLS	242	0.32	BOWEN STREET	241	36	WHITING AVE.	242	97
LIBERTY STREET	243	0.31	SANDSTONE DIST.	241	36	HENRY STREET	122	95
ASHLAND AVE.	242	0.3	ST. NAZIANZ	241	34	MYSTERY HILLS	241	95
BRUSBAY	121	0.3	MAPLEWOOD	241	33	PINE	241	95
PINE	241	0.29	MYSTERY HILLS	242	33	WAUSAU HYDRO	241	94
ST. NAZIANZ	241	0.28	ONTARIO	241	32	HENRY STREET	241	91
LIBERTY STREET	242	0.27	GOLDEN SANDS	241	31	CASSEL	242	90
SHERMAN STREET	241	0.27	WHITING AVE.	241	30	PREBLE	243	89
HILLTOP	241	0.26	KELLY	242	28	STROWBRIDGE ST.	121	86
HOOVER	241	0.26	PLOVER	241	28	MEARS CORNERS	241	85
STRATFORD	241	0.25	ASHLAND AVE.	241	27	SANDSTONE DIST.	241	85
WHITING AVE.	241	0.25	BAY DE NOC	121	27	HIGHWAY V	241	82
EGG HARBOR	241	0.23	HOOVER	241	27	HIGHWAY V	243	82
MAPLEWOOD	241	0.23	PINE	241	27	HIGHWAY 8	243	80
PLOVER	241	0.23	SHOTO	242	27	TOWER DRIVE	241	80
SHERMAN STREET	242	0.23	HILLTOP	241	26	WAUPACA	241	80
GOLDEN SANDS	241	0.21	STRATFORD	241	25	AURORA STREET	242	79
ONTARIO	241	0.21	HARRISON	242	23	BEARDSLEY STREET	122	78

SAIFI			SAIDI			CAIDI		
SUBSTATION	FEEDER	FREQUENCY PER CUSTOMER SERVED (SAIFI)	SUBSTATION	FEEDER	DURATION MINS PER CUSTOMER SERVED (SAIDI)	SUBSTATION	FEEDER	DURATION MINS PER CUSTOMER OUTAGED (CAIDI)
HOWARD	242	0.2	ROOSEVELT ROAD	121	23	HARRISON	241	78
NORTHPOINT	241	0.2	SOUTH BROADWAY	242	23	HIGHWAY V	242	78
NORTHPOINT	242	0.2	KRONEN	241	21	AVIATION	242	77
SOUTH BROADWAY	242	0.2	KRONEN	242	21	GRAVESVILLE	241	76
ASHLAND AVE.	241	0.19	NORTHPOINT	241	21	SECOND STREET	121	75
BAY DE NOC	121	0.19	LIBERTY STREET	241	20	THIRTIETH AVE.	121	74
HIGHWAY 8	243	0.18	OAK STREET	241	20	WINTON STREET	121	74
MORRISON AVE.	242	0.18	PREBLE	242	20	LUXEMBURG	242	73
SUNSET POINT	242	0.18	ELLINWOOD	241	19	TWELFTH AVE.	121	73
LIBERTY STREET	241	0.17	HOOVER	242	18	NORTHPOINT	242	72
EGG HARBOR	242	0.15	HOWARD	241	18	OCONTO	242	70
PEARL AVE.	241	0.15	MORRISON AVE.	242	18	SHOTO	242	70
PREBLE	242	0.15	EGG HARBOR	241	15	MERRILL	122	67
GRAVESVILLE	241	0.14	EGG HARBOR	242	15	GLORY ROAD	241	66
KELLNERSVILLE	121	0.14	RED MAPLE	241	15	EGG HARBOR	241	64
KRONEN	241	0.13	DYCKESVILLE	242	14	MORRISON AVE.	241	64
KELLY	243	0.12	HIGHWAY 8	243	14	PINE	242	64
KRONEN	242	0.12	KELLY	243	14	SUNSET POINT	241	64
ROOSEVELT ROAD	121	0.12	NORTHPOINT	242	14	AURORA STREET	241	63
WINTON STREET	121	0.12	SHERMAN STREET	242	11	OCONTO	241	62
OAK STREET	241	0.11	BLUESTONE	121	10	PEARL AVE.	123	62
HIGHWAY V	241	0.1	GRAVESVILLE	241	10	MENOMINEE	121	60
SECOND STREET	122	0.1	MASON STREET	242	10	THREE LAKES	241	60
WAUSAU HYDRO	241	0.1	VELP AVE	241	10	WAUPACA	242	60
HOWARD	241	0.09	WAUSAU HYDRO	241	10	ELLINWOOD	242	59
MASON STREET	242	0.09	WINTON STREET	121	9	KELLY	241	59
BOWEN STREET	121	0.08	EASTMAN AVE.	241	8	KELLY	242	59
CASSEL	242	0.08	HIGHWAY V	241	8	UNIVERSITY	123	59
HILLTOP	242	0.08	SUNSET POINT	242	8	HILLTOP	242	58
MENOMINEE	121	0.08	CASSEL	242	7	THIRTIETH AVE.	122	57
SECOND STREET	121	0.08	PEARL AVE.	241	7	TOWN LINE	121	57
SUNSET POINT	241	0.08	SECOND STREET	121	6	NORSAU	122	56
BLUESTONE	121	0.07	TOWER DRIVE	241	6	DAVES FALLS	242	55
EASTMAN AVE.	241	0.07	MENOMINEE	121	5	GRAVESVILLE	242	54
TOWER DRIVE	241	0.07	RED MAPLE	242	5	BEARDSLEY STREET	121	52
TOWN LINE	121	0.07	ROCKLAND	242	5	HOOVER	242	52
TOWN LINE	122	0.07	SUNSET POINT	241	5	TOWN LINE	122	51
VELP AVE	241	0.07	BOWEN STREET	121	4	MASON STREET	243	49
DYCKESVILLE	242	0.06	HILLTOP	242	4	PEARL AVE.	241	49
MORRISON AVE.	241	0.06	MORRISON AVE.	241	4	SHERMAN STREET	242	49
RED MAPLE	241	0.06	SECOND STREET	122	4	ELLINWOOD	241	48
MERRILL	121	0.05	TOWN LINE	121	4	BOWEN STREET	121	46
PEARL AVE.	123	0.04	TOWN LINE	122	4	MERRILL	121	45
ROCKLAND	242	0.04	WHITING AVE.	242	4	VELP AVE	242	45
TWELFTH AVE.	121	0.04	PEARL AVE.	123	3	WELLS STREET	122	45
UNIVERSITY	123	0.04	TWELFTH AVE.	121	3	WELLS STREET	123	44

SAIFI			SAIDI			CAIDI		
SUBSTATION	FEEDER	FREQUENCY PER CUSTOMER SERVED (SAIFI)	SUBSTATION	FEEDER	DURATION MINS PER CUSTOMER SERVED (SAIDI)	SUBSTATION	FEEDER	DURATION MINS PER CUSTOMER OUTAGED (CAIDI)
WHITING AVE.	242	0.04	MERRILL	121	2	SUNSET POINT	242	42
NORSAU	122	0.03	NORSAU	122	2	PEARL AVE.	122	41
RED MAPLE	242	0.03	UNIVERSITY	123	2	SECOND STREET	122	38
TWELFTH AVE.	242	0.02	TWELFTH AVE.	242	1	OGDEN ST	121	35
HARTMAN CREEK	241	0.01	AVIATION	242	0	SHERWOOD	241	35
AVIATION	242	0	HARTMAN CREEK	241	0	WEST MARINETTE	241	35
JOHNSON FALLS D	241	0	JOHNSON FALLS D	241	0	HARTMAN CREEK	241	34
MERRILL	241	0	MERRILL	241	0	SHERWOOD	242	33
OGDEN ST	121	0	OGDEN ST	121	0	TWELFTH AVE.	242	32
OGDEN ST	122	0	OGDEN ST	122	0	OGDEN ST	122	31
PREBLE	243	0	PREBLE	243	0	MERRILL	241	27
ROOSEVELT ROAD	241	0	ROOSEVELT ROAD	241	0	WELLS STREET	121	27
ROTHSCHILD	241	0	ROTHSCHILD	241	0	PEARL AVE.	121	26
SUNNYVALE	241	0	SUNNYVALE	241	0	HARRISON	242	25
THREE LAKES	241	0	THREE LAKES	241	0	BOWEN STREET	241	17
WELLS STREET	123	0	WELLS STREET	123	0	ROOSEVELT ROAD	241	14
WELLS STREET	242	0	WELLS STREET	242	0	WELLS STREET	242	8

Section III

Feeder Reliability Performance by District

PSC 113.0604 (2)(a)

An overall assessment of the reliability performance including the aggregate SAIFI, SAIDI, and CAIDI indices by system and each operating area, as applicable.

2003 ELECTRIC DISTRIBUTION CUSTOMER INTERRUPTIONS BY FEEDER
TOTAL DISTRIBUTION SYSTEM RELIABILITY INDEXES
INCLUDING MAJOR STORMS AND TRANSMISSION CAUSED OUTAGES
EXCLUDING MTY'S LE 5 MIN

DISTRICT	SUBSTATION	FEEDER	FREQUENCY PER CUSTOMER SERVED (SAIFI)	DURATION MINS PER CUSTOMER SERVED (SAIDI)	DURATION MINS PER CUSTOMER OUTAGED (CAIDI)
GREEN BAY	ASHLAND AVE.	241	0.19	27	143
	ASHLAND AVE.	242	0.3	39	127
	BLUESTONE	121	0.07	10	137
	DYCKESVILLE	241	0.72	148	207
	DYCKESVILLE	242	0.06	14	252
	EAST KROK	242	0.02	1	74
	EASTMAN AVE.	241	0.07	8	113
	EASTMAN AVE.	242	0.46	105	227
	GLORY ROAD	241	1.44	95	66
	GLORY ROAD	242	2.46	260	106
	HENRY STREET	122	1.38	131	95
	HENRY STREET	241	0.44	40	91
	HIGHWAY V	241	0.1	8	82
	HIGHWAY V	242	1.49	103	69
	HIGHWAY V	243	1.23	101	82
	HOWARD	241	0.09	18	194
	HOWARD	242	0.2	56	280
	JAMES STREET	241	0.36	55	156
	LIBERTY STREET	241	0.17	20	120
	LIBERTY STREET	242	0.27	45	167
	LIBERTY STREET	243	0.14	21	149
	LOST DAUPHIN	241	0.32	43	135
	MAPLEWOOD	241	0.23	33	141
	MASON STREET	241	0.64	96	150
	MASON STREET	242	0.09	10	113
	MASON STREET	243	3.49	172	49
	MYSTERY HILLS	241	1.04	99	95
	MYSTERY HILLS	242	0.32	33	103
	OAK STREET	241	0.11	20	178
	ONTARIO	241	0.21	32	150
	PREBLE	241	4.13	628	152
	PREBLE	242	0.15	20	132
	RED MAPLE	241	0.06	15	227
	RED MAPLE	242	0.03	5	182
	ROCKLAND	241	0.72	91	125
	ROCKLAND	242	0.04	5	121
	SOBIESKI	241	0.44	90	206
	SOUTH BROADWAY	242	0.2	23	117

DISTRICT	SUBSTATION	FEEDER	FREQUENCY PER CUSTOMER SERVED (SAIFI)	DURATION MINS PER CUSTOMER SERVED (SAIDI)	DURATION MINS PER CUSTOMER OUTAGED (CAIDI)
	SUAMICO	241	1.32	209	158
	TOWER DRIVE	241	0.07	6	80
	UNIVERSITY	123	0.04	2	59
	VELP AVE	241	0.07	10	135
	VELP AVE	242	1.08	49	45
	WESMARK	241	2.16	1129	523
	WESMARK	242	3.28	715	218
TWO RIVERS	GLENVIEW	242	1.56	268	172
	KELLNERSVILLE	121	0.14	44	315
	KELLNERSVILLE	122	0.36	91	250
	MANRAP	121	1.03	140	135
	MISHICOT	121	1.48	535	361
	MISHICOT	122	1.41	720	512
	SHOTO	241	0.88	182	208
	SHOTO	242	0.39	27	70
	ST. NAZIANZ	241	0.28	34	122
	ST. NAZIANZ	242	0.81	136	168
	WESMARK	241	2.4	1214	506
CHILTON	GLENVIEW	241	1.76	293	167
	GLENVIEW	242	0.56	51	91
	GRAVESVILLE	241	0.14	10	76
	GRAVESVILLE	242	1.09	58	54
	GRAVESVILLE	244	0.65	91	139
STURGEON BAY	ALGOMA	121	0.83	174	209
	BRUSBAY	121	0.3	49	162
	BRUSBAY	122	0.45	75	165
	DUNN ROAD	121	0.65	91	140
	EGG HARBOR	241	0.23	15	64
	EGG HARBOR	242	0.15	15	101
	ROSIERE	241	4.36	1018	234
	ROSIERE	242	1.37	116	84
	SISTER BAY	241	0.34	38	112
	SISTER BAY	242	1.05	149	141
KEWAUNEE	ALGOMA	121	0.25	85	335
	ALGOMA	122	0.57	118	205
	BEARDSLEY STREET	121	1.14	59	52
	BEARDSLEY STREET	122	3.37	262	78
	EAST KROK	241	1.49	383	257
	EAST KROK	242	1.3	707	544
	LUXEMBURG	241	1.3	152	117
	LUXEMBURG	242	1.56	113	73
	MISHICOT	121	1.03	523	508
	ROSIERE	241	1.02	389	383
	ROSIERE	242	1.27	143	113
	WESMARK	241	2.01	1094	543
OSHKOSH	AVIATION	241	0.79	161	205

DISTRICT	SUBSTATION	FEEDER	FREQUENCY PER CUSTOMER SERVED (SAIFI)	DURATION MINS PER CUSTOMER SERVED (SAIDI)	DURATION MINS PER CUSTOMER OUTAGED (CAIDI)
	BOWEN STREET	121	0.08	4	46
	BOWEN STREET	241	2.11	36	17
	ELLINWOOD	241	0.4	19	48
	ELLINWOOD	242	3.06	180	59
	MEARS CORNERS	241	0.5	42	85
	OSHKOSH	241	1.3	220	170
	OSHKOSH	242	1	192	192
	OSHKOSH	243	1	192	192
	PEARL AVE.	121	2	52	26
	PEARL AVE.	122	1.33	54	41
	PEARL AVE.	123	0.04	3	62
	PEARL AVE.	241	0.15	7	49
	SUNSET POINT	241	0.08	5	64
	SUNSET POINT	242	0.18	8	42
	TWELFTH AVE.	121	0.04	3	73
	TWELFTH AVE.	242	0.02	1	32
WAUSAU	CASSEL	241	0.7	88	127
	CASSEL	242	0.08	7	90
	HILLTOP	241	0.26	26	98
	HILLTOP	242	0.08	4	58
	KELLY	241	1.79	106	59
	KELLY	242	0.47	28	59
	KELLY	243	0.12	14	112
	KRONEN	241	0.13	21	163
	KRONEN	242	0.12	21	183
	MAINE	241	1.04	158	152
	MORRISON AVE.	241	0.06	4	64
	MORRISON AVE.	242	0.18	18	98
	NORSAU	122	0.03	2	56
	SHERMAN STREET	241	0.27	40	147
	SHERMAN STREET	242	0.23	11	49
	STRATFORD	241	0.25	25	103
	STROWBRIDGE ST.	121	0.64	55	86
	TOWN LINE	121	0.07	4	57
	TOWN LINE	122	0.07	4	51
	WAUSAU HYDRO	241	0.1	10	94
MERRILL	WINTON STREET	121	0.12	9	74
	WINTON STREET	122	1.11	194	174
	CASSEL	241	0.69	77	112
	MERRILL	121	0.05	2	45
	MERRILL	122	1.03	69	67
STEVENS POINT	PINE	241	0.29	27	95
	PINE	242	1.84	117	64
	GOLDEN SANDS	241	0.21	31	146
	GOLDEN SANDS	242	0.42	49	117
	HOOVER	241	0.26	27	104
	HOOVER	242	0.35	18	52
	NORTHPOINT	241	0.2	21	107

DISTRICT	SUBSTATION	FEEDER	FREQUENCY PER CUSTOMER SERVED (SAIFI)	DURATION MINS PER CUSTOMER SERVED (SAIDI)	DURATION MINS PER CUSTOMER OUTAGED (CAIDI)
	NORTHPOINT	242	0.2	14	72
	PLOVER	241	0.23	28	121
	PLOVER	242	1	130	130
	WHITING AVE.	241	0.25	30	121
	WHITING AVE.	242	0.04	4	97
WAUPACA	HARRISON	241	1.6	126	78
	HARRISON	242	0.9	23	25
	HARTMAN CREEK	241	0.01	0	34
	WAUPACA	241	1.19	95	80
	WAUPACA	242	1.09	65	60
EAGLE RIVER	CRANBERRY SUB	244	2.39	351	147
	ST. GERMAIN	242	2.59	535	206
	THREE LAKES	121	1.1	168	152
	THREE LAKES	241	1.26	72	57
TOMAHAWK	EASTOM	241	2.45	882	361
	EASTOM	242	0.35	66	187
	EASTOM	243	0.69	89	128
MINOCQUA	CLEAR LAKE	241	2.2	312	142
	CLEAR LAKE	242	3.44	510	148
	CLEAR LAKE	243	3.75	870	232
	ST. GERMAIN	241	3.01	657	218
	ST. GERMAIN	242	0.27	81	297
RHINELANDER	HIGHWAY 8	241	3.02	1541	510
	HIGHWAY 8	242	2.89	1899	656
	HIGHWAY 8	243	0.18	14	80
	HODAG	241	3.87	1261	326
	ST. GERMAIN	242	0.46	143	308
	THREE LAKES	121	4.25	3534	832
	THREE LAKES	241	0.42	39	93
	VENUS	241	3.27	1653	505
	VENUS	242	1.69	1137	673
ANTIGO	AURORA STREET	241	1.29	81	63
	AURORA STREET	242	0.83	66	79
	SUMMIT LAKE	241	0.25	42	168
MENOMINEE	BAY DE NOC	121	0.19	27	148
	GRAND RAPIDS	241	0.95	151	159
	MENOMINEE	121	0.08	5	60
	SECOND STREET	121	0.18	14	81
	SECOND STREET	122	0.1	4	38
	THIRTIETH AVE.	121	1.18	88	74
	THIRTIETH AVE.	122	5	283	57
	WELLS STREET	122	3.33	142	42
MARINETTE	LENA	241	1.44	189	131

DISTRICT	SUBSTATION	FEEDER	FREQUENCY PER CUSTOMER SERVED (SAIFI)	DURATION MINS PER CUSTOMER SERVED (SAIDI)	DURATION MINS PER CUSTOMER OUTAGED (CAIDI)
	OCONTO	241	1.4	86	62
	OCONTO	242	1.87	130	70
	OGDEN ST	121	0	0	35
	OGDEN ST	122	0	0	31
	POUND	241	0.22	52	234
	ROOSEVELT ROAD	121	0.12	23	194
	SECOND STREET	121	0.02	1	50
	SHERWOOD	241	1.26	44	35
	SHERWOOD	242	1.41	47	33
	WELLS STREET	121	2.68	83	31
	WELLS STREET	122	3.95	202	51
	WELLS STREET	242	0	0	8
	WEST MARINETTE	241	2.22	77	35
WABENO	GOODMAN	241	3.51	490	139
	MOUNTAIN	241	1.79	267	149
	SILVER CLIFF	241	2.02	313	155
WAUSAUKEE	CALDRON F. STEP	121	0.8	161	203
	DAVES FALLS	241	0.63	62	98
	DAVES FALLS	242	1.27	70	55
	JOHNSON FALLS D	241	0	0	388
	POUND	241	1.55	201	130
	SANDSTONE DIST.	241	0.42	36	85
	THUNDER	241	1.6	175	109

Section IV

Listing of Worst Performing Circuits - 2003

PSC 113.0604 (2)(b)

A list of worst-performing circuits based on SAIFI, SAIDI, and CAIDI indices for the calendar year.

WPS analyzed approximately 188 distribution circuits. WPS used a "composite" ranking of the indices to identify the ten worst. This analysis is shown on the appendix to this section. SAIFI, SAIDI, and CAIDI indices are listed for the 10 worst feeders for 2003. The indices were calculated using interruptions greater than 5 minutes and included transmission related outages and major storms.

- | | | | |
|---------------------|--------------|--------------|-------------|
| 1. Highway 8 242: | SAIFI = 3.21 | SAIDI = 1968 | CAIDI = 630 |
| 2. Venus 241: | SAIFI = 3.27 | SAIDI = 1653 | CAIDI = 673 |
| 3. Highway 8 241: | SAIFI = 3.02 | SAIDI = 1541 | CAIDI = 510 |
| 4. Hodag 241: | SAIFI = 3.87 | SAIDI = 1261 | CAIDI = 326 |
| 5. Wesmark 242: | SAIFI = 3.28 | SAIDI = 1148 | CAIDI = 520 |
| 6. Venus 242: | SAIFI = 1.69 | SAIDI = 1137 | CAIDI = 505 |
| 7. Clear Lake 243: | SAIFI = 3.75 | SAIDI = 870 | CAIDI = 232 |
| 8. Eastom 241: | SAIFI = 2.45 | SAIDI = 882 | CAIDI = 361 |
| 9. Three Lakes 121: | SAIFI = 1.76 | SAIDI = 873 | CAIDI = 495 |
| 10. Preble 241: | SAIFI = 4.13 | SAIDI = 628 | CAIDI = 152 |

This section of the report will describe the actions that the utility has taken or will take to improve the conditions responsible for each listed circuit's performance.

1. Highway 8-242: A major ice storm that occurred on Easter weekend of April 16 through 19, 2003 resulted in approximately 88.5% of the total customer outage minutes. This feeder covers the wooded area that was hard hit with the ice storm. The major areas hit were CTH K west of Rhineland, STH 47 north of Rhineland, and the Crescent/Squash Lake areas.
2. Venus-241: A major ice storm that hit this feeder on Easter weekend of April 16 through 19, 2003 contributed to 85% of total customer outage minutes. This feeder covers the wooded area around Pelican Lake, Post Lake, and Enterprise Lake that were hard hit with the ice storm.
3. Highway 8-241: This feeder was affected heavily by the ice storm that hit on Easter weekend of April 16 through 19, 2003. It contributed to 81% of total customer outage minutes. The main area on this feeder affected by the ice storm was south of Rhineland.
4. Hodag-241: The ice storm that hit on Easter weekend of April 16 through 19, 2003 contributed to 84% of total customer outage minutes. The main area on this feeder affected by the ice storm was north and east of Rhineland.
5. Wesmark-242: A transmission system outage of April 4, 2003 caused the whole feeder to be out for about 8 hours, which accounted for 60% of total customer outage minutes. Also, a car pole accident on July 8, 2003 knocked down the mainline north of CTY NN, which had to be rebuilt. This contributed to 25% of total customer outage minutes.

6. Venus-242: This feeder was affected heavily by the ice storm that hit on Easter weekend of April 16 through 19, 2003, which contributed to 92% of total customer outage minutes. This is a long radial feed to the Crandon, Mole Lake, Argonne, and Hiles areas. This area is planned for improvements with a 115 kv extension to a future Metonga Substation in 2007.
7. Clear Lake-243: This feeder is in a heavily wooded area around Lake Tomahawk and Hazelhurst. There have been some major main line outages both on CTH D and on USH 51 with trees taking down lines or splice failures on #4 Bare solid copper. The sections of line with the splices will be reconductored in 2004. There is a plan to install a set of three phase voltage regulators just south of Minocqua in order to be able to loop this circuit. This will improve transfer capabilities when main line outages occur. An application was filed to the ATC to extend transmission & add another substation called Arnett Rd. for 2007. This source will be located on the west side of Minocqua and will improve load serving capability & reliability to the Minocqua area.
8. Eastom-241: The ice storm that hit on Easter weekend of April 16 through 19, 2003 contributed to 87% of total customer outage minutes. The area affected heavily by the ice storm is north of Lake Nokomis.
9. Three Lakes-241: This feeder was also affected by the ice storm of April 16 through 19, 2003 which contributed to 84% of total customer outage minutes. This feeder was also being upgraded at the time from 12 kv to 25 kv to improve substation breakdown capacity issues and voltage problems on the feeder. Also, a couple of stepdowns failed and a substation outage occurred right after the conversion, May 2003, because of equipment failures. Since that time, the reliability of the feeder has improved. A second feeder and a transformer for this feeder is planned for 2005, which will further improve reliability.
10. Preble-241: Approximately 79% of total customer outage minutes were related to the storm of 8/21/03. A third feeder, Preble 243, was being added. To facilitate the cut in, Feeder 242 was transferred to Feeder 241. It was at this vulnerable time that the storm hit and contributed to more customer minutes of outage than usual.

Appendix to Section IV

Method for Determining 10 Worst Feeders

SAIFI, SAIDI, and CAIDI were calculated for each of the WPS distribution feeders. Due to the difficulty in ranking the feeders, a composite value was calculated in order to normalize SAIFI, SAIDI, and CAIDI. The following formula was used to develop a composite value based on 20% SAIFI and 80% SAIDI:

COMPOSITE = $[(\text{SAIFI}/\text{SAIFI MAX}) * 0.2 + (\text{SAIDI}/\text{SAIDI MAX}) * 0.8 + (\text{CAIDI}/\text{CAIDI MAX}) * 0]$ where MAX = the maximum value of SAIFI, SAIDI, and CAIDI for all distribution circuits.

INCLUDES INTERRUPTIONS > 5 MINUTES, TRANSMISSION AND MAJOR STORMS.

SUBSTATION	FEEDER	FREQUENCY PER CUSTOMER SERVED (SAIFI)	DURATION MINS PER CUSTOMER SERVED (SAIDI)	DURATION MINS PER CUSTOMER OUTAGED (CAIDI)	COMPOSITE
HIGHWAY 8	242	3.12	1968	630	0.925
VENUS	241	3.27	1653	673	0.803
HIGHWAY 8	241	3.02	1541	510	0.747
HODAG	241	3.87	1261	326	0.667
WESMARK	242	3.28	1148	520	0.598
VENUS	242	1.69	1137	505	0.530
CLEAR LAKE	243	3.75	870	232	0.504
EASTOM	241	2.45	882	361	0.457
THREE LAKES	121	1.76	873	495	0.425
PREBLE	241	4.13	628	152	0.420
ST. GERMAIN	241	3.02	657	218	0.388
WESMARK	241	2.21	715	218	0.379
MISHICOT	121	1.47	720	512	0.351
CLEAR LAKE	242	3.44	510	148	0.345
GOODMAN	241	3.51	490	139	0.340
EAST KROK	241	1.49	665	543	0.330
THIRTIETH AVE.	122	5.00	283	74	0.315
MISHICOT	122	1.41	534	363	0.273
ROSIERE	241	1.48	476	322	0.253
BEARDSLEY STREET	122	3.37	262	78	0.241
CRANBERRY SUB	244	2.39	351	147	0.238
CLEAR LAKE	241	2.2	313	142	0.215
MASON STREET	243	3.49	172	150	0.210
SILVER CLIFF	241	2.05	313	153	0.209
WELLS STREET	122	3.51	159	45	0.205
EAST KROK	242	1.22	383	257	0.204
GLORY ROAD	242	2.46	260	106	0.204
ELLINWOOD	242	3.06	180	59	0.196
GLENVIEW	241	1.76	293	167	0.190
MOUNTAIN	241	1.79	267	149	0.180
SUMMIT LAKE	241	1.68	246	146	0.167
ST. GERMAIN	242	1.24	270	218	0.159

SUBSTATION	FEEDER	FREQUENCY PER CUSTOMER SERVED (SAIFI)	DURATION MINS PER CUSTOMER SERVED (SAIDI)	DURATION MINS PER CUSTOMER OUTAGED (CAIDI)	COMPOSITE
LUXEMBURG	242	1.56	206	146	0.146
OSHKOSH	241	1.3	220	192	0.141
SUAMICO	241	1.32	209	158	0.138
THUNDER	241	1.6	175	109	0.135
LENA	241	1.44	189	131	0.134
OCONTO	242	1.87	130	70	0.128
WINTON STREET	122	1.11	194	174	0.123
PINE	242	1.84	117	95	0.121
WEST MARINETTE	241	2.22	77	35	0.120
OSHKOSH	242	1	192	192	0.118
OSHKOSH	243	1	192	170	0.118
HARRISON	241	1.6	126	78	0.115
KELLY	241	1.79	106	112	0.115
HIGHWAY V	242	1.53	120	82	0.110
SHOTO	241	0.88	182	208	0.109
HENRY STREET	122	1.38	131	95	0.108
ROSIERE	242	1.29	139	109	0.108
MAINE	241	1.04	158	152	0.106
SISTER BAY	242	1.05	149	141	0.103
LUXEMBURG	241	1.41	113	73	0.102
PEARL AVE.	121	2	54	62	0.102
WELLS STREET	121	2	53	44	0.102
BOWEN STREET	241	2.11	36	46	0.099
MANRAP	121	1.03	140	135	0.098
AVIATION	241	0.79	161	205	0.097
EASTMAN AVE.	242	0.84	156	185	0.097
GLORY ROAD	241	1.44	95	66	0.096
PLOVER	242	1	130	130	0.093
OCONTO	241	1.4	86	62	0.091
HIGHWAY V	243	1.23	101	82	0.090
DYCKESVILLE	241	0.72	148	252	0.089
ST. NAZIANZ	242	0.81	136	168	0.088
WAUPACA	241	1.19	95	80	0.086
AURORA STREET	241	1.29	81	79	0.085
THIRTIETH AVE.	121	1.18	88	57	0.083
MYSTERY HILLS	241	1.04	99	103	0.082
GRAVESVILLE	242	1.09	91	139	0.081
DAVES FALLS	242	1.27	70	98	0.079
GRAND RAPIDS	241	0.74	117	159	0.077
SHERWOOD	242	1.41	47	35	0.076
PEARL AVE.	122	1.33	52	49	0.074
ALGOMA	122	0.57	118	261	0.071
WAUPACA	242	1.09	65	60	0.070
BEARDSLEY STREET	121	1.14	59	52	0.070
MERRILL	122	1.03	69	67	0.069
SHERWOOD	241	1.26	44	33	0.068
ROCKLAND	241	0.72	90	125	0.065

SUBSTATION	FEEDER	FREQUENCY PER CUSTOMER SERVED (SAIFI)	DURATION MINS PER CUSTOMER SERVED (SAIDI)	DURATION MINS PER CUSTOMER OUTAGED (CAIDI)	COMPOSITE
MASON STREET	241	0.64	96	113	0.065
CALDRON F. STEPU	121	0.52	106	203	0.064
EASTOM	243	0.69	89	187	0.064
LIBERTY STREET	243	0.31	126	402	0.064
VELP AVE	242	1.08	49	134	0.063
DUNN ROAD	121	0.65	91	140	0.063
ALGOMA	121	0.43	112	205	0.063
CASSEL	241	0.69	86	123	0.063
AURORA STREET	242	0.83	66	63	0.060
GLENVIEW	242	0.69	79	114	0.060
POUND	241	0.52	85	164	0.055
SOBIESKI	241	0.44	90	206	0.054
KELLNERSVILLE	122	0.36	91	315	0.051
DAVES FALLS	241	0.63	62	55	0.050
GRAVESVILLE	244	0.65	58	76	0.050
BRUSBAY	122	0.45	75	165	0.048
STROWBRIDGE ST.	121	0.64	55	86	0.048
HARRISON	242	0.9	23	25	0.045
EASTOM	242	0.35	66	128	0.041
MEARS CORNERS	241	0.5	42	85	0.037
JAMES STREET	241	0.36	55	156	0.037
GOLDEN SANDS	242	0.42	49	146	0.037
HENRY STREET	241	0.44	40	91	0.034
BRUSBAY	121	0.3	49	162	0.032
SANDSTONE DIST.	241	0.42	36	85	0.031
HOWARD	242	0.2	56	280	0.031
LOST DAUPHIN	241	0.32	43	135	0.030
KELLY	242	0.47	28	59	0.030
LIBERTY STREET	242	0.27	45	167	0.029
SISTER BAY	241	0.34	38	112	0.029
ASHLAND AVE.	242	0.3	39	143	0.028
SHERMAN STREET	241	0.27	40	147	0.027
SHOTO	242	0.39	27	70	0.027
MYSTERY HILLS	242	0.32	33	95	0.026
ST. NAZIANZ	241	0.28	34	122	0.025
HOOVER	242	0.35	27	104	0.025
ELLINWOOD	241	0.4	19	48	0.024
KELLNERSVILLE	121	0.14	44	250	0.023
MAPLEWOOD	241	0.23	33	141	0.023
PINE	241	0.29	27	64	0.023
WHITING AVE.	241	0.25	30	121	0.022
ONTARIO	241	0.21	32	150	0.021
GOLDEN SANDS	241	0.21	31	117	0.021
HILLTOP	241	0.26	26	98	0.021
PLOVER	241	0.23	28	121	0.021
STRATFORD	241	0.25	25	103	0.020
ASHLAND AVE.	241	0.19	27	127	0.019

SUBSTATION	FEEDER	FREQUENCY PER CUSTOMER SERVED (SAIFI)	DURATION MINS PER CUSTOMER SERVED (SAIDI)	DURATION MINS PER CUSTOMER OUTAGED (CAIDI)	COMPOSITE
BAY DE NOC	121	0.19	27	148	0.019
HOOVER	241	0.26	18	52	0.018
SOUTH BROADWAY	242	0.2	23	117	0.017
NORTHPOINT	241	0.2	21	107	0.017
EGG HARBOR	241	0.23	15	101	0.015
LIBERTY STREET	241	0.17	20	120	0.015
MORRISON AVE.	242	0.18	18	98	0.015
ROOSEVELT ROAD	121	0.12	23	194	0.014
PREBLE	242	0.15	20	132	0.014
KRONEN	241	0.13	21	183	0.014
NORTHPOINT	242	0.2	14	72	0.014
SHERMAN STREET	242	0.23	11	49	0.014
KRONEN	242	0.12	21	163	0.013
HIGHWAY 8	243	0.18	14	80	0.013
OAK STREET	241	0.11	20	178	0.013
EGG HARBOR	242	0.15	15	64	0.012
HOWARD	241	0.09	18	194	0.011
KELLY	243	0.12	14	59	0.010
SUNSET POINT	242	0.18	8	64	0.010
GRAVESVILLE	241	0.14	10	54	0.010
PEARL AVE.	241	0.15	7	41	0.009
RED MAPLE	241	0.06	15	227	0.008
WINTON STREET	121	0.12	9	74	0.008
DYCKESVILLE	242	0.06	14	207	0.008
WAUSAU HYDRO	241	0.1	10	94	0.008
MASON STREET	242	0.09	10	49	0.008
HIGHWAY V	241	0.1	8	78	0.007
BLUESTONE	121	0.07	10	137	0.007
VELP AVE	241	0.07	10	45	0.007
SECOND STREET	122	0.1	6	75	0.006
EASTMAN AVE.	241	0.07	8	113	0.006
CASSEL	242	0.08	7	90	0.006
TOWER DRIVE	241	0.07	6	80	0.005
MENOMINEE	121	0.08	5	60	0.005
SUNSET POINT	241	0.08	5	42	0.005
BOWEN STREET	121	0.08	4	17	0.005
HILLTOP	242	0.08	4	58	0.005
SECOND STREET	121	0.08	4	38	0.005
TOWN LINE	121	0.07	4	57	0.004
TOWN LINE	122	0.07	4	51	0.004
MORRISON AVE.	241	0.06	4	64	0.004
ROCKLAND	242	0.04	5	121	0.004
RED MAPLE	242	0.03	5	182	0.003
WHITING AVE.	242	0.04	4	97	0.003
PEARL AVE.	123	0.04	3	26	0.003
TWELFTH AVE.	121	0.04	3	73	0.003
MERRILL	121	0.05	2	45	0.003

SUBSTATION	FEEDER	FREQUENCY PER CUSTOMER SERVED (SAIFI)	DURATION MINS PER CUSTOMER SERVED (SAIDI)	DURATION MINS PER CUSTOMER OUTAGED (CAIDI)	COMPOSITE
UNIVERSITY	123	0.04	2	59	0.002
NORSAU	122	0.03	2	56	0.002
TWELFTH AVE.	242	0.02	1	32	0.001
HARTMAN CREEK	241	0.01	0	34	0.000
AVIATION	242	0	0	77	0.000
JOHNSON FALLS D	241	0	0	388	0.000
MERRILL	241	0	0	27	0.000
OGDEN ST	121	0	0	35	0.000
OGDEN ST	122	0	0	31	0.000
PREBLE	243	0	0	89	0.000
ROOSEVELT ROAD	241	0	0	14	0.000
ROTHSCHILD	241	0	0	349	0.000
SUNNYVALE	241	0	0	159	0.000
THREE LAKES	241	0	0	60	0.000
WELLS STREET	123	0	0	27	0.000
WELLS STREET	242	0	0	8	0.000

Section V
Status of Previously Proposed Feeder Improvements

PSC 113.0604(2)(d)

A report on the accomplishment of the improvements proposed in prior reports for which completion has not been previously reported.

1. Silver Cliff-241: Silver Cliff-241 was listed as the worst-performing feeder for 2002. A new Summit Lake substation and feeder was added in 2003. This new feeder picked up a large portion of the western extremities of the Silver Cliff feeder 241 which were 30 to 50 miles from the Silver Cliff substation. This substation and load transfer will significantly improve reliability to this area.

Section VI

New Reliability and Power Quality Programs

PSC 113.0604(2)(e)

Listed below are new programs or changes to existing Power Quality and Reliability programs at WPS.

- Preventative Repair of Electric (PREP): WPSC started the Preventative Repair of Electric Plant (PREP) program in 1990. As of December 31st, 2003, we have completed the full cycle of visual inspection for all of our overhead facilities. The PREP program is currently being discontinued; and, beginning in 2004, the pole inspection program will be expanded to address any code and safety related issues.
- Pole Inspection and Treatment: WPSC is expanding the pole inspection program to visually identify safety and basic reliability problems on the distribution system. Observed or potential problems will be recorded on the appropriate form and any appropriate follow-up will be performed. Following the inspection, each pole will be physically inspected, tagged, and treated as outlined in the specifications.
- Distribution Line Clearance Program: WPSC is striving for a cycle and reliability based program. Trim cycles are based on the re-growth rates of predominate tree species. WPS schedules projects based on 3, 4, 5, and 6 year cycles. WPS must complete 3,240 miles a year to maintain the vegetation-based cycle. Reliability reports are linked to a GIS based application to assist in prioritization.
- Automated Meter Reading (AMR): The newly installed AMR system is being used to assist with customer call back during storms.
- Electric Operating Procedure (EOP D-7.50): This procedure has been revised to include power quality investigations along with voltage investigations.
- Post Insulator replacement program. A replacement program for Post type insulators was initiated to address customer service reliability. Certain post insulators were identified as having higher failure rates and a program is now in place to address the above stated issue.

Section VII
Long Range Distribution Plans

PSC 113.0604(2)(f)

A status report of any long range electric distribution plans. The following is the 2004-2013 Substation Construction Schedule

District Project	In-Service Date Req'd
Antigo	
Summit Lake – Add second feeder	June 2005
Chilton	
Reconductor Ryan Feeder exit from 2FCW to 336 ACSR	June 2004
Convert Brothertown stepdown to 24.9 kV	Dec. 2006
Convert the Chilton 4kV stepdown to 24.9 kV	Dec. 2006
Eagle River	
Three Lakes – Add second feeder	June 2005
Cranberry – Upgrade OCR's and Regulators	June 2010
Green Bay	
Install Bayport substation and feeder	June 2004
Upgrade Wesmark 241 transformer	Nov.2004
Ontario – Add second feeder	June 2006
Install Hemlock sub and feeder	June 2006
Install Monroe Rd. sub and feeder	June 2006
Mason sub - Add fourth feeder	June 2006
Suamico sub - Add second feeder	June 2007
James sub - Add second feeder	June 2007
Install Bluestone 24.9 kV feeder	June 2008
Install Pine Tree sub and feeder	June 2008
Red Maple - Add third feeder	June 2009
West Side Site – Add 24.9 kV feeder	June 2010
Kewaunee	
Beardsley St. Sub – Convert to 24.9 kV	June 2006
Algoma Sub – Convert to 24.9 kV	June 2008
Marinette & Menominee	
Convert Second St. feeder 121 to 24.9 kV and transfer to Wells 24.9 kV	June 2004
Grand Rapids – Construct new substation	June 2005
Oconto – Replace transformers with larger units – loss of bay capacity	June 2005

District Project	In-Service Date Req'd
needed	
Upgrade Lena feeder 241 bypass fuse	June 2006
Second St. sub and feeder 122 – convert to 24.9 kV	June 2006
Roosevelt Rd. – Add second 24.94 kV feeder	June 2007
Install Bay de Noc sub and feeder	June 2007
Convert Wells 121 and 122 to one 24.9 kV feeder	June 2009
Convert 30 th Ave. to 24.9 kV	June 2010
Add second feeder at Roosevelt Rd.	June 2011
Merrill	
Future site – Add 24.9 kV feeder	June 2013
Minocqua	
Clear Lake 241 – Replace transformer with larger unit and upgrade regulators and OCR	June 2005
Clear Lake 242 – Upgrade OCR to 800 amp and Regulators	June 2006
Arnett Rd. – Install sub and feeder	June 2007
Boulder Junction – Extend transmission and add sub and feeder	June 2008
Oshkosh	
Mears – Add second 24.94 kV feeder	June 2006
Fitzgerald – Add 138/24.94 kV feeder	July 2008
Bowen St. – Remove BNS 121; add second 24.94 kV feeder	June 2011
Rhineland	
Highway 8 241 – Upgrade OCR (800 amp) and regulators (400 amp)	June 2005
Hodag – upgrade feeder regulators, OCR, exit	June 2006
Metonga Sub – extend transmission line and add 2-24.94 kV feeders	June 2007
Stevens Point	
Install Okray Dr. sub and feeder	Nov 2004
Northpoint 241 – Upgrade OCR (800 amp) and regulators (400 amp)	June 2006
Install River sub and feeder	June 2009
West Side Site – Add 24.9 kV feeder	June 2010
Add Second feeder at Okray Dr. sub	June 2011
Sturgeon Bay	
Brusbay – Add second feeder	June 2006
Sister Bay – install high side transrupters	June 2007
Dunn Rd. – Convert to 24.9 kV with two feeders	June 2007
Tomahawk	
Eastom - Replace 243 transformer with larger rated unit	June 2005
Eastom – Increase regulators, recloser and feeder exit size	June 2006

District Project	In-Service Date Req'd
Install Tomahawk hydro sub and feeder	June 2008
Two Rivers	
Manrap – Convert to 24.94 kV (needed to maintain voltage)	June 2005
Kellnersville – Convert to 24.9 kV	Dec. 2007
Mishicot – Convert to 24.9 kV	Dec. 2008
Wabeno	
Goodman – Install fans, upgrade regulators, and OCR bypass fuse	Nov 2004
Laona – Build tie line to Metonga sub and transfer	June 2007
Waupaca	
Harrison – Upgrade regulators, recloser and feeder exit for feeder 241	June 2005
Harrison – Upgrade regulators and recloser for feeder 242	June 2006
Harrison – 138 kV sub –install a 24.9 kV transformer & feeder	June 2011
Wausau	
Townline – Add 24.94 kV feeder	June 2004
Winton – convert to 24.9 kV	June 2006
Wausau Rural SE – install a substation and feeder	June 2007
Wausau Rural NE – install sub and feeder	June 2010
Sunnyvale – Add second feeder	June 2012
Rothschild – Add second feeder	June 2012
Wausaukee	
Add a 138/24.94 kV distribution source at Crivitz.	July 2006
Install Amber sub and move Daves Falls load to it	June 2009

Section VIII
Miles of Electric Distribution Line Reconstructed

PSC 113.0604 (3)(a)

The route miles of electric distribution reconstruction is:

- Single Phase: 127 Miles
- Three Phase: 161 Miles

Section IX
WISCONSIN PUBLIC SERVICE CORPORATION
FS-116 MILES OF ELECTRIC DISTRIBUTION LINE AS OF DECEMBER 31, 2003

DISTRICT	URBAN RURAL	POLE LINE ON DISTRIBUTION POLES		TOTAL DISTRIBUTION POLE MILES	BURIED CABLE		UNDERGROUND CONDUIT MILES
		PRIMARY	SECONDARY		PRIMARY	SECONDARY	
GREEN BAY	RURAL	1,028.28	120.88	1,092.66	421.07	69.89	0.00
	URBAN	636.68	565.81	854.28	409.34	317.87	7.95
TOTAL GREEN BAY DIVISION		1,664.96	686.69	1,946.94	830.41	387.76	7.95
TWO RIVERS	RURAL	1,001.71	74.82	1,047.31	104.88	3.05	0.00
	URBAN	61.77	26.75	70.80	11.78	4.82	0.00
CHILTON	RURAL	448.74	16.94	459.04	33.84	2.93	0.00
	URBAN	57.42	36.31	73.47	22.92	15.40	0.00
STURGEON BAY	RURAL	912.99	99.70	994.59	90.41	3.71	0.00
	URBAN	55.08	19.43	68.01	14.21	0.81	0.00
KEWAUNEE	RURAL	558.72	21.35	575.68	44.00	0.21	0.00
	URBAN	99.07	22.33	108.35	21.73	11.88	0.00
TOTAL LAKESHORE DIVISION		3,195.50	317.63	3,397.25	343.77	42.81	0.00
OSHKOSH	RURAL	437.94	88.74	475.00	96.00	20.88	0.00
	URBAN	176.45	204.63	259.39	101.77	52.20	1.92
TOTAL OSHKOSH DIVISION		614.39	293.37	734.39	197.77	73.08	1.92
WAUSAU	RURAL	1,407.62	109.78	1,472.28	228.77	30.63	0.22
	URBAN	337.76	235.65	435.22	134.70	66.02	3.67
MERRILL	RURAL	672.46	37.77	699.40	108.35	3.38	0.00
	URBAN	58.28	46.75	75.26	11.43	4.27	0.00
STEVENS POINT	RURAL	591.09	44.84	620.49	126.17	14.50	0.00
	URBAN	163.32	119.75	230.83	93.52	39.14	0.43
WAUPACA	RURAL	154.81	26.03	171.19	56.14	5.37	0.00
	URBAN	37.74	28.38	52.36	13.28	5.16	0.00
TOTAL WAUSAU DIVISION		3,423.08	648.95	3,757.03	772.36	168.47	4.32
EAGLE RIVER	RURAL	402.18	57.69	454.16	181.50	4.83	0.00
	URBAN	2.47	0.23	2.67	1.11	0.00	0.00
TOMAHAWK	RURAL	366.00	60.77	411.99	108.41	3.17	0.00
	URBAN	38.82	21.74	50.59	9.55	1.77	0.00
MINOCQUA	RURAL	875.71	173.43	1,028.78	308.52	19.12	0.00
RHINELANDER	RURAL	862.05	88.85	927.32	281.88	6.96	0.00
	URBAN	72.95	48.49	98.69	19.14	5.55	1.26
ANTIGO	RURAL	473.24	30.19	496.74	73.95	3.03	0.00
	URBAN	48.14	32.40	66.09	12.05	3.93	0.00
TOTAL RHINELANDER DIVISION		3,141.56	513.79	3,537.03	996.11	48.36	1.26
MARINETTE	RURAL	648.36	48.61	681.48	102.94	3.01	0.00
	URBAN	127.33	107.63	171.76	30.05	12.85	0.00
WABENO	RURAL	795.47	116.42	890.18	279.56	6.26	0.00
	URBAN	6.41	4.53	8.84	1.09	0.31	0.00
WAUSAUKEE	RURAL	833.58	90.66	904.71	309.54	7.54	0.00
	URBAN	21.49	15.45	29.52	4.00	0.62	0.00
TOTAL M & M WISCONSIN		2,432.64	383.30	2,686.49	727.18	30.59	0.00
TOTAL WISCONSIN		14,472.13	2,843.73	16,059.13	3,867.60	751.07	15.45
MENOMINEE	RURAL	406.89	32.13	432.07	33.65	0.30	0.00
	URBAN	59.39	48.50	80.77	16.64	4.03	2.52
TOTAL M & M MICHIGAN		466.28	80.63	512.84	50.29	4.33	2.52
TOTAL COMPANY		14,938.41	2,924.36	16,571.97	3,917.89	755.40	17.97

Section X
Average Speed of Answer

PSC 113.0604 (3)(c)

Listed is the average speed of answer in seconds for telephone calls received regarding emergencies, outages and customer billing problems for the year 2003.

Month	Seconds
January	31.2
February	28.4
March	37.6
April	50.8
May	42.0
June	32.5
July	40.3
August	47.4
September	54.8
October	45.0
November	26.8
December	33.6

Section XI

Service Installation Performance

PSC 113.0604 (3)(d)

The average number of calendar days a utility takes to install and energize service to a customer site once it is ready to receive service.

WPSC's Distribution Work Management System tracks our construction process in the Work Management Information System (WMIS) component. WMIS provides the following data:

- Requested Completion Date
- Meter Set Date

Average number of calendar days from the Requested Completion Date to the Electric Meter set date in 2003:

Month	Average Number of Days
January	15.51
February	25.82
March	12.79
April	9.45
May	11.43
June	8.22
July	8.34
August	11.92
September	10.02
October	9.92
November	11.47
December	18.08

These averages are based on the work requests that had both the requested completion date and the electric meter set date entered in the WMIS System at the time this data was extracted.

Section XII

Customer Complaint Summary

PSC 113.0604 (3)(e)

The total number of written and telephone customer complaints received in the areas of safety, customer billing, outages, power quality, customer property damages and other areas.

PSCW Commission Complaints By Month – 2003

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
Backbilling/Defective Meter	1	1	2								1		5
Billing	2					4		1					7
Credit	3	3	1	21	22	20	26	27	26	16	6	2	173
Customer Service Calls/Charts								1	1	1			3
Electric Service Extensions				1	1	1			1				4
Gas Service Extensions												1	1
Meter Locations								1					1
Miscellaneous/Other		1	1	3	1	4		3	1	1	1		16
Outages								1					1
Property Damage to Customer						3					1		4
Rate Classification				1									1
Relocate WPSC Facilities					1								1
Service Reliability					1								1
Total	6	5	4	26	26	32	26	34	29	18	9	3	218

Section XIII
Tree Trimming Spending and Summary

PSC 113.0603(3)(f)

2003 Line Clearance Budget Summary

Total annual tree trimming budget: \$4,875,000

Total annual tree trimming actual expenses: \$4,876,335

PSC 113.0604(3)(g)

2003 Line Clearance Line-Mile Summary

Annual projected miles of distribution line tree trimmed: 3240

Total actual miles of distribution line tree trimmed: 3188



Wisconsin Public Service Corporation
(a subsidiary of WPS Resources Corporation)
700 North Adams Street
P.O. Box 19001
Green Bay, WI 54307-9001

Public Service Commission of Wisconsin
RECEIVED: 04/29/05, 12:09:27 PM

April 20, 2005

Ms. Christy Zehner
Secretary of the Commission
Public Service Commission of Wisconsin
610 N. Whitney Way
Madison, WI 53705-2729

Dear Ms. Zehner:

File **6690**
RE: PSC 113.0604 Annual Report

Enclosed is Wisconsin Public Service Corporation's filing to meet the requirements for the PSC-113.0604 Annual Report.

Please call me at (920) 433-2566 if you have any questions or concerns.

Sincerely,

A handwritten signature in black ink, appearing to read "Maryam Sultana", with a horizontal line underneath the name.

Maryam Sultana
Distribution Planning Engineer

wab

Enclosures

PSC 113.0603(2) INDIVIDUAL CIRCUIT RELIABILITY PERFORMANCE

Each utility shall, at the end of each calendar year, calculate the SAIFI, SAIDI, and CAIDI indices for each circuit in each operating area. Each circuit in each operating area shall then be listed in order separately according to its SAIFI index, its SAIDI index and also its CAIDI index, beginning with the highest values for each index.

2004 ELECTRIC DISTRIBUTION CUSTOMER INTERRUPTION REPORT
 TOTAL DISTRIBUTION SYSTEM RELIABILITY INDICES
 SUBSTATION FEEDERS INCLUDING MAJOR STORMS
 AND TRANSMISSION CAUSED OUTAGES/EXCLUDING MTY'S LE 5 MIN

SUBSTATION	FEEDER	FREQUENCY	SUBSTATION	FEEDER	DURATION	SUBSTATION	FEEDER	DURATION
		PER CUSTOMER SERVED (SAIFI)			MINS PER CUSTOMER SERVED (SAIDI)			MINS PER CUSTOMER OUTAGED (CAIDI)
ST. GERMAIN	241	5.62	CRANBERRY SUB	244	1166	EASTMAN AVE.	133	449
CLEAR LAKE	243	4.92	ST. GERMAIN	242	815	DYCKESVILLE	242	357
CRANBERRY SUB	244	4.76	ST. GERMAIN	241	810	GLORY ROAD	241	343
THREE LAKES	241	4.49	THREE LAKES	241	606	LIBERTY STREET	242	293
CLEAR LAKE	241	4.13	GOODMAN	241	593	ASHLAND AVE.	241	275
HIGHWAY 8	242	3.82	EASTMAN AVE.	133	449	GLORY ROAD	242	266
GOODMAN	241	3.78	CLEAR LAKE	243	398	PREBLE	241	249
GRAND RAPIDS	241	3.52	LOST DAUPHIN	241	390	CRANBERRY SUB	244	245
ST. GERMAIN	242	3.42	AURORA STREET	242	368	ST. GERMAIN	242	238
CLEAR LAKE	242	3.33	SUMMIT LAKE	241	318	HARRISON	242	234
AURORA STREET	242	3.08	CLEAR LAKE	242	314	WAUPACA	242	233
KRONEN	241	2.71	SILVER CLIFF	241	305	HOOVER	242	231
LUXEMBURG	241	2.63	HIGHWAY 8	242	296	RED MAPLE	242	219
LOST DAUPHIN	241	2.62	DAVES FALLS	242	292	EASTOM	243	213
EASTOM	241	2.45	EASTOM	243	286	PREBLE	242	211
SILVER CLIFF	241	2.42	EASTOM	241	275	MENOMINEE	121	204
SUMMIT LAKE	241	2.36	CLEAR LAKE	241	274	RED MAPLE	241	203
EASTOM	242	2.25	HODAG	241	244	GLENVIEW	241	197
HIGHWAY 8	243	2.23	HARRISON	242	235	WINTON STREET	121	196
NORTHPOINT	241	2.2	HENRY STREET	122	221	KELLY	243	191
TOWN LINE	121	2.06	VENUS	241	219	MASON STREET	243	185
SHERMAN STREET	242	2.01	EASTOM	242	213	HIGHWAY V	242	183
HODAG	241	1.94	GRAND RAPIDS	241	205	LENA	241	183
DAVES FALLS	242	1.89	VENUS	242	165	DUNN ROAD	121	180
MOUNTAIN	242	1.84	LENA	241	153	SHOTO	242	180
VENUS	241	1.66	MOUNTAIN	242	147	MISHICOT	121	175
HENRY STREET	122	1.65	WHITING AVE.	241	147	GOLDEN SANDS	241	173
HARTMAN CREEK	241	1.63	HARTMAN CREEK	241	145	GRAVESVILLE	241	171
GRAVESVILLE	244	1.55	NORTHPOINT	241	136	ONTARIO	241	165
BAY DE NOC	121	1.51	DAVES FALLS	241	134	SOBIESKI	241	164
EAST KROK	242	1.43	WESMARK	241	134	KELLNERSVILLE	122	159
HIGHWAY 8	241	1.41	OSHKOSH	242	126	OAK STREET	241	158
HENRY STREET	241	1.35	GOLDEN SANDS	242	125	GOODMAN	241	157
EASTOM	243	1.34	MOUNTAIN	241	122	DAVES FALLS	242	154

SUBSTATION	FEEDER	FREQUENCY	SUBSTATION	FEEDER	DURATION	SUBSTATION	FEEDER	DURATION
		PER CUSTOMER SERVED (SAIFI)			MINS PER CUSTOMER SERVED (SAIDI)			MINS PER CUSTOMER OUTAGED (CAIDI)
MEARS CORNERS	241	1.3	BAY DE NOC	121	119	ROSIERE	241	153
WHITING AVE.	241	1.26	LUXEMBURG	241	119	VELP AVE	242	153
ELLINWOOD	242	1.24	LIBERTY STREET	131	117	CASSEL	242	152
WESMARK	242	1.19	GRAVESVILLE	244	116	SUAMICO	241	152
VENUS	242	1.18	OCONTO	242	115	TWELFTH AVE.	242	152
ELLINWOOD	241	1.15	SHOTO	241	115	SHERWOOD	242	150
OSHKOSH	242	1.13	MEARS CORNERS	241	114	SISTER BAY	242	150
OCONTO	242	1.12	GRAVESVILLE	241	112	LOST DAUPHIN	241	149
WESMARK	241	1.12	KRONEN	241	111	ST. GERMAIN	241	144
DAVES FALLS	241	1.11	WINTON STREET	122	110	THUNDER	241	144
BEARDSLEY STREET	122	1.09	WAUPACA	242	105	GLENVIEW	242	141
AVIATION	242	1.06	HOWARD	242	92	KELLY	242	140
NORSAU	122	1.06	WINTON STREET	121	92	VENUS	242	140
WINTON STREET	122	1.05	HOOVER	242	90	MOUNTAIN	241	139
BLUESTONE	121	1.02	BLUESTONE	121	89	SHOTO	241	137
BRUSBAY	242	1.02	GOLDEN SANDS	241	87	THREE LAKES	241	135
TWELFTH AVE.	121	1.02	SHERMAN STREET	242	86	HENRY STREET	122	134
HARRISON	242	1.01	ELLINWOOD	241	84	SUMMIT LAKE	241	134
CRANBERRY SUB	241	1	RED MAPLE	241	83	POUND	241	133
EASTMAN AVE.	133	1	ROSIERE	241	80	SECOND STREET	122	133
LIBERTY STREET	131	1	KRONEN	242	79	LIBERTY STREET	241	132
MERRILL MFG.	121	1	RED MAPLE	242	77	VENUS	241	132
OGDEN ST	121	1	THUNDER	241	77	BRUSBAY	122	128
OGDEN ST	122	1	WESMARK	242	77	HOWARD	242	128
TAYLOR	121	1	HENRY STREET	241	76	GOLDEN SANDS	242	126
GOLDEN SANDS	242	0.99	MAPLEWOOD	241	74	HIGHWAY V	243	126
MOUNTAIN	241	0.87	GLENVIEW	241	71	KELLNERSVILLE	121	126
SHOTO	241	0.84	HIGHWAY 8	243	70	SHERWOOD	241	126
LENA	241	0.83	SISTER BAY	242	68	SILVER CLIFF	241	126
ROSIERE	242	0.76	MAINE	241	67	SISTER BAY	241	126
HOWARD	242	0.72	ELLINWOOD	242	66	HODAG	241	125
EGG HARBOR	242	0.71	GLORY ROAD	241	64	KRONEN	242	125
GRAVESVILLE	241	0.66	KELLY	242	63	MASON STREET	242	125
MAINE	241	0.65	MANRAP	121	63	MISHICOT	122	123
KRONEN	242	0.63	GRAVESVILLE	242	61	AURORA STREET	242	120
MAPLEWOOD	241	0.63	AVIATION	242	60	DAVES FALLS	241	120
GRAVESVILLE	242	0.61	MYSTERY HILLS	242	60	WESMARK	241	120
SANDSTONE DIST.	241	0.57	PREBLE	241	60	JAMES STREET	241	119
MANRAP	121	0.56	DUNN ROAD	121	59	OCONTO	241	119
SUNNYVALE	241	0.55	SANDSTONE DIST.	241	59	MAPLEWOOD	241	118
SOUTH BROADWAY	242	0.54	TOWN LINE	121	59	HIGHWAY V	241	117
MYSTERY HILLS	242	0.53	SOBIESKI	241	58	LIBERTY STREET	131	117

ROSIERE	241	0.53	HIGHWAY 8	241	57	MYSTERY HILLS	241	117
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		FREQUENCY PER CUSTOMER SERVED (SAIFI)			DURATION MINS PER CUSTOMER SERVED (SAIDI)			DURATION MINS PER CUSTOMER OUTAGED (CAIDI)
SUBSTATION	FEEDER		SUBSTATION	FEEDER		SUBSTATION	FEEDER	
THUNDER	241	0.53	SUNNYVALE	241	55	ST. NAZIANZ	241	117
HOOVER	241	0.51	BEARDSLEY STREET	122	54	ST. NAZIANZ	242	117
STRATFORD	241	0.51	EGG HARBOR	242	52	WHITING AVE.	241	116
GOLDEN SANDS	241	0.5	HOOVER	241	52	NORTHPOINT	242	115
WINTON STREET	121	0.47	MISHICOT	121	52	MYSTERY HILLS	242	113
PINE	242	0.46	CRANBERRY SUB	241	51	EASTOM	241	112
KELLY	242	0.45	GLENVIEW	242	51	MANRAP	121	112
SISTER BAY	242	0.45	BRUSBAY	242	50	OSHKOSH	242	112
WAUPACA	242	0.45	CASSEL	242	50	SUNSET POINT	242	111
AVIATION	241	0.43	LIBERTY STREET	241	50	ROCKLAND	241	109
PLOVER	241	0.43	OGDEN ST	122	50	EGG HARBOR	241	108
RED MAPLE	241	0.41	POUND	241	50	MASON STREET	241	108
MORRISON AVE.	241	0.4	ROSIERE	242	48	MORRISON AVE.	242	108
ST. NAZIANZ	242	0.4	NORSAU	122	47	WELLS STREET	122	108
EAST KROK	241	0.39	ST. NAZIANZ	242	47	WINTON STREET	122	106
HOOVER	242	0.39	AVIATION	241	43	CALDRON F. STEPU	121	104
LIBERTY STREET	241	0.38	STRATFORD	241	43	HOWARD	241	104
POUND	241	0.38	SHERWOOD	241	42	LIBERTY STREET	243	103
VELP AVE	241	0.37	MASON STREET	243	41	MAINE	241	103
GLENVIEW	241	0.36	ST. NAZIANZ	241	41	OCONTO	242	103
GLENVIEW	242	0.36	EAST KROK	242	36	SANDSTONE DIST.	241	103
RED MAPLE	242	0.35	EGG HARBOR	241	36	HOOVER	241	102
SOBIESKI	241	0.35	PLOVER	241	35	SUNNYVALE	241	102
ST. NAZIANZ	241	0.35	SHERWOOD	242	35	AVIATION	241	100
SHERWOOD	241	0.34	VELP AVE	242	34	GRAVESVILLE	242	100
CASSEL	242	0.33	ROCKLAND	241	33	HARRISON	241	100
DUNN ROAD	121	0.33	PINE	242	32	PEARL AVE.	241	100
EGG HARBOR	241	0.33	SISTER BAY	241	32	EASTOM	242	95
HILLTOP	241	0.33	TWELFTH AVE.	121	32	HILLTOP	242	95
KELLY	241	0.31	JAMES STREET	241	31	CASSEL	241	94
MISHICOT	121	0.3	KELLY	243	30	CLEAR LAKE	242	94
ROCKLAND	241	0.3	MASON STREET	241	30	DYCKESVILLE	241	94
MASON STREET	241	0.28	SHOTO	242	30	PREBLE	243	94
CASSEL	241	0.26	OGDEN ST	121	28	WHITING AVE.	242	93
HARRISON	241	0.26	BRUSBAY	122	27	SUNSET POINT	241	91
JAMES STREET	241	0.26	SUAMICO	241	27	LUXEBURG	242	90
SISTER BAY	241	0.26	SUNSET POINT	242	27	ROTHSCHILD	241	90
SUNSET POINT	242	0.25	HARRISON	241	26	WELLS STREET	242	90
PREBLE	241	0.24	CASSEL	241	25	ALGOMA	122	89
SHERWOOD	242	0.23	VELP AVE	241	25	HARTMAN CREEK	241	89
MASON STREET	243	0.22	SOUTH BROADWAY	242	24	SECOND STREET	121	89
VELP AVE	242	0.22	OCONTO	241	23	MEARS CORNERS	241	88
BRUSBAY	122	0.21	MORRISON AVE.	241	22	BLUESTONE	121	87

		FREQUENCY PER CUSTOMER SERVED (SAIFI)			DURATION MINS PER CUSTOMER SERVED (SAIDI)			DURATION MINS PER CUSTOMER OUTAGED (CAIDI)
SUBSTATION	FEEDER		SUBSTATION	FEEDER		SUBSTATION	FEEDER	
CALDRON F. STEPUP	121	0.21	CALDRON F. STEPUP	121	21	STRATFORD	241	83
LUXEMBURG	242	0.2	HIGHWAY V	241	21	BEARDSLEY STREET	121	81
DYCKESVILLE	241	0.19	PREBLE	242	21	CLEAR LAKE	243	81
GLORY ROAD	241	0.19	KELLY	241	20	PLOVER	241	81
OCONTO	241	0.19	DYCKESVILLE	241	18	MOUNTAIN	242	80
HIGHWAY V	241	0.18	EAST KROK	241	18	BAY DE NOC	121	79
SUAMICO	241	0.18	LUXEMBURG	242	18	HIGHWAY 8	242	78
SHOTO	242	0.17	WELLS STREET	122	18	UNIVERSITY	123	77
KELLY	243	0.16	DYCKESVILLE	242	17	EASTMAN AVE.	241	76
WELLS STREET	122	0.16	KELLNERSVILLE	122	17	OSHKOSH	241	76
WHITING AVE.	242	0.16	HOWARD	241	16	SHERMAN STREET	241	76
HOWARD	241	0.15	NORTHPOINT	242	16	GRAVESVILLE	244	75
WAUPACA	241	0.15	TWELFTH AVE.	242	16	EGG HARBOR	242	73
ALGOMA	122	0.14	MISHICOT	122	15	ELLINWOOD	241	73
BAYPORT	241	0.14	OAK STREET	241	15	ROCKLAND	242	70
NORTHPOINT	242	0.14	ONTARIO	241	15	ALGOMA	121	69
PEARL AVE.	241	0.13	WHITING AVE.	242	15	PINE	242	69
SECOND STREET	121	0.13	HIGHWAY V	242	14	VELP AVE	241	69
TOWN LINE	122	0.13	ALGOMA	122	13	EASTMAN AVE.	242	68
MISHICOT	122	0.12	MORRISON AVE.	242	13	CLEAR LAKE	241	66
MORRISON AVE.	242	0.12	PEARL AVE.	241	13	WAUPACA	241	65
BOWEN STREET	241	0.11	SECOND STREET	121	12	WESMARK	242	65
KELLNERSVILLE	122	0.11	HILLTOP	241	11	BAYPORT	241	64
PINE	241	0.11	KELLNERSVILLE	121	11	KELLY	241	64
ROTHSCHILD	241	0.11	HIGHWAY V	243	10	TOWN LINE	122	64
SHERMAN STREET	241	0.11	MASON STREET	242	10	BOWEN STREET	241	63
TWELFTH AVE.	242	0.11	ROTHSCHILD	241	10	ROSIERE	242	63
EASTMAN AVE.	242	0.1	SECOND STREET	122	10	WEST MARINETTE	241	63
PREBLE	242	0.1	WAUPACA	241	10	NORTHPOINT	241	62
OAK STREET	241	0.09	BAYPORT	241	9	GRAND RAPIDS	241	58
ONTARIO	241	0.09	GLORY ROAD	242	9	AVIATION	242	57
UNIVERSITY	123	0.09	TOWN LINE	122	9	PINE	241	57
HIGHWAY V	242	0.08	LIBERTY STREET	243	8	HENRY STREET	241	56
HIGHWAY V	243	0.08	SHERMAN STREET	241	8	WAUSAU HYDRO	241	55
KELLNERSVILLE	121	0.08	BOWEN STREET	241	7	MORRISON AVE.	241	54
LIBERTY STREET	243	0.08	EASTMAN AVE.	242	7	AURORA STREET	241	53
MASON STREET	242	0.08	MYSTERY HILLS	241	7	ELLINWOOD	242	53
SECOND STREET	122	0.08	UNIVERSITY	123	7	CRANBERRY SUB	241	51
EASTMAN AVE.	241	0.07	MERRILL MFG.	121	6	MERRILL	241	51
OSHKOSH	241	0.07	OSHKOSH	241	6	OGDEN ST	122	50
WEST MARINETTE	241	0.07	PINE	241	6	BEARDSLEY STREET	122	49

SUBSTATION	FEEDER	FREQUENCY	SUBSTATION	FEEDER	DURATION	SUBSTATION	FEEDER	DURATION
		PER CUSTOMER SERVED (SAIFI)			MINS PER CUSTOMER SERVED (SAIDI)			MINS PER CUSTOMER OUTAGED (CAIDI)
BEARDSLEY STREET	121	0.06	TAYLOR	121	6	BRUSBAY	242	49
MYSTERY HILLS	241	0.06	BEARDSLEY STREET	121	5	EAST KROK	241	47
DYCKESVILLE	242	0.05	EASTMAN AVE.	241	5	PEARL AVE.	123	47
OSHKOSH	243	0.05	PREBLE	243	5	LUXEMBURG	241	45
PREBLE	243	0.05	WELLS STREET	242	4	NORSAU	122	45
THIRTIETH AVE.	121	0.05	WEST MARINETTE	241	4	SOUTH BROADWAY	242	45
ALGOMA	121	0.04	HILLTOP	242	3	SHERMAN STREET	242	43
BOWEN STREET	121	0.04	ALGOMA	121	2	THIRTIETH AVE.	121	42
WELLS STREET	242	0.04	ASHLAND AVE.	241	2	BRUSBAY	121	41
GLORY ROAD	242	0.03	MENOMINEE	121	2	HIGHWAY 8	241	41
HILLTOP	242	0.03	ROCKLAND	242	2	KRONEN	241	41
ROCKLAND	242	0.03	SUNSET POINT	241	2	TOWER DRIVE	241	38
ANTIGO	241	0.02	THIRTIETH AVE.	121	2	HILLTOP	241	34
PEARL AVE.	123	0.02	AURORA STREET	241	1	TWELFTH AVE.	121	32
SUNSET POINT	241	0.02	BOWEN STREET	121	1	HIGHWAY 8	243	31
WAUSAU HYDRO	241	0.02	LIBERTY STREET	242	1	ANTIGO	241	30
ASHLAND AVE.	241	0.01	OSHKOSH	243	1	OGDEN ST	121	28
AURORA STREET	241	0.01	PEARL AVE.	123	1	TOWN LINE	121	28
MENOMINEE	121	0.01	WAUSAU HYDRO	241	1	BOWEN STREET	121	26
TOWER DRIVE	241	0.01	ANTIGO	241	0	EAST KROK	242	25
BRUSBAY	121	0	BRUSBAY	121	0	OSHKOSH	243	22
LIBERTY STREET	242	0	MERRILL	241	0	MERRILL MFG.	121	6
MERRILL	241	0	TOWER DRIVE	241	0	TAYLOR	121	6

PSC 113.0604 (2)(a)

An overall assessment of the reliability performance including the aggregate SAIFI, SAIDI and CAIDI indices by system and each operating area, as applicable.

2004 ELECTRIC DISTRIBUTION CUSTOMER INTERRUPTION REPORT
TOTAL DISTRIBUTION SYSTEM RELIABILITY INDICES
INCLUDING MAJOR STORM AND TRANSMISSION OUTAGES
EXCLUDING MOMENTARIES (5 MINUTES OR LESS DURATION)

DISTRICT	PER CUSTOMER SERVED (SAIFI)	PER CUSTOMER OUTAGED (CAIDI)	PER CUSTOMER SERVED (SAIDI)
GREEN BAY DIV	0.31	119	37
LAKESHORE DIV	0.59	99	58
TWO RIVERS	0.51	132	67
CHILTON	0.62	123	76
STURGEON BAY	0.56	94	53
KEWAUNEE	0.72	49	35
OSHKOSH DIV	0.52	73	38
WAUSAU DIV	0.68	78	53
WAUSAU	0.64	68	44
MERRILL	0.83	55	46
STEVENS PT	0.77	101	78
WAUPACA	0.44	111	48
RHINELANDER DIV	2.85	126	360
EAGLE RIVER	3.47	242	840
TOMAHAWK	2	137	272
MINOCQUA	4.5	100	448
RHINELANDER	2.07	92	191
ANTIGO	1.1	128	141
M&M DIV	1.1	113	124
MENOMINEE	1.24	64	79
MARINETTE	0.37	113	42
WABENO	2.08	124	257
WAUSAUKEE	0.89	132	118
TOTAL COMPANY	0.97	111	108

PSC 113.0604 (2)(a)

An overall assessment of the reliability performance including the aggregate SAIFI, SAIDI, and CAIDI indices by system and each operating area, as applicable.

2004 CUSTOMER INTERRUPTIONS BY FEEDER
TOTAL DISTRIBUTION SYSTEM RELIABILITY INDEXES
INCLUDING MAJOR STORMS AND TRANSMISSION CAUSED OUTAGES
EXCLUDING MTY'S LE 5 MINS

			FREQUENCY PER CUSTOMER SERVED (SAIFI)	DURATION MINS. PER CUSTOMER SERVED (SAIDI)	DURATION MINS. PER CUSTOMER OUTAGED (CAIDI)
DISTRICT	SUBSTATION	FEEDER			
GREEN BAY	ASHLAND AVE.	241	0.01	2	275
	BAYPORT	241	0.14	9	64
	BLUESTONE	121	1.02	89	87
	DYCKESVILLE	241	0.19	18	94
		242	0.05	17	357
	EASTMAN AVE.	133	1	449	449
		241	0.07	5	76
		242	0.1	7	68
	GLORY ROAD	241	0.19	64	343
		242	0.03	9	266
	HENRY STREET	122	1.65	221	134
		241	1.35	76	56
	HIGHWAY V	241	0.18	21	117
		242	0.08	14	183
		243	0.08	10	126
	HOWARD	241	0.15	16	104
		242	0.72	92	128
	JAMES STREET	241	0.26	31	119
	LIBERTY STREET	131	1	117	117
		241	0.38	50	132
		242	0	1	293
		243	0.08	8	103
	LOST DAUPHIN	241	2.62	390	149
	LUXEMBURG	241	2.31	88	38
	MAPLEWOOD	241	0.63	74	118
	MASON STREET	241	0.28	30	108
		242	0.08	10	125
		243	0.22	41	185
	MYSTERY HILLS	241	0.06	7	117
		242	0.53	60	113
	OAK STREET	241	0.09	15	158
	ONTARIO	241	0.09	15	165

DISTRICT	SUBSTATION	FEEDER	FREQUENCY PER CUSTOMER SERVED (SAIFI)	DURATION MINS. PER CUSTOMER SERVED (SAIDI)	DURATION MINS. PER CUSTOMER OUTAGED (CAIDI)
TWO RIVERS	PREBLE	241	0.24	60	249
		242	0.1	21	211
		243	0.05	5	94
	RED MAPLE	241	0.41	83	203
		242	0.35	77	219
	ROCKLAND	241	0.3	33	109
		242	0.03	2	70
	SOBIESKI	241	0.35	58	164
	SOUTH BROADWAY	242	0.54	24	45
	SUAMICO	241	0.18	27	152
	TOWER DRIVE	241	0.01	0	38
	UNIVERSITY	123	0.09	7	77
	VELP AVE	241	0.37	25	69
		242	0.22	34	153
	WESMARK	241	1.14	135	118
		242	1.3	84	65
	GLENVIEW	242	0.95	137	144
	KELLNERSVILLE	121	0.08	11	126
		122	0.11	17	159
	MANRAP	121	0.56	63	112
	MISHICOT	121	0.31	53	175
		122	0.12	15	123
	SHOTO	241	0.84	115	137
		242	0.17	30	180
CHILTON	ST. NAZIANZ	241	0.35	41	117
		242	0.4	47	117
	WESMARK	241	1.03	129	125
		242	0.04	4	107
	GLENVIEW	241	0.36	71	197
		242	0.26	36	139
	GRAVESVILLE	241	0.66	112	171
		242	0.61	61	100
		244	1.55	116	75
STURGEON BAY	ALGOMA	121	0.03	2	76
	BRUSBAY	122	0.21	27	128
		242	1.02	50	49
	DUNN ROAD	121	0.33	59	180
	EGG HARBOR	241	0.33	36	108
		242	0.71	52	73
	ROSIERE	241	0.54	83	153
	SISTER BAY	241	0.26	32	126
		242	0.45	68	150

			FREQUENCY PER CUSTOMER SERVED (SAIFI)	DURATION MINS. PER CUSTOMER SERVED (SAIDI)	DURATION MINS. PER CUSTOMER OUTAGED (CAIDI)	
DISTRICT	SUBSTATION	FEEDER				
KEWAUNEE	ALGOMA	121	0.04	2	60	
		122	0.14	13	89	
	BEARDSLEY	121	0.06	5	81	
		122	1.09	54	49	
	EAST KROK	241	0.39	18	47	
		242	1.43	35	25	
	LUXEMBURG	241	2.67	123	46	
		242	0.2	18	90	
	ROSIERE	241	0.02	2	105	
		242	0.81	51	63	
OSHKOSH	AVIATION	241	0.43	43	100	
		242	1.06	60	57	
	BOWEN STREET	121	0.04	1	26	
		241	0.11	7	63	
	ELLINWOOD	241	1.15	84	73	
		242	1.24	66	53	
	MEARS CORNERS	241	1.3	114	88	
		241	0.07	6	76	
	OSHKOSH	242	1.13	126	112	
		243	0.05	1	22	
		PEARL AVE.	123	0.02	1	47
		241	0.13	13	100	
		SUNSET POINT	241	0.02	2	91
	242		0.25	27	111	
		TWELFTH AVE.	121	1.02	32	32
			242	0.11	16	152
WAUSAU	CASSEL	241	0.26	25	94	
		242	0.33	50	152	
	HILLTOP	241	0.33	11	34	
		242	0.03	3	95	
	KELLY	241	0.31	20	64	
		242	0.45	63	140	
		243	0.16	30	191	
	KRONEN	241	2.71	111	41	
		242	0.63	79	125	
		MAINE	241	0.65	67	103
		MORRISON AVE.	241	0.4	22	54
	242		0.12	13	108	
		NORSAU	122	1.06	47	45
	ROTHSCHILD	241	0.11	10	90	
	SHERMAN STREET	241	0.11	8	76	
242		2.01	86	43		

DISTRICT	SUBSTATION	FEEDER	FREQUENCY PER CUSTOMER SERVED (SAIFI)	DURATION MINS. PER CUSTOMER SERVED (SAIDI)	DURATION MINS. PER CUSTOMER OUTAGED (CAIDI)
WAUSAU	STRATFORD	241	0.51	43	83
		241	0.55	55	102
		121	2.06	59	28
		122	0.13	9	64
	WAUSAU HYDRO WINTON STREET	241	0.02	1	55
		121	0.47	92	196
		122	1.05	110	106
	MERRILL MFG. PINE	121	1	6	6
		241	0.11	6	57
		242	0.46	32	69
STEVENS POINT	TAYLOR	121	1	6	6
		241	0.5	87	173
	GOLDEN SANDS	242	0.99	125	126
		241	0.51	52	102
	HOOVER	242	0.39	90	231
		241	2.2	136	62
	NORTHPOINT	242	0.14	16	115
		241	0.43	35	81
	PLOVER WHITING AVE.	241	1.26	147	116
		242	0.16	15	93
	HARRISON	241	0.26	26	100
		242	1.01	235	234
WAUPACA	HARTMAN CREEK	241	1.63	145	89
		241	0.15	10	65
	WAUPACA	242	0.45	105	233
		241	1	51	51
	CRANBERRY	244	4.76	1166	245
EAGLE RIVER	ST. GERMAIN	242	3.51	915	261
		241	2.45	275	112
	EASTOM	242	2.25	213	95
TOMAHAWK	CLEAR LAKE	243	1.34	286	213
		241	4.13	274	66
		242	3.33	314	94
	ST. GERMAIN	243	4.92	398	81
		241	5.62	810	144
		242	2.99	363	121
RHINELANDER	HIGHWAY 8	241	1.41	57	41
		242	3.82	296	78
		243	2.23	70	31
	HODAG	241	1.94	244	125
		241	2.18	227	104
		241	1.66	219	132
	THREE LAKES VENUS	242	1.18	165	140
		241	1.18	165	140

DISTRICT	SUBSTATION	FEEDER	FREQUENCY PER CUSTOMER SERVED (SAIFI)	DURATION MINS. PER CUSTOMER SERVED (SAIDI)	DURATION MINS. PER CUSTOMER OUTAGED (CAIDI)
ANTIGO	ANTIGO	241	0.02	0	30
	AURORA STREET	241	0.01	1	53
MENOMINEE		242	3.08	368	120
	SUMMIT LAKE	241	3.32	453	137
	BAY DE NOC	121	1.51	119	79
	GRAND RAPIDS	241	3.79	216	57
	MENOMINEE	121	0.01	2	280
	SECOND STREET	122	0.08	10	133
	THIRTIETH AVE.	121	0.05	2	42
	WELLS STREET	122	0.16	18	108
MARINETTE	GRAND RAPIDS	241	2.69	171	64
	LENA	241	0.83	153	183
	OCONTO	241	0.19	23	119
		242	1.12	115	103
	OGDEN ST	121	1	28	28
		122	1	50	50
	POUND	241	0.27	45	168
	SECOND STREET	121	0.13	12	89
	SHERWOOD	241	0.34	42	126
		242	0.23	35	150
	WELLS STREET	122	0.14	8	58
		242	0.04	4	94
	WEST MARINETTE	241	0.07	4	63
	GOODMAN	241	3.78	593	157
WABENO	MOUNTAIN	241	0.87	122	139
		242	1.84	147	80
WAUSAUKEE	SILVER CLIFF	241	2.42	305	126
	SUMMIT LAKE	241	1.61	210	131
	CALDRON F. STEPU	121	0.21	21	104
	DAVES FALLS	241	1.11	134	120
		242	1.89	292	154
	POUND	241	0.69	65	94
	SANDSTONE DIST.	241	0.57	59	103
	THUNDER	241	0.53	77	144

PSC 113.0604 (2)(b)

A list of the worst performing circuits based on SAIFI, SAIDI, and CAIDI indices for the calendar year.

SAIFI, SAIDI, and CAIDI were calculated for each of the WPS distribution feeders. Due to the difficulty in ranking the feeders, a composite value was calculated in order to normalize SAIFI, SAIDI, and CAIDI. The following formula was used to develop a composite value based on 20% SAIFI and 80% SAIDI:

COMPOSITE = [(SAIFI/SAIFI MAX) * 0.2 + (SAIDI/SAIDI MAX) * 0.8 + (CAIDI/CAIDI MAX) * 0] where MAX = the maximum value of SAIFI, SAIDI, and CAIDI for all distribution circuits.

INCLUDES INTERRUPTIONS > 5 MINUTES, TRANSMISSION AND MAJOR STORMS.

SUBSTATION	FEEDER	FREQUENCY PER CUSTOMER SERVED (SAIFI)	DURATION MINS PER CUSTOMER SERVED (SAIDI)	DURATION MINS PER CUSTOMER OUTAGED (CAIDI)	COMPOSITE
CRANBERRY SUB	244	4.76	1166	245	0.969
ST. GERMAIN	241	5.62	810	144	0.756
ST. GERMAIN	242	3.42	815	238	0.681
THREE LAKES	241	4.49	606	135	0.576
GOODMAN	241	3.78	593	157	0.541
CLEAR LAKE	243	4.92	398	81	0.448
AURORA STREET	242	3.08	368	120	0.362
LOST DAUPHIN	241	2.62	390	149	0.361
EASTMAN AVE.	133	1	449	449	0.344
HIGHWAY 8	242	3.82	296	78	0.339
CLEAR LAKE	241	4.13	274	66	0.335
CLEAR LAKE	242	3.33	314	94	0.334
SUMMIT LAKE	241	2.36	318	134	0.302
SILVER CLIFF	241	2.42	305	126	0.295
EASTOM	241	2.45	275	112	0.276
DAVES FALLS	242	1.89	292	154	0.268
GRAND RAPIDS	241	3.52	205	58	0.266
EASTOM	243	1.34	286	213	0.244
HODAG	241	1.94	244	125	0.236
EASTOM	242	2.25	213	95	0.226
HENRY STREET	122	1.65	221	134	0.210
VENUS	241	1.66	219	132	0.209
HARRISON	242	1.01	235	234	0.197
LUXEMBURG	241	2.63	119	45	0.175
KRONEN	241	2.71	111	41	0.173
NORTHPOINT	241	2.2	136	62	0.172
MOUNTAIN	242	1.84	147	80	0.166
HARTMAN CREEK	241	1.63	145	89	0.157
VENUS	242	1.18	165	140	0.155
WHITING AVE.	241	1.26	147	116	0.146
BAY DE NOC	121	1.51	119	79	0.135
GRAVESVILLE	244	1.55	116	75	0.135

SUBSTATION	FEEDER	FREQUENCY PER CUSTOMER SERVED (SAIFI)	DURATION MINS PER CUSTOMER SERVED (SAIDI)	DURATION MINS PER CUSTOMER OUTAGED (CAIDI)	COMPOSITE
LENA	241	0.83	153	183	0.135
WESMARK	241	1.12	134	120	0.132
DAVES FALLS	241	1.11	134	120	0.131
SHERMAN ST.	242	2.01	86	43	0.131
HIGHWAY 8	243	2.23	70	31	0.127
OSHKOSH	242	1.13	126	112	0.127
MEARS CORNERS	241	1.3	114	88	0.124
GOLDEN SANDS	242	0.99	125	126	0.121
OCONTO	242	1.12	115	103	0.119
LIBERTY STREET	131	1	117	117	0.116
MOUNTAIN	241	0.87	122	139	0.115
TOWN LINE	121	2.06	59	28	0.114
WINTON STREET	122	1.05	110	106	0.113
SHOTO	241	0.84	115	137	0.109
GRAVESVILLE	241	0.66	112	171	0.100
HENRY STREET	241	1.35	76	56	0.100
ELLINWOOD	241	1.15	84	73	0.099
BLUESTONE	121	1.02	89	87	0.097
WESMARK	242	1.19	77	65	0.095
ELLINWOOD	242	1.24	66	53	0.089
HIGHWAY 8	241	1.41	57	41	0.089
HOWARD	242	0.72	92	128	0.089
WAUPACA	242	0.45	105	233	0.088
WINTON STREET	121	0.47	92	196	0.080
AVIATION	242	1.06	60	57	0.079
GOLDEN SANDS	241	0.5	87	173	0.077
KRONEN	242	0.63	79	125	0.077
BEARDSLEY ST.	122	1.09	54	49	0.076
HOOVER	242	0.39	90	231	0.076
EAST KROK	242	1.43	36	25	0.076
ROSIERE	241	0.53	80	153	0.074
MAPLEWOOD	241	0.63	74	118	0.073
THUNDER	241	0.53	77	144	0.072
RED MAPLE	241	0.41	83	203	0.072
BRUSBAY	242	1.02	50	49	0.071
CRANBERRY SUB	241	1	51	51	0.071
NORSAU	122	1.06	47	45	0.070
OGDEN ST	122	1	50	50	0.070
MAINE	241	0.65	67	103	0.069
RED MAPLE	242	0.35	77	219	0.065
GRAVESVILLE	242	0.61	61	100	0.064
MANRAP	121	0.56	63	112	0.063
SISTER BAY	242	0.45	68	150	0.063
GLENVIEW	241	0.36	71	197	0.062
EGG HARBOR	242	0.71	52	73	0.061
SANDSTONE DIST.	241	0.57	59	103	0.061
MYSTERY HILLS	242	0.53	60	113	0.060
ROSIERE	242	0.76	48	63	0.060
KELLY	242	0.45	63	140	0.059
TWELFTH AVE.	121	1.02	32	32	0.058
SUNNYVALE	241	0.55	55	102	0.057
OGDEN ST	121	1	28	28	0.055
HOOVER	241	0.51	52	102	0.054
SOBIESKI	241	0.35	58	164	0.052
DUNN ROAD	121	0.33	59	180	0.052
GLORY ROAD	241	0.19	64	343	0.051
PREBLE	241	0.24	60	249	0.050

SUBSTATION	FEEDER	FREQUENCY PER CUSTOMER SERVED (SAIFI)	DURATION MINS PER CUSTOMER SERVED (SAIDI)	DURATION MINS PER CUSTOMER OUTAGED (CAIDI)	COMPOSITE
LIBERTY STREET	241	0.38	50	132	0.048
POUND	241	0.38	50	133	0.048
GLENVIEW	242	0.36	51	141	0.048
STRATFORD	241	0.51	43	83	0.048
ST. NAZIANZ	242	0.4	47	117	0.046
MISHICOT	121	0.3	52	175	0.046
CASSEL	242	0.33	50	152	0.046
AVIATION	241	0.43	43	100	0.045
SHERWOOD	241	0.34	42	126	0.041
ST. NAZIANZ	241	0.35	41	117	0.041
MERRILL MFG.	121	1	6	6	0.040
TAYLOR	121	1	6	6	0.040
PLOVER	241	0.43	35	81	0.039
PINE	242	0.46	32	69	0.038
EGG HARBOR	241	0.33	36	108	0.036
MASON STREET	243	0.22	41	185	0.036
S. BROADWAY	242	0.54	24	45	0.036
ROCKLAND	241	0.3	33	109	0.033
SHERWOOD	242	0.23	35	150	0.032
SISTER BAY	241	0.26	32	126	0.031
VELP AVE	242	0.22	34	153	0.031
MASON STREET	241	0.28	30	108	0.031
JAMES STREET	241	0.26	31	119	0.031
VELP AVE	241	0.37	25	69	0.030
MORRISON AVE.	241	0.4	22	54	0.029
SUNSET POINT	242	0.25	27	111	0.027
HARRISON	241	0.26	26	100	0.027
SHOTO	242	0.17	30	180	0.027
CASSEL	241	0.26	25	94	0.026
KELLY	243	0.16	30	191	0.026
EAST KROK	241	0.39	18	47	0.026
BRUSBAY	122	0.21	27	128	0.026
SUAMICO	241	0.18	27	152	0.025
KELLY	241	0.31	20	64	0.025
OCONTO	241	0.19	23	119	0.023
CALDRON F.	121	0.21	21	104	0.022
STEPUP					
HIGHWAY V	241	0.18	21	117	0.021
LUXEMBURG	242	0.2	18	90	0.019
HILLTOP	241	0.33	11	34	0.019
DYCKESVILLE	241	0.19	18	94	0.019
WELLS STREET	122	0.16	18	108	0.018
PREBLE	242	0.1	21	211	0.018
HOWARD	241	0.15	16	104	0.016
WHITING AVE.	242	0.16	15	93	0.016
NORTHPOINT	242	0.14	16	115	0.016
KELLNERSVILLE	122	0.11	17	159	0.016
TWELFTH AVE.	242	0.11	16	152	0.015
MISHICOT	122	0.12	15	123	0.015
ALGOMA	122	0.14	13	89	0.014
PEARL AVE.	241	0.13	13	100	0.014
OAK STREET	241	0.09	15	158	0.013
ONTARIO	241	0.09	15	165	0.013
DYCKESVILLE	242	0.05	17	357	0.013
MORRISON AVE.	242	0.12	13	108	0.013
SECOND STREET	121	0.13	12	89	0.013
HIGHWAY V	242	0.08	14	183	0.012

SUBSTATION	FEEDER	FREQUENCY PER CUSTOMER SERVED (SAIFI)	DURATION MINS PER CUSTOMER SERVED (SAIDI)	DURATION MINS PER CUSTOMER OUTAGED (CAIDI)	COMPOSITE
WAUPACA	241	0.15	10	65	0.012
BAYPORT	241	0.14	9	64	0.011
TOWN LINE	122	0.13	9	64	0.011
ROTHSCHILD	241	0.11	10	90	0.011
KELLNERSVILLE	121	0.08	11	126	0.010
HIGHWAY V	243	0.08	10	126	0.010
MASON STREET	242	0.08	10	125	0.010
SECOND STREET	122	0.08	10	133	0.010
SHERMAN ST.	241	0.11	8	76	0.009
BOWEN STREET	241	0.11	7	63	0.009
EASTMAN AVE.	242	0.1	7	68	0.008
LIBERTY STREET	243	0.08	8	103	0.008
PINE	241	0.11	6	57	0.008
UNIVERSITY	123	0.09	7	77	0.008
GLORY ROAD	242	0.03	9	266	0.007
MYSTERY HILLS	241	0.06	7	117	0.007
OSHKOSH	241	0.07	6	76	0.007
EASTMAN AVE.	241	0.07	5	76	0.006
BEARDSLEY ST.	121	0.06	5	81	0.006
WEST MARINETTE	241	0.07	4	63	0.005
PREBLE	243	0.05	5	94	0.005
WELLS STREET	242	0.04	4	90	0.004
THIRTIETH AVE.	121	0.05	2	42	0.003
HILLTOP	242	0.03	3	95	0.003
ALGOMA	121	0.04	2	69	0.003
OSHKOSH	243	0.05	1	22	0.002
ROCKLAND	242	0.03	2	70	0.002
BOWEN STREET	121	0.04	1	26	0.002
SUNSET POINT	241	0.02	2	91	0.002
ASHLAND AVE.	241	0.01	2	275	0.002
MENOMINEE	121	0.01	2	204	0.002
PEARL AVE.	123	0.02	1	47	0.001
WAUSAU HYDRO	241	0.02	1	55	0.001
AURORA STREET	241	0.01	1	53	0.001
ANTIGO	241	0.02	0	30	0.001
LIBERTY STREET	242	0	1	293	0.001
TOWER DRIVE	241	0.01	0	38	0.000
BRUSBAY	121	0	0	41	0.000
MERRILL	241	0	0	51	0.000

PSC 113.0604 (2)(b)

A list of worst performing circuits based on SAIFI, SAIDI, and CAIDI indices for the calendar year.

WPS analyzed approximately 189 distribution circuits. SAIFI, SAIDI, and CAIDI indices are listed for the 10 worst feeders for 2004. The indices were calculated using interruptions greater than 5 minutes and included transmission related outages and major storms.

1. Cranberry 244:	SAIFI = 4.76	SAIDI = 1166	CAIDI = 245
2. St. Germain 241:	SAIFI = 5.62	SAIDI = 810	CAIDI = 144
3. St. Germain 242:	SAIFI = 3.42	SAIDI = 815	CAIDI = 238
4. Three Lakes 241:	SAIFI = 4.49	SAIDI = 606	CAIDI = 135
5. Goodman 241:	SAIFI = 3.78	SAIDI = 593	CAIDI = 157
6. Clear Lake 243:	SAIFI = 4.92	SAIDI = 398	CAIDI = 81
7. Aurora Street 242:	SAIFI = 3.08	SAIDI = 368	CAIDI = 120
8. Lost Dauphin 241:	SAIFI = 2.62	SAIDI = 390	CAIDI = 149
9. Highway 8 242:	SAIFI = 3.82	SAIDI = 296	CAIDI = 78
10. Clear Lake 241:	SAIFI = 4.13	SAIDI = 274	CAIDI = 66

This section of the report will describe the actions that the utility has taken or will take to improve the conditions responsible for each listed circuit's performance.

1. Cranberry 244: Most of the outages on Cranberry 244 were due to a major storm in the Eagle River area on 4/18/04, which contributed to 75% of the total customer outage minutes. A vehicle accident on 11/21/04, which affected the entire main line east of Eagle River resulted in 10% of the total outage minutes and the rest of the 15% came from various weather related outages.
2. St. Germain 241: This is a long radial circuit feeding St. Germain, Sawyer and Boulder Junction. Despite the best tree trimming in this area, most of the feeder outages were due to adequately trimmed trees (75%). The Storm of 4/18/04 contributed to 20% of the total customer outage minutes. WPS plans to install fault detectors on this system to narrow down the area for line patrols and also has plans to install an automated distribution transfer system for the Boulder Junction area during off-peak times.
3. St. Germain 242: Most of the outages on St. Germain 242 were associated with the major storm in the Eagle River area on 4/18/04 (83%). The remaining outages were due to adequately trimmed trees and weather.
4. Three Lakes 241: About 70% of the outages on this feeder were due to adequately trimmed trees in a heavily wooded area. For instance, a single outage on CTH A between Three Lakes and Sugar Camp on 6/7/04 caused a 1.7-hour outage to the main line, which resulted in 30% of total customer outage minutes. The rest of the outage minutes were mainly associated with weather.

5. Goodman 241: This feeder circuit is a long radial transmission feed from Caldron Falls to Goodman (J-88). The distribution is about a 25-mile long radial feed from Goodman to Armstrong Creek, to Cavour and to Laona. WPS has proposed a project to the ATC to provide 115 kV to the Crandon area at a proposed Metonga Substation. This should help the Laona area reliability because it will be transferred to this new substation. As an example, just this year only, transmission outages accounted for 60% of the total customer outage minutes for Goodman. Bad weather on 5/12/04 accounted for 30% of the total outage minutes.
6. Clear Lake 243: There were several major outages on Clear Lake 243 in 2004. A car-pole accident contributed to 14% of the outage minutes. Various distribution equipment failures contributed to 35% of the total customer outage minutes. A major windstorm in September resulted in 13% of the outage minutes. The rest of the outages were due to adequately trimmed trees, this being a wooded area.
7. Aurora Street 242: The storm of 8/1/04 contributed to 43% of the total customer outage minutes. Bad weather on 9/14/04 contributed to 35% of the total customer outage minutes. Twenty percent of the total customer outage minutes were due to distribution equipment failure.
8. Lost Dauphin 241: Thirty percent of the total customer minutes were due to substation equipment failure. Vehicle accidents account for 45% of total customer minutes and 15% were due to animals. A total of six incidents contributed to 99% of the total customer minutes.
9. Highway 8 242: Various substation and distribution equipment failures resulted in 27% of the total customer outage minutes. The feeder experienced a long outage on 9/6/04 on the main line on STH 47 north of Rhinelander. It was a failed bell insulator that wasn't obvious from the ground, which contributed to 17% of the outage minutes. Vehicle accidents resulted in 21% of the outage minutes. Tree and weather related outages added up to 33% of the total customer outage minutes.
10. Clear Lake 241: The major storm of 9/15/04 contributed to 33% of the total customer outage minutes. Distribution equipment failure and vehicle accidents added up to 20% of the total customer outage minutes. The rest of the outages were due to adequately trimmed trees and bad weather.

PSC 113.0604(2)(d)

A report on the accomplishment of the improvements proposed in prior reports for which completion has not been previously reported.

1. Harrison 214 - Harrison 241 was among the top 10 worst feeders for 2001. WPS had proposed a new substation, which went into service in the fall of 2003 (Hartman Creek substation), that off-loaded the Harrison feeder.
2. Brusbay 122 – Brusbay 122 was among the top 10 worst feeders for 2001. As proposed in the annual report, Brusbay 122 was converted to 24.94 kV in the last year (2004).
3. Clear Lake 243 – Clear Lake 243 was among the top ten worst feeders for 2004. As proposed, the #4 bare copper on CTH D west of Lake Tomahawk, which was reported last year to be reconducted, has been rebuilt as of March 2005.

PSC 113.0604(2)(e)

Listed below are new programs or changes to existing Power Quality and Reliability programs at WPS.

- Outage Management System: WPS will be replacing its in-house Outage Management System with a new off-the-shelf product. The existing system currently is unsupported from its vendors. The new Outage Management System will aid in restoration and reliability statistics and improvements through the use of an integrated mapping identification system. Robust reporting and tracking capabilities will improve long-term reliability.
- Operational Decision Support: WPS developed and installed a near real-time switching software “ODS” for the 24-hour Distribution Operation Center. It is expected that this will speed up restoration involving feeders with tie lines. Final acceptance and testing prior to implementation is underway.
- Web Based Cost Effective Power Quality Monitoring: This project involves installation of 30 soft switching technology I-sense/I-grid power quality monitors. This is an EPRI project in which WPS will be participating to formulate a cost effective power quality monitoring system.
- WPS will be modifying its overhead service line inspection program to be a 3-year cycle. WPS uses this inspection to identify any potential clearance or code violations on all of its overhead services to their customers. Approximately 1/3 of all services will be inspected every year.

PSC 113.0604(2)(f)

A status report of any long-range electric distribution plans. The following is the 2005-2013 long-range plan for Wisconsin Public Service.

District Project	In-Service Date Req'd
Antigo	
Summit Lake – Add second feeder or in-place spare transformer	June 2007
Install second feeder Antigo substation	June 2009
Chilton	
Convert Brothertown stepdown to 24.9 kV	Dec. 2006
Reconductor Irish Rd. 3,000 ft.	Dec. 2007
Eagle River	
Three Lakes – Add second feeder	June 2007
Cranberry – Upgrade OCR's and Regulators	June 2010
Green Bay	
Ontario – Add second feeder	June 2005
Mason sub - Add fourth feeder	June 2006
Upgrade Wesmark 241 transformer	June 2007
Install Mystery Hills third feeder	June 2007
Suamico sub - Add second feeder	June 2007
Install Bluestone 24.9 kV feeder	June 2008
Install GB SW sub and feeder	June 2008
James sub - Add second feeder	June 2009
Install Hemlock sub and feeder	June 2009
Install Highway V fourth feeder	June 2009
Red Maple - Add third feeder	June 2010
Install Eastman third 24.9 kV feeder	June 2010
Install Bayport second feeder	June 2010
Install Wrightstown area sub and feeder	June 2011
Kewaunee	
Algoma Sub – Convert to 24.9 kV	Dec 2006
Beardsley St. Sub – Convert to 24.9 kV	June 2008
Marinette & Menominee	
Grand Rapids – Construct new substation	June 2005
Upgrade Lena feeder 241 bypass fuse	June 2006
Upgrade Lena feeder transformers	June 2007
Convert Wells 121 and 122 to one 24.9 kV feeder	June 2009

District Project	In-Service Date Req'd
Second St. sub and feeder 122 – convert to 24.9 kV	June 2011
Roosevelt Rd. – Add second 24.94 kV feeder	June 2011
Merrill	
Future site – Add 24.9 kV feeder	June 2013
Minocqua	
Clear Lake 241 – Replace transformer with larger unit and upgrade regulators and OCR	June 2005
Clear Lake 242 – Upgrade OCR to 800 amp and Regulators	June 2006
Arnett Rd. – Install sub and feeder	June 2008
Clear Lake – add 115/46 kV stepdown for Arnett Rd. line	June 2008
Boulder Junction – Extend transmission and add sub and feeder	June 2009
Oshkosh	
Mears – Add second 24.94 kV feeder	June 2007
Fitzgerald – Add 138/24.94 kV feeder	July 2009
Bowen St. – Remove BNS 121; add second 24.94 kV feeder	June 2011
Rhineland	
Highway 8 241 – Upgrade OCR (800 amp) and regulators (400 amp)	June 2006
Hodag – upgrade feeder regulators, OCR, exit	June 2006
Metonga Sub – extend transmission line and add one 24.94 kV feeder	June 2007
Highway 8 – add third transformer	June 2008
Stevens Point	
Install Okray Dr. sub and feeder	Sept 2005
Northpoint 241 – Upgrade OCR (800 amp) & regulators (400 amp)	June 2006
Install River sub and feeder	June 2009
Add Second feeder at Okray Dr. sub	June 2011
Sturgeon Bay	
Brusbay – Add spare transformer	June 2007
Sister Bay – install high side transrupters	June 2007
Dunn Rd. – Convert to 24.9 kV	June 2007
Tomahawk	
Eastom - Replace 243 transformer with larger rated unit	June 2005
Eastom – Increase regulators, recloser and feeder exit size	June 2006

District Project	In-Service Date Req'd
Install Tomahawk hydro sub and feeder	June 2008
Two Rivers	
Manrap – Convert to 24.94 kV (needed to maintain voltage)	Oct 2005
Kellnersville – Convert to 24.9 kV	Dec 2007
Mishicot – Convert to 24.9 kV	Dec 2008
St. Nazianz – upgrade feeder 242 transformer	June 2008
Wabeno	
Laona – Build tie line to Metonga sub and transfer	June 2007
Waupaca	
Harrison – Upgrade regulators, recloser and feeder exit for feeder 241	June 2006
Harrison – Upgrade regulators and recloser for feeder 242	June 2006
Harrison – 138 kV sub –install a 24.9 kV transformer & feeder	June 2011
Wausau	
Sherman St – replace 115/46 kV transformers	Dec 2005
Winton – convert to 24.9 kV	June 2006
Hilltop 241 – upgrade OCR/regs	June 2007
Wausau Rural SE – install a substation and feeder	June 2008
Cassel 241 & 242 – upgrade OCR/regs	June 2008
Weston – install second 115/40 kV transformer	June 2009
Edgar – install new sub and feeder	June 2010
Wausau Rural NE – install sub and feeder	June 2011
Rothschild – Add second feeder	June 2011
Sunnyvale – Add second feeder	June 2012
Wausaukee	
Add a 138/24.94 kV distribution source at Crivitz.	June 2007
Install Amber sub and move Daves Falls load to it	June 2009

PSC 113.0604 (3)(a)

The approximate route miles of electric distribution reconstruction is:

- Single Phase: 40 Miles
- Three Phase: 60 Miles

PSC 113.0604 (3)(b)

See attached “Wisconsin Public Service Corporation, FS-116 Miles of electric distribution line as of December 31, 2004.”

PSC 113.0604 (3)(c)

Listed is the average speed of answer in seconds for telephone calls received regarding emergencies, outages and customer billing problems for the year 2004.

- January: 35.7
- February: 34.2
- March 37.1
- April: 94.4
- May: 66.2
- June: 72.0
- July: 55.8
- August: 74.9
- September: 64.5
- October: 56.8
- November: 19.7
- December: 18.8

WISCONSIN PUBLIC SERVICE CORPORATION
 FS-116 MILES OF ELECTRIC DISTRIBUTION LINE AS OF DECEMBER 31, 2004

DISTRICT	URBAN RURAL	POLE LINE ON DISTRIBUTION POLES		TOTAL DISTRIBUTION POLE MILES	BURIED CABLE		UNDERGROUND CONDUIT MILES
		PRIMARY	SECONDARY		PRIMARY	SECONDARY	
GREEN BAY	RURAL	799.00	72.15	839.46	278.21	27.72	0.00
	URBAN	869.13	611.25	1,106.85	655.77	386.60	7.95
TOTAL GREEN BAY DIVISION		1,668.13	683.40	1,946.31	933.98	414.32	7.95
TWO RIVERS	RURAL	1,002.98	73.91	1,047.78	111.75	3.09	0.00
	URBAN	60.70	25.45	70.02	12.40	5.10	0.00
CHILTON	RURAL	450.38	16.79	460.52	38.57	3.25	0.00
	URBAN	57.52	35.43	72.98	23.56	15.78	0.00
STURGEON BAY	RURAL	917.51	99.10	998.46	102.52	4.13	0.00
	URBAN	55.21	19.28	68.00	15.90	0.83	0.00
KEWAUNEE	RURAL	560.26	20.75	576.65	49.14	0.25	0.00
	URBAN	98.85	22.40	108.20	23.47	12.49	0.00
TOTAL LAKE SHORE DIVISION		3,203.41	313.11	3,402.61	377.31	44.92	0.00
OSHKOSH	RURAL	436.75	87.91	473.39	107.50	22.28	0.00
	URBAN	176.97	202.82	256.74	108.02	52.96	1.94
TOTAL OSHKOSH DIVISION		613.72	290.73	730.13	215.52	75.24	1.94
WAUSAU	RURAL	1,408.89	109.24	1,472.96	253.94	34.63	0.22
	URBAN	336.41	234.95	433.15	143.52	70.87	3.67
MERRILL	RURAL	674.10	37.12	700.40	116.51	3.49	0.00
	URBAN	57.97	45.82	74.09	11.61	4.33	0.00
STEVENS POINT	RURAL	532.62	40.85	558.65	127.18	14.75	0.00
	URBAN	221.32	122.87	291.04	105.83	41.36	0.43
WAUPACA	RURAL	155.41	26.22	171.62	62.52	5.40	0.00
	URBAN	37.58	28.15	51.83	14.63	5.51	0.00
TOTAL WAUSAU DIVISION		3,424.30	645.22	3,753.74	835.74	180.34	4.32
EAGLE RIVER	RURAL	401.02	56.31	451.66	192.96	4.86	0.00
	URBAN	2.47	0.23	2.67	1.11	0.00	0.00
TOMAHAWK	RURAL	259.72	38.88	289.72	88.30	1.31	0.00
	URBAN	144.64	42.86	171.65	40.36	3.97	0.00
MINOCQUA	RURAL	823.55	161.27	965.60	321.37	19.55	0.00
	URBAN	48.28	9.26	56.61	14.67	0.88	0.00
RHINELANDER	RURAL	851.53	86.67	915.20	300.41	7.48	0.00
	URBAN	82.45	48.28	107.94	23.35	5.84	1.26
ANITGO	RURAL	478.09	29.92	500.99	80.23	3.21	0.00
	URBAN	48.05	32.70	65.89	13.08	5.48	0.00
TOTAL RHINELANDER DIVISION		3,139.80	506.38	3,527.93	1,075.84	52.58	1.26
MARINETTE	RURAL	651.70	47.15	683.57	110.65	3.38	0.00
	URBAN	127.79	106.83	171.37	31.43	13.37	0.00
WABENO	RURAL	794.72	113.68	886.87	301.77	6.59	0.00
	URBAN	6.44	4.48	8.88	1.09	0.31	0.00
WAUSAUKEE	RURAL	832.73	88.32	902.04	332.40	7.70	0.00

PSC 113.0604 (3)(d)

The average number of calendar days a utility takes to install and energize service to a customer site once it is ready to receive service.

PSCW 113 Data for 2004

WPSC's Distribution Work Management System tracks our construction process in the Work Management Information System (WMIS) component. WMIS provides the following data:

- Requested Completion Date
- Meter Set Date

Average number of calendar days from the Requested Completion Date to the Electric Meter set date in 2004:

January	12.92
February	10.92
March	3.26
April	7.31
May	7.45
June	7.71
July	9.58
August	8.44
September	9.22
October	10.05
November	10.23
December	10.76
Annual Average:	9.18

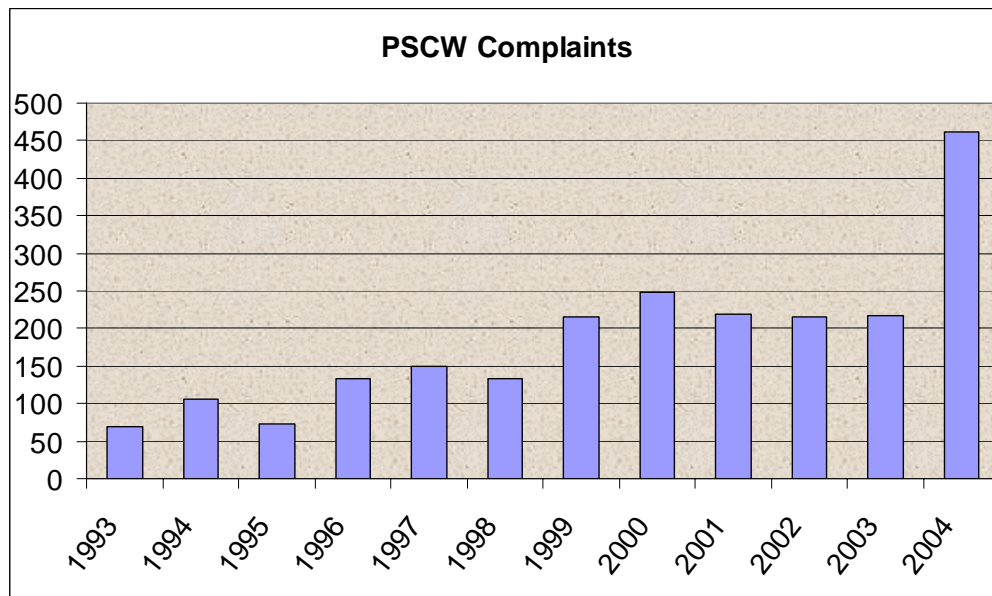
These averages are based on the work requests that had both the requested completion date and the electric meter set date entered in the WMIS System at the time this data was extracted.

PSC 113.0604 (3)(e)

The total number of written and telephone customer complaints received in the areas of safety, customer billing, outages, power quality, customer property damages and other areas.

PSCW Complaints Summary 1993-2004

Nature of Inquiry	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Backbilling / Defective Meter	0	0	0	0	2	0	0	1	1	6	5	11
Billing	5	9	4	5	8	11	13	28	40	18	7	33
Credit	27	70	41	77	110	84	170	192	162	139	173	382
Customer Service Calls / Charts	2	5	1	6	0	0	0	2	1	1	3	7
Damage to Customer Facilities	2	3	3	4	0	1	0	0	0	0	0	0
Electric Service Extensions	15	11	6	9	10	4	9	6	1	4	4	1
Gas Odor / Leak	0	0	1	0	0	0	0	0	0	0	0	0
Gas Service Extensions	6	2	1	1	4	5	1	1	0	1	1	0
Line Clearance / R-O-W Spray	2	0	1	5	1	0	10	2	0	0	0	2
Meter Locations / Size	0	1	0	0	0	1	1	0	0	0	1	0
Miscellaneous / Other	2	1	4	11	4	7	1	2	5	37	16	20
Outages	0	0	0	0	0	0	1	4	1	5	1	1
Property Damage to Customer	0	0	0	0	0	0	0	2	3	0	4	2
Rate Classification / Appl	1	0	1	1	4	1	0	0	1	2	1	3
Relocate WPSC Facilities	4	3	3	2	0	0	3	2	1	0	1	0
Service Reliability	2	1	1	0	1	1	2	0	0	0	1	0
Stray Voltage	0	0	6	12	6	9	3	4	2	2	0	0
Trade Allies	0	0	0	0	0	0	0	0	0	0	0	0
TV / Radio Interference	0	0	0	0	0	9	0	2	1	0	0	0
Unacceptable Service Condition	0	0	0	0	0	1	1	0	0	0	0	0
Weatherization	1	0	0	0	0	0	0	1	0	0	0	0
Total	69	106	73	133	150	134	215	249	219	215	218	462



PSCW Complaints By Month - 2004

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
Backbilling/Defective Meter		2		3	1	2		2	1				11
Billing		1	1	8	1	5	2	2	3	7	2	1	33
Credit	1		5	111	58	38	38	44	51	23	8	5	382
Customer Service Calls/Charts				1			3	1	1	1			7
Electric Service Extensions								1					1
Line Clearance											1	1	2
Miscellaneous/Other	2	4		1	2	2	1	1		4	3		20
Outages	1												1
Property Damage to Customer	1											1	2
Rate Classification		1	1							1			3
Total	5	8	7	124	62	47	44	51	56	36	14	8	462

PSC 113.0603(3)(f)

2004 Line Clearance Budget Summary

Total annual tree trimming budget: \$4,670,000

Total annual tree trimming actual expenses: \$4,669,981

PSC 113.0604(3)(g)

2004 Line Clearance Line-Mile Summary

Annual projected miles of distribution line tree trimmed: 3240

Total actual miles of distribution line tree trimmed: 2845



Wisconsin Public Service Corporation
(a subsidiary of WPS Resources Corporation)
700 North Adams Street
P.O. Box 19001
Green Bay, WI 54307-9001

Public Service Commission of Wisconsin
RECEIVED: 04/28/06, 10:47:49 AM

April 28, 2006

Ms. Sandra Paske
Secretary of the Commission
Public Service Commission of Wisconsin
610 N. Whitney Way
Madison, WI 53705-2729

Dear Ms. Paske:

Docket 05-GF-113
RE: PSC 113.0604 Annual Report

Enclosed is Wisconsin Public Service Corporation's filing to meet the requirements for the PSC-113.0604 Annual Report.

Please call me at (920) 433-2566 if you have any questions or concerns.

Sincerely,

A handwritten signature in black ink, appearing to read "Maryam Sultana", with a horizontal line underneath the name.

Maryam Sultana
Distribution Planning Engineer

wab

Enclosures

PSC 113.0603(2) INDIVIDUAL CIRCUIT RELIABILITY PERFORMANCE

Each utility shall, at the end of each calendar year, calculate the SAIFI, SAIDI, and CAIDI indices for each circuit in each operating area. Each circuit in each operating area shall then be listed in order separately according to its SAIFI index, its SAIDI index and also its CAIDI index, beginning with the highest values for each index.

2005 ELECTRIC DISTRIBUTION CUSTOMER INTERRUPTION REPORT
 TOTAL DISTRIBUTION SYSTEM RELIABILITY INDICES
 SUBSTATION FEEDERS INCLUDING MAJOR STORMS
 AND TRANSMISSION CAUSED OUTAGES/EXCLUDING MTY'S LE 5 MIN

FREQUENCY			DURATION			DURATION		
PER			MINS PER			MINS PER		
CUSTOMER			CUSTOMER			CUSTOMER		
SERVED			SERVED			OUTAGED		
THREE LAKES	241	8.01	THREE LAKES	241	3830	TOWER DRIVE	241	1212
SUMMIT LAKE	241	6.4	VENUS	241	2032	LOST DAUPHIN	241	1198
ST. GERMAIN	242	5.87	ST. GERMAIN	242	1821	EASTMAN AVE.	241	757
CRANBERRY SUB	244	5.84	SUMMIT LAKE	241	1756	HIGHWAY V	243	750
CLEAR LAKE	241	5.55	CRANBERRY SUB	244	1346	HIGHWAY V	242	748
VENUS	241	5.22	VENUS	242	1221	GLORY ROAD	242	688
ST. GERMAIN	241	5.13	HIGHWAY 8	242	1070	PREBLE	243	675
CLEAR LAKE	243	4.67	CLEAR LAKE	241	1019	PREBLE	242	594
INGALLS	242	4.17	HODAG	241	932	ONTARIO	242	579
HIGHWAY 8	242	4.15	ST. GERMAIN	241	819	MYSTERY HILLS	242	566
INGALLS	241	4.08	GOODMAN	241	762	THREE LAKES	241	478
GOODMAN	241	3.87	CLEAR LAKE	243	714	WHITING AVE.	242	449
VENUS	242	3.81	CLEAR LAKE	242	706	WHITING AVE.	241	448
HODAG	241	3.34	HOOVER	242	687	PEARL AVE.	123	426
CLEAR LAKE	242	3.26	NORTHPOINT	242	551	VENUS	241	389
EASTOM	241	3.14	HIGHWAY V	242	545	MYSTERY HILLS	241	384
HIGHWAY V	241	3.03	INGALLS	241	535	WAUPACA	242	368
HOOVER	242	2.88	MOUNTAIN	242	532	LIBERTY STREET	243	363
NORTHPOINT	242	2.57	WHITING AVE.	241	528	HIGHWAY 8	243	361
STRATFORD	241	2.39	INGALLS	242	513	AURORA STREET	242	341
EASTOM	242	2.35	HIGHWAY V	241	488	EASTMAN AVE.	132	328
MORRISON AVE.	242	2.34	HIGHWAY V	243	485	EASTMAN AVE.	133	328
MAIN	241	2.31	EASTOM	242	462	TWELFTH AVE.	242	328
MOUNTAIN	242	2.24	HIGHWAY 8	241	452	VENUS	242	320
ELLINWOOD	242	2.22	AURORA STREET	242	424	UNIVERSITY	123	319
WINTON STREET	121	2.12	ROCKLAND	242	386	BOWEN STREET	121	312
SILVER CLIFF	241	2.11	OSHKOSH	242	370	ST. GERMAIN	242	311
TOWN LINE	243	2.05	OAK STREET	241	362	GLORY ROAD	241	310
EASTOM	243	2.02	LOST DAUPHIN	241	354	BRILLION IRON W	121	294
OAK STREET	241	2.01	MOUNTAIN	241	353	BRILLION IRON W	122	294
PEARL AVE.	121	2	OSHKOSH	243	350	ASHLAND AVE.	242	285
PEARL AVE.	122	2	GLORY ROAD	241	349	ROCKLAND	241	284
TAYLOR	121	2	MYSTERY HILLS	242	341	HODAG	241	279
MEARS CORNERS	241	1.96	EASTOM	241	335	GLENVIEW	241	279
MOUNTAIN	241	1.95	MEARS CORNERS	241	331	MASON STREET	241	276

		FREQUENCY PER CUSTOMER SERVED (SAIFI)			DURATION MINS PER CUSTOMER SERVED (SAIDI)			DURATION MINS PER CUSTOMER OUTAGED (CAIDI)
SUBSTATION	FEEDER		SUBSTATION	FEEDER		SUBSTATION	FEEDER	
HIGHWAY 8	241	1.93	EASTMAN AVE.	132	328	SUMMIT LAKE	241	275
MORRISON AVE.	241	1.92	EASTMAN AVE.	133	328	AVIATION	242	271
NORTHPOINT	241	1.9	NORTHPOINT	241	321	BOWNEN STREET	241	266
DAVES FALLS	242	1.87	EASTOM	243	312	ALGOMA	121	260
ANTIGO	241	1.8	KELLY	241	297	HIGHWAY 8	242	258
ROCKLAND	242	1.8	BRILLION IRON W	121	294	THIRTIETH AVE.	122	243
OSHKOSH	242	1.78	BRILLION IRON W	122	294	HOOVER	242	238
KRONEN	241	1.77	MAINE	241	287	MOUNTAIN	242	237
CASSEL	241	1.69	OSHKOSH	241	283	DYCKESVILLE	241	237
BRUSBAY	122	1.63	SISTER BAY	242	279	HIGHWAY 8	241	234
SISTER BAY	242	1.57	STRATFORD	241	274	GLENVIEW	242	234
MISHICOT	122	1.55	PREBLE	242	264	EAST KROK	241	233
OSHKOSH	243	1.52	KRONEN	241	259	OSHKOSH	243	231
MAPLEWOOD	241	1.47	SILVER CLIFF	241	255	SOBIESKI	241	231
AVIATION	241	1.46	EASTMAN AVE.	241	250	CRANBERRY SUB	244	230
KELLY	243	1.46	MAPLEWOOD	241	236	LIBERTY STREET	242	230
MISHICOT	121	1.4	HARTMAN CREEK	241	236	GOLDEN SANDS	242	227
OSHKOSH	241	1.4	POUND	241	219	KELLY	241	225
EAST KROK	242	1.39	AURORA STREET	241	211	RED MAPLE	242	220
SECOND STREET	122	1.35	THUNDER	241	206	CLEAR LAKE	242	217
KELLY	241	1.32	ROCKLAND	241	204	CALDRON F. STEP	121	215
SHERMAN STREET	241	1.32	WINTON STREET	121	201	NORTHPOINT	242	214
ELLINWOOD	241	1.31	DAVES FALLS	241	199	ROCKLAND	242	214
CASSEL	242	1.28	GRAVESVILLE	241	193	SHOTO	241	210
GRAVESVILLE	244	1.27	DAVES FALLS	242	189	HARTMAN CREEK	241	209
OCONTO	241	1.27	ONTARIO	242	186	OSHKOSH	242	208
AURORA STREET	242	1.25	ONTARIO	241	181	OSHKOSH	241	203
HARRISON	241	1.22	MENOMINEE	121	180	HOWARD	242	199
POUND	241	1.2	MYSTERY HILLS	241	176	DAVES FALLS	241	198
GOLDEN SANDS	241	1.18	WHITING AVE.	242	176	GOODMAN	241	197
THUNDER	241	1.18	ELLINWOOD	242	173	EASTOM	242	196
WHITING AVE.	241	1.18	AVIATION	242	171	ONTARIO	241	194
GRAVESVILLE	241	1.17	GOLDEN SANDS	241	170	AURORA STREET	241	190
BAY DE NOC	121	1.16	GRAVESVILLE	244	165	MASON STREET	243	187
KELLNERSVILLE	122	1.16	EAST KROK	242	164	EGG HARBOR	242	185
WESMARK	241	1.14	AVIATION	241	161	CLEAR LAKE	241	184
HARTMAN CREEK	241	1.13	PREBLE	243	161	SISTER BAY	241	184
GLORY ROAD	241	1.12	GLORY ROAD	242	155	ROTHSCHILD	241	184
AURORA STREET	241	1.11	MISHICOT	122	154	POUND	241	182
MENOMINEE	121	1.1	PEARL AVE.	123	151	MOUNTAIN	241	181
SUNSET POINT	241	1.08	MORRISON AVE.	241	149	OAK STREET	241	180
SUNSET POINT	242	1.07	MISHICOT	121	149	SISTER BAY	242	177
GRAVESVILLE	242	1.05	SHOTO	241	147	HENRY STREET	122	177

SUBSTATION	FEEDER	FREQUENCY	SUBSTATION	FEEDER	DURATION	SUBSTATION	FEEDER	DURATION
		PER CUSTOMER SERVED (SAIFI)			MINS PER CUSTOMER SERVED (SAIDI)			MINS PER CUSTOMER OUTAGED (CAIDI)
THIRTIETH AVE.	121	1.04	HOWARD	241	146	HILLTOP	242	177
KELLNERSVILLE	121	1.02	SOBIESKI	241	139	THUNDER	241	174
SECOND STREET	121	1.01	PEARL AVE.	122	138	MEARS CORNERS	241	169
BAYSHORE	41	1	GLENVIEW	241	138	NORTHPOINT	241	169
BRILLION IRON W	121	1	MORRISON AVE.	242	135	RED MAPLE	241	169
BRILLION IRON W	122	1	TAYLOR	121	135	HOWARD	241	167
DAVES FALLS	241	1	SHERMAN STREET	241	133	GRAVESVILLE	241	165
EASTMAN AVE.	132	1	SUNSET POINT	241	131	MENOMINEE	121	164
EASTMAN AVE.	133	1	SUNSET POINT	242	128	EASTMAN AVE.	242	164
EGG HARBOR	241	1	ANTIGO	241	127	BEARDSLEY STREET	121	163
FOURTH AVE.	131	1	GRAVESVILLE	242	118	HIGHWAY V	241	161
OGDEN ST	121	1	WESMARK	242	117	MAPLEWOOD	241	161
OGDEN ST	122	1	BOWEN STREET	241	115	PINE	242	160
OGDEN ST	123	1	SANDSTONE DIST.	241	114	ST. GERMAIN	241	159
OGDEN ST	124	1	PEARL AVE.	121	112	VELP AVE	242	159
WHITING AVE.	243	1	TOWER DRIVE	241	112	SUNNYVALE	241	156
ONTARIO	241	0.93	HARRISON	241	109	EASTOM	243	155
SANDSTONE DIST.	241	0.91	PINE	242	109	CLEAR LAKE	243	153
HOWARD	241	0.87	ROSIERE	242	102	VELP AVE	241	152
ST. NAZIANZ	241	0.8	EGG HARBOR	241	101	ROSIERE	242	149
WESMARK	242	0.79	BAY DE NOC	121	99	HOOVER	241	149
SHERWOOD	242	0.74	CASSEL	241	98	WESMARK	242	148
HIGHWAY V	242	0.73	EGG HARBOR	242	97	KRONEN	241	146
ROCKLAND	241	0.72	SHERWOOD	242	95	GOLDEN SANDS	241	144
SHOTO	241	0.7	ELLINWOOD	241	94	LENA	241	143
HARRISON	242	0.68	WESMARK	241	94	WEST MARINETTE	241	142
PINE	242	0.68	BRUSBAY	122	93	GRAND RAPIDS	241	138
PREBLE	241	0.68	VELP AVE	242	87	BEARDSLEY STREET	122	134
ROSIERE	242	0.68	KRONEN	242	83	INGALLS	241	131
KRONEN	242	0.67	OCONTO	241	82	ROSIERE	241	131
HIGHWAY V	243	0.65	LIBERTY STREET	243	82	GRAVESVILLE	244	130
AVIATION	242	0.63	GOLDEN SANDS	242	81	WINTON STREET	122	129
SHERWOOD	241	0.61	LENA	241	79	LUXEMBURG	242	129
MYSTERY HILLS	242	0.6	KELLY	243	77	SHERWOOD	242	128
SOBIESKI	241	0.6	SUNNYVALE	241	73	LUXEMBURG	241	128
BAYPORT	241	0.55	SHERWOOD	241	72	PLOVER	241	128
LENA	241	0.55	HOOVER	241	72	TOWN LINE	122	127
VELP AVE	242	0.55	PREBLE	241	71	SANDSTONE DIST.	241	125
EGG HARBOR	242	0.53	LIBERTY STREET	242	69	SUAMICO	241	125
SOUTH BROADWAY	242	0.52	TOWN LINE	243	68	HENRY STREET	241	125
GLENVIEW	241	0.49	SECOND STREET	122	68	MAINE	241	124

HOOVER	241	0.49	HENRY STREET	122	68	INGALLS	242	123
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		FREQUENCY PER CUSTOMER SERVED (SAIFI)			DURATION MINS PER CUSTOMER SERVED (SAIDI)			DURATION MINS PER CUSTOMER OUTAGED (CAIDI)
SUBSTATION	FEEDER		SUBSTATION	FEEDER		SUBSTATION	FEEDER	
SUNNYVALE	241	0.47	MASON STREET	243	68	KRONEN	242	123
MYSTERY HILLS	241	0.46	ST. NAZIANZ	241	65	SILVER CLIFF	241	121
LUXEMBURG	241	0.45	WAUPACA	242	63	SUNSET POINT	241	121
MANRAP	121	0.45	ALGOMA	121	62	SUNSET POINT	242	119
PREBLE	242	0.45	MASON STREET	241	60	ST. NAZIANZ	242	119
ST. NAZIANZ	242	0.44	LUXEMBURG	241	58	EAST KROK	242	118
BOWEN STREET	241	0.43	RED MAPLE	241	58	DUNN ROAD	121	118
BRUSBAY	242	0.4	KELLNERSVILLE	122	57	DYCKESVILLE	242	118
PEARL AVE.	241	0.4	WHITING AVE.	243	56	SHERWOOD	241	117
WHITING AVE.	242	0.39	DYCKESVILLE	241	56	PEARL AVE.	241	116
ASHLAND AVE.	241	0.38	GLENVIEW	242	56	STRATFORD	241	115
HENRY STREET	122	0.38	ST. NAZIANZ	242	52	GRAVESVILLE	242	112
DUNN ROAD	121	0.36	SISTER BAY	241	51	OCONTO	242	112
GOLDEN SANDS	242	0.36	BAYPORT	241	50	AVIATION	241	110
MASON STREET	243	0.36	KELLNERSVILLE	121	48	MASON STREET	242	109
PEARL AVE.	123	0.35	UNIVERSITY	123	47	JAMES STREET	241	109
RED MAPLE	241	0.35	SOUTH BROADWAY	242	46	EASTOM	241	107
SHOTO	242	0.34	PEARL AVE.	241	46	MISHICOT	121	107
EASTMAN AVE.	241	0.33	ROTHSCHILD	241	43	SHERMAN STREET	242	107
ONTARIO	242	0.32	DUNN ROAD	121	42	PREBLE	241	105
LIBERTY STREET	242	0.3	HARRISON	242	41	ALGOMA	122	105
LOST DAUPHIN	241	0.3	BRUSBAY	242	41	PINE	241	104
SHERMAN STREET	242	0.28	TWELFTH AVE.	242	41	DAVE FALLS	242	101
SISTER BAY	241	0.28	CASSEL	242	40	SHERMAN STREET	241	101
ALGOMA	122	0.26	EAST KROK	241	40	EGG HARBOR	241	101
WINTON STREET	122	0.26	HIGHWAY 8	243	39	MISHICOT	122	100
VELP AVE	241	0.25	VELP AVE	241	38	BRUSBAY	242	100
WELLS STREET	122	0.25	WINTON STREET	122	33	WINTON STREET	121	95
ALGOMA	121	0.24	MANRAP	121	32	KELLY	242	94
DYCKESVILLE	241	0.24	SHERMAN STREET	242	30	RYAN STREET	123	94
GLENVIEW	242	0.24	ASHLAND AVE.	241	29	BAYPORT	241	91
PREBLE	243	0.24	ROSIERE	241	29	HARRISON	241	89
LIBERTY STREET	243	0.23	RED MAPLE	242	28	SOUTH BROADWAY	242	89
PINE	241	0.23	ALGOMA	122	27	BAY DE NOC	121	86
ROTHSCHILD	241	0.23	LUXEMBURG	242	27	WESMARK	241	83
GLORY ROAD	242	0.22	THIRTIETH AVE.	121	26	ST. NAZIANZ	241	82
MASON STREET	241	0.22	SHOTO	242	25	HILLTOP	241	81
ROSIERE	241	0.22	DYCKESVILLE	242	25	WAUSAU HYDRO	241	79
DYCKESVILLE	242	0.21	PINE	241	24	ELLINWOOD	242	78
LUXEMBURG	242	0.21	WEST MARINETTE	241	22	MORRISON AVE.	241	77
HILLTOP	241	0.18	SUAMICO	241	18	ASHLAND AVE.	241	77
EAST KROK	241	0.17	HILLTOP	242	18	BLUESTONE	121	75

		FREQUENCY PER CUSTOMER SERVED (SAIFI)			DURATION MINS PER CUSTOMER SERVED (SAIDI)			DURATION MINS PER CUSTOMER OUTAGED (CAIDI)
SUBSTATION	FEEDER		SUBSTATION	FEEDER		SUBSTATION	FEEDER	
LIBERTY STREET	241	0.17	BOWEN STREET	121	18	MERRILL	241	74
WAUPACA	242	0.17	SECOND STREET	121	17	TOWN LINE	121	73
UNIVERSITY	123	0.15	HENRY STREET	241	17	ELLINWOOD	241	72
WELLS STREET	242	0.15	PLOVER	241	17	SHOTO	242	72
WEST MARINETTE	241	0.15	BAYSHORE	41	15	MANRAP	121	71
SUAMICO	241	0.14	FOURTH AVE	131	15	ANTIGO	241	70
HENRY STREET	241	0.13	CALDRON F. STEP	121	15	PEARL AVE.	122	69
PLOVER	241	0.13	HILLTOP	241	14	TAYLOR	121	68
RED MAPLE	242	0.13	OGDEN ST	123	13	WAUPACA	241	67
TOWN LINE	121	0.13	OGDEN ST	124	13	LIBERTY STREET	241	66
TWELFTH AVE.	242	0.12	OGDEN ST	121	12	WELLS STREET	242	66
HIGHWAY 8	243	0.11	OGDEN ST	122	12	OCONTO	241	64
HILLTOP	242	0.1	WELLS STREET	122	11	HARRISON	242	60
KELLY	242	0.1	LIBERTY STREET	241	11	MORRISON AVE.	242	58
MASON STREET	242	0.1	MASON STREET	242	11	CASSEL	241	58
TOWER DRIVE	241	0.09	TOWN LINE	122	11	BRUSBAY	122	57
TOWN LINE	122	0.09	EASTMAN AVE.	242	11	PEARL AVE.	121	56
OCONTO	242	0.08	WELLS STREET	242	10	WHITING AVE.	243	56
WAUSAU HYDRO	241	0.08	TOWN LINE	121	9	NORSAU	122	54
CALDRON F. STEP	121	0.07	KELLY	242	9	KELLY	243	53
EASTMAN AVE.	242	0.07	OCONTO	242	9	WELLS STREET	121	52
BOWEN STREET	121	0.06	HOWARD	242	9	SECOND STREET	122	50
JAMES STREET	241	0.06	JAMES STREET	241	7	KELLNERSVILLE	122	49
HOWARD	242	0.05	ASHLAND AVE.	242	7	STROWBRIDGE ST.	121	47
PLOVER	242	0.05	WAUSAU HYDRO	241	6	KELLNERSVILLE	121	46
RYAN STREET	123	0.05	RYAN STREET	123	4	WELLS STREET	122	44
ROOSEVELT ROAD	241	0.04	BEARDSLEY STREET	121	4	PLOVER	242	39
ASHLAND AVE.	242	0.03	THIRTIETH AVE.	122	3	ROOSEVELT ROAD	241	38
WAUPACA	241	0.03	PLOVER	242	2	TOWN LINE	243	33
WELLS STREET	121	0.03	ROOSEVELT ROAD	241	2	CASSEL	242	31
BEARDSLEY STREET	121	0.02	WAUPACA	241	2	THIRTIETH AVE.	121	25
BEARDSLEY STREET	122	0.01	BEARDSLEY STREET	122	2	SECOND STREET	121	16
STROWBRIDGE ST.	121	0.01	WELLS STREET	121	1	BAYSHORE	41	15
THIRTIETH AVE.	122	0.01	STROWBRIDGE ST.	121	0	FOURTH AVE	131	15
BLUESTONE	121	0	BLUESTONE	121	0	OGDEN ST	123	13
GRAND RAPIDS	241	0	GRAND RAPIDS	241	0	OGDEN ST	124	13
MERRILL	241	0	MERRILL	241	0	OGDEN ST	121	12
NORSAU	122	0	NORSAU	122	0	OGDEN ST	122	12

PSC 113.0604 (2)(a)

An overall assessment of the reliability performance including the aggregate SAIFI, SAIDI and CAIDI indices by system and each operating area, as applicable.

2005 ELECTRIC DISTRIBUTION CUSTOMER INTERRUPTION REPORT
TOTAL DISTRIBUTION SYSTEM RELIABILITY INDICES
INCLUDING MAJOR STORM AND TRANSMISSION OUTAGES
EXCLUDING MOMENTARIES (5 MINUTES OR LESS DURATION)

DISTRICT	PER CUSTOMER SERVED (SAIFI)	PER CUSTOMER OUTAGED (CAIDI)	PER CUSTOMER SERVED (SAIDI)
GREEN BAY DIV	0.58	271	159
LAKESHORE DIV	0.67	136	91
TWO RIVERS	0.78	115	90
CHILTON	0.78	164	127
STURGEON BAY	0.65	141	92
KEWAUNEE	0.39	131	51
OSHKOSH DIV	1.02	140	143
WAUSAU DIV	1.03	144	148
WAUSAU	0.99	95	95
MERRILL	0.75	110	82
STEVENS PT	1.30	231	301
WAUPACA	0.82	132	108
RHINELANDER DIV	3.78	232	879
EAGLE RIVER	5.04	299	1508
TOMAHAWK	2.61	130	341
MINOCQUA	4.67	174	814
RHINELANDER	3.33	302	1008
ANTIGO	2.64	231	611
M&M DIV	1.60	172	276
MENOMINEE	1.82	103	187
MARINETTE	0.72	109	78
WABENO	2.94	223	657
WAUSAUKEE	1.15	155	178
TOTAL COMPANY	1.40	201	282

PSC 113.0604 (2)(a)

An overall assessment of the reliability performance including the aggregate SAIFI, SAIDI, and CAIDI indices by system and each operating area, as applicable.

2005 CUSTOMER INTERRUPTIONS BY FEEDER
 TOTAL DISTRIBUTION SYSTEM RELIABILITY INDEXES
 INCLUDING MAJOR STORMS AND TRANSMISSION CAUSED OUTAGES
 EXCLUDING MTY'S LE 5 MINS

DISTRICT	SUBSTATION	FEEDER	FREQUENCY PER CUSTOMER SERVED (SAIFI)	DURATION MINS. PER CUSTOMER SERVED (SAIDI)	DURATION MINS. PER CUSTOMER OUTAGED (CAIDI)
GREEN BAY	ASHLAND AVE.	241	0.38	29	77
		242	0.03	7	285
	BAYPORT	241	0.55	50	91
		241	0.24	56	237
	DYCKESVILLE	242	0.21	25	118
		133	1	328	328
	EASTMAN AVE.	241	0.33	250	757
		242	0.07	11	164
		132	1	328	328
	GLORY ROAD	241	1.12	349	310
		242	0.22	155	688
	HENRY STREET	122	0.38	68	177
		241	0.13	17	125
	HIGHWAY V	241	3.03	488	161
		242	0.73	545	748
		243	0.65	485	750
	HOWARD	241	0.87	146	167
		242	0.05	9	199
	JAMES STREET	241	0.06	7	109
	LIBERTY STREET	241	0.17	11	66
		242	0.3	69	230
		243	0.23	82	363
	LOST DAUPHIN	241	0.3	354	1198
	LUXEMBURG	241	1.6	342	214
	MAPLEWOOD	241	1.47	236	161
	MASON STREET	241	0.22	60	276
		242	0.1	11	109
		243	0.36	68	187
	MYSTERY HILLS	241	0.46	176	384
		242	0.6	341	566
	OAK STREET	241	2.01	362	180
		241	0.93	181	194
	ONTARIO	242	0.32	186	579

DISTRICT	SUBSTATION	FEEDER	FREQUENCY PER CUSTOMER SERVED (SAIFI)	DURATION MINS. PER CUSTOMER SERVED (SAIDI)	DURATION MINS. PER CUSTOMER OUTAGED (CAIDI)
GREEN BAY	PREBLE	241	0.68	71	105
		242	0.45	264	594
		243	0.24	161	675
	RED MAPLE	241	0.35	58	169
		242	0.13	28	220
	ROCKLAND	241	0.72	204	284
		242	1.8	386	214
	SOBIESKI	241	0.6	139	231
	SOUTH BROADWAY	242			
			0.52	46	89
	SUAMICO	241	0.14	18	125
	TOWER DRIVE	241	0.09	112	1212
	UNIVERSITY	123	0.15	47	319
	VELP AVE	241	0.25	38	152
		242	0.55	87	159
	WESMARK	241	1.15	118	102
		242	0.87	128	147
TWO RIVERS	GLENVIEW	242	0.28	94	336
	KELLNERSVILLE	121	1.02	48	46
		122	1.16	57	49
	MANRAP	121	0.45	32	71
	MISHICOT	121	1.41	150	107
		122	1.55	154	100
	SHOTO	241	0.7	147	210
		242	0.34	25	72
	ST. NAZIANZ	241	0.8	65	82
		242	0.44	52	119
	WESMARK	241	1.09	24	22
		242	0.08	22	267
CHILTON	BRILLION IRON W	121	1	294	294
	BRILLION IRON W	122	1	294	294
	GLENVIEW	241	0.49	138	279
		242	0.23	49	213
	GRAVESVILLE	241	1.17	193	165
		242	1.05	118	112
		244	1.27	165	130
	RYAN STREET	123	0.05	4	94
STURGEON BAY	ALGOMA	121	0.39	104	268
	BRUSBAY	122	1.63	93	57
		242	0.4	41	100
	DUNN ROAD	121	0.36	42	118
	EGG HARBOR	241	1	101	101

DISTRICT	SUBSTATION	FEEDER	FREQUENCY PER CUSTOMER SERVED (SAIFI)	DURATION MINS. PER CUSTOMER SERVED (SAIDI)	DURATION MINS. PER CUSTOMER OUTAGED (CAIDI)
STURGEON BAY	EGG HARBOR	242	0.53	97	185
		241	0.22	29	132
		241	0.28	51	184
		242	1.57	279	177
KEWAUNEE	ALGOMA	121	0.04	7	162
		122	0.26	27	105
		121	0.02	4	163
		122	0.01	2	134
	EAST KROK	241	0.18	41	233
		242	1.39	164	118
	LUXEMBURG	241	0.38	39	105
		242	0.21	27	129
	MISHICOT	121	1	103	103
		241	0.22	18	84
		242	0.6	90	151
	WESMARK	241	1.37	68	50
		241	1.46	161	110
	OSHKOSH	242	0.63	171	271
	BOWEN STREET	121	0.06	18	312
		241	0.43	115	266
	ELLINWOOD	241	1.31	94	72
		242	2.22	173	78
	MEARS CORNERS	241			
			1.96	331	169
	OSHKOSH	241	1.4	283	203
		242	1.78	370	208
		243	1.52	350	231
		121	2	112	56
		122	2	138	69
		123	0.35	151	426
		241	0.4	46	116
	SUNSET POINT	241	1.08	131	121
		242	1.07	128	119
	TWELFTH AVE.	242	0.12	41	328
		241	1.69	98	58
	CASSEL	242	1.28	40	31
		241	0.18	14	81
	HILLTOP	242	0.1	18	177
		241	1.32	297	225
	KELLY	242	0.1	9	94
		243	1.46	77	53

DISTRICT	SUBSTATION	FEEDER	FREQUENCY PER CUSTOMER SERVED (SAIFI)	DURATION MINS. PER CUSTOMER SERVED (SAIDI)	DURATION MINS. PER CUSTOMER OUTAGED (CAIDI)
WAUSAU	KRONEN	241	1.77	259	146
		242	0.67	83	123
	MAINE MORRISON AVE.	241	2.31	287	124
		241	1.92	149	77
		242	2.34	135	58
		241	0.23	43	184
	ROTHSCHILD SHERMAN STREET	241			
		241	1.32	133	101
	STRATFORD STROWBRIDGE ST.	242	0.28	30	107
		241	2.39	274	115
	SUNNYVALE TOWN LINE	121	0.01	0	47
		241	0.47	73	156
		121	0.13	9	73
		122	0.09	11	127
	WAUSAU HYDRO WINTON STREET	243	2.05	68	33
		241	0.08	6	79
		121	2.12	201	95
		122	0.26	33	129
MERRILL	MERRILL PINE	241	0	0	74
		241	0.23	24	104
		242	0.68	109	160
		121	2	135	68
STEVENS POINT	GOLDEN SANDS	241	1.18	170	144
		242	0.36	81	227
	HOOVER	241	0.49	72	149
		242	2.88	687	238
	NORTHPOINT	241	1.9	321	169
		242	2.57	551	214
	PLOVER	241	0.13	17	128
		242	0.05	2	39
	WHITING AVE.	241	1.18	528	448
		242	0.39	176	449
		243	1	56	56
		241	1.22	109	89
WAUPACA	HARRISON	242	0.68	41	60
		241			
	HARTMAN CREEK WAUPACA	241	1.13	236	209
		241	0.03	2	67
EAGLE RIVER	CRANBERRY	242	0.17	63	368
		244	5.84	1346	230

DISTRICT	SUBSTATION	FEEDER	FREQUENCY PER CUSTOMER SERVED (SAIFI)	DURATION MINS. PER CUSTOMER SERVED (SAIDI)	DURATION MINS. PER CUSTOMER OUTAGED (CAIDI)
EAGLE RIVER TOMAHAWK	ST. GERMAIN EASTOM	242	6.18	2063	334
		241	3.14	335	107
		242	2.35	462	196
		243	2.02	312	155
MINOCQUA	CLEAR LAKE	241	5.55	1019	184
		242	3.26	706	217
		243	4.67	714	153
		241	5.13	819	159
RHINELANDER	ST. GERMAIN	242	4.45	751	169
		241	1.93	452	234
		242	4.15	1070	258
		243	0.11	39	361
	HODAG THREE LAKES VENUS	241	3.34	932	279
		241	3.12	1028	330
		241	5.22	2032	389
		242	3.81	1221	320
ANTIGO	ANTIGO AURORA STREET	241	1.8	127	70
		241	1.11	211	190
		242	1.25	424	341
		241	8.69	2326	268
MENOMINEE	SUMMIT LAKE BAY DE NOC BAYSHORE FOURTH AVE. INGALLS	121	1.16	99	86
		41	1	15	15
		131	1	15	15
		241	4.03	530	131
	INGALLS MENOMINEE SECOND STREET	242	4.69	529	113
		121	1.1	180	164
		121	1	15	15
		122	1.35	68	50
	THIRTIETH AVE. INGALLS LENA	121	1.04	26	25
		122	0.01	3	243
		242	3.2	483	151
		241	0.55	79	143

DISTRICT	SUBSTATION	FEEDER	FREQUENCY PER CUSTOMER SERVED (SAIFI)	DURATION MINS. PER CUSTOMER SERVED (SAIDI)	DURATION MINS. PER CUSTOMER OUTAGED (CAIDI)
MARINETTE	OCONTO	241	1.27	82	64
		242	0.08	9	112
	OGDEN ST	121	1	12	12
		122	1	12	12
		123	1	13	13
		124	1	13	13
		241	1.12	211	188
	POUND	241			
		241			
	ROOSEVELT ROAD		0.04	2	38
		121	1.01	17	16
	SECOND STREET				
		241	0.61	72	117
	SHERWOOD	242	0.74	95	128
		121	0.03	1	52
	WELLS STREET	242	0.15	10	66
		241			
	WEST MARINETTE		0.15	22	142
		241	3.87	762	197
WABENO	GOODMAN	241	1.95	353	181
		242	2.24	532	237
	MOUNTAIN	241	2.11	255	121
		241	4.97	1401	282
WAUSAUKEE	SILVER CLIFF				
		241			
	SUMMIT LAKE				
		241			
	CALDRON F.				
		121			
	STEPUP		0.07	15	215
		241	1	199	198
	DAVES FALLS	242	1.87	189	101
		241	1.5	247	165
	POUND				
		241			
	SANDSTONE DIST.		0.91	114	125
		241	1.18	206	174
	THUNDER				

PSC 113.0604 (2)(b)

A list of the worst performing circuits based on SAIFI, SAIDI, and CAIDI indices for the calendar year.

SAIFI, SAIDI, and CAIDI were calculated for each of the WPS distribution feeders. Due to the difficulty in ranking the feeders, a composite value was calculated in order to normalize SAIFI, SAIDI, and CAIDI. The following formula was used to develop a composite value based on 20% SAIFI and 80% SAIDI:

COMPOSITE = $[(\text{SAIFI}/\text{SAIFI MAX}) * 0.2 + (\text{SAIDI}/\text{SAIDI MAX}) * 0.8 + (\text{CAIDI}/\text{CAIDI MAX}) * 0]$ where MAX = the maximum value of SAIFI, SAIDI, and CAIDI for all distribution circuits.

INCLUDES INTERRUPTIONS > 5 MINUTES, TRANSMISSION AND MAJOR STORMS.

SUBSTATION	FEEDER	FREQUENCY PER CUSTOMER SERVED (SAIFI)	DURATION MINS PER CUSTOMER SERVED (SAIDI)	DURATION MINS PER CUSTOMER OUTAGED (CAIDI)	COMPOSITE
THREE LAKES	241	8.01	3830	478	1.877
VENUS	241	5.22	2032	389	1.035
ST. GERMAIN	242	5.87	1821	311	0.975
SUMMIT LAKE	241	6.4	1756	275	0.970
CRANBERRY SUB	244	5.84	1346	230	0.781
VENUS	242	3.81	1221	320	0.649
CLEAR LAKE	241	5.55	1019	184	0.636
HIGHWAY 8	242	4.15	1070	258	0.601
ST. GERMAIN	241	5.13	819	159	0.538
HODAG	241	3.34	932	279	0.512
CLEAR LAKE	243	4.67	714	153	0.477
GOODMAN	241	3.87	762	197	0.465
CLEAR LAKE	242	3.26	706	217	0.417
HOOVER	242	2.88	687	238	0.394
INGALLS	241	4.08	535	131	0.381
INGALLS	242	4.17	513	123	0.375
NORTHPOINT	242	2.57	551	214	0.327
HIGHWAY V	241	3.03	488	161	0.320
MOUNTAIN	242	2.24	532	237	0.306
EASTOM	242	2.35	462	196	0.282
WHITING AVE.	241	1.18	528	448	0.262
EASTOM	241	3.14	335	107	0.262
HIGHWAY 8	241	1.93	452	234	0.261
HIGHWAY V	242	0.73	545	748	0.251
ROCKLAND	242	1.8	386	214	0.229
OAK STREET	241	2.01	362	180	0.228
HIGHWAY V	243	0.65	485	750	0.223
AURORA STREET	242	1.25	424	341	0.222
OSHKOSH	242	1.78	370	208	0.222
MOUNTAIN	241	1.95	353	181	0.221
MEARS CORNERS	241	1.96	331	169	0.213
MAINE	241	2.31	287	124	0.209

SUBSTATION	FEEDER	FREQUENCY PER CUSTOMER SERVED (SAIFI)	DURATION MINS PER CUSTOMER SERVED (SAIDI)	DURATION MINS PER CUSTOMER OUTAGED (CAIDI)	COMPOSITE
EASTOM	243	2.02	312	155	0.208
STRATFORD	241	2.39	274	115	0.207
NORTHPOINT	241	1.9	321	169	0.206
OSHKOSH	243	1.52	350	231	0.203
SILVER CLIFF	241	2.11	255	121	0.188
GLORY ROAD	241	1.12	349	310	0.187
SISTER BAY	242	1.57	279	177	0.176
KRONEN	241	1.77	259	146	0.176
KELLY	241	1.32	297	225	0.174
EASTMAN AVE.	132	1	328	328	0.173
EASTMAN AVE.	133	1	328	328	0.173
OSHKOSH	241	1.4	283	203	0.171
WINTON STREET	121	2.12	201	95	0.167
MYSTERY HILLS	242	0.6	341	566	0.163
BRILLION IRON W	121	1	294	294	0.160
BRILLION IRON W	122	1	294	294	0.160
ELLINWOOD	242	2.22	173	78	0.159
LOST DAUPHIN	241	0.3	354	1198	0.156
MAPLEWOOD	241	1.47	236	161	0.155
DAVES FALLS	242	1.87	189	101	0.152
MORRISON AVE.	242	2.34	135	58	0.148
HARTMAN CREEK	241	1.13	236	209	0.141
MORRISON AVE.	241	1.92	149	77	0.137
POUND	241	1.2	219	182	0.137
PEARL AVE.	122	2	138	69	0.136
TAYLOR	121	2	135	68	0.135
THUNDER	241	1.18	206	174	0.131
AURORA STREET	241	1.11	211	190	0.130
PEARL AVE.	121	2	112	56	0.126
PREBLE	242	0.45	264	594	0.125
GRAVESVILLE	241	1.17	193	165	0.125
MISHICOT	122	1.55	154	100	0.125
AVIATION	241	1.46	161	110	0.124
ANTIGO	241	1.8	127	70	0.124
EAST KROK	242	1.39	164	118	0.122
DAVES FALLS	241	1	199	198	0.121
GRAVESVILLE	244	1.27	165	130	0.118
MENOMINEE	121	1.1	180	164	0.117
MISHICOT	121	1.4	149	107	0.117
GOLDEN SANDS	241	1.18	170	144	0.116
EASTMAN AVE.	241	0.33	250	757	0.115
ROCKLAND	241	0.72	204	284	0.112
ONTARIO	241	0.93	181	194	0.111
TOWN LINE	243	2.05	68	33	0.110
CASSEL	241	1.69	98	58	0.107
SHERMAN					
STREET	241	1.32	133	101	0.107
BRUSBAY	122	1.63	93	57	0.103
SUNSET POINT	241	1.08	131	121	0.096
SUNSET POINT	242	1.07	128	119	0.095
AVIATION	242	0.63	171	271	0.095
HOWARD	241	0.87	146	167	0.094
HARRISON	241	1.22	109	89	0.093
ELLINWOOD	241	1.31	94	72	0.091
GRAVESVILLE	242	1.05	118	112	0.090
MYSTERY HILLS	241	0.46	176	384	0.090
KELLY	243	1.46	77	53	0.090

ONTARIO	242	0.32	186	579	0.088
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SUBSTATION	FEEDER	FREQUENCY PER CUSTOMER SERVED (SAIFI)	DURATION MINS PER CUSTOMER SERVED (SAIDI)	DURATION MINS PER CUSTOMER OUTAGED (CAIDI)	COMPOSITE
SHOTO	241	0.7	147	210	0.088
WHITING AVE.	242	0.39	176	449	0.087
BAY DE NOC	121	1.16	99	86	0.087
OCONTO	241	1.27	82	64	0.084
WESMARK	241	1.14	94	83	0.084
SANDSTONE DIST.	241	0.91	114	125	0.083
SECOND STREET	122	1.35	68	50	0.082
EGG HARBOR	241	1	101	101	0.081
SOBIESKI	241	0.6	139	231	0.081
WESMARK	242	0.79	117	148	0.079
GLENVIEW	241	0.49	138	279	0.076
PEARL AVE.	123	0.35	151	426	0.075
PREBLE	243	0.24	161	675	0.075
GLORY ROAD	242	0.22	155	688	0.072
PINE	242	0.68	109	160	0.072
KELLNERSVILLE	122	1.16	57	49	0.070
ROSIERE	242	0.68	102	149	0.069
SHERWOOD	242	0.74	95	128	0.068
CASSEL	242	1.28	40	31	0.067
BOWEN STREET	241	0.43	115	266	0.064
WHITING AVE.	243	1	56	56	0.063
EGG HARBOR	242	0.53	97	185	0.061
KRONEN	242	0.67	83	123	0.061
KELLNERSVILLE	121	1.02	48	46	0.060
ST. NAZIANZ	241	0.8	65	82	0.058
VELP AVE	242	0.55	87	159	0.057
PREBLE	241	0.68	71	105	0.056
LENA	241	0.55	79	143	0.054
SHERWOOD	241	0.61	72	117	0.054
THIRTIETH AVE.	121	1.04	26	25	0.052
TOWER DRIVE	241	0.09	112	1212	0.049
HOOVER	241	0.49	72	149	0.049
SUNNYVALE	241	0.47	73	156	0.048
GOLDEN SANDS	242	0.36	81	227	0.047
SECOND STREET	121	1.01	17	16	0.047
FOURTH AVE	131	1	15	15	0.046
BAYSHORE	41	1	15	15	0.046
OGDEN ST	123	1	13	13	0.045
OGDEN ST	124	1	13	13	0.045
OGDEN ST	121	1	12	12	0.045
OGDEN ST	122	1	12	12	0.045
HARRISON	242	0.68	41	60	0.044
HENRY STREET	122	0.38	68	177	0.043
LIBERTY STREET	243	0.23	82	363	0.043
BAYPORT	241	0.55	50	91	0.042
MASON STREET	243	0.36	68	187	0.042
LUXEMBURG	241	0.45	58	128	0.042
LIBERTY STREET	242	0.3	69	230	0.040
SOUTH					
BROADWAY	242	0.52	46	89	0.039
ST. NAZIANZ	242	0.44	52	119	0.039
RED MAPLE	241	0.35	58	169	0.038
ALGOMA	121	0.24	62	260	0.035
PEARL AVE.	241	0.4	46	116	0.035
MASON STREET	241	0.22	60	276	0.033
BRUSBAY	242	0.4	41	100	0.033
WAUPACA	242	0.17	63	368	0.032

SUBSTATION	FEEDER	FREQUENCY PER CUSTOMER SERVED (SAIFI)	DURATION MINS PER CUSTOMER SERVED (SAIDI)	DURATION MINS PER CUSTOMER OUTAGED (CAIDI)	COMPOSITE
DYCKESVILLE	241	0.24	56	237	0.032
GLENVIEW	242	0.24	56	234	0.032
SISTER BAY	241	0.28	51	184	0.032
DUNN ROAD	121	0.36	42	118	0.031
MANRAP	121	0.45	32	71	0.031
ASHLAND AVE.	241	0.38	29	77	0.027
ROTHSCHILD	241	0.23	43	184	0.027
VELP AVE	241	0.25	38	152	0.025
UNIVERSITY	123	0.15	47	319	0.025
WINTON STREET	122	0.26	33	129	0.024
SHOTO	242	0.34	25	72	0.024
SHERMAN					
STREET	242	0.28	30	107	0.023
EAST KROK	241	0.17	40	233	0.023
TWELFTH AVE.	242	0.12	41	328	0.021
ALGOMA	122	0.26	27	105	0.021
ROSIERE	241	0.22	29	131	0.021
HIGHWAY 8	243	0.11	39	361	0.020
LUXEMBURG	242	0.21	27	129	0.019
PINE	241	0.23	24	104	0.019
DYCKESVILLE	242	0.21	25	118	0.019
RED MAPLE	242	0.13	28	220	0.017
WEST MARINETTE	241	0.15	22	142	0.015
WELLS STREET	122	0.25	11	44	0.014
SUAMICO	241	0.14	18	125	0.013
HILLTOP	241	0.18	14	81	0.013
HENRY STREET	241	0.13	17	125	0.012
PLOVER	241	0.13	17	128	0.012
HILLTOP	242	0.1	18	177	0.011
LIBERTY STREET	241	0.17	11	66	0.011
WELLS STREET	242	0.15	10	66	0.010
BOWEN STREET	121	0.06	18	312	0.010
CALDRON F.					
STEPU	121	0.07	15	215	0.009
TOWN LINE	121	0.13	9	73	0.009
MASON STREET	242	0.1	11	109	0.008
TOWN LINE	122	0.09	11	127	0.008
KELLY	242	0.1	9	94	0.008
EASTMAN AVE.	242	0.07	11	164	0.007
OCONTO	242	0.08	9	112	0.007
HOWARD	242	0.05	9	199	0.006
WAUSAU HYDRO	241	0.08	6	79	0.006
JAMES STREET	241	0.06	7	109	0.005
ASHLAND AVE.	242	0.03	7	285	0.004
RYAN STREET	123	0.05	4	94	0.004
PLOVER	242	0.05	2	39	0.003
BEARDSLEY					
STREET	121	0.02	4	163	0.002
ROOSEVELT					
ROAD	241	0.04	2	38	0.002
WAUPACA	241	0.03	2	67	0.002

SUBSTATION	FEEDER	FREQUENCY PER CUSTOMER SERVED (SAIFI)	DURATION MINS PER CUSTOMER SERVED (SAIDI)	DURATION MINS PER CUSTOMER OUTAGED (CAIDI)	COMPOSITE
THIRTIETH AVE.	122	0.01	3	243	0.002
WELLS STREET	121	0.03	1	52	0.002
BEARDSLEY STREET	122	0.01	2	134	0.001
STROWBRIDGE ST.	121	0.01	0	47	0.000
BLUESTONE	121	0	0	75	0.000
NORSAU	122	0	0	54	0.000
GRAND RAPIDS	241	0	0	138	0.000
MERRILL	241	0	0	74	0.000

PSC 113.0604 (2)(b)

A list of worst performing circuits based on SAIFI, SAIDI, and CAIDI indices for the calendar year.

WPS analyzed approximately 192 distribution circuits. SAIFI, SAIDI, and CAIDI indices are listed for the 10 worst feeders for 2005. The indices were calculated using interruptions greater than 5 minutes and included transmission related outages and major storms.

1. Three Lakes 241:	SAIFI = 8.01	SAIDI = 3830	CAIDI = 478
2. Venus 241:	SAIFI = 5.22	SAIDI = 2032	CAIDI = 389
3. St. Germain 242:	SAIFI = 5.87	SAIDI = 1821	CAIDI = 311
4. Summit Lake 241:	SAIFI = 6.4	SAIDI = 1756	CAIDI = 275
5. Cranberry 244:	SAIFI = 5.84	SAIDI = 1346	CAIDI = 230
6. Venus 242:	SAIFI = 3.81	SAIDI = 1221	CAIDI = 320
7. Clear Lake 241:	SAIFI = 5.55	SAIDI = 1019	CAIDI = 184
8. Highway 8 242:	SAIFI = 4.15	SAIDI = 1070	CAIDI = 258
9. St. Germain 241:	SAIFI = 5.13	SAIDI = 819	CAIDI = 159
10. Hodag 241:	SAIFI = 3.34	SAIDI = 932	CAIDI = 279

This section of the report will describe the actions that the utility has taken or will take to improve the conditions responsible for each listed circuit's performance.

All these feeders are located in heavily wooded areas in northern Wisconsin.

1. Three Lakes 241: Most of the outages on Three Lakes 241 were due to a major storm on 11/15/05-11/16/05, which contributed to 72% of the total customer outage minutes. Trees with adequate trim contributed to 12% and inclement weather contributed to 11% of total customer outage minutes.
2. Venus 241: The storm of 11/15/05-11/16/05 contributed to 50% of the total customer outage minutes. Adequately trimmed trees contributed to 20% of the total customer outage minutes and inclement weather contributed to the other 20%.
3. St. Germain 242: The two major storms of 11/9/05 and 11/15/05 contributed to 40% of the total customer outage minutes. The other 25% of the total customer outage minutes were due to adequately trimmed trees and 15% due to inclement weather. Distribution equipment failures contributed to 15% of the total customer outage minutes.
4. Summit Lake 241: The major storm of 11/15/05-11/16/05 contributed to 55% of the total customer outage minutes. Twenty-six percent of total customer outage minutes were due to trees with adequate trim and 13% were due to inclement weather.
5. Cranberry 244: The two major storms of 11/9/05 and 11/15/05 contributed to 56% of the total customer outage minutes. Twenty-three percent of the total customer outage minutes were due to inclement weather and 21% was due to trees with adequate trim.

6. Venus 242: Most of the outages on Venus 241 were due to a major storm on 11/15/05-11/16/05, which contributed to 50% of the total customer outage minutes. Inclement weather contributed 22%, trees with adequate trim contributed 13%, and distribution equipment failures resulted in 10% of the total customer outage minutes.
7. Clear Lake 241: The snowstorm of 11/15/05-11/16/05 contributed to 45% of the total customer outage minutes. Thirty percent of the customer outage minutes came from trees with adequate trim. Vehicles contributed to 4%, weather contributed to 10%, and distribution equipment failures contributed to 4% of the total customer outage minutes.
8. Highway 8 242: Forty percent of the total customer minutes were due to the major storm of 11/15/05-11/16/05. Trees with adequate trim contributed to 18% and inclement weather contributed to 35% of the total customer outage minutes.
9. St. Germain 241: The two major storms of 11/19/05 and 11/15/05 contributed to 33% of the total customer outage minutes. Trees with adequate trim contributed to 46% of the total customer outage minutes. Ten percent of the total customer outage minutes were due to wire down and 9% was due to inclement weather.
10. Hodag 241: Most of the outages on Hodag 241 were due to a major storm in the Eagle River area on 11/15/05-11/16/05, which contributed to 67% of the total customer outage minutes. Seventeen percent of the total customer outage minutes were due to inclement weather and 15% were due to trees with adequate trim.

PSC 113.0604(2)(d)

A report on the accomplishment of the improvements proposed in prior reports for which completion has not been previously reported.

1. St. Germain 241: St. Germain 241 was among the top 10 worst feeders for 2004. WPS had proposed installing fault detectors on this feeder and they have been installed as of last year.

PSC 113.0604(2)(e)

Listed below are new programs or changes to existing power quality and reliability programs at WPS.

- P1.003-Integration of Data from Multiple Monitoring Systems: WPS will be funding this EPRI project. The project is to use the availability in electronic devices like relays, meters, switches, reclosers, circuit breakers and regulators for power quality monitoring.
- DOVOP: WPS started a Distribution Visual Observation Program in year 2005 This program replaces the previous PREP program that was reported in 2004 PSC report. The DOVOP program involves a contractor identifying potential safety and basic reliability problems on the distribution system and report them to WPSC for handling. Approximately 1/12th to 1/16th of the WPSC system will be reviewed annually.

PSC 113.0604(2)(f)

A status report of any long-range electric distribution plans. The following is the 2006-2015 long-range plan for Wisconsin Public Service.

District Project	In-Service Date Req'd
Antigo	
Antigo Sub - Add 2nd Feeder	June 2012
Green Bay	
Mason St – Add 4 th 24.9 kV feeder	June 2007
Bluestone 241 – Add 24.9 kV source	June 2007
Glory Rd – Add 3 rd 24.9 kV feeder	June 2008
Suamico – Add 2 new 24.9 feeders (existing site)	June 2008
Wesmark 241 – Increase transformer capacity	June 2008

District Project	In-Service Date Req'd
James 242 – Add 2 nd feeder/transformer	June 2009
Wrightstown – New sub under E-2	June 2009
Eastman Ave – Add 3 rd 24.9 kV feeder	June 2012
Bayport – Add 2 nd 24.9 kV feeder	June 2015
Mystery Hills – Add 3 rd feeder	June 2015
Bay Ridge – Add 24.9 kV source	June 2015
Kewaunee	
Beardsley St. – Convert to 24.9 kV – 1 feeder	Dec 2009
Marinette & Menominee	
Second St – Convert 121 & 122 to one 24.9 kV feeder	June 2006
Lena – Increase transformer size	June 2007
Bay De Noc – Convert/Rebuild at 24.9 kV	June 2008
Wells St – Convert 121 & 122 to one 24.9 kV feeder	June 2009
Thirtieth Ave – Convert 121 to 24.9 kV	June 2010
Roosevelt Rd – New 24.9 kV source	June 2011
Merrill	
Merrill – Add 4 th 24.9 kV source at Hydro or L-12	June 2013
Minocqua	
Clear Lake – Install 115/46 kV transformer for Arnett Rd	June 2008
Arnett Rd – New 24.9 kV source	June 2008
Boulder Junction – Add 24.9 kV source	June 2010
Oshkosh	
Mears Corners – Add 2 nd 24.9 kV feeder	June 2007
Fitzgerald – Install 24.9 kV feeder	June 2012
Bowen – Add 2 nd 24.9 kV source	June 2015
Rhineland	
Metonga Sub – Install feeder in Crandon	June 2007
Highway 8 243 – Add 22.4 MVA transformer	June 2012
Stevens Point	
Okray – Construct 115/24.9 kV Sub	Oct 2005
River Sub St Pt West – Add a 24.9 kV source	June 2009
Okray – Add second feeder	June 2011
Sturgeon Bay	
Brusbay – Add Spare transformer	Dec 2007

District Project	In-Service Date Req'd
Dunn Rd – Convert to 24.9 kV – 1 feeder	June 2008
Tomahawk	
Easton 241 & 242 – Bank transformers for feeder 242	June 2006
Tomahawk Hydro – Add 24.9 kV feeder	June 2014
Two Rivers	
Kellnersville – Convert to 24.9 kV – 2 feeders	Oct 2006
Algoma – Convert to 24.9 kV – 1 feeder	Apr 2007
Mishicot – Convert to 24.9 kV – 1 feeder	June 2009
Wabeno	
Summit Lake – Add Spare transformer	June 2007
Waupaca	
Waupaca – 24.9 kV source Harrison	June 2011
Wausau	
Winton St – New 46/24.9 kV sub and feeder	June 2007
Wausau Rural SE – New 24.9 kV feeder A-313	June 2008
Weston – Install 2 nd 115/46 kV transformer	June 2009
Edgar – Install new sub and 24.9 kV feeder	June 2010
Wausau Rural NE – New 24.9 kV feeder M-13	June 2011
Rothschild – Add 2 nd feeder	June 2012
Sunnyvale – Add 2 nd 24.9 kV feeder	June 2012
Wausaukee	
Crivitz – Add 24.9 kV feeder	May 2007
Amberg Sub – 2 new sources to replace Daves Falls	June 2009

PSC 113.0604 (3)(a)

The approximate route miles of electric distribution reconstruction is:

- Single Phase: 40 Miles
- Three Phase: 60 Miles

PSC 113.0604 (3)(b)

See attached “Wisconsin Public Service Corporation, FS-116 Miles of electric distribution line as of December 31, 2005.”

PSC 113.0604 (3)(c)

Listed is the average speed of answer in seconds for telephone calls received regarding emergencies, outages and customer billing problems for the year 2005.

- January: 29.3
- February: 36.5
- March: Data not available
- April: 33.5
- May: 34.0
- June: 51.8
- July: 38.0
- August: 35.7
- September: 58.0
- October: 71.5
- November: 98.4
- December: 66.4

WISCONSIN PUBLIC SERVICE CORPORATION
FS-116 MILES OF ELECTRIC DISTRIBUTION LINE AS OF DECEMBER 31, 2005

DISTRICT	URBAN RURAL	POLE LINE ON DISTRIBUTION POLES		TOTAL	BURIED CABLE PRIMARY SECONDARY	UNDERGROUND CONDUIT MILES	
		PRIMARY	SECONDARY	DISTRUBITION POLE MILES			
GREEN BAY	RURAL	797.55	70.68	836.92	299.44	31.78	-
TOTAL GREEN BAY DIVISION	URBAN	872.14	612.54	1,109.03	684.88	401.16	7.96
		1,669.69	683.22	1,945.95	984.32	432.94	7.96
TWO RIVERS	RURAL	1,003.69	73.21	1,047.95	116.08	3.15	0.00
	URBAN	60.86	25.63	70.20	13.15	5.62	0.00
CHILTON	RURAL	452.00	16.76	462.12	41.63	3.59	0.00
	URBAN	57.57	35.31	72.92	23.60	15.72	0.00
STURGEON BAY	RURAL	920.56	98.58	1,001.02	110.66	4.44	0.00
	URBAN	55.33	19.31	68.12	16.58	0.83	0.00
KEWAUNEE	RURAL	560.93	20.51	577.09	51.41	0.48	0.00
	URBAN	99.49	22.37	108.79	24.06	12.42	0.00
TOTAL LAKESHORE DIVISION		3,210.43	311.68	3,408.21	397.17	46.25	0.00
OSHKOSH	RURAL	435.35	87.59	471.61	118.18	23.05	0.00
	URBAN	177.44	202.07	255.72	113.75	53.35	1.89
TOTAL OSHKOSH DIVISION		612.79	289.66	727.33	231.93	76.40	1.89
WAUSAU	RURAL	1,389.98	106.66	1,452.41	264.28	39.55	0.22
	URBAN	352.42	235.65	449.40	168.13	78.89	3.59
MERRILL	RURAL	674.65	36.65	700.45	121.51	3.56	0.00
	URBAN	57.15	45.87	73.84	12.26	4.54	0.00
STEVENS POINT	RURAL	590.70	44.29	619.45	141.55	15.24	0.00
	URBAN	162.57	118.03	228.37	98.58	42.09	0.43
WAUPACA	RURAL	155.30	26.56	171.29	63.07	5.48	0.00
	URBAN	37.69	28.23	51.89	16.99	5.63	0.00
TOTAL WAUSAU DIVISION		3,420.46	641.94	3,747.10	886.37	194.98	4.24
EAGLE RIVER	RURAL	400.55	55.36	450.31	198.62	4.97	0.00
	URBAN	2.47	0.23	2.67	1.11	0.00	0.00
TOMAHAWK	RURAL	259.54	38.52	289.27	91.90	1.36	0.00
	URBAN	144.53	42.71	171.29	42.39	4.21	0.00
MINOCQUA	RURAL	822.25	159.78	962.76	327.42	19.99	0.00
	URBAN	48.32	9.18	56.58	14.77	0.91	0.00
RHINELANDER	RURAL	851.19	86.14	914.46	311.04	7.87	0.00
	URBAN	82.16	48.15	107.84	23.66	5.78	1.26
ANTIGO	RURAL	479.97	29.71	502.60	83.43	3.24	0.00
	URBAN	48.32	32.83	66.17	13.25	5.56	0.00
TOTAL RHINELANDER DIVISION		3,139.30	502.61	3,523.95	1,107.59	53.89	1.26
MARINETTE	RURAL	654.68	47.55	686.81	117.61	4.15	0.00
	URBAN	124.75	105.81	167.39	30.28	12.88	0.00
WABENO	RURAL	795.23	112.35	886.12	323.50	6.52	0.00
	URBAN	6.46	4.43	8.87	1.09	0.31	0.00
WAUSAUKEE	RURAL	832.37	86.90	900.45	345.72	7.74	0.00
	URBAN	21.51	15.40	29.51	4.72	0.86	0.00
TOTAL M & M WISCONSIN		2,435.00	372.44	2,679.15	822.92	32.46	0.00
TOTAL WISCONSIN		14,487.67	2,801.55	16,031.69	4,430.30	836.92	15.35
MENOMINEE	RURAL	384.04	28.39	405.84	35.86	0.47	-
	URBAN	82.05	51.64	105.47	19.85	3.42	2.52
TOTAL M & M MICHIGAN		466.09	80.03	511.31	55.71	3.89	2.52
TOTAL COMPANY		14,953.77	2,881.59	16,543.00	4,486.01	840.81	17.87

PSC 113.0604 (3)(d)

The average number of calendar days a utility takes to install and energize service to a customer site once it is ready to receive service. A separate average shall be calculated for each month, including all extensions energized during the calendar month.

WPSC's Distribution Work Management System tracks our construction process in the Work Management Information System (WMIS) component. WMIS provides the following data:

- Requested Completion Date
- Meter Set Date

Average number of calendar days from the Requested Completion Date to the Electric Meter set date in 2005:

January	7.23
February	10.34
March	8.43
April	6.45
May	6.73
June	7.87
July	7.85
August	8.55
September	7.84
October	7.62
November	10.38
December	13.31
Annual Average:	8.56

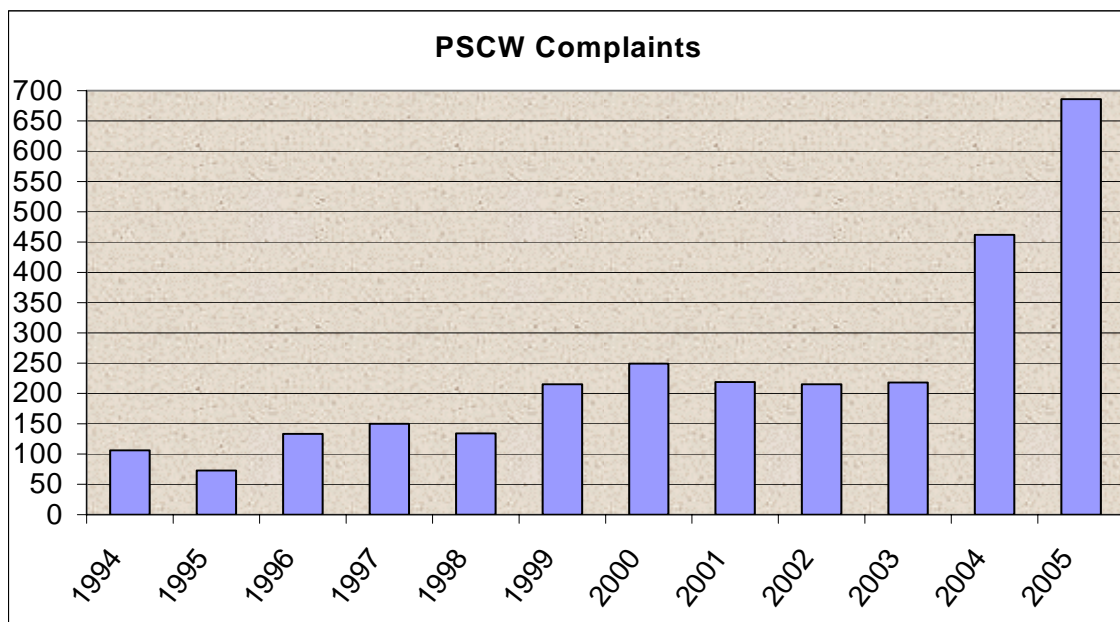
These averages are based on the work requests that had both the requested completion date and the electric meter set date entered in the WMIS System at the time this data was extracted.

PSC 113.0604 (3)(e)

The total number of written and telephone customer complaints received in the areas of safety, customer billing, outages, power quality, customer property damages and other areas.

PSCW Complaints Summary 1994-2005

Nature of Inquiry	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Backbilling / Defective Meter	0	0	0	2	0	0	1	1	6	5	11	15
Billing	9	4	5	8	11	13	28	40	18	7	33	45
Credit	70	41	77	110	84	170	192	162	139	173	382	566
Customer Service Calls / Charts	5	1	6	0	0	0	2	1	1	3	7	10
Damage to Customer Facilities	3	3	4	0	1	0	0	0	0	0	0	0
Electric Service Extensions	11	6	9	10	4	9	6	1	4	4	1	1
Gas Odor / Leak	0	1	0	0	0	0	0	0	0	0	0	0
Gas Service Extensions	2	1	1	4	5	1	1	0	1	1	0	1
Line Clearance / R-O-W Spray	0	1	5	1	0	10	2	0	0	0	2	2
Meter Locations / Size	1	0	0	0	1	1	0	0	0	1	0	0
Miscellaneous / Other	1	4	11	4	7	1	2	5	37	16	20	38
Outages	0	0	0	0	0	1	4	1	5	1	1	4
Property Damage to Customer	0	0	0	0	0	0	2	3	0	4	2	1
Rate Classification / Appl	0	1	1	4	1	0	0	1	2	1	3	1
Relocate WPSC Facilities	3	3	2	0	0	3	2	1	0	1	0	2
Service Reliability	1	1	0	1	1	2	0	0	0	1	0	0
Stray Voltage	0	6	12	6	9	3	4	2	2	0	0	0
Trade Allies	0	0	0	0	0	0	0	0	0	0	0	0
TV / Radio Interference	0	0	0	0	9	0	2	1	0	0	0	0
Unacceptable Service Condition	0	0	0	0	1	1	0	0	0	0	0	0
Weatherization	0	0	0	0	0	0	1	0	0	0	0	0
Total	106	73	133	150	134	215	249	219	215	218	462	686



PSCW Complaints By Month - 2005

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
Backbilling/Defective Meter	1			1		1		3	2	2	2	3	15
Billing	2	2	3	6	2	4	3	1	5	3	7	7	45
Credit	1	6	2	134	114	98	60	66	69	15	1		566
Customer Service Calls/Charts				2	6		2						10
Electric Service Extensions											1		1
Gas Service Extensions									1				1
Line Clearance		1							1				2
Miscellaneous/Other	1	2	2	1	7	7	4	6	3	2	3		38
Outages									1		3		4
Property Damage to Customer			1										1
Rate Classification							1						1
Relocate WPSC Facilities	1								1				2
Total	6	11	8	144	129	110	70	76	83	22	17	10	686

PSC 113.0603(3)(f)

2005 Line Clearance Budget Summary

Total annual tree trimming budget: \$4,785,200

Total annual tree trimming actual expenses: \$4,777,620

PSC 113.0604(3)(g)

2005 Line Clearance Line-Mile Summary

Annual projected miles of distribution line tree trimmed: 3185

Total actual miles of distribution line tree trimmed: 2676



Wisconsin Public Service Corporation

700 North Adams Street

P.O. Box 19001

Green Bay, WI 54307-9001

Public Service Commission of Wisconsin
RECEIVED: 04/26/07, 1:26:33 PM

April 25, 2007

Ms. Sandra Paske
Secretary of the Commission
Public Service Commission of Wisconsin
610 N. Whitney Way
Madison, WI 53705-2729

Dear Ms. Paske,

Docket 05-GF-113
Re: PSC 113.0604 Annual Report

Enclosed is Wisconsin Public Service Corporation's filing to meet the requirements for the PSC 113.0604 Annual Report.

Please call me at (920) 433-1716 if you have any questions or concerns. I can also be reached by e-mail at SLDeMerritt@wisconsinpublicservice.com.

Sincerely,

A handwritten signature in black ink, appearing to read "Steven L. De Merritt".

Steven L. De Merritt, P.E.
Senior Planning Engineer – Distribution

wab

Enclosures

PSC 113.0603(2) Individual circuit reliability performance. Each utility also shall, at the end of each calendar year, calculate the SAIFI, SAIDI and CAIDI indices for each circuit in each operating area. Each circuit in each operating area shall then be listed in order separately according to its SAIFI index, its SAIDI index, and also its CAIDI index, beginning with the highest values for each index.

**2006 ELECTRIC DISTRIBUTION CUSTOMER INTERRUPTIONS
TOTAL DISTRIBUTION SYSTEM RELIABILITY INDICES
SUBSTATION FEEDERS INCLUDING MAJOR STORMS AND
TRANSMISSION CAUSED OUTAGES/EXCLUDING MTY'S LE 5 MIN**

FREQUENCY			DURATION			DURATION		
PER			MINS PER			MINS PER		
CUSTOMER			CUSTOMER			CUSTOMER		
SERVED			SERVED			OUTAGED		
SUBSTATION	FEEDER	(SAIFI)	SUBSTATION	FEEDER	(SAIDI)	SUBSTATION	FEEDER	(CAIDI)
MOUNTAIN	241	9.16	MOUNTAIN	241	2974	CASSEL	242	914
PREBLE	242	6.99	SUNNYVALE	241	1974	MERRILL	241	846
CLEAR LAKE	243	5.1	MORRISON AVE.	242	1659	KELLY	243	754
CRANBERRY SUB	244	4.57	GOLDEN SANDS	242	1566	HILLTOP	242	746
EASTOM	242	4.57	EASTOM	242	1487	KRONEN	241	734
VENUS	241	4.56	HOOVER	242	1357	KELLY	242	727
ROSIERE	242	4.07	MERRILL	241	1341	HOOVER	242	630
MORRISON AVE.	242	3.43	TOWN LINE	243	1306	PLOVER	241	610
NORTHPOINT	242	3.42	VENUS	241	1136	GOLDEN SANDS	242	591
SUNNYVALE	241	3.4	BRUSBAY	242	1111	OKRAY	241	581
MANRAP	241	3.39	SISTER BAY	241	1104	SUNNYVALE	241	581
THREE LAKES	241	3.37	DAVES FALLS	241	1037	DAVES FALLS	241	569
CLEAR LAKE	242	3.33	EASTOM	243	1027	CASSEL	241	554
ST. GERMAIN	241	3.3	KRONEN	242	967	BRUSBAY	242	531
EGG HARBOR	241	3.21	KRONEN	241	918	TOWN LINE	243	509
GRAVESVILLE	244	3.16	SHERMAN STREET	241	881	SHOTO SHERMAN STREET	242	506
MEARS CORNERS	241	3.1	EGG HARBOR	241	879	WHITING AVE.	241	501
ROSIERE	241	3.05	THREE LAKES	241	879	MORRISON AVE.	242	489
ST. GERMAIN	242	3.03	SUMMIT LAKE	241	866	TOWN LINE	121	484
SANDSTONE DIST.	241	2.96	ROSIERE	241	865	PINE	242	454
HODAG	241	2.91	NORTHPOINT	242	848	KRONEN	242	441
SISTER BAY	241	2.91	PINE	242	838	WHITING AVE.	242	439
EGG HARBOR	242	2.89	CRANBERRY SUB	244	833	DUNN ROAD	121	402
SUMMIT LAKE	241	2.88	HODAG	241	779	EASTOM	243	398
ST. NAZIANZ	241	2.81	ROSIERE	242	762	SISTER BAY	241	381
SHOTO	241	2.74	CASSEL	241	751	NORSAU	122	380
EASTOM	243	2.7	WHITING AVE.	241	738	MAINE	241	357
ROTHSCHILD	241	2.67	VENUS	242	722	MENOMINEE	121	356
GOLDEN SANDS	242	2.65	MAINE	241	685	KELLY	241	350
TOWN LINE	243	2.57	CLEAR LAKE	243	680	EASTOM	242	344
VENUS	242	2.5	EGG HARBOR	242	677	MOUNTAIN	241	325
SILVER CLIFF	241	2.49	MENOMINEE	121	677	SUMMIT LAKE	241	325
EASTMAN AVE.	242	2.25	SANDSTONE DIST.	241	634			301

OCONTO	242	2.25	CLEAR LAKE	242	629	HIGHWAY 8	241	295
KRONEN	242	2.2	OKRAY	241	598	LENA	241	292
THUNDER	241	2.17	PREBLE	242	589	VENUS	242	288
HOOVER	242	2.15	MANRAP	241	582	ROSIERE	241	284
GLENVIEW SHERMAN STREET	242	2.14	KELLY	241	563	LIBERTY STREET	241	281
ROCKLAND	242	2.14	PLOVER	241	532	MAPLEWOOD	241	279
BRUSBAY	242	2.12	INGALLS	242	523	EGG HARBOR	241	274
AURORA STREET	242	2.09	SILVER CLIFF	241	508	GLORY ROAD	242	271
DAVES FALLS	242	2.08	DUNN ROAD	121	491	HODAG	241	268
LOST DAUPHIN	241	2.07	ST. GERMAIN	242	489	INGALLS	242	266
TWELFTH AVE.	242	2.06	ST. GERMAIN	241	455	THREE LAKES	241	261
OSHKOSH	243	2.04	GRAVESVILLE	244	433	RED MAPLE	242	258
INGALLS	242	1.99	AURORA STREET	242	415	MORRISON AVE.	241	257
MOUNTAIN	242	1.97	MORRISON AVE.	241	408	HIGHWAY V	243	256
MENOMINEE	121	1.96	BRUSBAY	122	406	ASHLAND AVE.	241	255
NORTHPOINT	241	1.93	ST. NAZIANZ	241	373	INGALLS	241	252
MAINE	241	1.93	DAVES FALLS	242	366	KELLNERSVILLE	242	249
CLEAR LAKE	241	1.92	MISHICOT	122	366	VENUS	241	249
PINE	242	1.91	SHOTO	242	365	NORTHPOINT	242	248
DAVES FALLS	241	1.9	MOUNTAIN	242	364	HARTMAN CREEK	241	238
HIGHWAY 8	242	1.82	NORTHPOINT	241	349	POUND	241	238
MISHICOT	122	1.8	ROTHSCHILD	241	336	EGG HARBOR	242	234
BRUSBAY SHERMAN STREET	122	1.8	MEARS CORNERS	241	335	PINE	241	232
LUXEBURG	241	1.76	INGALLS	241	314	BRUSBAY	122	231
GOODMAN	241	1.76	GLENVIEW	242	295	HIGHWAY V	241	227
GRAVESVILLE	241	1.74	OCONTO	242	270	SISTER BAY	242	226
HENRY STREET	122	1.67	WAUSAU HYDRO	241	265	GLENVIEW	241	225
KELLY	241	1.65	SHOTO	241	264	ROCKLAND	241	224
MERRILL	241	1.64	GOLDEN SANDS	241	262	KELLNERSVILLE	121	217
MORRISON AVE.	241	1.64	HIGHWAY 8	242	259	AVIATION	242	214
WEST MARINETTE	241	1.59	THUNDER	241	242	SANDSTONE DIST.	241	214
WHITING AVE.	241	1.59	LUXEBURG	241	233	MASON STREET	241	210
DYCKESVILLE	241	1.53	ANTIGO	241	231	SILVER CLIFF	241	204
ST. NAZIANZ	242	1.51	CLEAR LAKE	241	229	MISHICOT	122	203
ALGOMA	122	1.46	GOODMAN	241	221	SOBIESKI	241	203
GOLDEN SANDS	241	1.38	HOOVER	241	219	SECOND STREET	241	202
CASSEL	241	1.36	HIGHWAY 8	241	208	WAUSAU HYDRO	241	201
HARRISON	242	1.36	ST. NAZIANZ	242	205	AURORA STREET	242	199
PREBLE	241	1.35	WEST MARINETTE	241	186	ANTIGO	241	196
UNIVERSITY	123	1.35	HILLTOP	242	182	EAST KROK	242	193
WAUSAU HYDRO	241	1.35	LOST DAUPHIN	241	179	GOLDEN SANDS	241	192
WINTON STREET	122	1.32	EASTMAN AVE.	241	174	AURORA STREET	241	191
WAUPACA	241	1.32	HARRISON	241	171	CLEAR LAKE	242	189
VELP AVE	241	1.32	CASSEL	242	169	ROSIERE	242	187
AVIATION	241	1.31	EASTMAN AVE.	242	168	MOUNTAIN	242	186
HOOVER	241	1.29	SOBIESKI	241	167	ELLINWOOD	242	185
KRONEN	241	1.26	PREBLE	241	163	CRANBERRY SUB	244	182
		1.25	HILLTOP	241	162	NORTHPOINT	241	181
		1.25	WINTON STREET	122	161	MYSTERY HILLS	241	179

INGALLS	241	1.24	SISTER BAY	242	156	DAVES FALLS	242	177
DUNN ROAD	121	1.23	ASHLAND AVE.	241	146	OCONTO	241	176
GRAVESVILLE	242	1.22	KELLY	242	143	HOOVER	241	175
ANTIGO	241	1.18	WHITING AVE.	242	142	HIGHWAY 8	243	172
HILLTOP	241	1.15	HIGHWAY V	243	138	MANRAP	241	172
PREBLE	243	1.09	DYCKESVILLE	241	137	EASTMAN AVE.	241	171
ALGOMA	121	1.08	VELP AVE	241	134	LUXEMBURG	242	170
HARRISON	241	1.08	AURORA STREET	241	131	MISHICOT	121	169
OKRAY	241	1.03	GLORY ROAD	242	130	MYSTERY HILLS	242	169
EASTMAN AVE.	241	1.02	ALGOMA	122	129	BAYPORT	241	161
PEARL AVE.	241	1.01	WESMARK	242	124	ST. GERMAIN	242	161
CRANBERRY SUB	241	1	OSHKOSH	243	110	HARRISON	241	159
NICOLET PAPER CO	41	1	HARRISON	242	104	SUAMICO	241	157
OGDEN ST	122	1	KELLY	243	104	ST. NAZIANZ	242	149
UNIVERSITY	121	1	HARTMAN CREEK	241	102	ELLINWOOD	241	147
VAN BUREN STREET	136	1	RED MAPLE	242	102	HIGHWAY V	242	145
WESMARK	242	0.93	STRATFORD	241	102	SHERWOOD	241	145
PLOVER	241	0.87	GLENVIEW	241	99	STRATFORD	241	145
SOBIESKI	241	0.82	TWELFTH AVE. VAN BUREN STREET	242	99	HIGHWAY 8	242	144
SHOTO	242	0.72	ROCKLAND	136	96	SUNSET POINT	242	144
GLORY ROAD	241	0.71	PEARL AVE.	241	94	TWELFTH AVE.	241	144
HIGHWAY 8	241	0.71	HENRY STREET	122	93	HILLTOP	241	141
STRATFORD	241	0.7	LUXEMBURG	242	91	ST. GERMAIN	241	138
AURORA STREET	241	0.69	MYSTERY HILLS	242	89	GLENVIEW	242	137
SISTER BAY	242	0.69	MAPLEWOOD	241	89	GRAVESVILLE	244	137
HOWARD	241	0.67	MASON STREET SHERMAN STREET	241	84	LUXEMBURG	241	134
ASHLAND AVE.	241	0.57	SHERWOOD	242	82	WESMARK	242	134
SHERWOOD	241	0.57	SHERWOOD	241	82	CLEAR LAKE	243	133
HOWARD	242	0.55	WAUPACA	241	82	ST. NAZIANZ	241	133
HIGHWAY V	243	0.54	MYSTERY HILLS	241	79	GOODMAN	241	132
LUXEMBURG	242	0.52	OGDEN ST	122	77	RYAN STREET	123	131
MYSTERY HILLS	242	0.52	GRAVESVILLE	241	76	EAST KROK	241	127
GLORY ROAD	242	0.48	AVIATION	241	72	HOWARD	242	127
GLENVIEW	241	0.44	HOWARD	242	71	THIRTIETH AVE.	121	127
HARTMAN CREEK	241	0.43	LIBERTY STREET	241	70	ROTHSCHILD	241	126
MYSTERY HILLS	241	0.43	UNIVERSITY	123	70	HENRY STREET	241	124
MASON STREET	243	0.41	PREBLE	243	66	BAYPORT	241	123
SOUTH BROADWAY	242	0.4	CRANBERRY SUB	241	64	MASON STREET	242	122
MASON STREET	241	0.39	HOWARD	241	62	WINTON STREET	122	122
RED MAPLE	242	0.39	POUND	241	61	PREBLE	241	121
WESMARK	241	0.37	EAST KROK	242	59	WEST MARINETTE	241	121
OAK STREET	241	0.36	ROCKLAND	241	50	CLEAR LAKE	241	120
WHITING AVE.	242	0.35	GLORY ROAD	241	50	OCONTO	242	120
BOWEN STREET	241	0.34	MASON STREET	243	46	WELLS STREET	242	118
SHERWOOD	242	0.33	OCONTO NICOLET PAPER CO	241	45	ONTARIO	241	116
TOWER DRIVE	241	0.31	SUAMICO	241	45	THUNDER	241	112
JAMES STREET	241	0.3		41	42	MASON STREET	243	110
MAPLEWOOD	241	0.3			42	EASTOM	241	109

EAST KROK	241	0.29	TOWN LINE	121	39	MEARS CORNERS	241	108
SUAMICO	241	0.27	EAST KROK	241	37	LIBERTY STREET	243	106
WELLS STREET	242	0.27	HIGHWAY V	241	37	SHERWOOD	242	105
EAST KROK	242	0.26	GRAVESVILLE	242	36	TOWN LINE	122	105
OCONTO	241	0.26	SHERWOOD	242	35	VELP AVE	241	104
WINTON STREET	121	0.26	SOUTH BROADWAY	242	35	BEARDSLEY STREET	121	103
LIBERTY STREET	241	0.25	LENA	241	34	DYCKESVILLE	242	101
POUND	241	0.25	WELLS STREET	242	32	LIBERTY STREET	242	100
HILLTOP	242	0.24	AVIATION	242	31	SUNSET POINT	241	99
ROCKLAND	241	0.23	WESMARK	241	31	SHOTO VAN BUREN STREET	241	96
LIBERTY STREET	242	0.21	OAK STREET	241	28	STREET	136	96
ONTARIO	241	0.21	ELLINWOOD	241	27	ALGOMA	122	95
KELLY	242	0.2	ONTARIO	241	24	DYCKESVILLE	241	94
DYCKESVILLE	242	0.19	JAMES STREET	241	23	PEARL AVE.	241	91
ELLINWOOD	241	0.19	BOWEN STREET	241	21	HOWARD	241	90
CASSEL	242	0.18	LIBERTY STREET	242	21	RED MAPLE SOUTH BROADWAY	241	90
HIGHWAY V	241	0.16	PINE	241	21	STREET	242	88
BAYPORT	241	0.15	DYCKESVILLE	242	19	LOST DAUPHIN	241	87
OSHKOSH	241	0.15	BAYPORT	241	18	WESMARK	241	86
AVIATION	242	0.14	TWELFTH AVE.	241	18	VELP AVE	242	85
KELLY	243	0.14	ALGOMA	121	16	PREBLE	242	84
WAUPACA	242	0.14	MISHICOT	121	16	BOWEN STREET	121	79
KELLNERSVILLE	122	0.13	SUNSET POINT	242	15	OAK STREET	241	78
LENA	241	0.12	TOWER DRIVE	241	14	HARRISON	242	77
TWELFTH AVE.	241	0.12	HIGHWAY V	242	13	JAMES STREET	241	77
SUNSET POINT	242	0.11	WINTON STREET	121	13	OGDEN ST	122	76
THIRTIETH AVE.	122	0.1	ELLINWOOD	242	11	EASTMAN AVE.	242	75
BOWEN STREET	121	0.09	MASON STREET	242	11	OSHKOSH	241	70
HIGHWAY V	242	0.09	OSHKOSH	241	10	ONTARIO	242	69
MASON STREET	242	0.09	UNIVERSITY	121	8	SECOND STREET	122	69
MISHICOT	121	0.09	WAUPACA	242	8	GLORY ROAD ROOSEVELT ROAD	241	65
ONTARIO	242	0.09	BOWEN STREET	121	7	ROAD	241	65
PINE	241	0.09	THIRTIETH AVE.	121	7	THIRTIETH AVE.	122	65
TOWN LINE	121	0.09	THIRTIETH AVE.	122	7	BOWEN STREET	241	63
VELP AVE	242	0.09	VELP AVE	242	7	CRANBERRY SUB	241	62
ELLINWOOD	242	0.06	KELLNERSVILLE	122	6	WAUPACA	241	61
TOWN LINE	122	0.06	ONTARIO	242	6	WAUPACA	242	61
THIRTIETH AVE.	121	0.05	TOWN LINE	122	6	PREBLE	243	59
LIBERTY STREET	243	0.04	HENRY STREET	241	4	AVIATION	241	57
ROOSEVELT ROAD	241	0.04	LIBERTY STREET	243	4	HENRY STREET	122	55
SUNSET POINT	241	0.04	SUNSET POINT	241	4	OSHKOSH	243	55
HENRY STREET	241	0.03	HIGHWAY 8	243	3	WINTON STREET	121	52
HIGHWAY 8	243	0.02	NORSAU ROOSEVELT ROAD	122	3	TWELFTH AVE.	242	49
RYAN STREET	123	0.02	ROAD	241	3	UNIVERSITY	123	49
SECOND STREET	122	0.02	RYAN STREET	123	3	KELLNERSVILLE	122	45
BEARDSLEY STREET	121	0.01	KELLNERSVILLE	121	2	ROCKLAND	242	45
KELLNERSVILLE	121	0.01	BEARDSLEY STREET	121	1	TOWER DRIVE	241	45

NORSAU	122	0.01	RED MAPLE	241	1	GRAVESVILLE	241	44
RED MAPLE	241	0.01	SECOND STREET	122	1	NICOLET PAPER CO	41	42
ASHLAND AVE.	242	0	ASHLAND AVE.	242	0	ASHLAND AVE. SHERMAN STREET	242	40
BAYPORT	241	0	BAYPORT	241	0	STREET	242	38
EASTOM	241	0	EASTOM	241	0	GRAVESVILLE	242	30
KELLNERSVILLE	242	0	KELLNERSVILLE	242	0	ALGOMA	121	14
SECOND STREET	241	0	SECOND STREET	241	0	UNIVERSITY	121	8

PSC 113.0604(2)(a)

An overall assessment of the reliability performance including the aggregate SAIFI, SAIDI and CAIDI indices by system and each operating area, as applicable.

2006 ELECTRIC DISTRIBUTION CUSTOMER INTERRUPTIONS
TOTAL DISTRIBUTION SYSTEM RELIABILITY INDICES
INCLUDING MAJOR STORMS AND TRANSMISSION OUTAGES
EXCLUDING MOMENTARIES (5 MINUTES OR LESS DURATION)

DIVISION/ DISTRICT	FREQUENCY INDEXES		DURATION INDEXES (IN MINUTES)	
	PER MILE OF DISTRIBUTION LINE	PER CUSTOMER SERVED (SAIFI)	PER CUSTOMER OUTAGED (CAIDI)	PER CUSTOMER SERVED (SAIDI)
GREEN BAY DIV	0.37	0.73	114	83
LAKESHORE DIV	0.38	1.93	215	415
TWO RIVERS	0.37	1.9	135	255
CHILTON	0.34	1.79	110	198
STURGEON BAY	0.5	2.59	316	816
KEWAUNEE	0.25	1.03	162	167
OSHKOSH DIV	0.37	0.86	86	74
WAUSAU DIV	0.43	1.47	367	541
WAUSAU	0.44	1.48	356	526
MERRILL	0.35	1.24	577	716
STEVENS PT	0.5	1.71	358	613
WAUPACA	0.33	0.96	126	121
RHINELANDER DIV	0.7	2.98	216	644
EAGLE RIVER	0.93	4.05	191	774
TOMAHAWK	0.72	4.09	319	1306
MINOCQUA	0.82	3.4	145	493
RHINELANDER	0.63	2.23	254	567
ANTIGO	0.39	1.56	254	396
M&M DIV	0.39	1.79	250	448
MENOMINEE *	0.92	1.95	220	431
MARINETTE	0.05	0.14	116	17
WABENO	0.44	3.34	262	875
WAUSAUKEE	0.38	2.16	258	558
TOTAL COMPANY	0.46	1.56	234	364

* Michigan

PSC 113.0604 (2)(a)

An overall assessment of the reliability performance including the aggregate SAIFI, SAIDI, and CAIDI indices by system and each operating area, as applicable.

2006 CUSTOMER INTERRUPTIONS BY FEEDER
 TOTAL DISTRIBUTION SYSTEM RELIABILITY INDEXES
 INCLUDING MAJOR STORMS AND TRANSMISSION CAUSED OUTAGES
 EXCLUDING MTY'S LE 5 MIN

DISTRICT	SUBSTATION	FEEDER	FREQUENCY PER CUSTOMER SERVED (SAIFI)	DURATION MINS. PER CUSTOMER SERVED (SAIDI)	DURATION MINS. PER CUSTOMER OUTAGED (CAIDI)
GREEN BAY	ASHLAND AVE.	241	0.57	146	255
		241	0.15	18	123
		241	1.46	137	94
		242	0.19	19	101
	EASTMAN AVE.	241	1.02	174	171
		242	2.25	168	75
	GLORY ROAD	241	0.71	46	65
		242	0.48	130	271
	HENRY STREET	122	1.64	91	55
		241	0.03	4	124
	HIGHWAY V	241	0.16	37	227
		242	0.09	13	145
		243	0.54	138	256
	HOWARD	241	0.67	61	90
		242	0.55	70	127
	JAMES STREET	241	0.3	23	77
	LIBERTY STREET	241	0.25	70	281
		242	0.21	21	100
		243	0.04	4	106
	LOST DAUPHIN	241	2.06	179	87
	LUXEMBURG	241	0.92	311	339
	MAPLEWOOD	241	0.3	84	279
	MASON STREET	241	0.39	82	210
		242	0.09	11	122
		243	0.41	45	110
	MYSTERY HILLS	241	0.43	77	179
		242	0.52	89	169
	NICOLET PAPER CO	41	1	42	42
	OAK STREET	241	0.36	28	78
	ONTARIO	241	0.21	24	116
		242	0.09	6	69
	PREBLE	241	1.35	163	121
		242	6.99	589	84
		243	1.09	64	59
	RED MAPLE	241	0.01	1	90
		242	0.39	102	258

TWO RIVERS	ROCKLAND	241	0.22	50	224
		242	2.12	94	45
	SOBIESKI	241	0.82	167	203
	SOUTH BROADWAY	242	0.4	35	88
	SUAMICO	241	0.27	42	157
	TOWER DRIVE	241	0.31	14	45
	UNIVERSITY	121	1	8	8
		123	1.35	66	49
	VAN BUREN				
	STREET	136	1	96	96
	VELP AVE	241	1.29	134	104
		242	0.09	7	85
	WESMARK	241	0.07	8	116
		242	0.98	119	122
	GLENVIEW	242	0.65	85	132
	KELLNERSVILLE	121	0.01	2	217
		122	0.13	6	45
	MANRAP	241	3.39	582	172
	MISHICOT	121	0.09	14	162
		122	1.8	366	203
CHILTON	SHOTO	241	2.74	264	96
		242	0.72	365	506
	ST. NAZIANZ	241	2.81	373	133
		242	1.38	205	149
	WESMARK	241	1.48	117	79
		242	0.44	170	386
	GLENVIEW	241	0.44	99	225
		242	2.58	355	138
	GRAVESVILLE	241	1.65	72	44
		242	1.22	36	30
STURGEON BAY		244	3.16	433	137
	RYAN STREET	123	0.02	3	131
	ALGOMA	121	1.03	11	11
		122	1	7	7
	BRUSBAY	122	1.76	406	231
		242	2.09	1111	531
	DUNN ROAD	121	1.23	491	398
	EGG HARBOR	241	3.21	879	274
		242	2.89	677	234
	ROSIERE	241	3.08	880	286
KEWAUNEE		242	2.1	189	90
	SISTER BAY	241	2.91	1104	380
		242	0.69	156	226
	ALGOMA	121	1.15	21	19
		122	1.37	132	97
	BEARDSLEY				
	STREET	121	0.01	1	103
	EAST KROK	241	0.3	38	127
		242	0.26	50	193
	LUXEMBURG	241	1.97	211	107

		242	0.52	89	170
	MISHICOT	121	0.43	98	229
	ROSIERE	241	2.04	332	163
		242	4.21	800	190
	WESMARK	241	0.28	45	164
OSHKOSH	AVIATION	241	1.26	71	57
		242	0.14	31	214
	BOWEN STREET	121	0.09	7	79
		241	0.34	21	63
	ELLINWOOD	241	0.19	27	147
		242	0.06	11	185
	MEARS CORNERS	241	3.1	335	108
	OSHKOSH	241	0.15	10	70
		243	1.99	110	55
	PEARL AVE.	241	1.01	93	91
	SUNSET POINT	241	0.04	4	99
		242	0.11	15	144
	TWELFTH AVE.	241	0.12	18	144
		242	2.04	99	49
WAUSAU	CASSEL	241	1.35	751	554
		242	0.18	169	914
	HILLTOP	241	1.15	162	141
		242	0.24	182	746
	KELLY	241	1.64	563	344
		242	0.2	143	727
		243	0.14	104	754
	KRONEN	241	1.25	918	734
		242	2.16	955	442
	MAINE	241	1.92	685	356
	MORRISON AVE.	241	1.59	408	257
		242	3.43	1659	484
	NORSAU	122	0.01	3	357
	ROTHSCHILD	241	2.67	336	126
	SHERMAN STREET	241	1.76	881	501
		242	2.14	82	38
	STRATFORD	241	0.7	102	145
	SUNNYVALE	241	3.4	1974	581
	TOWN LINE	121	0.09	39	454
		122	0.06	6	105
		243	2.57	1306	509
	WAUSAU HYDRO	241	1.32	265	201
	WINTON STREET	121	0.26	13	52
		122	1.32	161	122
MERRILL	MERRILL	241	1.58	1341	847
	PINE	241	0.09	21	232
		242	1.9	838	441
STEVENS POINT	GOLDEN SANDS	241	1.36	262	192
		242	2.65	1566	591
	HOOVER	241	1.25	219	175
		242	2.15	1357	630

WAUPACA	NORTHPOINT	241	1.93	349	181
		242	3.42	848	248
	OKRAY	241	1.03	598	581
	PLOVER	241	0.87	532	610
	WHITING AVE.	241	1.51	738	489
		242	0.35	142	402
	HARRISON	241	1.08	171	159
		242	1.35	104	77
	HARTMAN CREEK WAUPACA	241	0.43	102	240
		241	1.31	79	61
EAGLE RIVER	CRANBERRY SUB	242	0.14	8	61
		241	1	62	62
	ST. GERMAIN	244	4.57	833	182
		242	3.3	544	165
TOMAHAWK	THREE LAKES	241	3.47	813	234
	EASTOM	242	4.57	1487	325
		243	2.7	1027	381
MINOCQUA	CLEAR LAKE	241	1.91	229	120
		242	3.33	629	189
		243	5.1	680	133
	ST. GERMAIN	241	3.3	455	138
		242	1.84	243	132
RHINELANDER	HIGHWAY 8	241	0.71	208	295
		242	1.8	259	144
		243	0.02	3	172
		241	2.91	779	268
	HODAG THREE LAKES VENUS	241	3.18	1007	317
		241	4.56	1136	249
		242	2.5	722	288
ANTIGO	ANTIGO AURORA STREET	241	1.18	231	196
		241	0.69	131	191
		242	2.08	415	199
MENOMINEE	SUMMIT LAKE	241	3.73	1229	330
	INGALLS	241	1.24	314	252
		242	2.99	800	267
	MENOMINEE	121	1.93	677	350
	SECOND STREET	122	0.02	1	69
MARINETTE	THIRTIETH AVE.	121	0.05	7	127
		122	0.1	7	65
		242	0.04	5	124
	INGALLS	241	0.03	7	265
	LENA	242	0.03	6	196
	OCONTO	122	1	76	76
	OGDEN ST	241	0.01	1	144
	POUND	241	0.02	1	60
	SHERWOOD	242	0.07	9	131
	WELLS STREET	242	0.08	5	62
WABENO	WEST MARINETTE	241	0.73	88	121
	GOODMAN	241	1.67	221	132
	MOUNTAIN	241	9.16	2974	325

		242	1.96	364	186
	SILVER CLIFF	241	2.49	508	204
	SUMMIT LAKE	241	2.35	638	272
WAUSAUKEE	DAVES FALLS	241	1.82	1037	569
		242	2.07	366	177
	POUND	241	0.51	139	272
	SANDSTONE DIST.	241	2.96	634	214
	THUNDER	241	2.17	242	112

PSC 113.0604(2)(b)

A list of the worst-performing circuits based on SAIFI, SAIDI, and CAIDI indexes for the calendar year.

SAIFI, SAIDI, and CAIDI were calculated for each of the WPS distribution feeders. Due to the difficulty in ranking the feeders, a composite value was calculated in order to normalize SAIFI, SAIDI, and CAIDI. The following formula was used to develop a composite value based on 20% SAIFI and 80% SAIDI:

COMPOSITE = $[(\text{SAIFI}/\text{SAIFI MAX}) * 0.2 + (\text{SAIDI}/\text{SAIDI MAX}) * 0.8 + (\text{CAIDI}/\text{CAIDI MAX}) * 0]$ where MAX = the maximum value of SAIFI, SAIDI, and CAIDI for all distribution circuits.

2006 ELECTRIC DISTRIBUTION CUSTOMER INTERRUPTIONS
TOTAL DISTRIBUTION SYSTEM RELIABILITY INDICES
SUBSTATION FEEDERS INCLUDING MAJOR STORMS,
TRANSMISSION CAUSED OUTAGES AND MTY'S LE 5 MIN

SUBSTATION	FEEDER	FREQUENCY PER CUSTOMER SERVED (SAIFI)	DURATION MINS PER CUSTOMER SERVED (SAIDI)	DURATION MINS PER CUSTOMER OUTAGED (CAIDI)	COMPOSITE
MOUNTAIN	241	11.2	2976	266	0.93
SUNNYVALE	241	4.4	1975	449	0.58
GOLDEN SANDS	242	7.85	1571	200	0.51
MORRISON AVE.	242	5.43	1661	306	0.51
BRUSBAY	242	17.1	1130	66	0.50
EASTOM	242	4.63	1487	321	0.45
TOWN LINE	243	8.59	1312	153	0.45
SISTER BAY	241	11.9	1113	93	0.44
HOOVER	242	6.19	1361	220	0.44
VENUS	241	8.19	1139	139	0.40
MERRILL	241	1.59	1341	844	0.38
EASTOM	243	6.8	1031	152	0.36
THREE LAKES	241	8.04	884	110	0.33
EGG HARBOR	241	6.21	882	142	0.31
MANRAP	241	12.4	591	48	0.30
DAVES FALLS	241	1.84	1037	564	0.30
KRONEN	242	3.2	968	302	0.30
HODAG	241	7.01	783	112	0.29
CRANBERRY SUB	244	5.68	834	147	0.29
CLEAR LAKE	243	9.12	684	75	0.29
ROSIERE	242	7.09	765	108	0.29
PREBLE	242	11	593	54	0.29
KRONEN	241	3.25	920	283	0.29
SUMMIT LAKE	241	4.08	867	212	0.28

NORTHPOINT	242	4.42	849	192	0.28
WHITING AVE.	241	5.96	750	126	0.27
SHERMAN STREET	241	2.76	882	320	0.27
ROSIERE	241	3.05	865	284	0.27
CASSEL	241	4.37	754	173	0.25
PINE	242	1.93	838	433	0.25
SANDSTONE DIST.	241	5.96	637	107	0.24
CLEAR LAKE	242	5.33	631	118	0.23
EGG HARBOR	242	3.89	678	174	0.23
VENUS	242	2.6	722	278	0.22
OKRAY	241	5.03	602	120	0.22
MENOMINEE	121	2.97	678	228	0.22
ST. GERMAIN	242	7.03	493	70	0.21
SILVER CLIFF	241	6.54	512	78	0.21
MAINE	241	1.93	685	355	0.21
BRUSBAY	122	7.76	419	54	0.20
KELLY	241	3.65	565	155	0.19
GRAVESVILLE	244	6.16	436	71	0.19
MOUNTAIN	242	6.96	369	53	0.18
SHOTO	241	9.01	270	30	0.18
PLOVER	241	2.87	534	186	0.18
INGALLS	242	2.97	524	177	0.18
ST. GERMAIN	241	4.3	456	106	0.17
MORRISON AVE.	241	4.59	411	90	0.16
DUNN ROAD	121	1.23	491	398	0.15
ST. NAZIANZ	241	3.89	374	96	0.15
SHOTO	242	3.72	368	99	0.14
HIGHWAY 8	242	5.82	263	45	0.14
GOODMAN	241	6.67	226	34	0.14
MEARS CORNERS	241	4.1	336	82	0.14
AURORA STREET	242	2.08	415	199	0.14
OCONTO	242	5.26	273	52	0.13
ROTHSCHILD	241	3.67	337	92	0.13
LUXEMBURG	241	5.74	237	41	0.13
GOLDEN SANDS	241	4.39	266	61	0.12
DAVES FALLS	242	2.07	366	177	0.12
ALGOMA	122	7.36	135	18	0.12
CLEAR LAKE	241	4.91	232	47	0.12
MISHICOT	122	1.8	366	203	0.12
GLENVIEW	242	3.15	296	94	0.12
NORTHPOINT	241	1.93	349	181	0.12
PREBLE	241	5.35	167	31	0.11
WEST MARINETTE	241	4.53	189	42	0.10
INGALLS	241	1.27	314	247	0.10
VELP AVE	241	5.29	138	26	0.10
LOST DAUPHIN	241	4.06	181	45	0.10
EASTMAN AVE.	242	4.25	170	40	0.10
ST. NAZIANZ	242	3.38	207	61	0.10
THUNDER	241	2.18	242	111	0.09
DYCKESVILLE	241	4.46	140	31	0.09

OSHKOSH	243	4.99	113	23	0.09
ANTIGO	241	2.18	232	107	0.09
WAUSAU HYDRO	241	1.32	265	201	0.09
SHERMAN STREET	242	5.14	86	17	0.08
HENRY STREET	122	4.64	94	20	0.08
EAST KROK	242	5.27	55	10	0.08
GRAVESVILLE	241	4.65	75	16	0.07
HOOVER	241	1.25	219	175	0.07
WINTON STREET	122	2.32	162	70	0.07
EASTMAN AVE.	241	2.02	175	87	0.07
HARRISON	241	2.08	172	83	0.07
UNIVERSITY	123	4.35	69	16	0.07
WESMARK	242	2.93	126	43	0.07
AVIATION	241	4.07	76	19	0.07
LUXEMBURG	242	3.52	92	26	0.07
HIGHWAY 8	241	0.77	208	270	0.06
HILLTOP	242	1.24	183	147	0.06
MAPLEWOOD	241	3.3	87	26	0.06
SISTER BAY	242	1.69	157	93	0.06
SOUTH BROADWAY	242	4.4	39	9	0.06
PEARL AVE.	241	3.01	95	31	0.06
CASSEL	242	1.21	170	140	0.06
ASHLAND AVE.	241	1.57	147	94	0.06
HILLTOP	241	1.15	162	141	0.06
GLORY ROAD	241	3.71	49	13	0.06
HIGHWAY V	243	1.54	139	90	0.06
AURORA STREET	241	1.69	132	78	0.06
SOBIESKI	241	0.82	167	203	0.05
WHITING AVE.	242	1.37	143	105	0.05
KELLY	243	2.14	106	49	0.05
DYCKESVILLE	242	4.02	23	6	0.05
ALGOMA	121	4.08	19	5	0.05
KELLY	242	1.2	144	120	0.05
TWELFTH AVE.	242	2.04	99	49	0.05
ROCKLAND	242	2.12	94	45	0.05
SUNSET POINT	241	4.04	8	2	0.05
WAUPACA	241	2.31	80	35	0.05
GRAVESVILLE	242	3.22	38	12	0.05
STRATFORD	241	1.7	103	60	0.05
LENA	241	3.12	38	12	0.05
LIBERTY STREET	241	2.25	72	32	0.05
ELLINWOOD	241	3.19	30	10	0.05
HARRISON	242	1.36	104	77	0.04
POUND	241	2.25	62	27	0.04
BAYPORT	241	3.15	21	7	0.04
MASON STREET	243	2.41	47	19	0.04
SHERWOOD	241	1.57	83	53	0.04
GLORY ROAD	242	0.48	130	271	0.04
OSHKOSH	241	3.15	13	4	0.04
CRANBERRY SUB	241	2	63	32	0.04

WAUPACA	242	3.14	12	4	0.04
MASON STREET	241	1.39	83	60	0.04
MYSTERY HILLS	241	1.43	78	54	0.04
VAN BUREN STREET	136	1	96	96	0.04
EAST KROK	241	2.31	39	17	0.04
HOWARD	241	1.67	62	37	0.04
BRILLION IRON W	121	3	3	1	0.04
OSHKOSH	242	3	3	1	0.04
TOWN LINE	121	2.09	41	20	0.04
AVIATION	242	2.14	33	15	0.03
HARTMAN CREEK	241	0.43	102	238	0.03
OGDEN ST	122	1	76	76	0.03
RED MAPLE	242	0.39	102	258	0.03
GLENVIEW	241	0.44	99	225	0.03
TWELFTH AVE.	241	2.12	20	9	0.03
MYSTERY HILLS	242	0.52	89	169	0.03
PREBLE	243	1.09	64	59	0.03
ROCKLAND	241	1.23	51	42	0.03
THIRTIETH AVE.	122	2.1	9	4	0.03
THIRTIETH AVE.	121	2.05	9	4	0.03
TOWN LINE	122	2.06	8	4	0.03
UNIVERSITY	121	2	9	5	0.03
LIBERTY STREET	243	2.04	6	3	0.03
HOWARD	242	0.55	70	127	0.03
NORSAU	122	2.01	5	3	0.02
WESMARK	241	1.37	32	24	0.02
BEARDSLEY STREET	121	2.01	3	2	0.02
ALGOMA	41	2	2	1	0.02
BARNETT	41	2	2	1	0.02
BEARDSLEY STREET	122	2	2	1	0.02
BOOSTER	41	2	2	1	0.02
BRILLION IRON W	122	2	2	1	0.02
NORSAU	121	2	2	1	0.02
STROWBRIDGE ST.	121	2	2	1	0.02
HIGHWAY V	241	1.16	38	33	0.02
NICOLET PAPER CO	41	1	42	42	0.02
ONTARIO	241	1.21	25	21	0.02
WINTON STREET	121	1.26	14	11	0.02
HIGHWAY V	242	1.09	14	12	0.02
ELLINWOOD	242	1.06	12	12	0.02
OCONTO	241	0.26	45	176	0.02
KELLNERSVILLE	122	1.13	7	6	0.02
BOWEN STREET	121	1.09	8	8	0.01
VELP AVE	242	1.09	8	8	0.01
ONTARIO	242	1.09	7	7	0.01
SUAMICO	241	0.27	42	157	0.01
HENRY STREET	241	1.03	5	5	0.01
SHERWOOD	242	0.33	35	105	0.01
ROOSEVELT ROAD	241	1.04	4	3	0.01
SECOND STREET	122	1.02	2	2	0.01

EASTMAN AVE.	131	1	1	1	0.01
MERRILL MFG.	121	1	1	1	0.01
WELLS STREET	242	0.27	32	118	0.01
OAK STREET	241	0.36	28	78	0.01
JAMES STREET	241	0.3	23	77	0.01
BOWEN STREET	241	0.34	21	63	0.01
LIBERTY STREET	242	0.21	21	100	0.01
TOWER DRIVE	241	0.31	14	45	0.01
PINE	241	0.09	21	232	0.01
MISHICOT	121	0.1	16	168	0.01
SUNSET POINT	242	0.11	15	144	0.01
MASON STREET	242	0.09	11	122	0.00
HIGHWAY 8	243	0.02	3	172	0.00
RYAN STREET	123	0.02	3	131	0.00
KELLNERSVILLE	121	0.01	2	146	0.00
RED MAPLE	241	0.01	1	90	0.00
ASHLAND AVE.	242	0	0	40	0.00
BAYPORT	241	0	0	161	0.00
EASTOM	241	0	0	109	0.00
KELLNERSVILLE	242	0	0	31	0.00
SECOND STREET	241	0	0	202	0.00

PSC 113.0604 (2)(b)

A list of the worst-performing circuits based on SAIFI, SAIDI and CAIDI indexes, for the calendar year. This section of the report shall describe the actions that the utility has taken or will take to remedy the conditions responsible for each listed circuit's unacceptable performance. The action(s) taken or planned should be briefly described. Target dates for corrective action(s) shall be included in the report. When the utility determines that actions on its part are unwarranted, its report shall provide adequate justification for such a conclusion.

Wisconsin Public Service Corporation analyzed 194 distribution circuits. SAIFI, SAIDI, and CAIDI indices are listed for the 10 worst feeders for 2006. The indices were calculated using interruptions greater than 5 minutes and included transmission related outages and major storms.

SUBSTATION	FEEDER	FREQUENCY	DURATION	DURATION
		PER CUSTOMER SERVED (SAIFI)	MINS PER CUSTOMER SERVED (SAIDI)	MINS PER CUSTOMER OUTAGED (CAIDI)
MOUNTAIN	241	11.2	2976	266
SUNNYVALE	241	4.4	1975	449
GOLDEN SANDS	242	7.85	1571	200
MORRISON AVE.	242	5.43	1661	306
BRUSBAY	242	17.1	1130	66
EASTOM	242	4.63	1487	321
TOWN LINE	243	8.59	1312	153
SISTER BAY	241	11.9	1113	93
HOOVER	242	6.19	1361	220
VENUS	241	8.19	1139	139

This section of the report will describe the actions the utility has taken or will take to improve the conditions responsible for each listed circuit's performance.

1. Mountain 241: Mountain 241 is located in a heavily wooded area in northern Wisconsin. Approximately 45% of the outages were caused by trees with adequate trimming and 52% were caused by weather. Forty-nine percent (49%) of the total customer minutes were caused during the storm of May 11 and 12, 2006.
2. Sunnyvale 241: Sunnyvale 241 is located in our Wausau District and approximately 94% of the customer minutes were the result of a single winter storm on December 22nd through December 24th.
3. Golden Sands 242: Golden Sands 242 is located in our Stevens Point District and approximately 92% of the customer minutes were the result of a single winter storm on December 22nd through December 24th.
4. Morrison Ave. 242: Morrison Ave. 242 is located in our Wausau District and approximately 90% of the customer minutes were the result of a single winter storm on December 22nd through December 24th.

5. Brusbay 242: Brusbay 242 is located in Southern Door County and approximately 93% of the total customer minutes were caused during the storm of May 11 and 12, 2006.
6. Eastom 242: Eastom 242 is located in our Tomahawk District and serves a heavily wooded area. Approximately 65% of the customer minutes were the result of a single winter storm on December 22nd through December 24th and 24% were due to trees with adequate trimming.
7. Townline 243: Townline 243 is located in our Wausau District and approximately 64% of the customer minutes were the result of a single winter storm on December 22nd through December 24th. An additional 20% of the customer minutes were caused by trees with adequate trimming and another 13.5% by weather.
8. Sister Bay 241: Sister Bay 241 is located at the north end of the Door County peninsula with many tree-lined roads. Approximately 86% of the customer minutes were caused during the storm of May 11 and 12, 2006 and an additional 12% were caused by trees with adequate trimming.
9. Hoover 242: Hoover 242 is in our Stevens Point district and approximately 98% of the customer minutes were the result of a single winter storm on December 22nd through December 24th.
10. Venus 241: Venus 241 is located in our Rhinelander District in a heavily wooded area of northern Wisconsin. Approximately 63% of the customer minutes were the result of a single winter storm on December 22nd through December 24th. An additional 20% were caused by trees with adequate trimming, 8% by vehicles, and 6% by weather.

PSC 113.0604(2)(d)

A report on the accomplishment of the improvements proposed in prior reports for which completion has not been previously reported.

1. Clear Lake 243: The section of #4 bare copper on County Rd D with failing splices has been reconductored.
2. Three Lakes 241: The second transformer to provide loss of bay capacity has been installed at Three Lakes substation. The second feeder has been removed from our long range plans.

PSC 113.0604(2)(e)

A description of any new reliability or power quality programs and changes that are made to existing programs.

There have been no changes to existing power quality or reliability programs at Wisconsin Public Service Corporation in 2006.

PSC 113.0604(2)(f)

A status report of any long range electric distribution plans.

District	Project	In-Service Date Required
Antigo	Antigo Sub - Add 2nd Feeder	June-14
Green Bay	Bay Ridge - New sub	June-15
Green Bay	Bayport – Add 2nd 24.9 kV feeder	June-15
Green Bay	Bluestone 241 - Add 24.9 kV source	June-07
Green Bay	GBSW - Construct new 24.9 kV sub under K-37	June-12
Green Bay	Glory Rd - Add 3rd 24.9 kV feeder	June-08
Green Bay	Liberty Street 132 - Add 13.8 kV feeder	June-09
Green Bay	Liberty Street 244 - Add 2nd feeder/transformer	June-09
Green Bay	Mystery Hills - Add 3rd feeder	June-15
Green Bay	Seventh Street - New Source	June-08
Green Bay	Suamico - Add 2 new 24.9 feeders (existing site)	June-08
Green Bay	Wesmark 241 - Increase xfmr capacity	June-09
Kewaunee	Beardsley - Replace Reclosers	December-07
Marinette	Roosevelt Rd-New 24.9 kV Source	June-11
Merrill	Merrill - Add 4th 24.9 KV source at Hydro or L-12	June-12
Minocqua	Arnett Rd - New 24.9 KV source	June-11
Minocqua	Boulder Junction - Add 24.9KV source	June-13
Minocqua	Clear Lake - Install 115/46 kV xfmr for Arnett Rd	June-11
Oshkosh	Bowen – Add 2nd 24.9KV source	June-15
Oshkosh	Fitzgerald - Install 24.9 KV feeder	June-12
Oshkosh	Mears Corners - Add 2nd 24.9kV Fdr	June-07
Rhinelander	Highway 8 241 - Upgrade OCRs	June-10
Rhinelander	Highway 8 241 - Upgrade Regulators	June-10
Rhinelander	Highway 8 243 - Add 22.4 MVA transformer	June-12
Rhinelander	Metonga Sub - Install feeder in Crandon	June-07
Sturgeon Bay	Brusbay - Spare Transformer	December-07
Sturgeon Bay	Dunn Rd - Convert to 24.9 kV - 1 feeder	December-08
Stevens Point	Northpoint - Upgrade fdr 241 OCR and Rgs	June-15
Stevens Point	Okra – Add second feeder	June-11
Stevens Point	River Sub St Pt West add a 24.9 KV source	June-15
Stevens Point	Whiting Ave - Upgrade 46kV bus, switches	November-08
Stevens Point	Whiting Ave - Upgrade Bk 10 & Bk 11 to 84 MVA	November-10
Tomahawk	Tomahawk Hydro 24.9 KV Feeder 241	June-14
Two Rivers	Algoma - Convert to 24.9 kV - 1 feeder	April-07
Two Rivers	Mishicot - Convert to 24.9 kV - 1 feeder	June-09

District	Project	In-Service Date Required
Two Rivers	St Nazianz 242 - upgrade xfmr to 22 MVA unit	June-12
Wausau	Cassel 241 - Upgrade OCR/Regs	June-13
Wausau	Cassel 242 - Upgrade OCR/Regs	June-13
Wausau	Edgar – Install new sub and 24.9KV feeder	June-14
Wausau	Hilltop 241 - Upgrade OCR/Regs	June-10
Wausau	Kelly - Replace 115/46 with 84 MVA	June-12
Wausau	Kronen 242 - Upgrade Regs	June-11
Wausau	Maine - Replace 115/46 with 56 MVA	June-13
Wausau	Sherman St - Replace xfmrs with 2-56 MVA	June-11
Wausau	Sunnyvale - Add 2nd 24.9KV feeder	June-13
Wausau	Townline feeder 241 construction	June-10
Wausau	Wausau Rural NE - new 24.9KV feeder M-13	June-16
Wausau	Wausau Rural SE - new 24.9KV feeder A-313	June-11
Wausau	Weston - Install 2nd 115/46KV transformer	June-09
Wausau	Winton St - New 46/24.9 KV Sub & Fdr	June-08
Waupaca	Harrison 241 - Upgrade OCR/Regs to 800/400 A	December-10
Waupaca	Harrison 242 - Upgrade OCR/Regs to 800/400 A	December-10
Waupaca	Waupaca – 24.9KV source Harrison or Hartman	June-11
Wausaukee	Amberg Sub-2 new sources to replace DAF	June-11
Wausaukee	Caldron - Remove Distribution Fdrs	December-06
Wausaukee	Crivitz - Complete 24.9kV Fdr	May-08

PSC 113.0604(3)(a)

Route miles of electric distribution line reconstructed during the year. Separate totals for single- and three-phase circuits shall be provided.

The approximate route miles of electric distribution reconstruction is:

- 1 Phase - 68.6 miles
- 2 Phase - 1.2 miles
- 3 Phase - 74.6 miles

PSC 113.0604(3)(b)

Total route miles of electric distribution line in service at year's end, segregated by voltage level.

See attached "Wisconsin Public Service Corporation, FS-116 Miles of Electric Distribution Line as of December 31, 2006" on the next page.

PSC 113.0604(3)(c)

Monthly average speed of answer, as defined in s. PSC 113.0503(1) (b), for telephone calls received regarding emergencies, outages and customer billing problems.

Listed is the average speed of answer in seconds for telephone calls received regarding emergencies, outages, and customer billing problems for the year 2006.

- | | |
|-------------|------|
| • January | 42.4 |
| • February | 29.7 |
| • March | 56.2 |
| • April | 97.4 |
| • May | 91.2 |
| • June | 67.0 |
| • July | 57.8 |
| • August | 66.2 |
| • September | 70.0 |
| • October | 61.9 |
| • November | 24.5 |
| • December | 68.8 |

PSC 113.0604(3)(b) Total route miles of electric distribution line in service at year's end, segregated by voltage level.

WISCONSIN PUBLIC SERVICE CORPORATION
FS-116 MILES OF ELECTRIC DISTRIBUTION LINE AS OF DECEMBER 31, 2006

DISTRICT	URBAN RURAL	POLE LINE ON DISTRIBUTION POLES		TOTAL DISTRIBUTION POLE MILES	BURIED CABLE		UNDERGROUND CONDUIT MILES
		PRIMARY	SECONDARY		PRIMARY	SECONDARY	
GREEN BAY	RURAL	600.25	109.43	649.62	401.45	124.25	-
	URBAN	1,073.03	574.67	1,298.59	634.12	326.71	8.91
TOTAL GREEN BAY DIVISION		1,673.28	684.10	1,948.21	1,035.57	450.96	8.91
TWO RIVERS	RURAL	732.75	78.26	773.81	102.11	7.34	0.00
	URBAN	332.27	19.48	343.97	32.59	1.42	0.00
CHILTON	RURAL	251.47	36.49	265.56	42.98	14.56	0.00
	URBAN	258.22	15.27	266.28	26.27	4.32	0.00
STURGEON BAY	RURAL	338.70	45.71	372.19	110.66	1.04	0.00
	URBAN	639.85	71.79	699.16	40.00	4.22	0.00
KEWAUNEE	RURAL	460.89	35.42	480.26	63.24	13.54	0.00
	URBAN	200.83	7.08	206.64	16.43	0.01	0.00
TOTAL LAKESHORE DIVISION		3,214.98	309.50	3,407.87	434.28	46.45	0.00
OSHKOSH	RURAL	430.08	85.40	465.17	122.16	23.89	0.00
	URBAN	182.53	202.89	259.80	118.94	53.40	3.12
TOTAL OSHKOSH DIVISION		612.61	288.29	724.97	241.10	77.29	3.12
WAUSAU	RURAL	245.25	8.69	251.67	38.23	2.11	-
	URBAN	1,547.46	331.37	1,682.80	431.62	122.62	4.20
MERRILL	RURAL	234.14	54.32	252.58	46.46	4.91	0.00
	URBAN	514.24	27.14	528.41	96.91	3.24	0.00
STEVENS POINT	RURAL	522.07	37.35	546.46	130.98	10.37	0.00
	URBAN	234.42	124.38	303.83	121.94	50.78	0.43
WAUPACA	RURAL	154.51	26.06	170.09	60.97	5.21	0.00
	URBAN	39.15	28.48	53.43	21.77	6.00	0.00
TOTAL WAUSAU DIVISION		3,491.24	637.79	3,789.27	948.88	205.24	4.63
EAGLE RIVER	RURAL	390.95	53.64	439.23	195.45	4.96	0.00
	URBAN	11.74	1.32	12.88	12.89	0.05	0.00
TOMAHAWK	RURAL	199.17	28.86	221.34	76.39	1.27	0.00
	URBAN	205.78	51.54	239.56	65.01	4.33	0.00
MINOCQUA	RURAL	871.23	166.86	1,018.13	359.42	22.17	0.00
	URBAN	-	-	-	-	-	0.00
RHINELANDER	RURAL	643.05	61.30	688.05	270.80	6.19	0.00
	URBAN	290.04	71.72	332.71	76.40	7.38	1.26
ANTIGO	RURAL	220.14	40.38	244.51	47.59	6.59	0.00
	URBAN	310.41	21.62	325.75	56.64	2.15	0.00
TOTAL RHINELANDER DIVISION		3,142.51	497.24	3,522.16	1,160.59	55.09	1.26
MARINETTE	RURAL	652.61	46.73	683.84	118.62	3.52	0.00
	URBAN	127.73	106.00	170.75	34.24	13.62	0.00
WABENO	RURAL	606.32	93.06	680.50	244.72	5.59	0.00
	URBAN	197.09	22.95	215.27	96.20	1.39	0.00
WAUSAUKEE	RURAL	690.38	68.54	744.54	306.05	7.33	0.00
	URBAN	164.57	32.61	185.57	55.74	1.40	0.00
TOTAL M & M WISCONSIN		2,438.70	369.89	2,680.47	855.57	32.85	0.00
TOTAL WISCONSIN		14,573.32	2,786.81	16,072.95	4,675.99	867.88	17.92
MENOMINEE	RURAL	414.93	31.57	439.27	44.94	0.47	-
	URBAN	52.29	47.94	72.73	13.98	3.61	2.52
TOTAL M & M MICHIGAN		467.22	79.51	512.00	58.92	4.08	2.52
TOTAL COMPANY		15,040.54	2,866.32	16,584.95	4,734.91	871.96	20.44

PSC 113.0604(3) (d)

The average number of calendar days a utility takes to install and energize service to a customer site once it is ready to receive service. A separate average shall be calculated for each month, including all extensions energized during the calendar month.

WPSC's Distribution Work Management System tracks our construction process in the Work Management Information System (WMIS) component. WMIS provides the following data:

- Requested Completion Date
- Meter Set Date

Average number of calendar days from the Requested Completion Date to the Electric Meter set date in 2006:

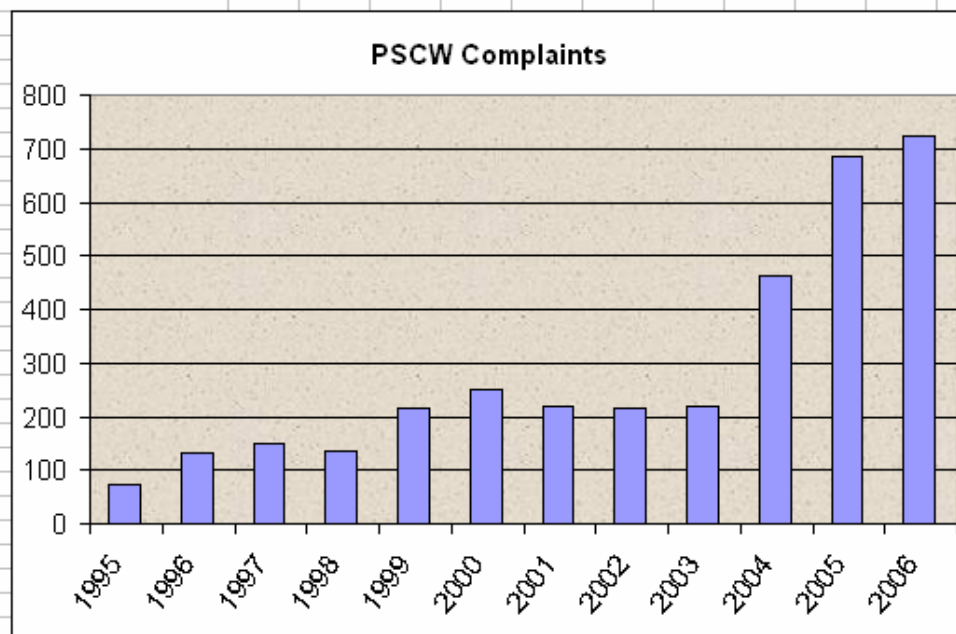
January	7.94
February	7.85
March	5.54
April	5.62
May	8.00
June	6.78
July	7.89
August	7.94
September	7.17
October	8.47
November	9.14
December	9.02
Annual Average:	7.85

These averages are based on the work requests that had **both** the Requested Completion Date and the Electric Meter Set Date entered in the WMIS System at the time this data was extracted.

PSC 113.0604(3)(e)

The total number of written and telephone customer complaints received in the areas of safety, customer billing, outages, power quality, customer property damage, and other areas.

PSCW Complaints Summary 1995-2006												
Nature of Inquiry	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Backbilling / Defective Meter	0	0	2	0	0	1	1	6	5	11	15	15
Billing	4	5	8	11	13	28	40	18	7	33	45	49
Credit	41	77	110	84	170	192	162	139	173	382	566	593
Customer Service Calls / Charts	1	6	0	0	0	2	1	1	3	7	10	13
Damage to Customer Facilities	3	4	0	1	0	0	0	0	0	0	0	0
Electric Service Extensions	6	9	10	4	9	6	1	4	4	1	1	3
Gas Odor / Leak	1	0	0	0	0	0	0	0	0	0	0	1
Gas Service Extensions	1	1	4	5	1	1	0	1	1	0	1	1
Line Clearance / R-O-W Spray	1	5	1	0	10	2	0	0	0	2	2	0
Meter Locations / Size	0	0	0	1	1	0	0	0	1	0	0	0
Miscellaneous / Other	4	11	4	7	1	2	5	37	16	20	38	46
Outages	0	0	0	0	1	4	1	5	1	1	4	3
Property Damage to Customer	0	0	0	0	0	2	3	0	4	2	1	0
Rate Classification / Appl	1	1	4	1	0	0	1	2	1	3	1	0
Relocate WPSC Facilities	3	2	0	0	3	2	1	0	1	0	2	0
Service Reliability	1	0	1	1	2	0	0	0	1	0	0	0
Stray Voltage	6	12	6	9	3	4	2	2	0	0	0	0
Trade Allies	0	0	0	0	0	0	0	0	0	0	0	0
TV / Radio Interference	0	0	0	9	0	2	1	0	0	0	0	0
Unacceptable Service Condition	0	0	0	1	1	0	0	0	0	0	0	0
Weatherization	0	0	0	0	0	1	0	0	0	0	0	0
Total	73	133	150	134	215	249	219	215	218	462	686	724



PSCW Complaints By Month - 2006													
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
Backbilling/Defective Meter	0	2	1	0	2	1	0	2	0	1	1	5	15
Billing	6	6	4	9	4	5	4	1	4	2	2	2	49
Credit	1	1	10	130	161	68	36	76	49	50	9	2	593
Customer Service Calls/Charts	0	0	0	2	2	1	0	4	2	2	0	0	13
Electric Service Extensions	1	0	0	0	0	1	0	0	0	0	1	0	3
Gas Odor	0	0	0	0	0	0	0	0	1	0	0	0	1
Gas Service Extensions	1	0	0	0	0	0	0	0	0	0	0	0	1
Miscellaneous/Other	2	1	1	4	7	6	3	8	3	10	1	0	46
Outages	0	1	0	0	1	0	1	0	0	0	0	0	3
Total	11	11	16	145	177	82	44	91	59	65	14	9	724

PSC 113.0604(3)(f)

Total annual tree trimming budget and actual expenses.

2006 Line Clearance Budget Summary

Total annual tree trimming budget: **\$5,231,432**

Total annual tree trimming actual expenses: **\$5,239,306**

PSC 113.0604(3)(g)

Total annual projected and actual miles of distribution line tree trimmed.

2006 Line Clearance Line-Mile Summary

Annual projected miles of distribution line tree trimmed: **3182**

Total actual miles of distribution line tree trimmed: **3006**



Wisconsin Public Service Corporation

700 North Adams Street

P.O. Box 19001

Green Bay, WI 54307-9001

May 1, 2008

Ms. Sandra Paske
Secretary of the Commission
Public Service Commission of Wisconsin
610 N. Whitney Way
Madison, WI 53705-2729

Dear Ms. Paske,

Docket 05-GF-113
Re: PSC 113.0604 Annual Report

Enclosed is Wisconsin Public Service Corporation's filing to meet the requirements for the PSC 113.0604 Annual Report.

Please call me at (920) 433-1716 if you have any questions or concerns. I can also be reached by e-mail at SLDeMerritt@wisconsinpublicservice.com.

Sincerely,

A handwritten signature in black ink, appearing to read "Steven L. De Merritt".

Steven L. De Merritt, P.E.
Senior Planning Engineer – Distribution

wab

Enclosures

PSC 113.0603(2) Individual circuit reliability performance. Each utility also shall, at the end of each calendar year, calculate the SAIFI, SAIDI and CAIDI indices for each circuit in each operating area. Each circuit in each operating area shall then be listed in order separately according to its SAIFI index, its SAIDI index, and also its CAIDI index, beginning with the highest values for each index.

**2007 ELECTRIC DISTRIBUTION CUSTOMER INTERRUPTIONS
TOTAL DISTRIBUTION SYSTEM RELIABILITY INDICES
SUBSTATION FEEDERS INCLUDING MAJOR STORMS AND
TRANSMISSION CAUSED OUTAGES/EXCLUDING MTY'S LE 5 MIN**

Feeder	Substation	SAIDI	Feeder	Substation	SAIFI	Feeder	Substation	CAIDI
GON 241	GOODMAN	1,734.51	VEN 242	VENUS	10.16	MTN 242	MOUNTAIN	475.46
SIC 241	SILVER CLIFF	1,071.50	VEN 241	VENUS	8.84	MTN 241	MOUNTAIN	430.51
SGM 241	ST. GERMAIN	1,059.50	CLK 243	CLEAR LAKE	6.32	TOW 243	TOWNLINE	402.13
VEN 241	VENUS	1,022.41	CLK 242	CLEAR LAKE	5.7	UGB 123	UNIVERSITY	318.67
MTN 242	MOUNTAIN	981.49	SGM 241	ST. GERMAIN	5.68	TDR 241	THUNDER	312.15
MTN 241	MOUNTAIN	954.15	GON 241	GOODMAN	5.56	GON 241	GOODMAN	312.04
DAF 242	DAVES FALLS	920.5	HOO 241	HOOVER	5.29	ROO 241	ROOSEVELT RD	307.59
VEN 242	VENUS	901.13	DAF 242	DAVES FALLS	5.05	MEL 241	MERRILL HYDRO	297.32
CLK 243	CLEAR LAKE	797.68	CLK 241	CLEAR LAKE	4.97	MAD 241	MAPLEWOOD	277.94
CLK 241	CLEAR LAKE	733.97	SIC 241	SILVER CLIFF	4.93	WMK 242	WESMARK	275.7
DAF 241	DAVES FALLS	687.96	CRB 244	CRANBERRY	4.91	OAS 241	OAK STREET	257.53
TDR 241	THUNDER	676.39	SHS 242	SHERMAN STREET	4.58	KEL 242	KELLY	245.35
CLK 242	CLEAR LAKE	632.6	DAF 241	DAVES FALLS	4.3	MGA 241	METONGA	238.3
HI8 242	HIGHWAY 8	612.39	HI8 242	HIGHWAY 8	3.76	LIS 243	LIBERTY ST	238.28
CRB 244	CRANBERRY	548.81	GOS 242	GOLDEN SANDS	3.49	LSD 241	LOST DAUPHIN	221.01
SIS 242	SISTER BAY	515.52	EST 242	EASTOM	3.38	SIC 241	SILVER CLIFF	217.41
EST 243	EASTOM	499.54	RSR 241	ROSIERE	3.38	RYN 123	RYAN STREET	214
KEL 241	KELLY	499.23	SGM 242	ST. GERMAIN	3.38	EOD 241	ELLINWOOD	212.7
SGM 242	ST. GERMAIN	485.45	EST 243	EASTOM	3.24	SGM 242	ST. GERMAIN	207.83
EST 242	EASTOM	453.1	SPT 242	SUNSET POINT	3.05	ALA 241	ALGOMA	197.69
NPT 242	NORTHPOINT	421.46	NPT 242	NORTHPOINT	2.85	WMK 241	WESMARK	193.57
SAE 241	SANDSTONE DIST	402.9	KEL 241	KELLY	2.72	SIS 242	SISTER BAY	193.21
LSD 241	LOST DAUPHIN	401.28	SIS 242	SISTER BAY	2.67	KRN 242	KRONEN	189.12
PIN 242	PINE	396	VLP 242	VELP AVE	2.49	SGM 241	ST. GERMAIN	186.67
SHS 241	SHERMAN STREET	395.7	HES 122	HENRY STREET	2.4	SAE 241	SANDSTONE DIST	183.79
PAV 122	PEARL	306	SHS 241	SHERMAN STREET	2.39	KEL 241	KELLY	183.64
GOS 241	GOLDEN SANDS	294.36	PIN 242	PINE	2.38	DAF 242	DAVES FALLS	182.25
TOW 122	TOWNLINE	293.43	GOS 241	GOLDEN SANDS	2.34	LIS 242	LIBERTY ST	181.69
SPT 242	SUNSET POINT	292.47	MTN 241	MOUNTAIN	2.22	HES 241	HENRY STREET	177.58
HOD 241	HODAG	274.38	SAE 241	SANDSTONE DIST	2.19	HI8 243	HIGHWAY 8	175.84
SHS 242	SHERMAN STREET	272.95	LIS 241	LIBERTY ST	2.17	HOW 242	HOWARD	174.57
HES 122	HENRY STREET	261.89	TDR 241	THUNDER	2.17	TOW 122	TOWNLINE	173.61
MGA 241	METONGA	261.19	SUL 241	SUMMIT LAKE	2.15	TOW 121	TOWNLINE	171.84
GOS 242	GOLDEN SANDS	256.93	VLP 241	VELP AVE	2.14	HIP 241	HILLTOP	168.48
HOO 241	HOOVER	255.64	KRN 242	KRONEN	2.09	PIN 242	PINE	166.58

Feeder	Substation	SAIDI	Feeder	Substation	SAIFI	Feeder	Substation	CAIDI
SUL 241	SUMMIT LAKE	250.53	AUS 241	AURORA STREET	2.08	SHS 241	SHERMAN STREET	165.46
AUS 241	AURORA STREET	248.81	MTN 242	MOUNTAIN	2.06	HI8 242	HIGHWAY 8	163.08
HI8 241	HIGHWAY 8	232.08	HOD 241	HODAG	2.04	PBL 243	PREBLE	161.42
RSR 241	ROSIERE	224.02	PAV 122	PEARL	2	DAF 241	DAVES FALLS	160.16
KRN 241	KRONEN	222.65	MSN 244	MASON STREET	1.94	MEL 241	MERRILL HYDRO	158.95
KRN 242	KRONEN	214.27	LSD 241	LOST DAUPHIN	1.82	DUR 121	DUNN ROAD	157.9
ONT 242	ONTARIO ROAD	209.25	MRP 241	MANRAP	1.81	EST 243	EASTOM	154.22
LEA 241	LENA	206.92	HI8 241	HIGHWAY 8	1.79	GRA 244	GRAVESVILLE	154.17
MSN 244	MASON STREET	191.87	TOW 122	TOWNLINE	1.69	HIV 243	HIGHWAY V	153.87
MRP 241	MANRAP	191.75	KRN 241	KRONEN	1.66	PAV 122	PEARL	153
SMO 241	SUAMICO	185.9	ONT 242	ONTARIO ROAD	1.59	SRD 241	SHERWOOD	152.17
GRA 244	GRAVESVILLE	180.31	BNS 241	BOWEN STREET	1.58	WAV 241	WHITING AVE	151.49
WMK 242	WESMARK	178.29	SBY 242	SOUTH BROADWAY	1.58	NPT 242	NORTHPOINT	147.85
SUL 241	SUMMIT LAKE	167.33	CSL 242	CASSEL	1.55	CLK 241	CLEAR LAKE	147.69
SIS 241	SISTER BAY	165.39	ROD 241	ROTHSCHILD	1.54	EAV 242	EASTMAN AVE	146.33
DUR 121	DUNN ROAD	162.24	SIS 241	SISTER BAY	1.51	NOU 122	NORSAU	146.03
ROO 241	ROOSEVELT RD	159.31	MAV 241	MORRISON AVE.	1.5	SGM 242	ST. GERMAIN	143.63
MEL 241	MERRILL HYDRO	157.64	LEA 241	LENA	1.49	PIN 241	PINE	141.78
MAD 241	MAPLEWOOD	155.48	HOO 242	HOOVER	1.46	MGA 241	METONGA	139.48
AUS 242	AURORA STREET	152.03	GLW 241	GLENVIEW	1.4	LEA 241	LENA	139
HOW 242	HOWARD	150.02	PBL 241	PREBLE	1.4	OSH 243	OSHKOSH	138.38
BNS 241	BOWEN STREET	149.97	SUL 241	SUMMIT LAKE	1.4	WSU 241	WAUSAU HYDRO	137.36
CSL 241	CASSEL	149.3	AUS 242	AURORA STREET	1.35	SOI 241	SOBIESKI	135.98
TOW 121	TOWNLINE	147.37	CSL 241	CASSEL	1.34	ASH 242	ASHLAND AVE	135.59
OSH 243	OSHKOSH	140.14	WPA 242	WAUPACA	1.33	HOD 241	HODAG	134.42
THL 241	THREE LAKES	139.98	OKY 241	OKRAY	1.31	EST 242	EASTOM	134.11
LUX 241	LUXEBURG	131.92	BRU 122	BRUSBAY	1.25	RSR 242	ROSIERE	134.09
THL 241	THREE LAKES	129.26	HRR 241	HARRISON	1.25	KRN 241	KRONEN	134.08
SGM 242	ST. GERMAIN	127.49	MIT 121	MISHICOT	1.24	DYK 242	DYCKESVILLE	133.97
BRU 242	BRUSBAY	123.02	WIS 122	WINTON STREET	1.21	MSN 243	MASON STREET	133.96
WSU 241	WAUSAU HYDRO	119.77	TOR 241	TOWER DRIVE	1.19	THL 241	THREE LAKES	133.43
MAV 241	MORRISON AVE.	119.23	MCR 241	MEARS CORNERS	1.18	ONT 242	ONTARIO ROAD	131.19
VLP 242	VELP AVE	118.77	GRA 244	GRAVESVILLE	1.17	HI8 241	HIGHWAY 8	129.65
TOR 241	TOWER DRIVE	117.81	HOW 241	HOWARD	1.15	THL 241	THREE LAKES	129.56
MAI 241	MAINE	116.53	RSR 242	ROSIERE	1.13	RLD 241	ROCKLAND	128.05
WET 121	WELLS ST	116.31	LUX 241	LUXEBURG	1.1	KEL 243	KELLY	126.73
BRU 122	BRUSBAY	114.4	MGA 241	METONGA	1.1	CLK 243	CLEAR LAKE	126.23
GLW 241	GLENVIEW	113.71	MSN 241	MASON STREET	1.1	GOS 241	GOLDEN SANDS	125.85
EAV 242	EASTMAN AVE	108.27	RLD 242	ROCKLAND	1.1	ANO 241	ANTIGO	125.2
VLP 241	VELP AVE	107.92	BRU 242	BRUSBAY	1.08	STD 241	STRATFORD	125.17
PBL 241	PREBLE	106.33	MIT 122	MISHICOT	1.06	MAI 241	MAINE	124.3
HCR 241	HARTMAN CREEK	106.04	THL 241	THREE LAKES	1.05	POU 241	POUND	123.57
STD 241	STRATFORD	105.96	BNS 121	BOWEN STREET	1.04	AUS 241	AURORA STREET	119.9
AVN 242	AVIATION	102.14	DUR 121	DUNN ROAD	1.03	LUX 241	LUXEBURG	119.83
SBY 242	SOUTH BROADWAY	101.58	SPT 241	SUNSET POINT	1.03	SUL 241	SUMMIT LAKE	119.51
JAS 241	JAMES ST.	98.96	WET 121	WELLS ST	1.03	AVN 242	AVIATION	117.97
ALA 241	ALGOMA	98.1	MSN 242	MASON STREET	1.02	EGH 242	EGG HARBOR	116.84
WPA 242	WAUPACA	97.73	OSH 243	OSHKOSH	1.01	SUL 241	SUMMIT LAKE	116.64
ROD 241	ROTHSCHILD	96.91	THL 241	THREE LAKES	1	SNZ 242	ST. NAZIANZ	115.89

Feeder	Substation	SAIDI	Feeder	Substation	SAIFI	Feeder	Substation	CAIDI
PBL 243	PREBLE	92.49	BES 122	BEARDSLEY ST	0.99	VEN 241	VENUS	115.66
RLD 242	ROCKLAND	90.69	MEL 241	MERRILL HYDRO	0.99	GRA 242	GRAVESVILLE	115.32
NPT 241	NORTHPOINT	88.2	MAV 242	MORRISON AVE.	0.96	HCR 241	HARTMAN CREEK	114.65
LIS 241	LIBERTY ST	88.15	HRR 242	HARRISON	0.95	WAV 242	WHITING AVE	113.87
MEL 241	MERRILL HYDRO	86.1	MAI 241	MAINE	0.94	GLW 242	GLENVIEW	113.69
RSR 242	ROSIERE	85.91	NPT 241	NORTHPOINT	0.94	BRU 242	BRUSBAY	113.4
MIT 121	MISHICOT	85.17	HCR 241	HARTMAN CREEK	0.92	WET 121	WELLS ST	113.36
HIV 243	HIGHWAY V	84.59	JAS 241	JAMES ST.	0.9	AUS 242	AURORA STREET	112.26
MAV 242	MORRISON AVE.	81.81	PLO 242	PLOVER	0.88	CRB 244	CRANBERRY	111.86
HRR 241	HARRISON	80.87	AVN 242	AVIATION	0.87	CSL 241	CASSEL	111.51
EGH 242	EGG HARBOR	80.1	WSU 241	WAUSAU HYDRO	0.87	CLK 242	CLEAR LAKE	111.08
HOW 241	HOWARD	78.55	HOW 242	HOWARD	0.86	JAS 241	JAMES ST.	109.97
LUX 242	LUXEMBURG	77.46	TOW 121	TOWNLINE	0.86	SIS 241	SISTER BAY	109.73
CSL 242	CASSEL	76.8	STD 241	STRATFORD	0.85	HES 122	HENRY STREET	108.91
HI8 243	HIGHWAY 8	75.49	SUV 241	SUNNYVALE	0.84	OCO 241	OCONTO	106.82
DYK 242	DYCKESVILLE	74.78	EAK 241	EAST KROK	0.81	MRP 241	MANRAP	105.67
WAV 241	WHITING AVE	72.85	EGH 241	EGG HARBOR	0.81	GLR 241	GLORY ROAD	105.41
TOW 243	TOWNLINE	72.48	MCR 242	MEARS CORNERS	0.76	WPA 241	WAUPACA	104.25
SOI 241	SOBIESKI	72.05	LUX 242	LUXEMBURG	0.75	WMK 241	WESMARK	104.11
EGH 241	EGG HARBOR	70.95	EAV 242	EASTMAN AVE	0.74	LUX 242	LUXEMBURG	103.13
POU 241	POUND	66.38	WEM 241	WEST MARINETTE	0.73	MHS 242	MYSTERY HILLS	102.83
OKY 241	OKRAY	65.62	PBL 242	PREBLE	0.71	KRN 242	KRONEN	102.56
OAS 241	OAK STREET	63.32	EGH 242	EGG HARBOR	0.69	DYK 241	DYCKESVILLE	99.3
PBL 242	PREBLE	62.65	HIV 241	HIGHWAY V	0.66	GRA 241	GRAVESVILLE	99.21
HOO 242	HOOVER	62	WMK 242	WESMARK	0.65	MSN 244	MASON STREET	98.86
MSN 243	MASON STREET	59.47	SGM 242	ST. GERMAIN	0.61	TOR 241	TOWER DRIVE	98.73
BNS 121	BOWEN STREET	58.65	AVN 241	AVIATION	0.57	EAV 241	EASTMAN AVE	97.53
HIP 241	HILLTOP	58.37	PBL 243	PREBLE	0.57	HIP 242	HILLTOP	97.14
MIT 122	MISHICOT	58.05	DYK 242	DYCKESVILLE	0.56	OSH 241	OSHKOSH	96.93
EOD 241	ELLINWOOD	56.56	MAD 241	MAPLEWOOD	0.56	SPT 242	SUNSET POINT	95.95
EAK 241	EAST KROK	56.24	HIV 243	HIGHWAY V	0.55	BNS 241	BOWEN STREET	95.07
SUV 241	SUNNYVALE	54.97	POU 241	POUND	0.54	SOT 241	SHOTO	94.65
HES 241	HENRY STREET	54.92	SOI 241	SOBIESKI	0.53	NPT 241	NORTHPOINT	93.54
HRR 242	HARRISON	54.31	ROO 241	ROOSEVELT RD	0.52	BES 121	BEARDSLEY ST	93.48
HIV 241	HIGHWAY V	50.56	ALA 241	ALGOMA	0.5	RSR 241	ROSIERE	93.37
WEM 241	WEST MARINETTE	50.18	PAV 241	PEARL	0.5	RML 241	RED MAPLE	92.5
MCR 242	MEARS CORNERS	50.13	WAV 241	WHITING AVE	0.48	ALA 241	ALGOMA	92.4
MSN 242	MASON STREET	48.1	GRA 241	GRAVESVILLE	0.45	BRU 122	BRUSBAY	91.86
ANO 241	ANTIGO	47.23	ONT 241	ONTARIO ROAD	0.45	SRD 242	SHERWOOD	91.3
WAV 242	WHITING AVE	45.77	MSN 243	MASON STREET	0.44	BLN 241	BLUESTONE	90.66
WIS 122	WINTON STREET	45.46	HI8 243	HIGHWAY 8	0.43	LUX 241	LUXEMBURG	89.25
GRA 241	GRAVESVILLE	44.73	WAV 242	WHITING AVE	0.4	HIV 242	HIGHWAY V	88.88
KEL 242	KELLY	42.28	HIP 241	HILLTOP	0.35	VEN 242	VENUS	88.66
BES 122	BEARDSLEY ST	41.85	DYK 241	DYCKESVILLE	0.34	KEV 241	KELLNERSVILLE	87.89
SPT 241	SUNSET POINT	41.82	SOT 241	SHOTO	0.34	PBL 242	PREBLE	87.72
MSN 241	MASON STREET	40.34	OCO 242	OCONTO	0.32	EGH 241	EGG HARBOR	87.15
SRD 241	SHERWOOD	39.32	POU 241	POUND	0.32	WIS 121	WINTON STREET	86.5
PAV 241	PEARL	37.04	ASH 241	ASHLAND AVE	0.31	MAV 242	MORRISON AVE.	85.06
PLO 242	PLOVER	35.88	HES 241	HENRY STREET	0.31	RLD 242	ROCKLAND	82.7

Feeder	Substation	SAIDI	Feeder	Substation	SAIFI	Feeder	Substation	CAIDI
RLD 241	ROCKLAND	34.99	MEL 241	MERRILL HYDRO	0.29	GLW 241	GLENVIEW	81.49
MCR 241	MEARS CORNERS	34.1	EOD 241	ELLINWOOD	0.27	MAV 241	MORRISON AVE.	79.43
DYK 241	DYCKESVILLE	33.54	RLD 241	ROCKLAND	0.27	ASH 241	ASHLAND AVE	78.29
SOT 241	SHOTO	32.13	SRD 242	SHERWOOD	0.27	HIV 241	HIGHWAY V	76.98
ONT 241	ONTARIO ROAD	30.96	SNZ 241	ST. NAZIANZ	0.26	EAK 242	EAST KROK	76.82
WMK 241	WESMARK	28.88	SRD 241	SHERWOOD	0.26	RSR 242	ROSIERE	76.26
SNZ 242	ST. NAZIANZ	28.28	BES 121	BEARDSLEY ST	0.25	PBL 241	PREBLE	76.13
AVN 241	AVIATION	27.01	HIV 242	HIGHWAY V	0.25	GOS 242	GOLDEN SANDS	73.58
SRD 242	SHERWOOD	25.08	OAS 241	OAK STREET	0.25	WPA 242	WAUPACA	73.42
ASH 241	ASHLAND AVE	23.96	SNZ 242	ST. NAZIANZ	0.24	PAV 241	PEARL	73.34
BES 121	BEARDSLEY ST	23.2	GLR 241	GLORY ROAD	0.21	SNZ 241	ST. NAZIANZ	73.23
HIV 242	HIGHWAY V	22.59	WPA 241	WAUPACA	0.21	GLR 242	GLORY ROAD	72.85
NOU 122	NORSAU	22.53	MHS 242	MYSTERY HILLS	0.2	ONT 241	ONTARIO ROAD	69.43
WPA 241	WAUPACA	21.99	A12 241	TWELFTH AVE	0.19	EAK 241	EAST KROK	69.21
GLR 241	GLORY ROAD	21.66	KEV 242	KELLNERSVILLE	0.19	WEM 241	WEST MARINETTE	69.12
OCO 242	OCONTO	20.91	TOW 243	TOWNLINE	0.18	MIT 121	MISHICOT	68.72
MHS 242	MYSTERY HILLS	20.33	GRA 242	GRAVESVILLE	0.17	HOW 241	HOWARD	68.53
GRA 242	GRAVESVILLE	20.14	KEL 242	KELLY	0.17	KEV 242	KELLNERSVILLE	68.13
SNZ 241	ST. NAZIANZ	18.79	OCO 241	OCONTO	0.17	RSR 241	ROSIERE	66.27
POU 241	POUND	18.7	NOU 122	NORSAU	0.15	OCO 242	OCONTO	65.97
OCO 241	OCONTO	18.56	WMK 241	WESMARK	0.15	MCR 242	MEARS CORNERS	65.87
KRN 242	KRONEN	17.5	GLR 242	GLORY ROAD	0.14	SUV 241	SUNNYVALE	65.46
GLW 242	GLENVIEW	15.18	WAV 243	WHITING AVE	0.14	HRR 241	HARRISON	64.74
MGA 241	METONGA	14.31	EAK 242	EAST KROK	0.13	SBY 242	SOUTH BROADWAY PLOVER	64.45
KEV 242	KELLNERSVILLE	13.05	EOD 242	ELLINWOOD	0.13	PLO 241	PLOVER	64.35
HIP 242	HILLTOP	13.04	GLW 242	GLENVIEW	0.13	EOD 242	ELLINWOOD	63.94
GLR 242	GLORY ROAD	10.13	HIP 242	HILLTOP	0.13	WET 242	WELLS ST	62.85
EAV 241	EASTMAN AVE	9.95	PLO 241	PLOVER	0.12	ROD 241	ROTHSCHILD	62.76
EAK 242	EAST KROK	9.83	RML 242	RED MAPLE	0.12	GLW 242	GLENVIEW	62.65
RSR 241	ROSIERE	9.16	EAV 241	EASTMAN AVE	0.1	RML 242	RED MAPLE	61.89
LIS 242	LIBERTY ST	9.1	GLW 242	GLENVIEW	0.1	MHS 241	MYSTERY HILLS	61
A12 241	TWELFTH AVE	8.56	MGA 241	METONGA	0.1	SHS 242	SHERMAN STREET	59.58
ASH 242	ASHLAND AVE	8.43	RSR 241	ROSIERE	0.1	POU 241	POUND	57.73
EOD 242	ELLINWOOD	8.19	A12 242	TWELFTH AVE	0.09	HRR 242	HARRISON	57.03
KEL 243	KELLY	8.16	KRN 242	KRONEN	0.09	A12 242	TWELFTH AVE	56.55
PIN 241	PINE	7.96	ANO 241	ANTIGO	0.08	BNS 121	BOWEN STREET	56.39
PLO 241	PLOVER	7.5	MHS 241	MYSTERY HILLS	0.08	WMK 242	WESMARK	56
RML 242	RED MAPLE	7.16	SOT 242	SHOTO	0.08	MIT 122	MISHICOT	55
GLW 242	GLENVIEW	6.51	WET 242	WELLS ST	0.07	VLP 241	VELP AVE	50.42
RML 241	RED MAPLE	5.69	ASH 242	ASHLAND AVE	0.06	SMO 241	SUAMICO	50.1
A12 242	TWELFTH AVE	5.06	BAT 241	BAYPORT	0.06	OKY 241	OKRAY	49.91
MHS 241	MYSTERY HILLS	4.96	KEL 243	KELLY	0.06	CSL 242	CASSEL	49.68
WAV 243	WHITING AVE	4.57	PIN 241	PINE	0.06	HOO 241	HOOVER	48.35
BLN 241	BLUESTONE	4.54	RML 241	RED MAPLE	0.06	VLP 242	VELP AVE	47.67
RYN 123	RYAN STREET	4.46	BLN 241	BLUESTONE	0.05	AVN 241	AVIATION	47.65
WET 242	WELLS ST	4.31	LIS 242	LIBERTY ST	0.05	MSN 242	MASON STREET	47.18
RSR 242	ROSIERE	4.13	KEV 241	KELLNERSVILLE	0.03	A12 241	TWELFTH AVE	44.27
SOT 242	SHOTO	3.1	OSH 241	OSHKOSH	0.03	HOO 242	HOOVER	42.59
LIS 243	LIBERTY ST	3.05	RSR 242	ROSIERE	0.03	BES 122	BEARDSLEY ST	42.07

Feeder	Substation	SAIDI	Feeder	Substation	SAIFI	Feeder	Substation	CAIDI
OSH 241	OSHKOSH	2.89	RYN 123	RYAN STREET	0.02	PLO 242	PLOVER	41
KEV 241	KELLNERSVILLE	2.38	WMK 241	WESMARK	0.02	LIS 241	LIBERTY ST	40.7
BAT 241	BAYPORT	2.1	WMK 242	WESMARK	0.02	SPT 241	SUNSET POINT	40.43
WMK 241	WESMARK	1.6	ALA 241	ALGOMA	0.01	SOT 242	SHOTO	40.33
WMK 242	WESMARK	1.34	LIS 243	LIBERTY ST	0.01	BAT 241	BAYPORT	37.8
UGB 123	UNIVERSITY	1.17	LUX 241	LUXEMBURG	0.01	WIS 122	WINTON STREET	37.68
ALA 241	ALGOMA	0.77	UGB 123	UNIVERSITY	0	MSN 241	MASON STREET	36.63
LUX 241	LUXEMBURG	0.67	WIS 121	WINTON STREET	0	WAV 243	WHITING AVE	32
WIS 121	WINTON STREET	0.17	SMO 241	SUAMICO		MCR 241	MEARS CORNERS	28.84

PSC 113.0604(2)(a)

An overall assessment of the reliability performance including the aggregate SAIFI, SAIDI and CAIDI indices by system and each operating area, as applicable.

2007 ELECTRIC DISTRIBUTION CUSTOMER INTERRUPTIONS
TOTAL DISTRIBUTION SYSTEM RELIABILITY INDICES
INCLUDING MAJOR STORMS AND TRANSMISSION OUTAGES
EXCLUDING MOMENTARIES (5 MINUTES OR LESS DURATION)

District	SAIFI	CAIDI	SAIDI
Antigo	1.69	122	206
Chilton	0.47	99	46
Eagle River	3.34	122	409
Green Bay	0.53	113	60
Kewaunee	0.61	88	54
Merrill	1.2	167	201
Minocqua	4.67	144	675
Marinette	0.41	122	50
Menominee *	1.04	126	131
Oshkosh	0.5	82	41
Rhineland	3.14	131	410
Sturgeon Bay	1.02	127	130
Stevens Point	1.61	82	132
Tomahawk	2.54	152	386
Two Rivers	0.34	99	34
Wabeno	2.9	290	844
Wausau	0.96	121	117
Waupaca	0.71	85	60
Wausaukee	2.62	218	571
Total Company	1.31	143.38	187.99

* Michigan

PSC 113.0604 (2)(a)

An overall assessment of the reliability performance including the aggregate SAIFI, SAIDI, and CAIDI indices by system and each operating area, as applicable.

2007 CUSTOMER INTERRUPTIONS BY FEEDER
TOTAL DISTRIBUTION SYSTEM RELIABILITY INDEXES
INCLUDING MAJOR STORMS AND TRANSMISSION CAUSED OUTAGES
EXCLUDING MTY'S LE 5
MIN

District	Feeder	Substation	SAIDI	SAIFI	CAIDI
Antigo					
	ANO 241	ANTIGO	47.23	0.08	125.2
	AUS 241	AURORA STREET	248.81	2.08	119.9
	AUS 242	AURORA STREET	152.03	1.35	112.26
	SUL 241	SUMMIT LAKE	167.33	1.4	119.51
Chilton					
	GLW 241	GLENVIEW	113.71	1.4	81.49
	GLW 242	GLENVIEW	15.18	0.13	113.69
	GRA 241	GRAVESVILLE	44.73	0.45	99.21
	GRA 242	GRAVESVILLE	20.14	0.17	115.32
	GRA 244	GRAVESVILLE	180.31	1.17	154.17
	RYN 123	RYAN STREET	4.46	0.02	214
Eagle River					
	CRB 244	CRANBERRY	548.81	4.91	111.86
	SGM 242	ST. GERMAIN	485.45	3.38	143.63
	THL 241	THREE LAKES	139.98	1.05	133.43
Green Bay					
	SMO 241	SUAMICO	185.9		50.1
	ASH 241	ASHLAND AVE	23.96	0.31	78.29
	ASH 242	ASHLAND AVE	8.43	0.06	135.59
	BAT 241	BAYPORT	2.1	0.06	37.8
	BLN 241	BLUESTONE	4.54	0.05	90.66
	DYK 241	DYCKESVILLE	33.54	0.34	99.3
	DYK 242	DYCKESVILLE	74.78	0.56	133.97
	EAV 241	EASTMAN AVE	9.95	0.1	97.53
	EAV 242	EASTMAN AVE	108.27	0.74	146.33
	GLR 241	GLORY ROAD	21.66	0.21	105.41
	GLR 242	GLORY ROAD	10.13	0.14	72.85
	HES 122	HENRY STREET	261.89	2.4	108.91
	HES 241	HENRY STREET	54.92	0.31	177.58
	HIV 241	HIGHWAY V	50.56	0.66	76.98
	HIV 242	HIGHWAY V	22.59	0.25	88.88

District	Feeder	Substation	SAIDI	SAIFI	CAIDI
	HIV 243	HIGHWAY V	84.59	0.55	153.87
	HOW 241	HOWARD	78.55	1.15	68.53
	HOW 242	HOWARD	150.02	0.86	174.57
	JAS 241	JAMES ST.	98.96	0.9	109.97
	LIS 241	LIBERTY ST	88.15	2.17	40.7
	LIS 242	LIBERTY ST	9.1	0.05	181.69
	LIS 243	LIBERTY ST	3.05	0.01	238.28
	LSD 241	LOST DAUPHIN	401.28	1.82	221.01
	LUX 241	LUXEMBURG	0.67	0.01	89.25
	MAD 241	MAPLEWOOD	155.48	0.56	277.94
	MSN 241	MASON STREET	40.34	1.1	36.63
	MSN 242	MASON STREET	48.1	1.02	47.18
	MSN 243	MASON STREET	59.47	0.44	133.96
	MSN 244	MASON STREET	191.87	1.94	98.86
	MHS 241	MYSTERY HILLS	4.96	0.08	61
	MHS 242	MYSTERY HILLS	20.33	0.2	102.83
	OAS 241	OAK STREET	63.32	0.25	257.53
	ONT 241	ONTARIO ROAD	30.96	0.45	69.43
	ONT 242	ONTARIO ROAD	209.25	1.59	131.19
	PBL 241	PREBLE	106.33	1.4	76.13
	PBL 242	PREBLE	62.65	0.71	87.72
	PBL 243	PREBLE	92.49	0.57	161.42
	RML 241	RED MAPLE	5.69	0.06	92.5
	RML 242	RED MAPLE	7.16	0.12	61.89
	RLD 241	ROCKLAND	34.99	0.27	128.05
	RLD 242	ROCKLAND	90.69	1.1	82.7
	SOI 241	SOBIESKI	72.05	0.53	135.98
	SBY 242	SOUTH BROADWAY	101.58	1.58	64.45
	TOR 241	TOWER DRIVE	117.81	1.19	98.73
	UGB 123	UNIVERSITY	1.17	0	318.67
	VLP 241	VELP AVE	107.92	2.14	50.42
	VLP 242	VELP AVE	118.77	2.49	47.67
	WMK 241	WESMARK	28.88	0.15	193.57
	WMK 242	WESMARK	178.29	0.65	275.7
Kewaunee					
	ALA 241	ALGOMA	0.77	0.01	92.4
	BES 121	BEARDSLEY ST	23.2	0.25	93.48
	BES 122	BEARDSLEY ST	41.85	0.99	42.07
	EAK 241	EAST KROK	56.24	0.81	69.21
	EAK 242	EAST KROK	9.83	0.13	76.82
	LUX 241	LUXEMBURG	131.92	1.1	119.83
	LUX 242	LUXEMBURG	77.46	0.75	103.13
	RSR 241	ROSIERE	9.16	0.1	93.37
	RSR 242	ROSIERE	85.91	1.13	76.26
Marinette					
	LEA 241	LENA	206.92	1.49	139
	OCO 241	OCONTO	18.56	0.17	106.82

District	Feeder	Substation	SAIDI	SAIFI	CAIDI
	OCO 242	OCONTO	20.91	0.32	65.97
	POU 241	POUND	66.38	0.54	123.57
	ROO 241	ROOSEVELT RD	159.31	0.52	307.59
	SRD 241	SHERWOOD	39.32	0.26	152.17
	SRD 242	SHERWOOD	25.08	0.27	91.3
	WET 121	WELLS ST	116.31	1.03	113.36
	WET 242	WELLS ST	4.31	0.07	62.85
	WEM 241	WEST MARINETTE	50.18	0.73	69.12
Merrill					
	MEL 241	MERRILL HYDRO	157.64	0.99	158.95
	PIN 241	PINE	7.96	0.06	141.78
	PIN 242	PINE	396	2.38	166.58
Minocqua					
	CLK 241	CLEAR LAKE	733.97	4.97	147.69
	CLK 242	CLEAR LAKE	632.6	5.7	111.08
	CLK 243	CLEAR LAKE	797.68	6.32	126.23
	SGM 241	ST. GERMAIN	1,059.50	5.68	186.67
	SGM 242	ST. GERMAIN	127.49	0.61	207.83
Oshkosh					
	AVN 241	AVIATION	27.01	0.57	47.65
	AVN 242	AVIATION	102.14	0.87	117.97
	BNS 121	BOWEN STREET	58.65	1.04	56.39
	BNS 241	BOWEN STREET	149.97	1.58	95.07
	EOD 241	ELLINWOOD	56.56	0.27	212.7
	EOD 242	ELLINWOOD	8.19	0.13	63.94
	MCR 241	MEARS CORNERS	34.1	1.18	28.84
	MCR 242	MEARS CORNERS	50.13	0.76	65.87
	OSH 241	OSHKOSH	2.89	0.03	96.93
	OSH 243	OSHKOSH	140.14	1.01	138.38
	PAV 122	PEARL	306	2	153
	PAV 241	PEARL	37.04	0.5	73.34
	SPT 241	SUNSET POINT	41.82	1.03	40.43
	SPT 242	SUNSET POINT	292.47	3.05	95.95
	A12 241	TWELFTH AVE	8.56	0.19	44.27
	A12 242	TWELFTH AVE	5.06	0.09	56.55
Rhineland					
	HI8 241	HIGHWAY 8	232.08	1.79	129.65
	HI8 242	HIGHWAY 8	612.39	3.76	163.08
	HI8 243	HIGHWAY 8	75.49	0.43	175.84
	HOD 241	HODAG	274.38	2.04	134.42
	MGA 241	METONGA	261.19	1.1	238.3
	THL 241	THREE LAKES	129.26	1	129.56
	VEN 241	VENUS	1,022.41	8.84	115.66
	VEN 242	VENUS	901.13	10.16	88.66

District	Feeder	Substation	SAIDI	SAIFI	CAIDI
Stevens Point					
	GOS 241	GOLDEN SANDS	294.36	2.34	125.85
	GOS 242	GOLDEN SANDS	256.93	3.49	73.58
	HOO 241	HOOVER	255.64	5.29	48.35
	HOO 242	HOOVER	62	1.46	42.59
	KRN 242	KRONEN	17.5	0.09	189.12
	NPT 241	NORTHPOINT	88.2	0.94	93.54
	NPT 242	NORTHPOINT	421.46	2.85	147.85
	OKY 241	OKRAY	65.62	1.31	49.91
	PLO 241	PLOVER	7.5	0.12	64.35
	PLO 242	PLOVER	35.88	0.88	41
	WAV 241	WHITING AVE	72.85	0.48	151.49
	WAV 242	WHITING AVE	45.77	0.4	113.87
	WAV 243	WHITING AVE	4.57	0.14	32
Sturgeon Bay					
	ALA 241	ALGOMA	98.1	0.5	197.69
	BRU 122	BRUSBAY	114.4	1.25	91.86
	BRU 242	BRUSBAY	123.02	1.08	113.4
	DUR 121	DUNN ROAD	162.24	1.03	157.9
	EGH 241	EGG HARBOR	70.95	0.81	87.15
	EGH 242	EGG HARBOR	80.1	0.69	116.84
	RSR 241	ROSIERE	224.02	3.38	66.27
	RSR 242	ROSIERE	4.13	0.03	134.09
	SIS 241	SISTER BAY	165.39	1.51	109.73
	SIS 242	SISTER BAY	515.52	2.67	193.21
Tomahawk					
	EST 242	EASTOM	453.1	3.38	134.11
	EST 243	EASTOM	499.54	3.24	154.22
Two Rivers					
	GLW 242	GLENVIEW	6.51	0.1	62.65
	KEV 241	KELLNERSVILLE	2.38	0.03	87.89
	KEV 242	KELLNERSVILLE	13.05	0.19	68.13
	MRP 241	MANRAP	191.75	1.81	105.67
	MIT 121	MISHICOT	85.17	1.24	68.72
	MIT 122	MISHICOT	58.05	1.06	55
	SOT 241	SHOTO	32.13	0.34	94.65
	SOT 242	SHOTO	3.1	0.08	40.33
	SNZ 241	ST. NAZIANZ	18.79	0.26	73.23
	SNZ 242	ST. NAZIANZ	28.28	0.24	115.89
	WMK 241	WESMARK	1.6	0.02	104.11
	WMK 242	WESMARK	1.34	0.02	56
Wabeno					
	GON 241	GOODMAN	1,734.51	5.56	312.04
	MGA 241	METONGA	14.31	0.1	139.48
	MTN 241	MOUNTAIN	954.15	2.22	430.51

District	Feeder	Substation	SAIDI	SAIFI	CAIDI
	MTN 242	MOUNTAIN	981.49	2.06	475.46
	SIC 241	SILVER CLIFF	1,071.50	4.93	217.41
	SUL 241	SUMMIT LAKE	250.53	2.15	116.64
Waupaca					
	HRR 241	HARRISON	80.87	1.25	64.74
	HRR 242	HARRISON	54.31	0.95	57.03
	HCR 241	HARTMAN CREEK	106.04	0.92	114.65
	WPA 241	WAUPACA	21.99	0.21	104.25
	WPA 242	WAUPACA	97.73	1.33	73.42
Wausau					
	CSL 241	CASSEL	149.3	1.34	111.51
	CSL 242	CASSEL	76.8	1.55	49.68
	HIP 241	HILLTOP	58.37	0.35	168.48
	HIP 242	HILLTOP	13.04	0.13	97.14
	KEL 241	KELLY	499.23	2.72	183.64
	KEL 242	KELLY	42.28	0.17	245.35
	KEL 243	KELLY	8.16	0.06	126.73
	KRN 241	KRONEN	222.65	1.66	134.08
	KRN 242	KRONEN	214.27	2.09	102.56
	MAI 241	MAINE	116.53	0.94	124.3
	MEL 241	MERRILL HYDRO	86.1	0.29	297.32
	MAV 241	MORRISON AVE.	119.23	1.5	79.43
	MAV 242	MORRISON AVE.	81.81	0.96	85.06
	NOU 122	NORSAU	22.53	0.15	146.03
	ROD 241	ROTHSCHILD	96.91	1.54	62.76
	SHS 241	SHERMAN STREET	395.7	2.39	165.46
	SHS 242	SHERMAN STREET	272.95	4.58	59.58
	STD 241	STRATFORD	105.96	0.85	125.17
	SUV 241	SUNNYVALE	54.97	0.84	65.46
	TOW 121	TOWNLINE	147.37	0.86	171.84
	TOW 122	TOWNLINE	293.43	1.69	173.61
	TOW 243	TOWNLINE	72.48	0.18	402.13
	WSU 241	WAUSAU HYDRO	119.77	0.87	137.36
	WIS 121	WINTON STREET	0.17	0	86.5
	WIS 122	WINTON STREET	45.46	1.21	37.68
Wausaukee					
	DAF 241	DAVES FALLS	687.96	4.3	160.16
	DAF 242	DAVES FALLS	920.5	5.05	182.25
	POU 241	POUND	18.7	0.32	57.73
	SAE 241	SANDSTONE DIST	402.9	2.19	183.79
	TDR 241	THUNDER	676.39	2.17	312.15

PSC 113.0604(2)(b)

A list of the worst-performing circuits based on SAIFI, SAIDI, and CAIDI indexes for the calendar year.

SAIFI, SAIDI, and CAIDI were calculated for each of the WPS distribution feeders. Due to the difficulty in ranking the feeders, a composite value was calculated in order to normalize SAIFI, SAIDI, and CAIDI.

The following formula was used to develop a composite value based on 20% SAIFI and 80% SAIDI:

COMPOSITE = $[(\text{SAIFI}/\text{SAIFI MAX}) * 0.2 + (\text{SAIDI}/\text{SAIDI MAX}) * 0.8 + (\text{CAIDI}/\text{CAIDI MAX}) * 0]$ where MAX = the maximum value of SAIFI, SAIDI, and CAIDI for all distribution circuits.

2007 ELECTRIC DISTRIBUTION CUSTOMER INTERRUPTIONS
TOTAL DISTRIBUTION SYSTEM RELIABILITY INDICES
SUBSTATION FEEDERS INCLUDING MAJOR STORMS,
TRANSMISSION CAUSED OUTAGES AND MTY'S LE 5 MIN

Feeder	Substation	SAIDI	SAIFI	CAIDI	Composite
GON 241	GOODMAN	1734.51	5.56	312.04	0.91
VEN 241	VENUS	1022.41	8.84	115.66	0.65
VEN 242	VENUS	901.13	10.16	88.66	0.62
SGM 241	ST. GERMAIN	1059.50	5.68	186.67	0.60
SIC 241	SILVER CLIFF	1071.50	4.93	217.41	0.59
DAF 242	DAVES FALLS	920.50	5.05	182.25	0.52
MTN 242	MOUNTAIN	981.49	2.06	475.46	0.49
CLK 243	CLEAR LAKE	797.68	6.32	126.23	0.49
MTN 241	MOUNTAIN	954.15	2.22	430.51	0.48
CLK 241	CLEAR LAKE	733.97	4.97	147.69	0.44
CLK 242	CLEAR LAKE	632.60	5.70	111.08	0.40
DAF 241	DAVES FALLS	687.96	4.30	160.16	0.40
HI8 242	HIGHWAY 8	612.39	3.76	163.08	0.36
TDR 241	THUNDER	676.39	2.17	312.15	0.35
CRB 244	CRANBERRY	548.81	4.91	111.86	0.35
EST 243	EASTOM	499.54	3.24	154.22	0.29
SGM 242	ST. GERMAIN	485.45	3.38	143.63	0.29
SIS 242	SISTER BAY	515.52	2.67	193.21	0.29
KEL 241	KELLY	499.23	2.72	183.64	0.28
EST 242	EASTOM	453.10	3.38	134.11	0.28
NPT 242	NORTHPOINT	421.46	2.85	147.85	0.25
SHS 241	SHERMAN STREET	395.70	2.39	165.46	0.23
PIN 242	PINE	396.00	2.38	166.58	0.23
SAE 241	SANDSTONE DIST	402.90	2.19	183.79	0.23
HOO 241	HOOVER	255.64	5.29	48.35	0.22
LSD 241	LOST DAUPHIN	401.28	1.82	221.01	0.22

Feeder	Substation	SAIDI	SAIFI	CAIDI	Composite
SHS 242	SHERMAN STREET	272.95	4.58	59.58	0.22
SPT 242	SUNSET POINT	292.47	3.05	95.95	0.19
GOS 242	GOLDEN SANDS	256.93	3.49	73.58	0.19
GOS 241	GOLDEN SANDS	294.36	2.34	125.85	0.18
PAV 122	PEARL	306.00	2.00	153.00	0.18
RSR 241	ROSIERE	224.02	3.38	66.27	0.17
TOW 122	TOWNLINE	293.43	1.69	173.61	0.17
HES 122	HENRY STREET	261.89	2.40	108.91	0.17
HOD 241	HODAG	274.38	2.04	134.42	0.17
SUL 241	SUMMIT LAKE	250.53	2.15	116.64	0.16
AUS 241	AURORA STREET	248.81	2.08	119.90	0.16
HI8 241	HIGHWAY 8	232.08	1.79	129.65	0.14
MGA 241	METONGA	261.19	1.10	238.30	0.14
KRN 242	KRONEN	214.27	2.09	102.56	0.14
KRN 241	KRONEN	222.65	1.66	134.08	0.14
ONT 242	ONTARIO ROAD	209.25	1.59	131.19	0.13
MSN 244	MASON STREET	191.87	1.94	98.86	0.13
LEA 241	LENA	206.92	1.49	139.00	0.12
MRP 241	MANRAP	191.75	1.81	105.67	0.12
GRA 244	GRAVESVILLE	180.31	1.17	154.17	0.11
SIS 241	SISTER BAY	165.39	1.51	109.73	0.11
SUL 241	SUMMIT LAKE	167.33	1.40	119.51	0.10
VLP 242	VELP AVE	118.77	2.49	47.67	0.10
BNS 241	BOWEN STREET	149.97	1.58	95.07	0.10
AUS 242	AURORA STREET	152.03	1.35	112.26	0.10
CSL 241	CASSEL	149.30	1.34	111.51	0.10
DUR 121	DUNN ROAD	162.24	1.03	157.90	0.10
WMK 242	WESMARK	178.29	0.65	275.70	0.10
MEL 241	MERRILL HYDRO	157.64	0.99	158.95	0.09
VLP 241	VELP AVE	107.92	2.14	50.42	0.09
HOW 242	HOWARD	150.02	0.86	174.57	0.09
SMO 241	SUAMICO	185.90		50.10	0.09
THL 241	THREE LAKES	139.98	1.05	133.43	0.09
TOW 121	TOWNLINE	147.37	0.86	171.84	0.08
MAV 241	MORRISON AVE.	119.23	1.50	79.43	0.08
OSH 243	OSHKOSH	140.14	1.01	138.38	0.08
ROO 241	ROOSEVELT RD	159.31	0.52	307.59	0.08
LIS 241	LIBERTY ST	88.15	2.17	40.70	0.08
MAD 241	MAPLEWOOD	155.48	0.56	277.94	0.08
LUX 241	LUXEMBURG	131.92	1.10	119.83	0.08
GLW 241	GLENVIEW	113.71	1.40	81.49	0.08
THL 241	THREE LAKES	129.26	1.00	129.56	0.08
BRU 242	BRUSBAY	123.02	1.08	113.40	0.08
SBY 242	SOUTH BROADWAY	101.58	1.58	64.45	0.08
TOR 241	TOWER DRIVE	117.81	1.19	98.73	0.08
BRU 122	BRUSBAY	114.40	1.25	91.86	0.08
PBL 241	PREBLE	106.33	1.40	76.13	0.08
ROD 241	ROTHSCHILD	96.91	1.54	62.76	0.08
WET 121	WELLS ST	116.31	1.03	113.36	0.07

Feeder	Substation	SAIDI	SAIFI	CAIDI	Composite
WSU 241	WAUSAU HYDRO	119.77	0.87	137.36	0.07
MAI 241	MAINE	116.53	0.94	124.30	0.07
WPA 242	WAUPACA	97.73	1.33	73.42	0.07
SGM 242	ST. GERMAIN	127.49	0.61	207.83	0.07
HCR 241	HARTMAN CREEK	106.04	0.92	114.65	0.07
CSL 242	CASSEL	76.80	1.55	49.68	0.07
STD 241	STRATFORD	105.96	0.85	125.17	0.07
EAV 242	EASTMAN AVE	108.27	0.74	146.33	0.06
AVN 242	AVIATION	102.14	0.87	117.97	0.06
MIT 121	MISHICOT	85.17	1.24	68.72	0.06
RLD 242	ROCKLAND	90.69	1.10	82.70	0.06
JAS 241	JAMES ST.	98.96	0.90	109.97	0.06
HRR 241	HARRISON	80.87	1.25	64.74	0.06
RSR 242	ROSIERE	85.91	1.13	76.26	0.06
NPT 241	NORTHPOINT	88.20	0.94	93.54	0.06
HOW 241	HOWARD	78.55	1.15	68.53	0.06
HOO 242	HOOVER	62.00	1.46	42.59	0.06
MAV 242	MORRISON AVE.	81.81	0.96	85.06	0.06
OKY 241	OKRAY	65.62	1.31	49.91	0.06
ALA 241	ALGOMA	98.10	0.50	197.69	0.06
PBL 243	PREBLE	92.49	0.57	161.42	0.05
EGH 242	EGG HARBOR	80.10	0.69	116.84	0.05
LUX 242	LUXEMBURG	77.46	0.75	103.13	0.05
HIV 243	HIGHWAY V	84.59	0.55	153.87	0.05
EGH 241	EGG HARBOR	70.95	0.81	87.15	0.05
MIT 122	MISHICOT	58.05	1.06	55.00	0.05
BNS 121	BOWEN STREET	58.65	1.04	56.39	0.05
DYK 242	DYCKESVILLE	74.78	0.56	133.97	0.05
MEL 241	MERRILL HYDRO	86.10	0.29	297.32	0.05
WIS 122	WINTON STREET	45.46	1.21	37.68	0.04
HRR 242	HARRISON	54.31	0.95	57.03	0.04
SOI 241	SOBIESKI	72.05	0.53	135.98	0.04
HI8 243	HIGHWAY 8	75.49	0.43	175.84	0.04
WAV 241	WHITING AVE	72.85	0.48	151.49	0.04
PBL 242	PREBLE	62.65	0.71	87.72	0.04
MSN 242	MASON STREET	48.10	1.02	47.18	0.04
SUV 241	SUNNYVALE	54.97	0.84	65.46	0.04
EAK 241	EAST KROK	56.24	0.81	69.21	0.04
POU 241	POUND	66.38	0.54	123.57	0.04
MSN 241	MASON STREET	40.34	1.10	36.63	0.04
SPT 241	SUNSET POINT	41.82	1.03	40.43	0.04
MCR 241	MEARS CORNERS	34.10	1.18	28.84	0.04
BES 122	BEARDSLEY ST	41.85	0.99	42.07	0.04
MCR 242	MEARS CORNERS	50.13	0.76	65.87	0.04
WEM 241	WEST MARINETTE	50.18	0.73	69.12	0.04
TOW 243	TOWNLINE	72.48	0.18	402.13	0.04
HIV 241	HIGHWAY V	50.56	0.66	76.98	0.04
MSN 243	MASON STREET	59.47	0.44	133.96	0.04
OAS 241	OAK STREET	63.32	0.25	257.53	0.03

Feeder	Substation	SAIDI	SAIFI	CAIDI	Composite
PLO 242	PLOVER	35.88	0.88	41.00	0.03
HIP 241	HILLTOP	58.37	0.35	168.48	0.03
HES 241	HENRY STREET	54.92	0.31	177.58	0.03
EOD 241	ELLINWOOD	56.56	0.27	212.70	0.03
GRA 241	GRAVESVILLE	44.73	0.45	99.21	0.03
WAV 242	WHITING AVE	45.77	0.40	113.87	0.03
PAV 241	PEARL	37.04	0.50	73.34	0.03
AVN 241	AVIATION	27.01	0.57	47.65	0.02
ANO 241	ANTIGO	47.23	0.08	125.20	0.02
SRD 241	SHERWOOD	39.32	0.26	152.17	0.02
ONT 241	ONTARIO ROAD	30.96	0.45	69.43	0.02
KEL 242	KELLY	42.28	0.17	245.35	0.02
DYK 241	DYCKESVILLE	33.54	0.34	99.30	0.02
SOT 241	SHOTO	32.13	0.34	94.65	0.02
RLD 241	ROCKLAND	34.99	0.27	128.05	0.02
SNZ 242	ST. NAZIANZ	28.28	0.24	115.89	0.02
ASH 241	ASHLAND AVE	23.96	0.31	78.29	0.02
SRD 242	SHERWOOD	25.08	0.27	91.30	0.02
WMK 241	WESMARK	28.88	0.15	193.57	0.02
OCO 242	OCONTO	20.91	0.32	65.97	0.02
BES 121	BEARDSLEY ST	23.20	0.25	93.48	0.02
HIV 242	HIGHWAY V	22.59	0.25	88.88	0.02
POU 241	POUND	18.70	0.32	57.73	0.01
WPA 241	WAUPACA	21.99	0.21	104.25	0.01
GLR 241	GLORY ROAD	21.66	0.21	105.41	0.01
SNZ 241	ST. NAZIANZ	18.79	0.26	73.23	0.01
NOU 122	NORSAU	22.53	0.15	146.03	0.01
MHS 242	MYSTERY HILLS	20.33	0.20	102.83	0.01
GRA 242	GRAVESVILLE	20.14	0.17	115.32	0.01
OCO 241	OCONTO	18.56	0.17	106.82	0.01
KRN 242	KRONEN	17.50	0.09	189.12	0.01
KEV 242	KELLNERSVILLE	13.05	0.19	68.13	0.01
GLW 242	GLENVIEW	15.18	0.13	113.69	0.01
HIP 242	HILLTOP	13.04	0.13	97.14	0.01
MGA 241	METONGA	14.31	0.10	139.48	0.01
A12 241	TWELFTH AVE	8.56	0.19	44.27	0.01
GLR 242	GLORY ROAD	10.13	0.14	72.85	0.01
EAK 242	EAST KROK	9.83	0.13	76.82	0.01
EAV 241	EASTMAN AVE	9.95	0.10	97.53	0.01
EOD 242	ELLINWOOD	8.19	0.13	63.94	0.01
RSR 241	ROSIERE	9.16	0.10	93.37	0.01
PLO 241	PLOVER	7.50	0.12	64.35	0.01
RML 242	RED MAPLE	7.16	0.12	61.89	0.01
LIS 242	LIBERTY ST	9.10	0.05	181.69	0.01
ASH 242	ASHLAND AVE	8.43	0.06	135.59	0.01
GLW 242	GLENVIEW	6.51	0.10	62.65	0.00
KEL 243	KELLY	8.16	0.06	126.73	0.00
WAV 243	WHITING AVE	4.57	0.14	32.00	0.00
PIN 241	PINE	7.96	0.06	141.78	0.00

Feeder	Substation	SAIDI	SAIFI	CAIDI	Composite
A12 242	TWELFTH AVE	5.06	0.09	56.55	0.00
MHS 241	MYSTERY HILLS	4.96	0.08	61.00	0.00
RML 241	RED MAPLE	5.69	0.06	92.50	0.00
WET 242	WELLS ST	4.31	0.07	62.85	0.00
BLN 241	BLUESTONE	4.54	0.05	90.66	0.00
SOT 242	SHOTO	3.10	0.08	40.33	0.00
RSR 242	ROSIERE	4.13	0.03	134.09	0.00
RYN 123	RYAN STREET	4.46	0.02	214.00	0.00
BAT 241	BAYPORT	2.10	0.06	37.80	0.00
OSH 241	OSHKOSH	2.89	0.03	96.93	0.00
KEV 241	KELLNERSVILLE	2.38	0.03	87.89	0.00
LIS 243	LIBERTY ST	3.05	0.01	238.28	0.00
WMK 241	WESMARK	1.60	0.02	104.11	0.00
WMK 242	WESMARK	1.34	0.02	56.00	0.00
ALA 241	ALGOMA	0.77	0.01	92.40	0.00
UGB 123	UNIVERSITY	1.17	0.00	318.67	0.00
LUX 241	LUXEMBURG	0.67	0.01	89.25	0.00
WIS 121	WINTON STREET	0.17	0.00	86.50	0.00

PSC 113.0604 (2)(b)

A list of the worst-performing circuits based on SAIFI, SAIDI and CAIDI indexes, for the calendar year. This section of the report shall describe the actions that the utility has taken or will take to remedy the conditions responsible for each listed circuit's unacceptable performance. The action(s) taken or planned should be briefly described. Target dates for corrective action(s) shall be included in the report. When the utility determines that actions on its part are unwarranted, its report shall provide adequate justification for such a conclusion.

Wisconsin Public Service Corporation analyzed 194 distribution circuits. SAIFI, SAIDI, and CAIDI indices are listed for the 10 worst feeders for 2007. The indices were calculated using interruptions greater than 5 minutes and included transmission related outages and major storms.

Feeder	Substation	SAIDI	SAIFI	CAIDI	Composite
GON 241	GOODMAN	1734.51	5.56	312.04	0.91
VEN 241	VENUS	1022.41	8.84	115.66	0.65
VEN 242	VENUS	901.13	10.16	88.66	0.62
SGM 241	ST. GERMAIN	1059.50	5.68	186.67	0.60
SIC 241	SILVER CLIFF	1071.50	4.93	217.41	0.59
DAF 242	DAVES FALLS	920.50	5.05	182.25	0.52
MTN 242	MOUNTAIN	981.49	2.06	475.46	0.49
CLK 243	CLEAR LAKE	797.68	6.32	126.23	0.49
MTN 241	MOUNTAIN	954.15	2.22	430.51	0.48
CLK 241	CLEAR LAKE	733.97	4.97	147.69	0.44

This section of the report will describe the actions the utility has taken or will take to improve the conditions responsible for each listed circuit's performance.

1. Goodman 241: Goodman 241 is located in a heavily wooded area in northern Wisconsin. Approximately 43% of the outages were due to the tornado in June of 2007 and another 15% were attributed to other weather events. With the addition of the Metonga Substation and the transfer of the far western end of Goodman 241 to Metonga 241, the line exposure will be greatly reduced.
2. Venus 241: Venus 241 is located in our Rhinelander District in a heavily wooded area of northern Wisconsin. Approximately 68% of the outages were caused by trees with adequate trimming and another 30% were attributed to weather.
3. Venus 242: Venus 242 is located in our Rhinelander District in a heavily wooded area of northern Wisconsin. Approximately 37% of the outages were caused by trees with adequate trimming, 24% by weather, and 12% was a single planned outage. With the addition of the Metonga Substation and the transfer of Crandon from Venus 242 to Metonga 241, line exposure will be reduced.
4. St. Germain 241: St. Germain 241 is located in our Minocqua District in a heavily wooded area of northern Wisconsin. Approximately 73% of the outages were due to trees with adequate trimming and 16% was due to weather.

5. Silver Cliff 241: Silver Cliff 241 is located in our Wabeno District in a heavily wooded area of northern Wisconsin. Approximately 53% of the outages were caused by trees with adequate trimming. Only 2% were caused by trees with inadequate trimming. The tornado that hit the Wabeno and Wausaukee districts only contributed to 16% of the outages. Twenty-two percent (22%) of the outage minutes were due to one event with a cause of "Vehicle Accident". This particular event had several broken poles associated with it.
6. Dave's Falls 242: Dave's Falls 242 is located in our Wausaukee District in a heavily wooded area of northern Wisconsin. Approximately 37% of the outages were caused by the June 2007 tornado that went through our Wabeno and Wausaukee districts. Approximately 72% of all outages, including some during the June tornado, were caused by trees with adequate trimming.
7. Mountain 242: Mountain 242 is located in our Wabeno District in a heavily wooded area of northern Wisconsin. Approximately 73% of the outages were caused by the June 2007 tornado that went through our Wabeno and Wausaukee districts.
8. Clear Lake 243: Clear Lake 243 is located in our Minocqua District in a heavily wooded area of northern Wisconsin. Approximately 58% of the outages were caused by trees with adequate trimming, 15% were identified as weather caused, and another 15% were caused by equipment failures.
9. Mountain 241: Mountain 241 is located in our Wabeno District in a heavily wooded area of northern Wisconsin. Approximately 65% of the outages were caused by the June 2007 tornado that went through our Wabeno and Wausaukee districts.
10. Clear Lake 241: Clear Lake 241 is located in our Minocqua District in a heavily wooded area of northern Wisconsin. Approximately 46% of the outages were caused by trees with adequate trimming, and 10% by trees with inadequate trimming, and 11% where the efficacy of the trimming was not identified.

PSC 113.0604(2)(d)

A report on the accomplishment of the improvements proposed in prior reports for which completion has not been previously reported.

1. Metonga 241: Completed installation of a new substation in the Crandon area, removing load from Venus and Goodman Substations.
2. Bluestone 241: Completed installation of a new 24.94 kV source at the old Bluestone Substation site.
3. Beardsley 121 & 122: Replaced the oil circuit reclosers with modern reclosers with electronic controls.
4. Algoma 241: Completed conversion of the Algoma 12.47 kV load and added a new 24.94 kV source at the Algoma Substation.
5. Caldron Falls 121: Removed the distribution feeders from the Caldron Falls Hydro generator bus. Load was transferred to Thunder 241.

PSC 113.0604(2)(e)

A description of any new reliability or power quality programs and changes that are made to existing programs.

There have been no changes to existing power quality or reliability programs at Wisconsin Public Service Corporation in 2007.

PSC 113.0604(2)(f)

A status report of any long range electric distribution plans.

District	Project	In-Service Date Required
Wausaukee	Amberg Sub-2 new sources to replace Dave's Falls	Jun-11
Antigo	Antigo Sub Add 2nd Feeder	Jun-13
Minocqua	Arnett Rd new 24.9 KV source	Jun-11
Green Bay	Bay Ridge - New sub	Jun-15
Green Bay	Bayport - Add 2nd 24.9 kV feeder	Jun-15
Minocqua	Boulder Junction Add 24.9KV source	Jun-13
Oshkosh	Bowen Add 2nd 24.9KV source	Jun-15
Wausau	Cassel 241 - Upgrade OCR/Regs	Jun-13
Wausau	Cassel 242 - Upgrade OCR/Regs	Jun-13
Minocqua	Clear Lake -Install 115/46 kV xfmr for Arnett Rd	Jun-11
Wausaukee	Crivitz - Complete 24.9kV Fdr	May-08
Sturgeon Bay	Dunn Rd - Convert to 24.9 kV - 1 feeder	Jun-08
Wausau	Edgar - Install new sub and 24.9KV feeder	Jun-15
Oshkosh	Fitzgerald-Install 24.9 KV feeder	Jun-12
Green Bay	Glory Rd - Add 3rd 24.9 kV feeder	Jun-08
Waupaca	Harrison 241 - Upgrade OCR/Regs to 800/400 A	Dec-10
Waupaca	Harrison 242 - Upgrade OCR/Regs to 800/400 A	Dec-10
Rhinelanders	Highway 8 241 - Upgrade OCRs	Jun-12
Rhinelanders	Highway 8 241 - Upgrade Regulators	Jun-12
Rhinelanders	Highway 8 243 - Add 22.4 MVA transformer	Jun-13
Green Bay	Highway V - Change out substation regs to 400A	Jun-10
Wausau	Hilltop 241 - Upgrade OCR/Regs	Jun-10
Green Bay	James St - Change out substation regs to 400A	Jun-10
Wausau	Kelly - Replace 115/46 with 84 MVA	Jun-12
Wausau	Kronen 242 - Upgrade Regs	Jun-13
Wausau	Maine - Replace 115/46 with 56 MVA	Jun-13
Green Bay	Maplewood - Add 2nd 24.9 kv Feeder	Jun-09
Green Bay	Mason 243 - Change out substation regs to 400A	Jun-08
Merrill	Merrill - add 4th 24.9 KV source at Hydro or L-12	Jun-12
Two Rivers	Mishicot - Convert to 24.9 kV - 1 feeder	Jun-09
Green Bay	Mystery Hills - Add 3rd feeder	Jun-15
Stevens Point	Northpoint - upgrade fdr 241 OCR and Rgs	Jun-15
Green Bay	Oak St - Change out substation regs to 400A	Jun-08
Stevens	Okray - Add second feeder	Jun-13

Point		
Stevens Point	River Sub St Pt West add a 24.9 KV source	Jun-15
Marinette	Roosevelt Rd-New 24.9 kV Source	Jun-11
Green Bay	Seventh Street - New Source	Jun-09
Wausau	Sherman St replace xfmrs with 2-56 MVA	Jun-11
Green Bay	Sobieski - Upgrade xfmr and install RTU and transrupter	Jun-09
Two Rivers	St Nazianz 242 - upgrade xfmr to 22 MVA unit	Jun-12
Green Bay	Suamico - Add 2 new 24.9 feeders (existing site)	Jun-08
Antigo	Summit Lake 242 - New feeder	Jun-10
Wausau	Sunnyvale add 2nd 24.9KV feeder	Jun-13
Eagle River	Three Lakes - Replace Small Transformer	Jun-11
Tomahawk	Tomahawk Hydro 24.9 KV Feeder 241	Jun-14
Wausau	Townline feeder 241 construction	Jun-10
Waupaca	Waupaca - 24.9KV source Harrison or Hartman	Jun-11
Wausau	Wausau Rural NE - new 24.9KV feeder M-13	Jun-17
Wausau	Wausau Rural SE - new 24.9KV feeder A-313	Jun-16
Green Bay	Wesmark 241 - Increase xfmr capacity	Jun-09
Marinette	West Marinette 241 - Replace Regulators	Jun-08
Wausau	Weston - Install 2nd 115/46KV transformer	Jun-09
Stevens Point	Whiting Ave - Upgrade 46kV bus, switches	Nov-08
Wausau	Winton St - New 46/24.9 KV Sub & Fdr	Jun-08
Wausau	Winton St 242 - Build Second 24.9 kV Fdr	Jun-13
Green Bay	Wrightstown - New sub under E-2	Jun-10

PSC 113.0604(3)(a)

Route miles of electric distribution line reconstructed during the year. Separate totals for single- and three-phase circuits shall be provided.

The approximate route miles of electric distribution reconstruction is:

- 1 Phase – 105.9 miles
- 2 Phase – 3.3 miles
- 3 Phase - 76.4 miles

PSC 113.0604(3)(b) Total route miles of electric distribution line in service at year's end, segregated by voltage level.

**WISCONSIN PUBLIC SERVICE CORPORATION
ROUTE MILES OF ELECTRIC DISTRIBUTION LINE BY VOLTAGE
LEVEL
BASED ON AN EXTRACT FROM THE EAGLE GIS**

Voltage	Route Miles	Percent of Total
46 kV	141.90	0.73%
24.94 kV	18,424.69	94.67%
13.8 kV	11.00	0.06%
12.47 kV	871.93	4.48%
4.16 kV	12.25	0.06%
Total	19,461.79	100.00%

PSC 113.0604(3)(c)

Monthly average speed of answer, as defined in s. PSC 113.0503(1) (b), for telephone calls received regarding emergencies, outages and customer billing problems.

Listed is the average speed of answer in seconds for telephone calls received regarding emergencies, outages, and customer billing problems for the year 2007.

January	26.8
February	70.4
March	108.2
April	62.6
May	60.7
June	60.7
July	47.1
August	45.6
September	90.0
October	74.0
November	66.0
December	33.0
2007 YTD Ave	62.0

PSC 113.0604(3) (d)

The average number of calendar days a utility takes to install and energize service to a customer site once it is ready to receive service. A separate average shall be calculated for each month, including all extensions energized during the calendar month.

WPSC's Distribution Work Management System tracks our construction process in the Work Management Information System (WMIS) component. WMIS provides the following data:

- Requested Completion Date
- Meter Set Date

Average number of calendar days from the Requested Completion Date to the Electric Meter set date in 2007:

January	6.36
February	5.54
March	6.24
April	5.16
May	6.67
June	7.98
July	8.61
August	7.96
September	8.00
October	8.57
November	9.98
December	12.27
Annual Average:	8.14

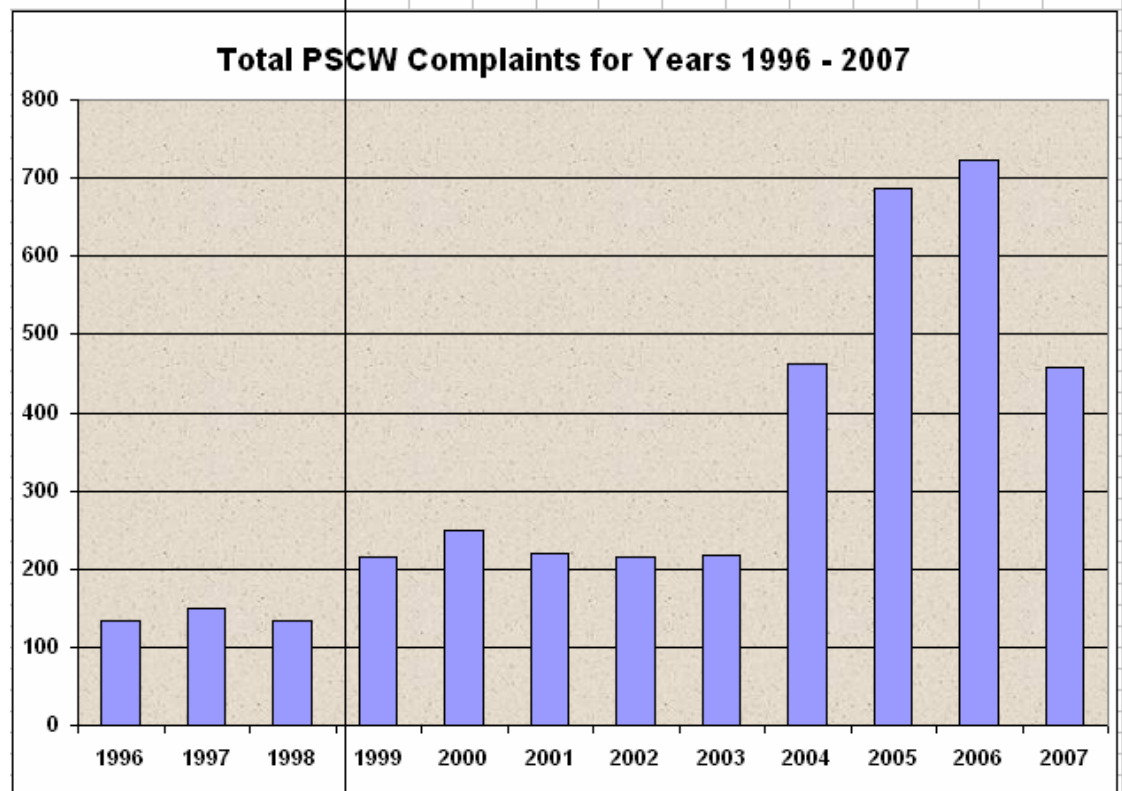
These averages are based on the work requests that had **both** the Requested Completion Date and the Electric Meter Set Date entered in the WMIS System at the time this data was extracted.

This data also includes work requests that have a Service Measures comment.

PSC 113.0604(3)(e)

The total number of written and telephone customer complaints received in the areas of safety, customer billing, outages, power quality, customer property damage, and other areas.

PSCW Complaints Summary by Year												
Nature of Inquiry	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Credit	77	110	84	170	192	162	139	173	382	566	593	310
Customer Service Calls / Charts	6	0	0	0	2	1	1	3	7	10	13	4
Damage to Customer Facilities	4	0	1	0	0	0	0	0	0	0	0	0
Electric Service Extensions	9	10	4	9	6	1	4	4	1	1	3	2
Gas Odor / Leak	0	0	0	0	0	0	0	0	0	0	1	1
Gas Service Extensions	1	4	5	1	1	0	1	1	0	1	1	2
Line Clearance / R-O-W Spray	5	1	0	10	2	0	0	0	2	2	0	2
Meter Locations / Size	0	0	1	1	0	0	0	1	0	0	0	0
Miscellaneous / Other	11	4	7	1	2	5	37	16	20	38	46	24
Outages	0	0	0	1	4	1	5	1	1	4	3	6
Property Damage to Customer	0	0	0	0	2	3	0	4	2	1	0	2
Rate Classification / Appl	1	4	1	0	0	1	2	1	3	1	0	0
Relocate WPSC Facilities	2	0	0	3	2	1	0	1	0	2	0	0
Service Reliability	0	1	1	2	0	0	0	1	0	0	0	0
Stray Voltage	12	6	9	3	4	2	2	0	0	0	0	0
Trade Allies	0	0	0	0	0	0	0	0	0	0	0	0
TV / Radio Interference	0	0	9	0	2	1	0	0	0	0	0	0
Unacceptable Service Condition	0	0	1	1	0	0	0	0	0	0	0	0
Weatherization	0	0	0	0	1	0	0	0	0	0	0	0
Total	133	150	134	215	249	219	215	218	462	686	724	457



PSCW Complaints By Month - 2007

Type of Complaint	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
B = Billing	2	3	21	7	5	5	1	5	3	2	3	1	58
BB=Backbilling/Def Meter	5	8	9	8	4	1	3	4	1	1	1	1	46
C = Credit	1	1	8	45	39	50	33	38	28	52	12	3	310
CSC=Customer Service Calls	1			1	1			1					4
ES=Elec Serv Ext	1		1										2
GO=Gas Odor		1											1
GS=Gas Serv Ext	1					1							2
LC=Line Clearance					1			1					2
M=Misc Other	2	2	3	2			3	5		5	1	1	24
O = Outages	2	1		1	1		1						6
PDC=Prop Damage to Customers						1				1			2
Total	15	16	42	64	51	58	41	54	32	61	17	6	457

PSC 113.0604(3)(f)

Total annual tree trimming budget and actual expenses.

2007 Line Clearance Budget Summary

Total annual tree trimming budget: **\$5,231,432**

Total annual tree trimming actual expenses: **\$5,232,148**

PSC 113.0604(3)(g)

Total annual projected and actual miles of distribution line tree trimmed.

2007 Line Clearance Line-Mile Summary

Annual projected miles of distribution line tree trimmed: **3194**

Total actual miles of distribution line tree trimmed: **2859**



Wisconsin Public Service Corporation

700 North Adams Street

P.O. Box 19001

Green Bay, WI 54307-9001

April 29, 2009

Ms. Sandra Paske
Secretary of the Commission
Public Service Commission of Wisconsin
610 N. Whitney Way
Madison, WI 53705-2729

Dear Ms. Paske,

Docket 05-GF-113
Re: PSC 113.0604 Annual Report

Enclosed is Wisconsin Public Service Corporation's filing to meet the requirements for the PSC 113.0604 Annual Report.

Please call me at (920) 433-1716 if you have any questions or concerns. I can also be reached by e-mail at SLDeMerritt@wisconsinpublicservice.com.

Sincerely,

A handwritten signature in black ink, appearing to read "Steven L. De Merritt".

Steven L. De Merritt, P.E.
Senior Planning Engineer – Distribution

wab

Enclosures

Contents

PSC 113.0603(2).....	3
PSC 113.0604(2)(a)	7
PSC 113.0604 (2)(a)	8
PSC 113.0604(2)(b)	13
PSC 113.0604 (2)(b)	17
PSC 113.0604(2)(d)	19
PSC 113.0604(2)(e)	19
PSC 113.0604(2)(f).....	20
PSC 113.0604(3)(a)	23
PSC 113.0604(3)(b)	23
PSC 113.0604(3)(c)	24
PSC 113.0604(3) (d)	25
PSC 113.0604(3)(e)	26
PSC 113.0604(3)(f).....	28
PSC 113.0604(3)(g)	28

Each utility also shall, at the end of each calendar year, calculate the SAIFI, SAIDI and CAIDI indices for each circuit in each operating area. Each circuit in each operating area shall then be listed in order separately according to its SAIFI index, its SAIDI index, and also its CAIDI index, beginning with the highest values for each index.

**2008 Electric Distribution Customer Interruptions
Total Distribution System Reliability Indices By Feeder
Excluding Major Storms, Transmission Caused Outages, And Momentaries LE 5 Min**

Feeder	Substation	SAIDI	Feeder	Substation	SAIFI	Feeder	Substation	CAIDI
CLK 242	CLEAR LAKE	822.26	GOS 242	GOLDEN SANDS	5.34	HES 122	HENRY STREET	646.59
SGM 241	ST. GERMAIN	762.2	CLK 241	CLEAR LAKE	4.6	OSH 242	OSHKOSH	388.6
CLK 243	CLEAR LAKE	710.49	PLO 242	PLOVER	4.56	LIS 243	LIBERTY ST	373.8
CLK 241	CLEAR LAKE	593.52	CLK 243	CLEAR LAKE	4.51	UGB 123	UNIVERSITY	300.04
HES 122	HENRY STREET	555.44	CLK 242	CLEAR LAKE	4.21	SIS 241	SISTER BAY	272.67
GOS 242	GOLDEN SANDS	520.82	CRB 244	CRANBERRY	3.98	SGM 241	ST. GERMAIN	259.09
CRB 244	CRANBERRY	520.18	EST 242	EASTOM	3.84	EOD 241	ELLINWOOD	254.7
DAF 242	DAVES FALLS	510.23	MTN 242	MOUNTAIN	3.48	HIV 243	HIGHWAY V	236.87
EST 242	EASTOM	442.43	DAF 242	DAVES FALLS	3.42	MHS 242	MYSTERY HILLS	236.78
MTN 242	MOUNTAIN	421.6	SHS 241	SHERMAN STREET	3.16	ALA 241	ALGOMA	236.16
HI8 242	HIGHWAY 8	416.3	SGM 241	ST. GERMAIN	2.94	GLR 241	GLORY ROAD	235.36
SOI 241	SOBIESKI	368.8	BRU 242	BRUSBAY	2.64	ROO 241	ROOSEVELT RD	218.16
RSR 241	ROSIERE	336.82	GOS 241	GOLDEN SANDS	2.5	AUS 241	AURORA STREET	216.22
AUS 241	AURORA STREET	329.01	HI8 242	HIGHWAY 8	2.44	CSL 242	CASSEL	206.02
PIN 242	PINE	315.78	EAK 242	EAST KROK	2.42	OAS 241	OAK STREET	204.79
THL 241	THREE LAKES	289.22	RSR 241	ROSIERE	2.31	THL 241	THREE LAKES	203.76
VEN 242	VENUS	288.81	SOI 241	SOBIESKI	2.24	EGH 242	EGG HARBOR	199.83
PLO 242	PLOVER	271.52	VEN 241	VENUS	2.24	CLK 242	CLEAR LAKE	195.51
ALA 241	ALGOMA	265.44	EAV 241	EASTMAN AVE	2.19	VEN 242	VENUS	194.46
SGM 242	ST. GERMAIN	264.31	WET 121	WELLS ST	2.14	PBL 242	PREBLE	190.48
EAK 242	EAST KROK	263.75	SGM 242	ST. GERMAIN	2.12	PBL 243	PREBLE	189.27
BRU 242	BRUSBAY	260.92	SOT 242	SHOTO	2.06	LIS 241	LIBERTY ST	183.68
VEN 241	VENUS	238.17	PAV 122	PEARL	2.02	HOW 242	HOWARD	180.37
STS 122	STROWBRIDGE ST	231	PIN 242	PINE	2	GRA 242	GRAVESVILLE	179.3
HOD 241	HODAG	229.75	STS 122	STROWBRIDGE ST	2	BES 121	BEARDSLEY ST	176.7
TOW 121	TOWNLINE	228.71	WAV 241	WHITING AVE	1.91	HCR 241	HARTMAN CREEK	176.45
UGB 123	UNIVERSITY	222.12	MEL 241	MERRILL HYDRO	1.88	MGA 241	METONGA	175.05
MGA 241	METONGA	218.47	GLW 242	GLENVIEW	1.78	GRA 244	GRAVESVILLE	174.9
EAV 241	EASTMAN AVE	214.02	PBL 241	PREBLE	1.69	A12 242	TWELFTH AVE	174.31
GLW 242	GLENVIEW	211.78	AVN 241	AVIATION	1.69	HI8 242	HIGHWAY 8	170.37
KRN 241	KRONEN	211.31	HI8 241	HIGHWAY 8	1.63	HES 241	HENRY STREET	169.79
SUL 241	SUMMIT LAKE	207.01	DYK 241	DYCKESVILLE	1.55	WMK 242	WESMARK	167.55
GOS 241	GOLDEN SANDS	202.31	AUS 241	AURORA STREET	1.52	SOI 241	SOBIESKI	164.57
WMK 242	WESMARK	200.76	SUL 241	SUMMIT LAKE	1.52	RML 241	RED MAPLE	163.48
DYK 241	DYCKESVILLE	196.06	EOD 242	ELLINWOOD	1.5	TOW 121	TOWNLINE	162.62
PBL 241	PREBLE	190.12	HOO 242	HOOVER	1.5	EAV 242	EASTMAN AVE	162.3
GLR 241	GLORY ROAD	184.74	VEN 242	VENUS	1.49	BES 122	BEARDSLEY ST	158.7
MEL 241	MERRILL HYDRO	173.63	HOD 241	HODAG	1.48	PIN 242	PINE	157.99
SIS 242	SISTER BAY	168.64	SIC 241	SILVER CLIFF	1.47	DUR 121	DUNN ROAD	157.9
WMK 241	WESMARK	168.55	MSN 243	MASON STREET	1.45	CLK 243	CLEAR LAKE	157.52

Feeder	Substation	SAIDI	Feeder	Substation	SAIFI	Feeder	Substation	CAIDI
SHS 241	SHERMAN STREET	163.92	THL 241	THREE LAKES	1.42	HOD 241	HODAG	155.3
AVN 241	AVIATION	163.91	KRN 241	KRONEN	1.41	LUX 241	LUXEMBURG	154.31
DUR 121	DUNN ROAD	162.62	TOW 121	TOWNLINE	1.41	GLW 241	GLENVIEW	153.96
KEL 241	KELLY	162.41	EAK 241	EAST KROK	1.38	BLN 241	BLUESTONE	152.9
SIS 241	SISTER BAY	153.2	MCR 241	MEARS CORNERS	1.35	KEL 241	KELLY	152.28
MAV 242	MORRISON AVE.	151.08	ROD 241	ROTHSCHILD	1.33	NPT 241	NORTHPOINT	150.12
HRR 241	HARRISON	146.49	SPT 242	SUNSET POINT	1.32	KRN 241	KRONEN	150.04
SHS 242	SHERMAN STREET	141.3	NPT 242	NORTHPOINT	1.29	DAF 242	DAVES FALLS	149.37
PAV 122	PEARL	139.83	HRR 241	HARRISON	1.29	EST 243	EASTOM	149.11
KRN 242	KRONEN	137.26	BRU 121	BRUSBAY	1.26	LEA 241	LENA	148.38
EGH 242	EGG HARBOR	136.54	MGA 241	METONGA	1.25	WMK 241	WESMARK	148.19
CSL 242	CASSEL	131.2	MIT 121	MISHICOT	1.24	GON 241	GOODMAN	148.01
GLW 241	GLENVIEW	129.92	SIS 242	SISTER BAY	1.22	RSR 241	ROSIERE	145.58
MSN 243	MASON STREET	129.92	TDR 241	THUNDER	1.22	AUS 242	AURORA STREET	143.83
EST 243	EASTOM	127.38	WMK 242	WESMARK	1.2	DAF 241	DAVES FALLS	143.34
SIC 241	SILVER CLIFF	127.28	BNS 241	BOWEN STREET	1.17	SOT 241	SHOTO	142.92
HI8 241	HIGHWAY 8	124.89	WMK 241	WESMARK	1.14	VLP 241	VELP AVE	141.55
NPT 242	NORTHPOINT	123.94	MTN 241	MOUNTAIN	1.13	WPA 242	WAUPACA	141
DAF 241	DAVES FALLS	121.46	SHS 242	SHERMAN STREET	1.13	SIS 242	SISTER BAY	138.44
SPT 242	SUNSET POINT	120.45	ALA 241	ALGOMA	1.12	HOW 241	HOWARD	138.07
BRU 121	BRUSBAY	115.82	MAV 242	MORRISON AVE.	1.12	SRD 242	SHERWOOD	137.48
TDR 241	THUNDER	115.55	HIP 242	HILLTOP	1.11	SUL 241	SUMMIT LAKE	136.58
EOD 242	ELLINWOOD	115.2	KEL 241	KELLY	1.07	SRD 241	SHERWOOD	136.26
KEV 242	KELLNERSVILLE	109.79	KRN 242	KRONEN	1.06	AVN 242	AVIATION	135.43
ROO 241	ROOSEVELT RD	109.43	MIT 122	MISHICOT	1.05	MAV 242	MORRISON AVE.	135.19
GRA 244	GRAVESVILLE	108.83	DUR 121	DUNN ROAD	1.03	MSN 242	MASON STREET	134.41
AUS 242	AURORA STREET	106.97	OCO 242	OCONTO	1.01	STS 121	STROWBRIDGE ST	131.91
MCR 241	MEARS CORNERS	105.68	EAV 133	EASTMAN AVE	1	CRB 244	CRANBERRY	130.67
OCO 241	OCONTO	104.49	WAV 242	WHITING AVE	0.96	RLD 241	ROCKLAND	129.74
OCO 242	OCONTO	104.3	KEV 242	KELLNERSVILLE	0.94	CLK 241	CLEAR LAKE	129.03
HCR 241	HARTMAN CREEK	103.34	MRP 241	MANRAP	0.91	KRN 242	KRONEN	128.9
LUX 241	LUXEMBURG	101.28	EGH 241	EGG HARBOR	0.9	KEV 241	KELLNERSVILLE	128.79
WET 121	WELLS ST	101.06	HES 122	HENRY STREET	0.86	BAT 241	BAYPORT	127.27
WAV 241	WHITING AVE	97.9	OCO 241	OCONTO	0.86	PLO 241	PLOVER	127.14
SOT 242	SHOTO	94.73	MCR 242	MEARS CORNERS	0.85	DYK 241	DYCKESVILLE	126.72
EAK 241	EAST KROK	93.61	EST 243	EASTOM	0.85	STD 241	STRATFORD	126.59
BES 122	BEARDSLEY ST	92.72	DAF 241	DAVES FALLS	0.85	HOO 241	HOOVER	125.04
GON 241	GOODMAN	91.92	GLW 241	GLENVIEW	0.84	SHS 242	SHERMAN STREET	124.8
WPA 242	WAUPACA	91.16	GLR 241	GLORY ROAD	0.78	SGM 242	ST. GERMAIN	124.67
MCR 242	MEARS CORNERS	88.82	WAV 243	WHITING AVE	0.78	ASH 241	ASHLAND AVE	124.08
MIT 121	MISHICOT	85.28	AUS 242	AURORA STREET	0.74	DYK 242	DYCKESVILLE	123.5
ROD 241	ROTHSCHILD	82.25	HIV 242	HIGHWAY V	0.74	OCO 241	OCONTO	121.95
PBL 243	PREBLE	82.1	UGB 123	UNIVERSITY	0.74	MTN 242	MOUNTAIN	121.06
WAV 242	WHITING AVE	80.97	ANO 241	ANTIGO	0.69	WSU 241	WAUSAU HYDRO	120.65
EGH 241	EGG HARBOR	76.21	LSD 241	LOST DAUPHIN	0.69	GLW 242	GLENVIEW	118.96
POU 241	POUND	75.67	EGH 242	EGG HARBOR	0.68	MSN 244	MASON STREET	118.38
RML 241	RED MAPLE	74.09	LUX 241	LUXEMBURG	0.66	SBY 242	SOUTH BROADWAY	118.11
OAS 241	OAK STREET	72.88	SAE 241	SANDSTONE DIST	0.66	POU 241	POUND	117.59
SAE 241	SANDSTONE DIST	69.62	WPA 242	WAUPACA	0.65	KEV 242	KELLNERSVILLE	117
LIS 243	LIBERTY ST	69.05	ONT 241	ONTARIO ROAD	0.64	SNZ 242	ST. NAZIANZ	116.16
HIP 242	HILLTOP	68.15	POU 241	POUND	0.64	STS 122	STROWBRIDGE ST	115.5
HOO 242	HOOVER	67.84	CSL 242	CASSEL	0.64	EST 242	EASTOM	115.08

Feeder	Substation	SAIDI	Feeder	Substation	SAIFI	Feeder	Substation	CAIDI
LIS 242	LIBERTY ST	67.8	GRA 244	GRAVESVILLE	0.62	PAV 241	PEARL	113.41
MRP 241	MANRAP	65.24	GON 241	GOODMAN	0.62	HRR 241	HARRISON	113.16
MHS 242	MYSTERY HILLS	64.41	LIS 242	LIBERTY ST	0.6	PBL 241	PREBLE	112.61
SOT 241	SHOTO	61.61	HCR 241	HARTMAN CREEK	0.59	LIS 242	LIBERTY ST	112.09
SNZ 242	ST. NAZIANZ	60.97	GRA 241	GRAVESVILLE	0.58	CSL 241	CASSEL	110.8
GRA 241	GRAVESVILLE	59.51	BES 122	BEARDSLEY ST	0.58	EAK 242	EAST KROK	109.2
A12 242	TWELFTH AVE	59.14	WEM 241	WEST MARINETTE	0.57	LUX 242	LUXEMBURG	108.63
MIT 122	MISHICOT	57.80	SIS 241	SISTER BAY	0.56	HIV 241	HIGHWAY V	106.54
WEM 241	WEST MARINETTE	57.19	SNZ 241	ST. NAZIANZ	0.52	VEN 241	VENUS	106.35
ANO 241	ANTIGO	56.58	SNZ 242	ST. NAZIANZ	0.52	SAE 241	SANDSTONE DIST	106.28
HIV 242	HIGHWAY V	55.79	ROO 241	ROOSEVELT RD	0.5	MHS 241	MYSTERY HILLS	105.12
PLO 241	PLOVER	54.84	RML 242	RED MAPLE	0.49	MCR 242	MEARS CORNERS	104.77
MTN 241	MOUNTAIN	54.23	MAI 241	MAINE	0.46	RSR 242	ROSIERE	104.76
ONT 241	ONTARIO ROAD	54.06	RML 241	RED MAPLE	0.45	OCO 242	OCONTO	103.52
LIS 241	LIBERTY ST	54.05	MSN 241	MASON STREET	0.44	GRA 241	GRAVESVILLE	102.85
SRD 242	SHERWOOD	52.78	PBL 243	PREBLE	0.43	OKY 241	OKRAY	101.69
BNS 241	BOWEN STREET	52.49	PLO 241	PLOVER	0.43	WEM 241	WEST MARINETTE	101.19
STD 241	STRATFORD	49.06	SOT 241	SHOTO	0.43	BRU 242	BRUSBAY	98.68
RML 242	RED MAPLE	45.09	LUX 242	LUXEMBURG	0.41	MAI 241	MAINE	97.67
MAI 241	MAINE	45	STD 241	STRATFORD	0.39	EAV 241	EASTMAN AVE	97.6
LUX 242	LUXEMBURG	44.57	SRD 242	SHERWOOD	0.38	GOS 242	GOLDEN SANDS	97.45
HES 241	HENRY STREET	44.38	OAS 241	OAK STREET	0.36	AVN 241	AVIATION	97.19
HOW 242	HOWARD	43.04	PUL 241	PULLIAM	0.36	NPT 242	NORTHPOINT	95.98
SNZ 241	ST. NAZIANZ	42.94	MAV 241	MORRISON AVE.	0.36	PIN 241	PINE	95.05
LEA 241	LENA	42.55	ONT 242	ONTARIO ROAD	0.34	TDR 241	THUNDER	94.73
SRD 241	SHERWOOD	42.2	A12 242	TWELFTH AVE	0.34	VLP 242	VELP AVE	94.24
RLD 241	ROCKLAND	41.54	RLD 241	ROCKLAND	0.32	WPA 241	WAUPACA	94.2
STS 121	STROWBRIDGE ST	40.35	MAD 241	MAPLEWOOD	0.31	WIS 122	WINTON STREET	94.19
EAV 133	EASTMAN AVE	40	MHS 241	MYSTERY HILLS	0.31	TOR 241	TOWER DRIVE	93.38
LSD 241	LOST DAUPHIN	38.64	SRD 241	SHERWOOD	0.31	MEL 241	MERRILL HYDRO	92.29
EOD 241	ELLINWOOD	38.32	STS 121	STROWBRIDGE ST	0.31	BRU 121	BRUSBAY	91.86
EAV 242	EASTMAN AVE	37.81	LIS 241	LIBERTY ST	0.29	RML 242	RED MAPLE	91.66
MSN 241	MASON STREET	36.99	LEA 241	LENA	0.29	SUV 241	SUNNYVALE	91.53
BLN 241	BLUESTONE	36.01	OSH 241	OSHKOSH	0.29	SPT 242	SUNSET POINT	90.97
AVN 242	AVIATION	35.33	PAV 241	PEARL	0.29	KEL 242	KELLY	90.42
WAV 243	WHITING AVE	34.22	OKY 241	OKRAY	0.29	OSH 243	OSHKOSH	90.31
MSN 242	MASON STREET	33.85	CSL 241	CASSEL	0.29	MSN 243	MASON STREET	89.66
MHS 241	MYSTERY HILLS	32.42	MHS 242	MYSTERY HILLS	0.27	KEL 243	KELLY	88.51
PAV 241	PEARL	32.38	HES 241	HENRY STREET	0.26	A12 241	TWELFTH AVE	87.3
CSL 241	CASSEL	32.26	AVN 242	AVIATION	0.26	SIC 241	SILVER CLIFF	86.52
NPT 241	NORTHPOINT	31.94	MSN 242	MASON STREET	0.25	WIS 121	WINTON STREET	86.5
HIV 243	HIGHWAY V	31.66	RSR 242	ROSIERE	0.25	TOW 243	TOWNLINE	85.96
GRA 242	GRAVESVILLE	30.71	ASH 242	ASHLAND AVE	0.24	WET 242	WELLS ST	85.28
OKY 241	OKRAY	29.75	BLN 241	BLUESTONE	0.24	WAV 242	WHITING AVE	84.77
MAV 241	MORRISON AVE.	29.7	HOW 242	HOWARD	0.24	ONT 241	ONTARIO ROAD	84.54
ONT 242	ONTARIO ROAD	28.23	RLD 242	ROCKLAND	0.24	EGH 241	EGG HARBOR	84.24
RSR 242	ROSIERE	26.61	EAV 242	EASTMAN AVE	0.23	MSN 241	MASON STREET	83.79
HOO 241	HOOVER	26.3	SPT 241	SUNSET POINT	0.23	HRR 242	HARRISON	83.56
OSH 242	OSHKOSH	26.26	TOR 241	TOWER DRIVE	0.22	MAV 241	MORRISON AVE.	83.17
DYK 242	DYCKESVILLE	25.66	VLP 242	VELP AVE	0.22	ONT 242	ONTARIO ROAD	82.92
KEV 241	KELLNERSVILLE	25.53	DYK 242	DYCKESVILLE	0.21	SNZ 241	ST. NAZIANZ	82.38
PBL 242	PREBLE	25.45	HOO 241	HOOVER	0.21	ANO 241	ANTIGO	81.88
MSN 244	MASON STREET	21.78	NPT 241	NORTHPOINT	0.21	GOS 241	GOLDEN SANDS	81.03

Feeder	Substation	SAIDI	Feeder	Substation	SAIFI	Feeder	Substation	CAIDI
BES 121	BEARDSLEY ST	21.58	WIS 122	WINTON STREET	0.21	MCR 241	MEARS CORNERS	78.49
MAD 241	MAPLEWOOD	21.57	JAS 241	JAMES ST.	0.2	SPT 241	SUNSET POINT	77.05
VLP 242	VELP AVE	20.75	KEV 241	KELLNERSVILLE	0.2	EOD 242	ELLINWOOD	76.66
OSH 241	OSHKOSH	20.62	LIS 243	LIBERTY ST	0.18	HI8 241	HIGHWAY 8	76.4
TOR 241	TOWER DRIVE	20.54	MSN 244	MASON STREET	0.18	HIV 242	HIGHWAY V	75.36
BAT 241	BAYPORT	20.49	GRA 242	GRAVESVILLE	0.17	NOU 122	NORSAU	72.94
WIS 122	WINTON STREET	19.43	BAT 241	BAYPORT	0.16	TOW 122	TOWNLINE	71.69
SPT 241	SUNSET POINT	17.55	HIV 241	HIGHWAY V	0.16	MRP 241	MANRAP	71.32
HIV 241	HIGHWAY V	17.28	HIP 241	HILLTOP	0.16	OSH 241	OSHKOSH	70.08
RLD 242	ROCKLAND	16.1	EOD 241	ELLINWOOD	0.15	MAD 241	MAPLEWOOD	69.75
ASH 242	ASHLAND AVE	15.01	HIV 243	HIGHWAY V	0.13	PAV 122	PEARL	69.3
WSU 241	WAUSAU HYDRO	14.35	PBL 242	PREBLE	0.13	MIT 121	MISHICOT	68.67
SBY 242	SOUTH BROADWAY	12.69	BES 121	BEARDSLEY ST	0.12	EAK 241	EAST KROK	67.59
JAS 241	JAMES ST.	12.61	HI8 243	HIGHWAY 8	0.12	RLD 242	ROCKLAND	66.31
VLP 241	VELP AVE	11.67	TOW 243	TOWNLINE	0.12	ASH 242	ASHLAND AVE	63.01
PUL 241	PULLIAM	10.91	WSU 241	WAUSAU HYDRO	0.12	ROD 241	ROTHSCHILD	62.07
TOW 243	TOWNLINE	9.95	SBY 242	SOUTH BROADWAY	0.11	BNS 121	BOWEN STREET	61.67
WPA 241	WAUPACA	9.5	WPA 241	WAUPACA	0.1	HIP 242	HILLTOP	61.65
PIN 241	PINE	8.92	GLR 242	GLORY ROAD	0.09	JAS 241	JAMES ST.	61.6
HIP 241	HILLTOP	7.94	PIN 241	PINE	0.09	RYN 123	RYAN STREET	60
SUV 241	SUNNYVALE	7.79	SUV 241	SUNNYVALE	0.09	PLO 242	PLOVER	59.54
HOW 241	HOWARD	7.21	VLP 241	VELP AVE	0.08	LSD 241	LOST DAUPHIN	55.85
HRR 242	HARRISON	6.59	HRR 242	HARRISON	0.08	MIT 122	MISHICOT	55.00
OSH 243	OSHKOSH	5.62	OSH 242	OSHKOSH	0.07	SHS 241	SHERMAN STREET	51.9
GLR 242	GLORY ROAD	4.72	OSH 243	OSHKOSH	0.06	WAV 241	WHITING AVE	51.31
HI8 243	HIGHWAY 8	4.67	HOW 241	HOWARD	0.05	GLR 242	GLORY ROAD	50.14
KEL 243	KELLY	4.61	A12 241	TWELFTH AVE	0.05	HIP 241	HILLTOP	49.06
A12 241	TWELFTH AVE	4.31	KEL 243	KELLY	0.05	MTN 241	MOUNTAIN	48.02
ASH 241	ASHLAND AVE	4.26	NOU 122	NORSAU	0.05	WET 121	WELLS ST	47.24
NOU 122	NORSAU	3.87	ASH 241	ASHLAND AVE	0.03	SOT 242	SHOTO	45.91
TOW 122	TOWNLINE	2.45	TOW 122	TOWNLINE	0.03	HOO 242	HOOVER	45.22
WET 242	WELLS ST	2.05	RYN 123	RYAN STREET	0.02	BNS 241	BOWEN STREET	44.82
RYN 123	RYAN STREET	1.18	WET 242	WELLS ST	0.02	WAV 243	WHITING AVE	44
BNS 121	BOWEN STREET	0.78	BNS 121	BOWEN STREET	0.01	EAV 133	EASTMAN AVE	40
KEL 242	KELLY	0.77	KEL 242	KELLY	0.01	HI8 243	HIGHWAY 8	38.28
WIS 121	WINTON STREET	0.17	WIS 121	WINTON STREET	0.01	PUL 241	PULLIAM	30

PSC 113.0604(2)(a)

An overall assessment of the reliability performance including the aggregate SAIFI, SAIDI and CAIDI indices by system and each operating area, as applicable.

**2008 Electric Distribution Customer Interruptions
Total Distribution System Reliability Indices By District
Excluding Major Storms, Transmission Caused Outages, And Momentaries LE 5 Min**

District	SAIFI	SAIDI	CAIDI
Antigo	1.26	220	175
Chilton	1.08	125	115
Eagle River	2.86	374	131
Green Bay	0.53	68	128
Kewaunee	0.81	107	132
Marinette	0.48	55	115
Merrill	1.39	183	131
Minocqua	4.04	709	175
Oshkosh	0.68	60	89
Rhineland	1.73	267	154
Stevens Point	1.18	98	83
Sturgeon Bay	1.68	203	120
Tomahawk	2.3	280	121
Two Rivers	0.72	64	89
Wabeno	1.87	203	108
Waupaca	0.73	92	125
Wausau	0.85	85	100
Wausaukee	1.36	166	122
Total Company:	1.15	148.58	129.21

PSC 113.0604 (2)(a)

An overall assessment of the reliability performance including the aggregate SAIFI, SAIDI, and CAIDI indices by system and each operating area, as applicable.

**2008 Electric Distribution Customer Interruptions
Total Distribution System Reliability Indices By District And Feeder
Excluding Major Storms, Transmission Caused Outages, And Momentaries LE 5 Min**

Utility	District	Feeder	Substation	SAIDI	SAIFI	CAIDI
WPS	Antigo	ANO 241	ANTIGO	56.58	0.69	81.88
		AUS 241	AURORA STREET	329.01	1.52	216.22
		AUS 242	AURORA STREET	106.97	0.74	143.83
		SUL 241	SUMMIT LAKE	207.01	1.52	136.58
WPS	Chilton	GLW 241	GLENVIEW	129.92	0.84	153.96
		GLW 242	GLENVIEW	211.78	1.78	118.96
		GRA 241	GRAVESVILLE	59.51	0.58	102.85
		GRA 242	GRAVESVILLE	30.71	0.17	179.3
		GRA 244	GRAVESVILLE	108.83	0.62	174.9
		RYN 123	RYAN STREET	1.18	0.02	60
WPS	Eagle River	CRB 244	CRANBERRY	520.18	3.98	130.67
		THL 241	THREE LAKES	289.22	1.42	203.76
WPS	Green Bay	ASH 241	ASHLAND AVE	4.26	0.03	124.08
		ASH 242	ASHLAND AVE	15.01	0.24	63.01
		BAT 241	BAYPORT	20.49	0.16	127.27
		BLN 241	BLUESTONE	36.01	0.24	152.9
		DYK 241	DYCKESVILLE	196.06	1.55	126.72
		DYK 242	DYCKESVILLE	25.66	0.21	123.5
		EAV 133	EASTMAN AVE	40	1	40
		EAV 241	EASTMAN AVE	214.02	2.19	97.6
		EAV 242	EASTMAN AVE	37.81	0.23	162.3
		GLR 241	GLORY ROAD	184.74	0.78	235.36
		GLR 242	GLORY ROAD	4.72	0.09	50.14
		HES 122	HENRY STREET	555.44	0.86	646.59
		HES 241	HENRY STREET	44.38	0.26	169.79
		HIV 241	HIGHWAY V	17.28	0.16	106.54
		HIV 242	HIGHWAY V	55.79	0.74	75.36
		HIV 243	HIGHWAY V	31.66	0.13	236.87
		HOW 241	HOWARD	7.21	0.05	138.07
		HOW 242	HOWARD	43.04	0.24	180.37
		JAS 241	JAMES ST.	12.61	0.2	61.6
		LIS 241	LIBERTY ST	54.05	0.29	183.68
		LIS 242	LIBERTY ST	67.8	0.6	112.09

Utility	District	Feeder	Substation	SAIDI	SAIFI	CAIDI
WPS	Kewaunee	LIS 243	LIBERTY ST	69.05	0.18	373.8
		LSD 241	LOST DAUPHIN	38.64	0.69	55.85
		MAD 241	MAPLEWOOD	21.57	0.31	69.75
		MSN 241	MASON STREET	36.99	0.44	83.79
		MSN 242	MASON STREET	33.85	0.25	134.41
		MSN 243	MASON STREET	129.92	1.45	89.66
		MSN 244	MASON STREET	21.78	0.18	118.38
		MHS 241	MYSTERY HILLS	32.42	0.31	105.12
		MHS 242	MYSTERY HILLS	64.41	0.27	236.78
		OAS 241	OAK STREET	72.88	0.36	204.79
		ONT 241	ONTARIO ROAD	54.06	0.64	84.54
		ONT 242	ONTARIO ROAD	28.23	0.34	82.92
		PBL 241	PREBLE	190.12	1.69	112.61
		PBL 242	PREBLE	25.45	0.13	190.48
		PBL 243	PREBLE	82.1	0.43	189.27
		PUL 241	PULLIAM	10.91	0.36	30
		RML 241	RED MAPLE	74.09	0.45	163.48
		RML 242	RED MAPLE	45.09	0.49	91.66
		RLD 241	ROCKLAND	41.54	0.32	129.74
		RLD 242	ROCKLAND	16.1	0.24	66.31
		SOI 241	SOBIESKI	368.8	2.24	164.57
		SBY 242	SOUTH BROADWAY	12.69	0.11	118.11
		TOR 241	TOWER DRIVE	20.54	0.22	93.38
		UGB 123	UNIVERSITY	222.12	0.74	300.04
		VLP 241	VELP AVE	11.67	0.08	141.55
		VLP 242	VELP AVE	20.75	0.22	94.24
		WMK 241	WESMARK	168.55	1.14	148.19
		WMK 242	WESMARK	200.76	1.2	167.55
		ALA 241	ALGOMA	265.44	1.12	236.16
		BES 121	BEARDSLEY ST	21.58	0.12	176.7
		BES 122	BEARDSLEY ST	92.72	0.58	158.7
		EAK 241	EAST KROK	93.61	1.38	67.59
		EAK 242	EAST KROK	263.75	2.42	109.2
		LUX 241	LUXEMBURG	101.28	0.66	154.31
		LUX 242	LUXEMBURG	44.57	0.41	108.63
		RSR 241	ROSIERE	336.82	2.31	145.58
		RSR 242	ROSIERE	26.61	0.25	104.76
WPS	Marinette	LEA 241	LENA	42.55	0.29	148.38
		OCO 241	OCONTO	104.49	0.86	121.95
		OCO 242	OCONTO	104.3	1.01	103.52
		POU 241	POUND	75.67	0.64	117.59
		ROO 241	ROOSEVELT RD	109.43	0.5	218.16
		SRD 241	SHERWOOD	42.2	0.31	136.26
		SRD 242	SHERWOOD	52.78	0.38	137.48
		WET 121	WELLS ST	101.06	2.14	47.24
		WET 242	WELLS ST	2.05	0.02	85.28
		WEM 241	WEST MARINETTE	57.19	0.57	101.19

Utility	District	Feeder	Substation	SAIDI	SAIFI	CAIDI
WPS	Merrill	MEL 241	MERRILL HYDRO	173.63	1.88	92.29
		PIN 241	PINE	8.92	0.09	95.05
		PIN 242	PINE	315.78	2	157.99
WPS	Minocqua	CLK 241	CLEAR LAKE	593.52	4.6	129.03
		CLK 242	CLEAR LAKE	822.26	4.21	195.51
		CLK 243	CLEAR LAKE	710.49	4.51	157.52
		SGM 241	ST. GERMAIN	762.2	2.94	259.09
		SGM 242	ST. GERMAIN	264.31	2.12	124.67
WPS	Oshkosh	AVN 241	AVIATION	163.91	1.69	97.19
		AVN 242	AVIATION	35.33	0.26	135.43
		BNS 121	BOWEN STREET	0.78	0.01	61.67
		BNS 241	BOWEN STREET	52.49	1.17	44.82
		EOD 241	ELLINWOOD	38.32	0.15	254.7
		EOD 242	ELLINWOOD	115.2	1.5	76.66
		MCR 241	MEARS CORNERS	105.68	1.35	78.49
		MCR 242	MEARS CORNERS	88.82	0.85	104.77
		OSH 241	OSHKOSH	20.62	0.29	70.08
		OSH 242	OSHKOSH	26.26	0.07	388.6
		OSH 243	OSHKOSH	5.62	0.06	90.31
		PAV 122	PEARL	139.83	2.02	69.3
		PAV 241	PEARL	32.38	0.29	113.41
		SPT 241	SUNSET POINT	17.55	0.23	77.05
		SPT 242	SUNSET POINT	120.45	1.32	90.97
		A12 241	TWELFTH AVE	4.31	0.05	87.3
		A12 242	TWELFTH AVE	59.14	0.34	174.31
WPS	Rhinelander	HI8 241	HIGHWAY 8	124.89	1.63	76.4
		HI8 242	HIGHWAY 8	416.3	2.44	170.37
		HI8 243	HIGHWAY 8	4.67	0.12	38.28
		HOD 241	HODAG	229.75	1.48	155.3
		MGA 241	METONGA	218.47	1.25	175.05
		VEN 241	VENUS	238.17	2.24	106.35
		VEN 242	VENUS	288.81	1.49	194.46
WPS	Stevens Point	GOS 241	GOLDEN SANDS	202.31	2.5	81.03
		GOS 242	GOLDEN SANDS	520.82	5.34	97.45
		HOO 241	HOOVER	26.3	0.21	125.04
		HOO 242	HOOVER	67.84	1.5	45.22
		NPT 241	NORTHPOINT	31.94	0.21	150.12
		NPT 242	NORTHPOINT	123.94	1.29	95.98
		OKY 241	OKRAY	29.75	0.29	101.69
		PLO 241	PLOVER	54.84	0.43	127.14
		PLO 242	PLOVER	271.52	4.56	59.54
		WAV 241	WHITING AVE	97.9	1.91	51.31
		WAV 242	WHITING AVE	80.97	0.96	84.77
		WAV 243	WHITING AVE	34.22	0.78	44

Utility	District	Feeder	Substation	SAIDI	SAIFI	CAIDI
WPS	Sturgeon Bay	BRU 121	BRUSBAY	115.82	1.26	91.86
		BRU 242	BRUSBAY	260.92	2.64	98.68
		DUR 121	DUNN ROAD	162.62	1.03	157.9
		EGH 241	EGG HARBOR	76.21	0.9	84.24
		EGH 242	EGG HARBOR	136.54	0.68	199.83
		SIS 241	SISTER BAY	153.2	0.56	272.67
		SIS 242	SISTER BAY	168.64	1.22	138.44
WPS	Tomahawk	EST 242	EASTOM	442.43	3.84	115.08
		EST 243	EASTOM	127.38	0.85	149.11
WPS	Two Rivers	KEV 241	KELLNERSVILLE	25.53	0.2	128.79
		KEV 242	KELLNERSVILLE	109.79	0.94	117
		MRP 241	MANRAP	65.24	0.91	71.32
		MIT 121	MISHICOT	85.28	1.24	68.67
		MIT 122	MISHICOT	57.80	1.05	55.00
		SOT 241	SHOTO	61.61	0.43	142.92
		SOT 242	SHOTO	94.73	2.06	45.91
		SNZ 241	ST. NAZIANZ	42.94	0.52	82.38
		SNZ 242	ST. NAZIANZ	60.97	0.52	116.16
WPS	Wabeno	GON 241	GOODMAN	91.92	0.62	148.01
		MTN 241	MOUNTAIN	54.23	1.13	48.02
		MTN 242	MOUNTAIN	421.6	3.48	121.06
		SIC 241	SILVER CLIFF	127.28	1.47	86.52
WPS	Waupaca	HRR 241	HARRISON	146.49	1.29	113.16
		HRR 242	HARRISON	6.59	0.08	83.56
		HCR 241	HARTMAN CREEK	103.34	0.59	176.45
		WPA 241	WAUPACA	9.5	0.1	94.2
		WPA 242	WAUPACA	91.16	0.65	141
WPS	Wausau	CSL 241	CASSEL	32.26	0.29	110.8
		CSL 242	CASSEL	131.2	0.64	206.02
		HIP 241	HILLTOP	7.94	0.16	49.06
		HIP 242	HILLTOP	68.15	1.11	61.65
		KEL 241	KELLY	162.41	1.07	152.28
		KEL 242	KELLY	0.77	0.01	90.42
		KEL 243	KELLY	4.61	0.05	88.51
		KRN 241	KRONEN	211.31	1.41	150.04
		KRN 242	KRONEN	137.26	1.06	128.9
		MAI 241	MAINE	45	0.46	97.67
		MAV 241	MORRISON AVE.	29.7	0.36	83.17
		MAV 242	MORRISON AVE.	151.08	1.12	135.19
		NOU 122	NORSAU	3.87	0.05	72.94
		ROD 241	ROTHSCHILD	82.25	1.33	62.07
		SHS 241	SHERMAN STREET	163.92	3.16	51.9
		SHS 242	SHERMAN	141.3	1.13	124.8

Utility	District	Feeder	Substation	SAIDI	SAIFI	CAIDI
WPS	Wausauke		STREET			
		STD 241	STRATFORD	49.06	0.39	126.59
		STS 121	STROWBRIDGE	40.35	0.31	131.91
			ST			
		STS 122	STROWBRIDGE	231	2	115.5
			ST			
		SUV 241	SUNNYVALE	7.79	0.09	91.53
		TOW 121	TOWNLINE	228.71	1.41	162.62
		TOW 122	TOWNLINE	2.45	0.03	71.69
		TOW 243	TOWNLINE	9.95	0.12	85.96
		WSU 241	WAUSAU HYDRO	14.35	0.12	120.65
		WIS 121	WINTON STREET	0.17	0.01	86.5
		WIS 122	WINTON STREET	19.43	0.21	94.19
		DAF 241	DAVES FALLS	121.46	0.85	143.34
		DAF 242	DAVES FALLS	510.23	3.42	149.37
		SAE 241	SANDSTONE DIST	69.62	0.66	106.28
		TDR 241	THUNDER	115.55	1.22	94.73

PSC 113.0604(2)(b)

A list of the worst-performing circuits based on SAIFI, SAIDI, and CAIDI indexes for the calendar year.

SAIFI, SAIDI, and CAIDI were calculated for each of the WPS distribution feeders. Due to the difficulty in ranking the feeders, a composite value was calculated in order to normalize SAIFI, SAIDI, and CAIDI. The following formula was used to develop a composite value based on 20% SAIFI and 80% SAIDI.

COMPOSITE = [(SAIFI/SAIFI MAX) * 0.2 + (SAIDI/SAIDI MAX) * 0.8 + (CAIDI/CAIDI MAX) * 0] where MAX = the maximum value of SAIFI, SAIDI, and CAIDI for all distribution circuits.

**2008 Electric Distribution Customer Interruptions
Total Distribution System Reliability Indices By Feeder
Excluding Major Storms, Transmission Caused Outages, And Momentaries LE 5 Min**

Feeder	Substation	SAIDI	SAIFI	CAIDI	Composite
CLK 242	CLEAR LAKE	822.26	4.21	195.51	0.96
CLK 243	CLEAR LAKE	710.49	4.51	157.52	0.86
SGM 241	ST. GERMAIN	762.2	2.94	259.09	0.85
CLK 241	CLEAR LAKE	593.52	4.6	129.03	0.75
GOS 242	GOLDEN SANDS	520.82	5.34	97.45	0.71
CRB 244	CRANBERRY	520.18	3.98	130.67	0.66
DAF 242	DAVES FALLS	510.23	3.42	149.37	0.62
EST 242	EASTOM	442.43	3.84	115.08	0.57
HES 122	HENRY STREET	555.44	0.86	646.59	0.57
MTN 242	MOUNTAIN	421.6	3.48	121.06	0.54
HI8 242	HIGHWAY 8	416.3	2.44	170.37	0.50
SOI 241	SOBIESKI	368.8	2.24	164.57	0.44
PLO 242	PLOVER	271.52	4.56	59.54	0.43
RSR 241	ROSIERE	336.82	2.31	145.58	0.41
PIN 242	PINE	315.78	2	157.99	0.38
AUS 241	AURORA STREET	329.01	1.52	216.22	0.38
BRU 242	BRUSBAY	260.92	2.64	98.68	0.35
EAK 242	EAST KROK	263.75	2.42	109.2	0.35
VEN 242	VENUS	288.81	1.49	194.46	0.34
SGM 242	ST. GERMAIN	264.31	2.12	124.67	0.34
THL 241	THREE LAKES	289.22	1.42	203.76	0.33
VEN 241	VENUS	238.17	2.24	106.35	0.32
ALA 241	ALGOMA	265.44	1.12	236.16	0.30
STS 122	STROWBRIDGE ST	231	2	115.5	0.30
GOS 241	GOLDEN SANDS	202.31	2.5	81.03	0.29
EAV 241	EASTMAN AVE	214.02	2.19	97.6	0.29
HOD 241	HODAG	229.75	1.48	155.3	0.28
SHS 241	SHERMAN STREET	163.92	3.16	51.9	0.28

Feeder	Substation	SAIDI	SAIFI	CAIDI	Composite
TOW 121	TOWNLINE	228.71	1.41	162.62	0.28
GLW 242	GLENVIEW	211.78	1.78	118.96	0.27
MGA 241	METONGA	218.47	1.25	175.05	0.26
KRN 241	KRONEN	211.31	1.41	150.04	0.26
SUL 241	SUMMIT LAKE	207.01	1.52	136.58	0.26
DYK 241	DYCKESVILLE	196.06	1.55	126.72	0.25
PBL 241	PREBLE	190.12	1.69	112.61	0.25
UGB 123	UNIVERSITY	222.12	0.74	300.04	0.24
WMK 242	WESMARK	200.76	1.2	167.55	0.24
MEL 241	MERRILL HYDRO	173.63	1.88	92.29	0.24
AVN 241	AVIATION	163.91	1.69	97.19	0.22
PAV 122	PEARL	139.83	2.02	69.3	0.21
SIS 242	SISTER BAY	168.64	1.22	138.44	0.21
GLR 241	GLORY ROAD	184.74	0.78	235.36	0.21
WMK 241	WESMARK	168.55	1.14	148.19	0.21
KEL 241	KELLY	162.41	1.07	152.28	0.20
DUR 121	DUNN ROAD	162.62	1.03	157.9	0.20
HRR 241	HARRISON	146.49	1.29	113.16	0.19
MAV 242	MORRISON AVE.	151.08	1.12	135.19	0.19
HI8 241	HIGHWAY 8	124.89	1.63	76.4	0.18
MSN 243	MASON STREET	129.92	1.45	89.66	0.18
SHS 242	SHERMAN STREET	141.3	1.13	124.8	0.18
SIC 241	SILVER CLIFF	127.28	1.47	86.52	0.18
WET 121	WELLS ST	101.06	2.14	47.24	0.18
KRN 242	KRONEN	137.26	1.06	128.9	0.17
SIS 241	SISTER BAY	153.2	0.56	272.67	0.17
SOT 242	SHOTO	94.73	2.06	45.91	0.17
NPT 242	NORTHPOINT	123.94	1.29	95.98	0.17
EOD 242	ELLINWOOD	115.2	1.5	76.66	0.17
WAV 241	WHITING AVE	97.9	1.91	51.31	0.17
SPT 242	SUNSET POINT	120.45	1.32	90.97	0.17
BRU 121	BRUSBAY	115.82	1.26	91.86	0.16
EGH 242	EGG HARBOR	136.54	0.68	199.83	0.16
TDR 241	THUNDER	115.55	1.22	94.73	0.16
GLW 241	GLENVIEW	129.92	0.84	153.96	0.16
EST 243	EASTOM	127.38	0.85	149.11	0.16
MCR 241	MEARS CORNERS	105.68	1.35	78.49	0.15
CSL 242	CASSEL	131.2	0.64	206.02	0.15
DAF 241	DAVES FALLS	121.46	0.85	143.34	0.15
EAK 241	EAST KROK	93.61	1.38	67.59	0.14
KEV 242	KELLNERSVILLE	109.79	0.94	117	0.14
OCO 242	OCONTO	104.3	1.01	103.52	0.14
OCO 241	OCONTO	104.49	0.86	121.95	0.13
AUS 242	AURORA STREET	106.97	0.74	143.83	0.13
ROD 241	ROTHSCHILD	82.25	1.33	62.07	0.13
MIT 121	MISHICOT	85.28	1.24	68.67	0.13
GRA 244	GRAVESVILLE	108.83	0.62	174.9	0.13
ROO 241	ROOSEVELT RD	109.43	0.5	218.16	0.13
LUX 241	LUXEMBURG	101.28	0.66	154.31	0.12

Feeder	Substation	SAIDI	SAIFI	CAIDI	Composite
HCR 241	HARTMAN CREEK	103.34	0.59	176.45	0.12
HOO 242	HOOVER	67.84	1.5	45.22	0.12
MCR 242	MEARS CORNERS	88.82	0.85	104.77	0.12
WAV 242	WHITING AVE	80.97	0.96	84.77	0.11
WPA 242	WAUPACA	91.16	0.65	141	0.11
GON 241	GOODMAN	91.92	0.62	148.01	0.11
BES 122	BEARDSLEY ST	92.72	0.58	158.7	0.11
HIP 242	HILLTOP	68.15	1.11	61.65	0.11
EGH 241	EGG HARBOR	76.21	0.9	84.24	0.11
POU 241	POUND	75.67	0.64	117.59	0.10
MRP 241	MANRAP	65.24	0.91	71.32	0.10
PBL 243	PREBLE	82.1	0.43	189.27	0.10
MIT 122	MISHICOT	57.80	1.05	55.00	0.10
MTN 241	MOUNTAIN	54.23	1.13	48.02	0.10
BNS 241	BOWEN STREET	52.49	1.17	44.82	0.09
SAE 241	SANDSTONE DIST	69.62	0.66	106.28	0.09
RML 241	RED MAPLE	74.09	0.45	163.48	0.09
LIS 242	LIBERTY ST	67.8	0.6	112.09	0.09
OAS 241	OAK STREET	72.88	0.36	204.79	0.08
HIV 242	HIGHWAY V	55.79	0.74	75.36	0.08
ANO 241	ANTIGO	56.58	0.69	81.88	0.08
GRA 241	GRAVESVILLE	59.51	0.58	102.85	0.08
SNZ 242	ST. NAZIANZ	60.97	0.52	116.16	0.08
WEM 241	WEST MARINETTE	57.19	0.57	101.19	0.08
ONT 241	ONTARIO ROAD	54.06	0.64	84.54	0.08
EAV 133	EASTMAN AVE	40	1	40	0.08
SOT 241	SHOTO	61.61	0.43	142.92	0.08
LIS 243	LIBERTY ST	69.05	0.18	373.8	0.07
MHS 242	MYSTERY HILLS	64.41	0.27	236.78	0.07
A12 242	TWELFTH AVE	59.14	0.34	174.31	0.07
PLO 241	PLOVER	54.84	0.43	127.14	0.07
SRD 242	SHERWOOD	52.78	0.38	137.48	0.07
LIS 241	LIBERTY ST	54.05	0.29	183.68	0.06
LSD 241	LOST DAUPHIN	38.64	0.69	55.85	0.06
WAV 243	WHITING AVE	34.22	0.78	44	0.06
STD 241	STRATFORD	49.06	0.39	126.59	0.06
RML 242	RED MAPLE	45.09	0.49	91.66	0.06
SNZ 241	ST. NAZIANZ	42.94	0.52	82.38	0.06
MAI 241	MAINE	45	0.46	97.67	0.06
LUX 242	LUXEMBURG	44.57	0.41	108.63	0.06
HES 241	HENRY STREET	44.38	0.26	169.79	0.05
SRD 241	SHERWOOD	42.2	0.31	136.26	0.05
MSN 241	MASON STREET	36.99	0.44	83.79	0.05
RLD 241	ROCKLAND	41.54	0.32	129.74	0.05
LEA 241	LENA	42.55	0.29	148.38	0.05
STS 121	STROWBRIDGE ST	40.35	0.31	131.91	0.05
HOW 242	HOWARD	43.04	0.24	180.37	0.05
EAV 242	EASTMAN AVE	37.81	0.23	162.3	0.05
AVN 242	AVIATION	35.33	0.26	135.43	0.04

Feeder	Substation	SAIDI	SAIFI	CAIDI	Composite
BLN 241	BLUESTONE	36.01	0.24	152.9	0.04
MHS 241	MYSTERY HILLS	32.42	0.31	105.12	0.04
EOD 241	ELLINWOOD	38.32	0.15	254.7	0.04
MAV 241	MORRISON AVE.	29.7	0.36	83.17	0.04
PAV 241	PEARL	32.38	0.29	113.41	0.04
MSN 242	MASON STREET	33.85	0.25	134.41	0.04
CSL 241	CASSEL	32.26	0.29	110.8	0.04
ONT 242	ONTARIO ROAD	28.23	0.34	82.92	0.04
OKY 241	OKRAY	29.75	0.29	101.69	0.04
NPT 241	NORTHPOINT	31.94	0.21	150.12	0.04
GRA 242	GRAVESVILLE	30.71	0.17	179.3	0.04
HIV 243	HIGHWAY V	31.66	0.13	236.87	0.04
RSR 242	ROSIERE	26.61	0.25	104.76	0.04
HOO 241	HOOVER	26.3	0.21	125.04	0.03
DYK 242	DYCKESVILLE	25.66	0.21	123.5	0.03
MAD 241	MAPLEWOOD	21.57	0.31	69.75	0.03
KEV 241	KELLNERSVILLE	25.53	0.2	128.79	0.03
OSH 241	OSHKOSH	20.62	0.29	70.08	0.03
PBL 242	PREBLE	25.45	0.13	190.48	0.03
VLP 242	VELP AVE	20.75	0.22	94.24	0.03
TOR 241	TOWER DRIVE	20.54	0.22	93.38	0.03
OSH 242	OSHKOSH	26.26	0.07	388.6	0.03
MSN 244	MASON STREET	21.78	0.18	118.38	0.03
WIS 122	WINTON STREET	19.43	0.21	94.19	0.03
BAT 241	BAYPORT	20.49	0.16	127.27	0.03
SPT 241	SUNSET POINT	17.55	0.23	77.05	0.03
BES 121	BEARDSLEY ST	21.58	0.12	176.7	0.03
RLD 242	ROCKLAND	16.1	0.24	66.31	0.02
PUL 241	PULLIAM	10.91	0.36	30	0.02
ASH 242	ASHLAND AVE	15.01	0.24	63.01	0.02
HIV 241	HIGHWAY V	17.28	0.16	106.54	0.02
JAS 241	JAMES ST.	12.61	0.2	61.6	0.02
WSU 241	WAUSAU HYDRO	14.35	0.12	120.65	0.02
SBY 242	SOUTH BROADWAY	12.69	0.11	118.11	0.02
VLP 241	VELP AVE	11.67	0.08	141.55	0.01
TOW 243	TOWNLINE	9.95	0.12	85.96	0.01
HIP 241	HILLTOP	7.94	0.16	49.06	0.01
WPA 241	WAUPACA	9.5	0.1	94.2	0.01
PIN 241	PINE	8.92	0.09	95.05	0.01
SUV 241	SUNNYVALE	7.79	0.09	91.53	0.01
HRR 242	HARRISON	6.59	0.08	83.56	0.01
HI8 243	HIGHWAY 8	4.67	0.12	38.28	0.01
HOW 241	HOWARD	7.21	0.05	138.07	0.01
GLR 242	GLORY ROAD	4.72	0.09	50.14	0.01
OSH 243	OSHKOSH	5.62	0.06	90.31	0.01
KEL 243	KELLY	4.61	0.05	88.51	0.01
A12 241	TWELFTH AVE	4.31	0.05	87.3	0.01
NOU 122	NORSAU	3.87	0.05	72.94	0.01
ASH 241	ASHLAND AVE	4.26	0.03	124.08	0.01

Feeder	Substation	SAIDI	SAIFI	CAIDI	Composite
TOW 122	TOWNLINE	2.45	0.03	71.69	0.00
WET 242	WELLS ST	2.05	0.02	85.28	0.00
RYN 123	RYAN STREET	1.18	0.02	60	0.00
BNS 121	BOWEN STREET	0.78	0.01	61.67	0.00
KEL 242	KELLY	0.77	0.01	90.42	0.00
WIS 121	WINTON STREET	0.17	0.01	86.5	0.00

PSC 113.0604 (2)(b)

A list of the worst-performing circuits based on SAIFI, SAIDI and CAIDI indexes for the calendar year. This section of the report shall describe the actions that the utility has taken or will take to remedy the conditions responsible for each listed circuit's unacceptable performance. The action(s) taken or planned should be briefly described. Target dates for corrective action(s) shall be included in the report. When the utility determines that actions on its part are unwarranted, its report shall provide adequate justification for such a conclusion.

Wisconsin Public Service Corporation analyzed the 181 distribution circuits in Wisconsin that experienced an outage in 2008. SAIFI, SAIDI, CAIDI, and the calculated composite indices are listed for the 10 worst feeders for 2008. The calculation for the composite index is based on the formula: $COMPOSITE = [(SAIFI/SAIFI\ MAX) * 0.2 + (SAIDI/SAIDI\ MAX) * 0.8 + (CAIDI/CAIDI\ MAX) * 0]$ where MAX = the maximum value of SAIFI, SAIDI, and CAIDI for all distribution circuits. The indices were calculated using interruptions greater than 5 minutes and excluded transmission related outages and major storms.

Feeder	Substation	SAIDI	SAIFI	CAIDI	Composite
CLK 242	CLEAR LAKE	822.26	4.21	195.51	0.96
CLK 243	CLEAR LAKE	710.49	4.51	157.52	0.86
SGM 241	ST. GERMAIN	762.2	2.94	259.09	0.85
CLK 241	CLEAR LAKE	593.52	4.6	129.03	0.75
GOS 242	GOLDEN SANDS	520.82	5.34	97.45	0.71
CRB 244	CRANBERRY	520.18	3.98	130.67	0.66
DAF 242	DAVES FALLS	510.23	3.42	149.37	0.62
EST 242	EASTOM	442.43	3.84	115.08	0.57
HES 122	HENRY STREET	555.44	0.86	646.59	0.57
MTN 242	MOUNTAIN	421.6	3.48	121.06	0.54

This section of the report will describe the actions the utility has taken or will take to improve the conditions responsible for each listed circuit's performance.

1. Clear Lake 242: Clear Lake 242 is a feeder in the Minocqua District that covers a large circuit area with a large exposure to trees. This feeder has 222.71 miles of distribution circuit. Approximately 95% of the outages on this feeder are due to tree related outages causing about 3,878,000 minutes of customer outage.

2. Clear Lake 243: Clear Lake 243 is a feeder in the Minocqua District that covers a large circuit area with a large exposure to trees. This feeder has 317.24 miles of distribution circuit. Approximately 88% of the outages on this feeder are due to tree related outages causing about 3,486,000 minutes of customer outage.
3. St. Germain 241: Saint Germain 241 is a feeder in the Minocqua District that covers a large circuit area with a large exposure to trees. This feeder has 398.04 miles of distribution circuit. Approximately 94% of the outages on this feeder are due to tree related outages causing about 3,786,000 minutes of customer outage.
4. Clear Lake 241: Clear Lake 241 is a feeder in the Minocqua District that covers a large circuit area with a large exposure to trees. This feeder has 287.60 miles of distribution circuit. Approximately 83% of the outages on this feeder are due to tree related outages causing about 2,723,000 minutes of customer outage.
5. Golden Sands 242: Golden Sands is a rural feeder south of Stevens Point that serves from the village of Plover to Almond. The substation feeder is sectionalized to the north with a three-phase electronic recloser setting made up of three single phase units (ECRs). Over the 2008 time period, this setting experienced multiple control failures due to manufacturer design defects. WPS has worked with the manufacturer, and a retrofit to resolve this issue has been designed and delivery is currently pending. The issues with the ECRs created two of the larger customer minute events in 2008. The feeder first zone of protection was also doubled during the time the ECRs were out of service, which was most of the last half of 2008. Twenty-seven percent (27%) of the customer minutes were caused by weather related events, 40% by equipment failure and another 25% were unknown causes. The OCP is currently being reviewed in an attempt to sectionalize the line further to reduce the number of customers affected by all outage causes.
6. Cranberry 244: Cranberry 244 is a feeder in the Eagle River District that covers a large circuit area with a large exposure to trees. This feeder has 321.55 miles of distribution circuit. Approximately 91% of the outages on this feeder are due to tree related outages causing about 2,552,000 minutes of customer outage.
7. Dave's Falls 242: Dave's Falls 242 is a rural distribution feeder in a heavily wooded area of northern Wisconsin feeding south from Amberg into Wausaukee and Middle Inlet along US 141, east to the Menominee River and west to the Athelstane area. This feeder has 220.12 miles of distribution circuit. Sixty-seven percent (67%) of the customer outage minutes were caused by "trees not growing into the primary" which is the cause code used for trees outside of the right-of way falling across the distribution circuit, and another 25.85% was distribution equipment failure under adverse weather conditions such as high wind, lightning, or heavy snow. Two single outages, both during snow events, caused 69.15% of the customer outage minutes. In one case an off right-of-way tree fell taking down the main line and in the other a 69 kV high side fuse blew because of an insulator failure.

8. Eastom 242: Eastom 242 is a feeder in the Tomahawk District that covers a large circuit area with a large exposure to trees. This feeder has 321.03 miles of distribution circuit. Approximately 92% of the outages on this feeder are due to tree related outages causing about 1,773,000 minutes of customer outage.
9. Henry 122: Henry 122 is a feeder in the Green Bay District. It is a relatively small 12 kV feeder with not many customers compared to other feeders. This circuit had two longer tree related outages involving a broken pole and heavy weather. These outages affected 1/3 of the customers on the feeder. This accounted for 62% of the minutes of outage for this feeder.
10. Mountain 242: Mountain 241 is a feeder in the Wabeno District. On September 9th, there was a planned outage to reconfigure transmission near the High Falls substation. This outage lasted two hours long and affected customers on the Mountain circuits, Silver Cliff circuit and the Goodman circuit. This one outage accounted for 366,000 minutes of customer outages accounting for 71% of the outage minutes for this circuit.

PSC 113.0604(2)(d)

A report on the accomplishment of the improvements proposed in prior reports for which completion has not been previously reported.

1. Crivitz 242: Completed installation of a new distribution feeder out of the Crivitz substation located south of the village on US 41, removing load from Pound and Sandstone Rapids Substations.
2. Brusbay 242: Completed conversion of all 12.47 kV feeders out of the Brusbay Substation to 24.94 kV.
3. Dunn Rd 241: Completed conversion of all 12.47 kV feeders out of the Dunn Rd Substation to 24.94 kV.

PSC 113.0604(2)(e)

A description of any new reliability or power quality programs and changes that are made to existing programs.

There have been no changes to existing power quality or reliability programs at Wisconsin Public Service Corporation in 2008.

PSC 113.0604(2)(f)

A status report of any long range electric distribution plans.

District	Project Name	Year/Date Required
Antigo	Install Voltage Regulators on County Hwy Y	2010
Antigo	Construct Feeder Exit for Summit Lake 242	2011
Antigo	Install Regulator Near Pole 3111-8L12	2012
Chilton	Convert Ariens Corp to 24.9 kV	2009
Chilton	Convert 12 KV area of GRA 242	2009
Chilton	Convert Downtown Chilton	2010
Chilton	Reconductor Irish Rd	2010
Chilton	Reconductor Neutral on US Hwy 10	2011
Chilton	Reconductor 3 miles of 3 Phase on County Rd E	2012
Eagle River	Install Regulator Near Pole 3911-6L5	2010
Eagle River	Install Regulator Near Pole 3911-20W15	2011
Eagle River	Install Regulators Near Pole 3809-13W24	2012
Green Bay	Construct Feeder Exit for Seventh St Sub	2009
Green Bay	Construct Underground Feeder Exit - Maplewood Substation	2009
Green Bay	Reconductor 4/0 ACSR on Lime Kiln	2009
Green Bay	Reconductor 4/0 ACSR on School Ln.	2009
Green Bay	Reconductor Along Lawrence Dr	2009
Green Bay	Reconductor Line Between Adams St. and Jefferson St.	2009
Green Bay	Reconductor Mainline on County Rd G	2009
Green Bay	Replace Breakers at P&G North and South Subs	2009
Green Bay	Add 2 Phases Along Nicolet Dr	2010
Green Bay	Construct 3 phase mainline from Bayport Sub to the east	2010
Green Bay	Construct Greenleaf 241 feeder exit	2010
Green Bay	Install Regulators at 2222-26R9	2010
Green Bay	Reconductor 336 ACSR Along Velp Ave	2010
Green Bay	Reconductor 336 ACSR from Feeder Exit to West Point Rd	2010
Green Bay	Reconductor Finger Rd	2010
Green Bay	Reconductor James St	2010
Green Bay	Construct 3 Phase Line 1/0 ACSR West of Hwy 41	2011
Green Bay	Install Regulator Near Pole 2520-32L9	2011
Green Bay	Install Regulators Lineville and Pinecrest	2011
Green Bay	Install Regulators Near Mason St and Overland	2011
Green Bay	Install Regulators Near State Hwy 29 and County Rd QQ	2011
Green Bay	Install Regulators Near State Rd 96 and County Hwy W	2011
Green Bay	Reconductor Hwy NN	2011
Green Bay	Construct Mainline Along Hwy 32	2012
Green Bay	Construct 3 Phase Tie from Humboldt Rd along Huron Rd	2012
Green Bay	Construct BAT 242 Overhead Feeder Exit	2012
Green Bay	Construct Greenleaf 242 Overhead Feeder Exit	2012
Green Bay	Reconductor 2500 Ft on West Point Rd	2012
Green Bay	Replace Feeder Exit on Highway V	2014

District	Project Name	Year/Date Required
Kewaunee	Install Regulator on County Rd FF	2009
Kewaunee	Install Regulators on Cherneyville Rd	2009
Kewaunee	Install Regulators on Washington Rd	2009
Kewaunee	Reconductor 4/0 on County Rd C	2009
Kewaunee	Replace Regulators at 2523-28E7	2009
Kewaunee	Replace Regulators on Hemlock Dr	2009
Kewaunee	Construct ~700 ft of 1/0 ACSR	2009
Kewaunee	Install Regulators on County Rd AB and Old Settlers Rd	2010
Kewaunee	Reconductor County Rd S, Apple Rd, and Pheasant Rd	2010
Kewaunee	Reconductor County Rd AB and KB	2011
Kewaunee	Reconductor 1 Mile of Neutral on Hawthorne Rd	2012
Kewaunee	Reconductor County Rd C	2012
Kewaunee	Reconductor County Rd S	2012
Marinette	Reconductor West Marinette main line for 7500`	2009
Marinette	Install Line Regulators on State Hwy 64	2009
Marinette	Rebuild County Rd G	2009
Marinette	Install 100 Amp Line Regulators on Miles Rd	2010
Marinette	Reconductor 6.6 Miles of Main Line on County Rd A	2010
Marinette	Reconductor Bayshore Trailer Court	2010
Marinette	Reconductor Mary Street Trailer Park	2010
Marinette	Reconductor 6.4 Miles of 2 and 3 Phase on Reif Rd and County Roads M & W	2011
Marinette	Reconductor County Rd Y	2011
Marinette	Reconductor West Marinette along STH 180	2011
Marinette	Reconductor 2.75 Miles of 3 Phase on Sandberg, Peters, and County Rd E	2012
Merrill	Reconductor Alley North of Logan between Nast and Cooper	2011
Merrill	Reconductor Tug Lake Rd from Grandfather Falls Sub to 3207 7E1	2012
Merrill	Reconductor Tannery Rd from Foster to Joe Snow Rd	2013
Minocqua	Install Capacitor Bank Near Pole 3906-10R23	2010
Minocqua	Reconductor Along Hwy 70	2010
Minocqua	Install Capacitor Bank on 3906-11E105	2011
Minocqua	Extend 3 phase Line from Arnett Sub to 70 W Distribution	2012
Minocqua	Install Arnett Rd sub exit	2012
Oshkosh	Reconductor 750 UG feeder exit	2009
Oshkosh	Reconductor Omro Rd from Oakwood Rd to Leonard Point Rd	2009
Oshkosh	Reconductor S Washburn from pole 264 AA48 to 1716 9E5	2009
Oshkosh	Install Regulators on County Rd S	2010
Oshkosh	Reconductor S Washburn between pole 264 BB8 and 244 CC28	2010
Oshkosh	Reconductor Washburn Ave between EOD 241 FDR exit and pole 204 AA58	2010
Oshkosh	Install Stepdowns at UWO and Convert Pearl Ave 121	2010
Oshkosh	Reconductor 20th Ave from pole 224 AA6 to 203 BB7	2011
Oshkosh	Reconductor N Washburn St from pole 124 AA29 to 124 AA78	2012
Oshkosh	Reconductor Omro Rd & Brooks Rd from pole 1816 16L19 to 124 CC25	2012
Oshkosh	Reconductor W 6th Ave from pole 168 JJ51 to 168 RR53	2015
Oshkosh	Construct Feeder Exit from Ellinwood 243 to Pole 205 DD1	2017
Rhineland	Install regulators on Highway 8	2009
Rhineland	Convert Thompson Rd Step-down at Pole 3709-35R12	2010
Rhineland	Install Regulator Near 3707-36L1 on County Hwy K	2010

District	Project Name	Year/Date Required
Rhineland	Install Regulator Near 3709-29L25 on County Rd W	2010
Rhineland	Install Regulator Near 3709-30R46 on River Rd	2010
Rhineland	Install Regulator Near 3707-2E1 near Fawn Lake Rd	2011
Rhineland	Reconductor 2.5 Miles on Forest, County Rd X, and County Rd D	2011
Rhineland	Convert Pine Lake Step-down at Pole 3712-23W16	2012
Stevens Point	Convert Step-down at County Rd K (location 2409 16W38)	2009
Stevens Point	Install Capacitor Bank along Church St	2009
Stevens Point	Install Capacitor Bank along State Rd 66	2010
Stevens Point	Reconductor Between Pole Locations 2209 19R9 and 2209 19R12	2011
Stevens Point	Install Regulator on State Rd 66	2012
Stevens Point	Reconductor U.S. Hwy 10 between 72 BB47 and 72 CC47	2013
Stevens Point	Reconductor State Hwy 66	2016
Sturgeon Bay	Convert CTH D Step-down	2008
Sturgeon Bay	Convert Europe Bay Step-down 3229 7R2	2009
Sturgeon Bay	Convert Garrett Bay Step-down 3228 11L18	2009
Sturgeon Bay	Convert Stepdown 3027-29L13	2009
Sturgeon Bay	Convert Stepdown 2927-6W11	2009
Sturgeon Bay	Convert Stepdown 3027-32L12	2009
Sturgeon Bay	Install Regulators on County Rd E	2010
Sturgeon Bay	Reconductor 2 Miles of County Rd K	2010
Sturgeon Bay	Install Regulators on County Rd A	2011
Sturgeon Bay	Install Regulator on North Bay Dr	2012
Sturgeon Bay	Reconductor 6.7 Miles of Neutral on State Hwy 42	2012
Two Rivers	Construct 3 phase mainline along Woodlawn Dr from Cottage Ln to Johnston Dr	2009
Two Rivers	Convert Mishicot 121 Part A	2009
Two Rivers	Convert Mishicot 121 Part B	2009
Two Rivers	Convert Mishicot 121 Part C	2009
Two Rivers	Reconductor 2 Miles of County Rd C	2010
Two Rivers	Reconductor 4 Miles of County Rd JS, County Rd JJ, and Quarry Rd	2010
Two Rivers	Reconductor 2 Miles of Neutral on Grimms Rd	2011
Two Rivers	Reconductor 2 Miles on English Lake Rd and Fisher Rd	2011
Two Rivers	Reconductor 2.2 Miles of County Rd Z	2011
Two Rivers	Reconductor 2 ½ miles of US Highway 10 and Homestead Rd	2012
Two Rivers	Reconductor 2 Miles of County Rd S South of Whitelaw	2012
Two Rivers	Reconductor 3 Miles of State Highway 42 and Nero Rd	2012
Wabeno	Reconductor Silver Cliff 241	2007
Wabeno	Convert Coleman Lake to 24.9 KV	2009
Waupaca	Convert County K Step-down (location 2212 3E20)	2008
Waupaca	Convert Elm St Step-down (location 44 KK35)	2009
Waupaca	Convert Smith Rd Step-down south of State Hwy 22 (location 2111 3E20)	2009
Wausau	Phase balance Maine 241	2009
Wausau	Extension on Aster Road	2008
Wausau	Install Capacitor on County Rd WW	2009
Wausau	Reconductor Norsau 121 #2 ACSR between poles 43 CC8 and 43 B1	2009
Wausau	Install 1200 kVAR Capacitor on County Rd WW west of County Rd W	2009
Wausau	Reconductor Hilltop 241 Feeder Exit	2013
Wausau	Reconductor Mesker St from 2808 16R142 to 2808 16E86	2013

District	Project Name	Year/Date Required
Wausau	Reconductor Cassel 242 from FDR exit to pole 44 EE5	2015
Wausaukee	Reconductor 3rd Road, County Rd P, and Riverview Rd	2008
Wausaukee	Add phases on Marek Rd	2009
Wausaukee	Reconductor Two Mile Rd	2009
Wausaukee	Add one phase on County Rd C west of County Rd A	2009
Wausaukee	Change Phasing on Camp 5 Rd	2010
Wausaukee	Reconductor Deer Lake Rd	2010
Wausaukee	Move Open Points on Thunder 241	2011
Wausaukee	Construct Feeder Exit Amber 241	2013
Wausaukee	Construct Feeder Exit Amber 242	2013

PSC 113.0604(3)(a)

Route miles of electric distribution line reconstructed during the year. Separate totals for single- and three-phase circuits shall be provided.

The approximate route miles of electric distribution reconstruction is:

- 1 Phase – 85.6 miles
- 2 Phase – 0.8 miles
- 3 Phase – 78.3 miles

PSC 113.0604(3)(b)

Total route miles of electric distribution line in service at year's end, segregated by voltage level

**WISCONSIN PUBLIC SERVICE CORPORATION
ROUTE MILES OF ELECTRIC DISTRIBUTION LINE BY VOLTAGE LEVEL
BASED ON AN EXTRACT FROM THE EAGLE GIS**

Voltage	Route Miles	Percent of Total
46 kV	69.18	0.35%
24.94 kV	18,811.54	96.25%
13.8 kV	10.98	0.06%
12.47 kV	639.33	3.27%
4.16 kV	12.69	0.06%
Total	19,543.71	100.00%

The total line miles decreased in this report from last year's since all previous reports contained data about our Menominee District, which is in Michigan. This year's and all subsequent years' reports will only contain data for route miles in the State of Wisconsin.

PSC 113.0604(3)(c)

Monthly average speed of answer, as defined in s. PSC 113.0503(1) (b), for telephone calls received regarding emergencies, outages and customer billing problems.

Listed is the average speed of answer in seconds for telephone calls received regarding emergencies, outages, and customer billing problems for the year 2008.

January	37 sec
February	31 sec.
March	48 sec.
April	49 sec.
May	50 sec.
June	60 sec.
July	61 sec.
August	57 sec
September	69 sec
October	47 sec
November	44 sec
December	29 sec.
2008 Year-to-Date	51 sec

PSC 113.0604(3) (d)

The average number of calendar days a utility takes to install and energize service to a customer site once it is ready to receive service. A separate average shall be calculated for each month, including all extensions energized during the calendar month.

WPSC's Distribution Work Management System tracks our construction process in the Work Management Information System (WMIS) component. WMIS provides the following data:

- Requested Completion Date
- Meter Set Date

Average number of calendar days from the Requested Completion Date to the Electric Meter set date in 2008:

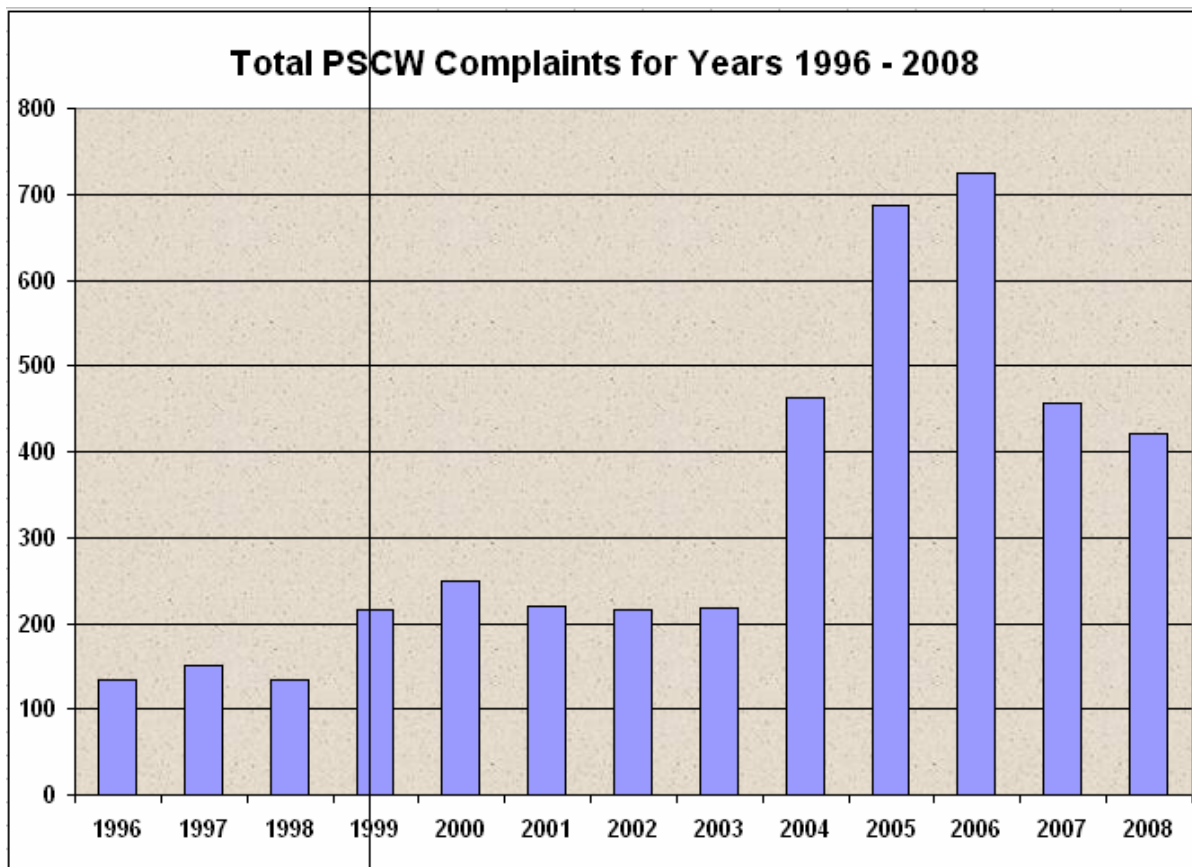
January	1.76
February	2.66
March	3.04
April	4.41
May	5.62
June	5.56
July	5.71
August	5.45
September	5.11
October	5.57
November	5.80
December	6.29
Total	5.18

These averages are based on the work requests that had **both** the Requested Completion Date and the Electric Meter Set Date entered in the WMIS System at the time this data was extracted.

This data also includes work requests that have a Service Measures comment.

PSC 113.0604(3)(e)

The total number of written and telephone customer complaints received in the areas of safety, customer billing, outages, power quality, customer property damage, and other areas, by month filed.



PSCW Complaints By Month - 2008

Type of Complaint	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
B = Billing	9	5	3	4	3	2	2	5	7	4	3	0	47
BB=Backbilling/Defective Meter	5	4	2	4	1	0	0	5	2	0	2	2	27
C = Credit	2	1	8	42	35	43	37	45	42	54	5	4	318
CSC=Customer Service Calls	0	0	1	0	1	0	0	0	0	0	0	0	2
ES=Electric Service Extensions	0	0	0	1	0	1	1	0	0	0	0	0	3
GO=Gas Odor	0	0	0	0	0	0	0	0	0	0	0	0	0
GS=Gas Service Extensions	0	0	0	0	0	1	0	0	0	0	0	1	2
LC=Line Clearance	0	0	1	0	0	0	0	0	0	0	0	0	1
M=Miscellaneous Other	1	2	2	0	3	2	1	1	1	0	3	1	17
ML=Meter Locations	0	0	0	1	0	0	0	0	0	0	0	0	1
O = Outages	0	0	0	0	0	0	0	0	0	0	0	0	0
PDC=Property Damage to Customers	0	1	0	1	0	0	0	0	0	0	0	0	2
R=Rate Classification	1	0	0	0	0	0	0	0	0	0	0	0	1
Rel=Relocate WPSC Facilities	0	0	0	0	0	0	0	0	0	0	0	0	0
SREL=Service Reliability	0	0	0	0	0	0	0	0	0	0	0	0	0
SV=Stray Voltage	0	0	0	0	0	0	0	0	0	0	0	0	0
USC=Unacceptable Service Condition	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	18	13	17	53	43	49	41	56	52	58	13	8	421

PSC 113.0604(3)(f)

Total annual tree trimming budget and actual expenses.

2008 Line Clearance Budget Summary

Total annual tree trimming budget: **\$5,378,888**

Total annual tree trimming actual expenses: **\$5,272,998**

PSC 113.0604(3)(g)

Total annual projected and actual miles of distribution line tree trimmed.

2008 Line Clearance Line-Mile Summary

Annual projected miles of distribution line tree trimmed: **3139**

Total actual miles of distribution line tree trimmed: **2667**



Wisconsin Public Service Corporation

700 North Adams Street

P.O. Box 19001

Green Bay, WI 54307-9001

Public Service Commission of Wisconsin
RECEIVED: 04/14/10, 2:04:50 PM

April 14, 2010

Ms. Sandra Paske
Secretary of the Commission
Public Service Commission of Wisconsin
610 N. Whitney Way
Madison, WI 53705-2729

Dear Ms. Paske:

Docket 05-GF-113
Re: PSC 113.0604 Annual Report

Enclosed is Wisconsin Public Service Corporation's filing to meet the requirements for the PSC 113.0604 Annual Report.

Please call me at (920) 433-1716 if you have any questions or concerns. I can also be reached by e-mail at SLDeMerritt@wisconsinpublicservice.com.

Sincerely,

A handwritten signature in black ink, appearing to read "Steven L. De Merritt".

Steven L. De Merritt, P.E.
Senior Planning Engineer – Distribution

wab

Enclosure

Contents

PSC 113.0603(2).....	2
PSC 113.0604(2)(a)	6
PSC 113.0604(2)(a)	7
PSC 113.0604(2)(b)	12
PSC 113.0604(2)(b)	16
PSC 113.0604(2)(d)	18
PSC 113.0604(2)(e)	21
PSC 113.0604(2)(f).....	21
PSC 113.0604(3)(a)	25
PSC 113.0604(3)(b)	25
PSC 113.0604(3)(c)	26
PSC 113.0604(3)(d)	27
PSC 113.0604(3)(e)	28
PSC 113.0604(3)(f).....	30
PSC 113.0604(3)(g).....	30

PSC 113.0603(2)

Each utility also shall, at the end of each calendar year, calculate the SAIFI, SAIDI and CAIDI indices for each circuit in each operating area. Each circuit in each operating area shall then be listed in order separately according to its SAIFI index, its SAIDI index, and also its CAIDI index, beginning with the highest values for each index.

2009 Electric Distribution Customer Interruptions Total Distribution System Reliability Indices by Feeder Excluding Transmission Caused Outages and Momentaries LE 5 Min

Feeder	Substation	SAIDI	Feeder	Substation	SAIFI	Feeder	Substation	CAIDI
SIS 242	SISTER BAY	992.88	BES 122	BEARDSLEY ST	7.43	SIS 241	SISTER BAY	586.88
GON 241	GOODMAN	775.86	SIS 242	SISTER BAY	4.25	GON 241	GOODMAN	327.17
CLK 243	CLEAR LAKE	732.91	SGM 242	ST. GERMAIN	4.21	MAD 242	MAPLEWOOD	302.43
SGM 241	ST. GERMAIN	727.70	CRB 244	CRANBERRY	3.94	DUR 241	DUNN ROAD	298.01
SGM 242	ST. GERMAIN	697.58	KRN 242	KRONEN	3.71	NOU 122	NORSAU	295.20
MTN 242	MOUNTAIN	656.05	CLK 243	CLEAR LAKE	3.64	HOW 242	HOWARD	295.02
BES 122	BEARDSLEY ST	647.45	SGM 241	ST. GERMAIN	3.37	EAK 242	EAST KROK	285.81
CRB 244	CRANBERRY	640.96	SUL 241	SUMMIT LAKE	3.02	EGH 241	EGG HARBOR	276.31
SUL 241	SUMMIT LAKE	548.02	HI8 242	HIGHWAY 8	2.93	SIS 242	SISTER BAY	233.70
VEN 241	VENUS	538.99	CLK 241	CLEAR LAKE	2.92	MTN 242	MOUNTAIN	224.35
THL 241	THREE LAKES	470.59	MTN 242	MOUNTAIN	2.92	SRD 242	SHERWOOD	221.17
DUR 241	DUNN ROAD	461.04	THL 241	THREE LAKES	2.64	VEN 241	VENUS	216.17
CLK 241	CLEAR LAKE	389.39	VEN 241	VENUS	2.49	RLD 242	ROCKLAND	216.08
SRD 242	SHERWOOD	388.30	GON 241	GOODMAN	2.37	SGM 241	ST. GERMAIN	215.93
KRN 242	KRONEN	353.39	NPT 242	NORTHPOINT	2.34	JAS 241	JAMES ST.	215.26
SIS 241	SISTER BAY	351.35	LUX 241	LUXEBURG	2.24	MTN 241	MOUNTAIN	209.86
HOW 242	HOWARD	341.26	SNZ 241	ST. NAZIANZ	2.24	ALA 241	ALGOMA	207.96
ALA 241	ALGOMA	324.93	HI8 243	HIGHWAY 8	2.21	WAV 242	WHITING AVE	207.25
NOU 122	NORSAU	311.78	LUX 242	LUXEBURG	2.08	SMO 241	SUAMICO	202.71
BRU 242	BRUSBAY	282.05	WET 242	WELLS ST	2.01	SOT 241	SHOTO	202.09
MGA 241	METONGA	281.23	HOO 242	HOOVER	2.01	CLK 243	CLEAR LAKE	201.57
HI8 242	HIGHWAY 8	280.80	NPT 241	NORTHPOINT	2.00	WEM 241	WEST MARINETTE	197.06
SOT 241	SHOTO	252.09	SIC 241	SILVER CLIFF	1.98	AVN 241	AVIATION	196.49
SIC 241	SILVER CLIFF	246.10	MGA 241	METONGA	1.94	NOU 121	NORSAU	194.33
NPT 242	NORTHPOINT	233.04	CRI 242	CRIVITZ	1.91	ONT 242	ONTARIO ROAD	187.86
EGH 242	EGG HARBOR	232.72	DAF 242	DAVES FALLS	1.85	CSL 242	CASSEL	184.58
CLK 242	CLEAR LAKE	219.01	MAV 241	MORRISON AVE.	1.80	MRP 241	MANRAP	183.24
MTN 241	MOUNTAIN	215.41	SRD 242	SHERWOOD	1.76	SUL 241	SUMMIT LAKE	181.51
VEN 242	VENUS	209.32	WAV 241	WHITING AVE	1.76	PBL 241	PREBLE	181.25
EAK 241	EAST KROK	206.84	BRU 242	BRUSBAY	1.66	PBL 242	PREBLE	180.74
MAV 241	MORRISON AVE.	205.30	DAF 241	DAVES FALLS	1.57	EAK 241	EAST KROK	179.83
HOO 242	HOOVER	203.65	ALA 241	ALGOMA	1.56	THL 241	THREE LAKES	178.57
DAF 241	DAVES FALLS	200.63	DUR 241	DUNN ROAD	1.55	SOI 241	SOBIESKI	178.29
NOU 121	NORSAU	194.33	SRD 241	SHERWOOD	1.53	ONT 241	ONTARIO ROAD	177.00
ROD 241	ROTHSCHILD	191.84	ROD 241	ROTHSCHILD	1.51	RML 241	RED MAPLE	176.67
SRD 241	SHERWOOD	188.22	HRR 242	HARRISON	1.46	RLD 241	ROCKLAND	176.21

Feeder	Substation	SAIDI	Feeder	Substation	SAIFI	Feeder	Substation	CAIDI
LUX 241	LUXEMBURG	186.55	VEN 242	VENUS	1.44	SBY 242	SOUTH BROADWAY	171.18
WAV 241	WHITING AVE	183.49	EGH 242	EGG HARBOR	1.43	BRU 242	BRUSBAY	169.92
EGH 241	EGG HARBOR	180.08	KEV 242	KELLNERSVILLE	1.38	GOS 241	GOLDEN SANDS	166.80
AVN 241	AVIATION	171.85	DYK 241	DYCKESVILLE	1.37	SGM 242	ST. GERMAIN	165.67
POU 241	POUND	170.00	VLP 241	VELP AVE	1.33	CLK 242	CLEAR LAKE	165.23
WEM 241	WEST MARINETTE	169.96	CLK 242	CLEAR LAKE	1.33	EGH 242	EGG HARBOR	163.13
NPT 241	NORTHPOINT	163.39	EST 242	EASTOM	1.32	CRB 244	CRANBERRY	162.52
DAF 242	DAVES FALLS	159.39	SOT 242	SHOTO	1.30	WMK 241	WESMARK	160.32
SOT 242	SHOTO	150.65	ASH 242	ASHLAND AVE	1.29	OCO 242	OCONTO	158.61
SBY 242	SOUTH BROADWAY	146.66	OAS 241	OAK STREET	1.29	EWA 241	EAST WAUSAU	158.09
EST 242	EASTOM	141.60	PLO 242	PLOVER	1.28	UGB 123	UNIVERSITY	157.51
CRI 242	CRIVITZ	141.11	POU 241	POUND	1.26	LIS 242	LIBERTY ST	154.92
PIN 242	PINE	139.50	HOD 241	HODAG	1.26	MHS 242	MYSTERY HILLS	154.57
SNZ 241	ST. NAZIANZ	133.29	SOT 241	SHOTO	1.25	OCO 241	OCONTO	154.44
LUX 242	LUXEMBURG	128.71	GOS 242	GOLDEN SANDS	1.24	MSN 242	MASON STREET	151.04
HOD 241	HODAG	128.03	RSR 242	ROSIERE	1.19	PIN 242	PINE	148.64
WSU 241	WAUSAU HYDRO	124.87	KEV 241	KELLNERSVILLE	1.19	HRR 241	HARRISON	147.23
SUV 241	SUNNYVALE	123.93	HOW 242	HOWARD	1.16	SPT 241	SUNSET POINT	145.34
MRP 241	MANRAP	121.22	KEL 242	KELLY	1.16	MCR 241	MEARS CORNERS	145.21
GOS 242	GOLDEN SANDS	115.59	EAK 241	EAST KROK	1.15	VEN 242	VENUS	145.10
WET 242	WELLS ST	108.33	GLR 243	GLORY ROAD	1.12	AUS 241	AURORA STREET	144.93
HCR 241	HARTMAN CREEK	108.27	HI8 241	HIGHWAY 8	1.11	MGA 241	METONGA	144.93
GOS 241	GOLDEN SANDS	104.01	WSU 241	WAUSAU HYDRO	1.07	SHS 242	SHERMAN STREET	137.30
HI8 243	HIGHWAY 8	103.83	BNS 121	BOWEN STREET	1.06	WMK 242	WESMARK	135.98
HI8 241	HIGHWAY 8	102.88	NOU 122	NORSAU	1.06	POU 241	POUND	135.40
VLP 241	VELP AVE	99.83	MTN 241	MOUNTAIN	1.03	WPA 241	WAUPACA	135.31
OAS 241	OAK STREET	99.34	A12 241	TWELFTH AVE	1.01	CLK 241	CLEAR LAKE	133.50
EWA 241	EAST WAUSAU	99.29	NOU 121	NORSAU	1.00	DYK 242	DYCKESVILLE	132.40
KEV 242	KELLNERSVILLE	98.63	SUV 241	SUNNYVALE	0.99	SAE 241	SANDSTONE DIST	132.26
DYK 241	DYCKESVILLE	97.21	HCR 241	HARTMAN CREEK	0.98	GRA 242	GRAVESVILLE	129.31
A12 241	TWELFTH AVE	96.61	PIN 242	PINE	0.94	DAF 241	DAVES FALLS	128.18
TDR 241	THUNDER	89.24	AVN 241	AVIATION	0.87	ROD 241	ROTHSCHILD	127.42
GLR 243	GLORY ROAD	84.56	SBY 242	SOUTH BROADWAY	0.86	RSR 241	ROSIERE	126.89
PLO 242	PLOVER	84.48	WEM 241	WEST MARINETTE	0.86	SNZ 242	ST. NAZIANZ	126.71
SMO 241	SUAMICO	78.59	TDR 241	THUNDER	0.84	HIP 241	HILLTOP	126.63
WAV 242	WHITING AVE	74.18	WPA 242	WAUPACA	0.75	SUV 241	SUNNYVALE	124.61
EAK 242	EAST KROK	70.62	LSD 241	LOST DAUPHIN	0.71	SIC 241	SILVER CLIFF	124.38
EST 243	EASTOM	67.71	EST 243	EASTOM	0.71	KRN 241	KRONEN	123.53
KEL 241	KELLY	67.30	SMO 242	SUAMICO	0.69	SRD 241	SHERWOOD	123.32
BAT 241	BAYPORT	65.08	MRP 241	MANRAP	0.66	KEL 243	KELLY	123.02
HRR 242	HARRISON	64.47	EGH 241	EGG HARBOR	0.65	ROO 241	ROOSEVELT RD	121.31
RSR 241	ROSIERE	64.32	EWA 241	EAST WAUSAU	0.63	HES 241	HENRY STREET	120.45
RLD 242	ROCKLAND	63.72	GOS 241	GOLDEN SANDS	0.62	STD 241	STRATFORD	119.99
OCO 242	OCONTO	61.49	BAT 241	BAYPORT	0.60	KEL 241	KELLY	118.27
EOD 241	ELLINWOOD	59.74	SIS 241	SISTER BAY	0.60	WSU 241	WAUSAU HYDRO	116.18
SMO 242	SUAMICO	58.72	MAV 242	MORRISON AVE.	0.60	SOT 242	SHOTO	116.09
SNZ 242	ST. NAZIANZ	58.47	EOD 241	ELLINWOOD	0.58	MAV 241	MORRISON AVE.	113.90
AUS 242	AURORA STREET	58.25	KEL 241	KELLY	0.57	GLR 242	GLORY ROAD	113.58
KEV 241	KELLNERSVILLE	56.36	AUS 242	AURORA STREET	0.54	GLW 241	GLENVIEW	113.05

Feeder	Substation	SAIDI	Feeder	Substation	SAIFI	Feeder	Substation	CAIDI
SOI 241	SOBIESKI	56.19	HOO 241	HOOVER	0.53	LIS 243	LIBERTY ST	113.05
WPA 242	WAUPACA	56.08	RSR 241	ROSIERE	0.51	GRA 241	GRAVESVILLE	112.57
ASH 242	ASHLAND AVE	55.51	GRA 241	GRAVESVILLE	0.46	MEL 241	MERRILL HYDRO	111.23
KEL 242	KELLY	55.20	MAD 241	MAPLEWOOD	0.46	GRA 244	GRAVESVILLE	111.03
PBL 241	PREBLE	54.88	WET 121	WELLS ST	0.46	MSN 241	MASON STREET	110.94
HRR 241	HARRISON	54.37	SNZ 242	ST. NAZIANZ	0.46	7TH 241	7TH STREET	110.82
GRA 241	GRAVESVILLE	51.71	CSL 241	CASSEL	0.46	HCR 241	HARTMAN CREEK	110.74
AUS 241	AURORA STREET	49.71	MSN 244	MASON STREET	0.43	HOW 241	HOWARD	108.35
MAV 242	MORRISON AVE.	48.99	MSN 241	MASON STREET	0.42	BAT 241	BAYPORT	108.29
WET 121	WELLS ST	48.13	SMO 241	SUAMICO	0.39	AUS 242	AURORA STREET	108.27
MSN 241	MASON STREET	46.82	OCO 242	OCONTO	0.39	LIS 241	LIBERTY ST	107.34
RLD 241	ROCKLAND	46.20	MEL 241	MERRILL HYDRO	0.37	EST 242	EASTOM	107.13
LSD 241	LOST DAUPHIN	45.14	HRR 241	HARRISON	0.37	TDR 241	THUNDER	106.10
GRA 242	GRAVESVILLE	43.74	LEA 241	LENA	0.36	PAV 241	PEARL	105.83
MAD 241	MAPLEWOOD	42.99	WAV 242	WHITING AVE	0.36	OKY 241	OKRAY	105.82
SAE 241	SANDSTONE DIST	42.37	AUS 241	AURORA STREET	0.34	WAV 241	WHITING AVE	104.54
MSN 244	MASON STREET	42.30	GRA 242	GRAVESVILLE	0.34	WET 121	WELLS ST	103.86
WMK 242	WESMARK	42.14	GLW 242	GLENVIEW	0.33	EOD 241	ELLINWOOD	103.51
MEL 241	MERRILL HYDRO	41.52	MAI 241	MAINE	0.33	HIP 242	HILLTOP	103.48
JAS 241	JAMES ST.	38.58	SOI 241	SOBIESKI	0.32	HOD 241	HODAG	101.38
OCO 241	OCONTO	38.40	MCR 242	MEARS CORNERS	0.32	HOO 242	HOOVER	101.27
KRN 241	KRONEN	37.75	PLO 241	PLOVER	0.32	PBL 243	PREBLE	100.16
ROO 241	ROOSEVELT RD	36.67	SAE 241	SANDSTONE DIST	0.32	NPT 242	NORTHPOINT	99.79
MCR 241	MEARS CORNERS	33.57	WMK 242	WESMARK	0.31	MIT 122	MISHICOT	98.29
LIS 242	LIBERTY ST	33.26	KRN 241	KRONEN	0.31	MSN 244	MASON STREET	98.03
RSR 242	ROSIERE	32.87	PBL 241	PREBLE	0.30	EAV 241	EASTMAN AVE	96.33
GRA 244	GRAVESVILLE	31.93	ROO 241	ROOSEVELT RD	0.30	HI8 242	HIGHWAY 8	95.85
MAI 241	MAINE	29.95	GRA 244	GRAVESVILLE	0.29	A12 241	TWELFTH AVE	95.75
CSL 241	CASSEL	29.77	RLD 242	ROCKLAND	0.29	EST 243	EASTOM	95.68
GLW 241	GLENVIEW	29.73	MHS 241	MYSTERY HILLS	0.28	KRN 242	KRONEN	95.18
BNS 121	BOWEN STREET	29.39	EOD 242	ELLINWOOD	0.28	VLP 242	VELP AVE	94.75
HOO 241	HOOVER	28.44	AVN 242	AVIATION	0.27	TOW 243	TOWNLINE	93.23
GLW 242	GLENVIEW	28.29	ANO 241	ANTIGO	0.26	GOS 242	GOLDEN SANDS	93.14
HES 241	HENRY STREET	27.28	GLW 241	GLENVIEW	0.26	MAD 241	MAPLEWOOD	92.71
MAD 242	MAPLEWOOD	27.04	RLD 241	ROCKLAND	0.26	HI8 241	HIGHWAY 8	92.42
CSL 242	CASSEL	26.86	EAK 242	EAST KROK	0.25	MSN 243	MASON STREET	91.84
MHS 242	MYSTERY HILLS	26.85	OCO 241	OCONTO	0.25	MAI 241	MAINE	89.73
SHS 242	SHERMAN STREET	25.95	HES 241	HENRY STREET	0.23	HIV 243	HIGHWAY V	88.34
STD 241	STRATFORD	25.89	MCR 241	MEARS CORNERS	0.23	ANO 241	ANTIGO	87.91
ONT 241	ONTARIO ROAD	24.74	SHS 241	SHERMAN STREET	0.23	BES 122	BEARDSLEY ST	87.09
PLO 241	PLOVER	24.72	STD 241	STRATFORD	0.22	DAF 242	DAVES FALLS	86.25
LEA 241	LENA	23.65	LIS 242	LIBERTY ST	0.21	GLW 242	GLENVIEW	85.83
ANO 241	ANTIGO	23.08	PBL 243	PREBLE	0.21	SMO 242	SUAMICO	84.80
MHS 241	MYSTERY HILLS	22.75	HES 122	HENRY STREET	0.20	LUX 241	LUXEMBURG	83.27
PAV 241	PEARL	21.33	PAV 241	PEARL	0.20	TOR 241	TOWER DRIVE	83.23
PBL 243	PREBLE	21.16	SHS 242	SHERMAN STREET	0.19	MHS 241	MYSTERY HILLS	82.61
AVN 242	AVIATION	20.14	TOW 243	TOWNLINE	0.19	NPT 241	NORTHPOINT	81.89
MCR 242	MEARS CORNERS	19.54	JAS 241	JAMES ST.	0.18	MAV 242	MORRISON AVE.	81.45
UGB 123	UNIVERSITY	19.22	MHS 242	MYSTERY HILLS	0.17	PLO 241	PLOVER	77.16

Feeder	Substation	SAIDI	Feeder	Substation	SAIFI	Feeder	Substation	CAIDI
TOW 243	TOWNLINE	17.69	HIV 242	HIGHWAY V	0.16	BLN 241	BLUESTONE	77.12
HOW 241	HOWARD	16.85	HOW 241	HOWARD	0.16	OAS 241	OAK STREET	76.90
WMK 241	WESMARK	16.76	MSN 243	MASON STREET	0.16	GLR 243	GLORY ROAD	75.62
LIS 243	LIBERTY ST	16.25	CSL 242	CASSEL	0.15	TOW 121	TOWNLINE	75.49
SHS 241	SHERMAN STREET	15.41	GLR 241	GLORY ROAD	0.14	AVN 242	AVIATION	75.32
MSN 243	MASON STREET	14.86	LIS 243	LIBERTY ST	0.14	VLP 241	VELP AVE	75.02
MSN 242	MASON STREET	14.45	ONT 241	ONTARIO ROAD	0.14	WPA 242	WAUPACA	74.64
SPT 241	SUNSET POINT	14.33	SPT 242	SUNSET POINT	0.14	EAV 242	EASTMAN AVE	74.37
EOD 242	ELLINWOOD	14.18	EAV 242	EASTMAN AVE	0.13	CRI 242	CRIVITZ	73.92
WPA 241	WAUPACA	13.94	UGB 123	UNIVERSITY	0.12	KEV 242	KELLNERSVILLE	71.64
ONT 242	ONTARIO ROAD	12.37	BNS 241	BOWEN STREET	0.12	DYK 241	DYCKESVILLE	71.09
HIP 242	HILLTOP	11.63	ASH 241	ASHLAND AVE	0.11	HIV 241	HIGHWAY V	71.04
DYK 242	DYCKESVILLE	10.51	HIP 242	HILLTOP	0.11	PIN 241	PINE	69.87
LIS 241	LIBERTY ST	10.25	HIV 241	HIGHWAY V	0.10	OSH 243	OSHKOSH	68.87
GLR 242	GLORY ROAD	10.18	HIV 243	HIGHWAY V	0.10	SHS 241	SHERMAN STREET	68.29
EAV 242	EASTMAN AVE	9.95	LIS 241	LIBERTY ST	0.10	RML 242	RED MAPLE	67.41
HIP 241	HILLTOP	9.74	MSN 242	MASON STREET	0.10	ASH 241	ASHLAND AVE	67.09
SPT 242	SUNSET POINT	9.07	WMK 241	WESMARK	0.10	PLO 242	PLOVER	66.00
HIV 243	HIGHWAY V	8.48	PIN 241	PINE	0.10	LEA 241	LENA	65.48
HES 122	HENRY STREET	8.16	SPT 241	SUNSET POINT	0.10	CSL 241	CASSEL	64.48
7TH 241	7TH STREET	7.97	WPA 241	WAUPACA	0.10	MIT 121	MISHICOT	63.87
PBL 242	PREBLE	7.95	BLN 241	BLUESTONE	0.09	LSD 241	LOST DAUPHIN	63.65
HIV 242	HIGHWAY V	7.57	GLR 242	GLORY ROAD	0.09	SPT 242	SUNSET POINT	63.25
GLR 241	GLORY ROAD	7.36	MAD 242	MAPLEWOOD	0.09	LUX 242	LUXEMBURG	61.98
ASH 241	ASHLAND AVE	7.05	DYK 242	DYCKESVILLE	0.08	MCR 242	MEARS CORNERS	61.27
HIV 241	HIGHWAY V	6.93	HIP 241	HILLTOP	0.08	SNZ 241	ST. NAZIANZ	59.58
BLN 241	BLUESTONE	6.76	7TH 241	7TH STREET	0.07	BNS 241	BOWEN STREET	57.01
BNS 241	BOWEN STREET	6.73	ONT 242	ONTARIO ROAD	0.07	WET 242	WELLS ST	54.03
PIN 241	PINE	6.64	OSH 241	OSHKOSH	0.07	HOO 241	HOOVER	53.86
OKY 241	OKRAY	6.19	A12 242	TWELFTH AVE	0.07	BES 121	BEARDSLEY ST	53.44
VLP 242	VELP AVE	6.02	TOW 121	TOWNLINE	0.07	OSH 241	OSHKOSH	52.62
KEL 243	KELLY	5.56	TOR 241	TOWER DRIVE	0.06	GLR 241	GLORY ROAD	52.10
TOW 121	TOWNLINE	5.25	VLP 242	VELP AVE	0.06	EOD 242	ELLINWOOD	51.25
TOR 241	TOWER DRIVE	5.17	OKY 241	OKRAY	0.06	KEL 242	KELLY	47.56
EAV 241	EASTMAN AVE	3.75	KEL 243	KELLY	0.05	KEV 241	KELLNERSVILLE	47.18
OSH 241	OSHKOSH	3.71	EAV 241	EASTMAN AVE	0.04	HIV 242	HIGHWAY V	46.93
A12 242	TWELFTH AVE	3.14	PBL 242	PREBLE	0.04	HI8 243	HIGHWAY 8	46.90
OSH 243	OSHKOSH	2.23	RML 242	RED MAPLE	0.03	A12 242	TWELFTH AVE	45.03
RML 242	RED MAPLE	2.10	OSH 243	OSHKOSH	0.03	HRR 242	HARRISON	44.10
RML 241	RED MAPLE	0.96	TOW 122	TOWNLINE	0.03	ASH 242	ASHLAND AVE	43.15
BES 121	BEARDSLEY ST	0.76	RML 241	RED MAPLE	0.01	HES 122	HENRY STREET	40.94
TOW 122	TOWNLINE	0.57	BES 121	BEARDSLEY ST	0.01	STS 121	STROWBRIDGE ST	39.00
MIT 122	MISHICOT	0.00	MIT 122	MISHICOT	0.00	BNS 121	BOWEN STREET	27.80
MIT 121	MISHICOT	0.00	MIT 121	MISHICOT	0.00	RSR 242	ROSIERE	27.66
STS 121	STROWBRIDGE ST	0.00	STS 121	STROWBRIDGE ST	0.00	TOW 122	TOWNLINE	20.54

PSC 113.0604(2)(a)

An overall assessment of the reliability performance including the aggregate SAIFI, SAIDI and CAIDI indices by system and each operating area, as applicable.

**2009 Electric Distribution Customer Interruptions
Total Distribution System Reliability Indices by District
Excluding Transmission Caused Outages and Momentaries LE 5 Min**

District	SAIDI	CAIDI	SAIFI
Antigo	75	137	0.55
Chilton	38	107	0.36
Eagle River	581	165	3.52
Green Bay	36	115	0.32
Kewaunee	130	88	1.48
Merrill	72	136	0.53
Minocqua	540	184	2.94
Marinette	128	120	1.07
Oshkosh	32	94	0.35
Rhineland	250	122	2.04
Sturgeon Bay	365	257	1.42
Stevens Point	121	97	1.24
Tomahawk	103	102	1.01
Two Rivers	160	124	1.28
Wabeno	527	215	2.45
Wausau	75	115	0.65
Waupaca	57	113	0.51
Wausaukee	129	105	1.22
Total Company:	144.52	146.35	0.99

PSC 113.0604(2)(a)

An overall assessment of the reliability performance including the aggregate SAIFI, SAIDI, and CAIDI indices by system and each operating area, as applicable.

**2009 Electric Distribution Customer Interruptions
Total Distribution System Reliability Indices by District and Feeder
Excluding Transmission Caused Outages and Momentaries LE 5 Min**

Utility	Agency	Feeder	Substation	SAIDI	SAIFI	CAIDI
WPS	Antigo	ANO 241	ANTIGO	23.08	0.26	87.91
		AUS 241	AURORA STREET	49.71	0.34	144.9
		AUS 242	AURORA STREET	58.25	0.54	108.3
		SUL 241	SUMMIT LAKE	548	3.02	181.5
WPS	Chilton	GLW 241	GLENVIEW	29.73	0.26	113.1
		GLW 242	GLENVIEW	28.29	0.33	85.83
		GRA 241	GRAVESVILLE	51.71	0.46	112.6
		GRA 242	GRAVESVILLE	43.74	0.34	129.3
		GRA 244	GRAVESVILLE	31.93	0.29	111
WPS	Eagle River	CRB 244	CRANBERRY	641	3.94	162.5
		THL 241	THREE LAKES	470.6	2.64	178.6
WPS	Green Bay	7TH 241	7TH STREET	7.97	0.07	110.8
		ASH 241	ASHLAND AVE	7.05	0.11	67.09
		ASH 242	ASHLAND AVE	55.51	1.29	43.15
		BAT 241	BAYPORT	65.08	0.6	108.3
		BLN 241	BLUESTONE	6.76	0.09	77.12
		DYK 241	DYCKESVILLE	97.21	1.37	71.09
		DYK 242	DYCKESVILLE	10.51	0.08	132.4
		EAV 241	EASTMAN AVE	3.75	0.04	96.33
		EAV 242	EASTMAN AVE	9.95	0.13	74.37
		GLR 241	GLORY ROAD	7.36	0.14	52.1
		GLR 242	GLORY ROAD	10.18	0.09	113.6
		GLR 243	GLORY ROAD	84.56	1.12	75.62
		HES 122	HENRY STREET	8.16	0.2	40.94
		HES 241	HENRY STREET	27.28	0.23	120.5
		HIV 241	HIGHWAY V	6.93	0.1	71.04
		HIV 242	HIGHWAY V	7.57	0.16	46.93
		HIV 243	HIGHWAY V	8.48	0.1	88.34
		HOW 241	HOWARD	16.85	0.16	108.4
		HOW 242	HOWARD	341.3	1.16	295
		JAS 241	JAMES ST.	38.58	0.18	215.3
		LIS 241	LIBERTY ST	10.25	0.1	107.3
		LIS 242	LIBERTY ST	33.26	0.21	154.9
		LIS 243	LIBERTY ST	16.25	0.14	113.1

Utility	Agency	Feeder	Substation	SAIDI	SAIFI	CAIDI
WPS	Kewaunee	LSD 241	LOST DAUPHIN	45.14	0.71	63.65
		MAD 241	MAPLEWOOD	42.99	0.46	92.71
		MAD 242	MAPLEWOOD	27.04	0.09	302.4
		MSN 241	MASON STREET	46.82	0.42	110.9
		MSN 242	MASON STREET	14.45	0.1	151
		MSN 243	MASON STREET	14.86	0.16	91.84
		MSN 244	MASON STREET	42.3	0.43	98.03
		MHS 241	MYSTERY HILLS	22.75	0.28	82.61
		MHS 242	MYSTERY HILLS	26.85	0.17	154.6
		OAS 241	OAK STREET	99.34	1.29	76.9
		ONT 241	ONTARIO ROAD	24.74	0.14	177
		ONT 242	ONTARIO ROAD	12.37	0.07	187.9
		PBL 241	PREBLE	54.88	0.3	181.3
		PBL 242	PREBLE	7.95	0.04	180.7
		PBL 243	PREBLE	21.16	0.21	100.2
		RML 241	RED MAPLE	0.96	0.01	176.7
		RML 242	RED MAPLE	2.1	0.03	67.41
		RLD 241	ROCKLAND	46.2	0.26	176.2
		RLD 242	ROCKLAND	63.72	0.29	216.1
		SOI 241	SOBIESKI	56.19	0.32	178.3
		SBY 242	SOUTH BROADWAY	146.7	0.86	171.2
		SMO 241	SUAMICO	78.59	0.39	202.7
		SMO 242	SUAMICO	58.72	0.69	84.8
		TOR 241	TOWER DRIVE	5.17	0.06	83.23
		UGB 123	UNIVERSITY	19.22	0.12	157.5
		VLP 241	VELP AVE	99.83	1.33	75.02
		VLP 242	VELP AVE	6.02	0.06	94.75
		WMK 241	WESMARK	16.76	0.1	160.3
		WMK 242	WESMARK	42.14	0.31	136
		ALA 241	ALGOMA	324.9	1.56	208
		BES 121	BEARDSLEY ST	0.76	0.01	53.44
		BES 122	BEARDSLEY ST	647.5	7.43	87.09
		EAK 241	EAST KROK	206.8	1.15	179.8
		EAK 242	EAST KROK	70.62	0.25	285.8
		LUX 241	LUXEMBURG	186.6	2.24	83.27
		LUX 242	LUXEMBURG	128.7	2.08	61.98
		RSR 241	ROSIERE	64.32	0.51	126.9
		RSR 242	ROSIERE	32.87	1.19	27.66
WPS	Marin/Menom	LEA 241	LENA	23.65	0.36	65.48
		OCO 241	OCONTO	38.4	0.25	154.4
		OCO 242	OCONTO	61.49	0.39	158.6
		POU 241	POUND	170	1.26	135.4
		ROO 241	ROOSEVELT RD	36.67	0.3	121.3
		SRD 241	SHERWOOD	188.2	1.53	123.3
		SRD 242	SHERWOOD	388.3	1.76	221.2
		WET 121	WELLS ST	48.13	0.46	103.9
		WET 242	WELLS ST	108.3	2.01	54.03

Utility	Agency	Feeder	Substation	SAIDI	SAIFI	CAIDI
WPS	Merrill	WEM 241	WEST MARINETTE	170	0.86	197.1
		MEL 241	MERRILL HYDRO	41.52	0.37	111.2
		PIN 241	PINE	6.64	0.1	69.87
		PIN 242	PINE	139.5	0.94	148.6
WPS	Minocqua	CLK 241	CLEAR LAKE	389.4	2.92	133.5
		CLK 242	CLEAR LAKE	219	1.33	165.2
		CLK 243	CLEAR LAKE	732.9	3.64	201.6
		SGM 241	ST. GERMAIN	727.7	3.37	215.9
		SGM 242	ST. GERMAIN	697.6	4.21	165.7
WPS	Oshkosh	AVN 241	AVIATION	171.9	0.87	196.5
		AVN 242	AVIATION	20.14	0.27	75.32
		BNS 121	BOWEN STREET	29.39	1.06	27.8
		BNS 241	BOWEN STREET	6.73	0.12	57.01
		EOD 241	ELLINWOOD	59.74	0.58	103.5
		EOD 242	ELLINWOOD	14.18	0.28	51.25
		MCR 241	MEARS CORNERS	33.57	0.23	145.2
		MCR 242	MEARS CORNERS	19.54	0.32	61.27
		OSH 241	OSHKOSH	3.71	0.07	52.62
		OSH 243	OSHKOSH	2.23	0.03	68.87
		PAV 241	PEARL	21.33	0.2	105.8
		SPT 241	SUNSET POINT	14.33	0.1	145.3
		SPT 242	SUNSET POINT	9.07	0.14	63.25
		A12 241	TWELFTH AVE	96.61	1.01	95.75
		A12 242	TWELFTH AVE	3.14	0.07	45.03
WPS	Rhinelander	HI8 241	HIGHWAY 8	102.9	1.11	92.42
		HI8 242	HIGHWAY 8	280.8	2.93	95.85
		HI8 243	HIGHWAY 8	103.8	2.21	46.9
		HOD 241	HODAG	128	1.26	101.4
		MGA 241	METONGA	281.2	1.94	144.9
		VEN 241	VENUS	539	2.49	216.2
		VEN 242	VENUS	209.3	1.44	145.1
WPS	Stevens Point	GOS 241	GOLDEN SANDS	104	0.62	166.8
		GOS 242	GOLDEN SANDS	115.6	1.24	93.14
		HOO 241	HOOVER	28.44	0.53	53.86
		HOO 242	HOOVER	203.7	2.01	101.3
		NPT 241	NORTHPOINT	163.4	2	81.89
		NPT 242	NORTHPOINT	233	2.34	99.79
		OKY 241	OKRAY	6.19	0.06	105.8
		PLO 241	PLOVER	24.72	0.32	77.16
		PLO 242	PLOVER	84.48	1.28	66
		WAV 241	WHITING AVE	183.5	1.76	104.5
		WAV 242	WHITING AVE	74.18	0.36	207.3
WPS	Sturgeon Bay	BRU 242	BRUSBAY	282.1	1.66	169.9

Utility	Agency	Feeder	Substation	SAIDI	SAIFI	CAIDI
WPS	Tomahawk	DUR 241	DUNN ROAD	461	1.55	298
		EGH 241	EGG HARBOR	180.1	0.65	276.3
		EGH 242	EGG HARBOR	232.7	1.43	163.1
		SIS 241	SISTER BAY	351.4	0.6	586.9
		SIS 242	SISTER BAY	992.9	4.25	233.7
	WPS	EST 242	EASTOM	141.6	1.32	107.1
		EST 243	EASTOM	67.71	0.71	95.68
	Two Rivers	KEV 241	KELLNERSVILLE	56.36	1.19	47.18
		KEV 242	KELLNERSVILLE	98.63	1.38	71.64
		MRP 241	MANRAP	121.2	0.66	183.2
		MIT 121	MISHICOT			63.87
		MIT 122	MISHICOT	0	0	98.29
		SOT 241	SHOTO	252.1	1.25	202.1
		SOT 242	SHOTO	150.7	1.3	116.1
		SNZ 241	ST. NAZIANZ	133.3	2.24	59.58
WPS	Wabeno	SNZ 242	ST. NAZIANZ	58.47	0.46	126.7
		GON 241	GOODMAN	775.9	2.37	327.2
		MTN 241	MOUNTAIN	215.4	1.03	209.9
		MTN 242	MOUNTAIN	656.1	2.92	224.4
		SIC 241	SILVER CLIFF	246.1	1.98	124.4
	Wausau	HRR 241	HARRISON	54.37	0.37	147.2
		HRR 242	HARRISON	64.47	1.46	44.1
		HCR 241	HARTMAN CREEK	108.3	0.98	110.7
		WPA 241	WAUPACA	13.94	0.1	135.3
		WPA 242	WAUPACA	56.08	0.75	74.64
WPS	Wausau	CSL 241	CASSEL	29.77	0.46	64.48
		CSL 242	CASSEL	26.86	0.15	184.6
		EWA 241	EAST WAUSAU	99.29	0.63	158.1
		HIP 241	HILLTOP	9.74	0.08	126.6
		HIP 242	HILLTOP	11.63	0.11	103.5
		KEL 241	KELLY	67.3	0.57	118.3
		KEL 242	KELLY	55.2	1.16	47.56
		KEL 243	KELLY	5.56	0.05	123
		KRN 241	KRONEN	37.75	0.31	123.5
		KRN 242	KRONEN	353.4	3.71	95.18
	Wausau	MAI 241	MAINE	29.95	0.33	89.73
		MAV 241	MORRISON AVE.	205.3	1.8	113.9
		MAV 242	MORRISON AVE.	48.99	0.6	81.45
		NOU 121	NORSAU	194.3	1	194.3
		NOU 122	NORSAU	311.8	1.06	295.2
		ROD 241	ROTHSCHILD	191.8	1.51	127.4
		SHS 241	SHERMAN STREET	15.41	0.23	68.29
		SHS 242	SHERMAN STREET	25.95	0.19	137.3

Utility	Agency	Feeder	Substation	SAIDI	SAIFI	CAIDI
WPS	Wausaukee	STD 241	STRATFORD	25.89	0.22	120
		STS 121	STROWBRIDGE ST			39
		SUV 241	SUNNYVALE	123.9	0.99	124.6
		TOW 121	TOWNLINE	5.25	0.07	75.49
		TOW 122	TOWNLINE	0.57	0.03	20.54
		TOW 243	TOWNLINE	17.69	0.19	93.23
		WSU 241	WAUSAU HYDRO	124.9	1.07	116.2
		CRI 242	CRIVITZ	141.1	1.91	73.92
		DAF 241	DAVES FALLS	200.6	1.57	128.2
		DAF 242	DAVES FALLS	159.4	1.85	86.25
		SAE 241	SANDSTONE DIST	42.37	0.32	132.3
		TDR 241	THUNDER	89.24	0.84	106.1

PSC 113.0604(2)(b)

A list of the worst-performing circuits based on SAIFI, SAIDI, and CAIDI indexes for the calendar year.

SAIFI, SAIDI, and CAIDI were calculated for each of the WPS distribution feeders. Due to the difficulty in ranking the feeders, a composite value was calculated in order to normalize SAIFI, SAIDI, and CAIDI. The following formula was used to develop a composite value based on 20% SAIFI and 80% SAIDI.

COMPOSITE = [(SAIFI/SAIFI MAX) * 0.2 + (SAIDI/SAIDI MAX) * 0.8 + (CAIDI/CAIDI MAX) * 0] where MAX = the maximum value of SAIFI, SAIDI, and CAIDI for all distribution circuits.

**2009 Electric Distribution Customer Interruptions
Total Distribution System Reliability Indices by Feeder
Excluding Transmission Caused Outages and Momentaries LE 5 Min**

Feeder	Substation	SAIDI	SAIFI	CAIDI	Composite
SIS 242	SISTER BAY	992.88	4.25	233.70	0.91
BES 122	BEARDSLEY ST	647.45	7.43	87.09	0.72
GON 241	GOODMAN	775.86	2.37	327.17	0.69
CLK 243	CLEAR LAKE	732.91	3.64	201.57	0.69
SGM 241	ST. GERMAIN	727.70	3.37	215.93	0.68
SGM 242	ST. GERMAIN	697.58	4.21	165.67	0.68
CRB 244	CRANBERRY	640.96	3.94	162.52	0.62
MTN 242	MOUNTAIN	656.05	2.92	224.35	0.61
SUL 241	SUMMIT LAKE	548.02	3.02	181.51	0.52
VEN 241	VENUS	538.99	2.49	216.17	0.50
THL 241	THREE LAKES	470.59	2.64	178.57	0.45
DUR 241	DUNN ROAD	461.04	1.55	298.01	0.41
CLK 241	CLEAR LAKE	389.39	2.92	133.50	0.39
KRN 242	KRONEN	353.39	3.71	95.18	0.38
SRD 242	SHERWOOD	388.30	1.76	221.17	0.36
HOW 242	HOWARD	341.26	1.16	295.02	0.31
HI8 242	HIGHWAY 8	280.80	2.93	95.85	0.31
ALA 241	ALGOMA	324.93	1.56	207.96	0.30
SIS 241	SISTER BAY	351.35	0.60	586.88	0.30
NOU 122	NORSAU	311.78	1.06	295.20	0.28
MGA 241	METONGA	281.23	1.94	144.93	0.28
BRU 242	BRUSBAY	282.05	1.66	169.92	0.27
SIC 241	SILVER CLIFF	246.10	1.98	124.38	0.25
NPT 242	NORTHPOINT	233.04	2.34	99.79	0.25
SOT 241	SHOTO	252.09	1.25	202.09	0.24
EGH 242	EGG HARBOR	232.72	1.43	163.13	0.23
HOO 242	HOOVER	203.65	2.01	101.27	0.22
MAV 241	MORRISON AVE.	205.30	1.80	113.90	0.21

Feeder	Substation	SAIDI	SAIFI	CAIDI	Composite
CLK 242	CLEAR LAKE	219.01	1.33	165.23	0.21
LUX 241	LUXEMBURG	186.55	2.24	83.27	0.21
VEN 242	VENUS	209.32	1.44	145.10	0.21
DAF 241	DAVES FALLS	200.63	1.57	128.18	0.20
MTN 241	MOUNTAIN	215.41	1.03	209.86	0.20
EAK 241	EAST KROK	206.84	1.15	179.83	0.20
WAV 241	WHITING AVE	183.49	1.76	104.54	0.20
ROD 241	ROTHSCHILD	191.84	1.51	127.42	0.20
SRD 241	SHERWOOD	188.22	1.53	123.32	0.19
NPT 241	NORTHPOINT	163.39	2.00	81.89	0.19
NOU 121	NORSAU	194.33	1.00	194.33	0.18
DAF 242	DAVES FALLS	159.39	1.85	86.25	0.18
POU 241	POUND	170.00	1.26	135.40	0.17
SNZ 241	ST. NAZIANZ	133.29	2.24	59.58	0.17
CRI 242	CRIVITZ	141.11	1.91	73.92	0.17
EGH 241	EGG HARBOR	180.08	0.65	276.31	0.16
AVN 241	AVIATION	171.85	0.87	196.49	0.16
WEM 241	WEST MARINETTE	169.96	0.86	197.06	0.16
LUX 242	LUXEMBURG	128.71	2.08	61.98	0.16
SOT 242	SHOTO	150.65	1.30	116.09	0.16
EST 242	EASTOM	141.60	1.32	107.13	0.15
HI8 243	HIGHWAY 8	103.83	2.21	46.90	0.14
WET 242	WELLS ST	108.33	2.01	54.03	0.14
SBY 242	SOUTH BROADWAY	146.66	0.86	171.18	0.14
PIN 242	PINE	139.50	0.94	148.64	0.14
HOD 241	HODAG	128.03	1.26	101.38	0.14
WSU 241	WAUSAU HYDRO	124.87	1.07	116.18	0.13
GOS 242	GOLDEN SANDS	115.59	1.24	93.14	0.13
SUV 241	SUNNYVALE	123.93	0.99	124.61	0.13
KEV 242	KELLNERSVILLE	98.63	1.38	71.64	0.12
VLP 241	VELP AVE	99.83	1.33	75.02	0.12
MRP 241	MANRAP	121.22	0.66	183.24	0.12
DYK 241	DYCKESVILLE	97.21	1.37	71.09	0.12
OAS 241	OAK STREET	99.34	1.29	76.90	0.11
HCR 241	HARTMAN CREEK	108.27	0.98	110.74	0.11
HI8 241	HIGHWAY 8	102.88	1.11	92.42	0.11
A12 241	TWELFTH AVE	96.61	1.01	95.75	0.11
PLO 242	PLOVER	84.48	1.28	66.00	0.10
GOS 241	GOLDEN SANDS	104.01	0.62	166.80	0.10
GLR 243	GLORY ROAD	84.56	1.12	75.62	0.10
EWA 241	EAST WAUSAU	99.29	0.63	158.09	0.10
TDR 241	THUNDER	89.24	0.84	106.10	0.09
HRR 242	HARRISON	64.47	1.46	44.10	0.09
ASH 242	ASHLAND AVE	55.51	1.29	43.15	0.08
KEV 241	KELLNERSVILLE	56.36	1.19	47.18	0.08
KEL 242	KELLY	55.20	1.16	47.56	0.08
SMO 241	SUAMICO	78.59	0.39	202.71	0.07
EST 243	EASTOM	67.71	0.71	95.68	0.07
KEL 241	KELLY	67.30	0.57	118.27	0.07

Feeder	Substation	SAIDI	SAIFI	CAIDI	Composite
WAV 242	WHITING AVE	74.18	0.36	207.25	0.07
BAT 241	BAYPORT	65.08	0.60	108.29	0.07
SMO 242	SUAMICO	58.72	0.69	84.80	0.07
RSR 241	ROSIERE	64.32	0.51	126.89	0.07
WPA 242	WAUPACA	56.08	0.75	74.64	0.07
EOD 241	ELLINWOOD	59.74	0.58	103.51	0.06
EAK 242	EAST KROK	70.62	0.25	285.81	0.06
AUS 242	AURORA STREET	58.25	0.54	108.27	0.06
OCO 242	OCONTO	61.49	0.39	158.61	0.06
SNZ 242	ST. NAZIANZ	58.47	0.46	126.71	0.06
RLD 242	ROCKLAND	63.72	0.29	216.08	0.06
RSR 242	ROSIERE	32.87	1.19	27.66	0.06
MAV 242	MORRISON AVE.	48.99	0.60	81.45	0.06
LSD 241	LOST DAUPHIN	45.14	0.71	63.65	0.06
GRA 241	GRAVESVILLE	51.71	0.46	112.57	0.05
SOI 241	SOBIESKI	56.19	0.32	178.29	0.05
HRR 241	HARRISON	54.37	0.37	147.23	0.05
PBL 241	PREBLE	54.88	0.30	181.25	0.05
BNS 121	BOWEN STREET	29.39	1.06	27.80	0.05
WET 121	WELLS ST	48.13	0.46	103.86	0.05
AUS 241	AURORA STREET	49.71	0.34	144.93	0.05
MSN 241	MASON STREET	46.82	0.42	110.94	0.05
MAD 241	MAPLEWOOD	42.99	0.46	92.71	0.05
MSN 244	MASON STREET	42.30	0.43	98.03	0.05
GRA 242	GRAVESVILLE	43.74	0.34	129.31	0.04
RLD 241	ROCKLAND	46.20	0.26	176.21	0.04
MEL 241	MERRILL HYDRO	41.52	0.37	111.23	0.04
SAE 241	SANDSTONE DIST	42.37	0.32	132.26	0.04
WMK 242	WESMARK	42.14	0.31	135.98	0.04
KRN 241	KRONEN	37.75	0.31	123.53	0.04
OCO 241	OCONTO	38.40	0.25	154.44	0.04
ROO 241	ROOSEVELT RD	36.67	0.30	121.31	0.04
HOO 241	HOOVER	28.44	0.53	53.86	0.04
CSL 241	CASSEL	29.77	0.46	64.48	0.04
JAS 241	JAMES ST.	38.58	0.18	215.26	0.04
GRA 244	GRAVESVILLE	31.93	0.29	111.03	0.03
MCR 241	MEARS CORNERS	33.57	0.23	145.21	0.03
MAI 241	MAINE	29.95	0.33	89.73	0.03
LIS 242	LIBERTY ST	33.26	0.21	154.92	0.03
GLW 242	GLENVIEW	28.29	0.33	85.83	0.03
GLW 241	GLENVIEW	29.73	0.26	113.05	0.03
LEA 241	LENA	23.65	0.36	65.48	0.03
PLO 241	PLOVER	24.72	0.32	77.16	0.03
HES 241	HENRY STREET	27.28	0.23	120.45	0.03
STD 241	STRATFORD	25.89	0.22	119.99	0.03
MHS 242	MYSTERY HILLS	26.85	0.17	154.57	0.03
SHS 242	SHERMAN STREET	25.95	0.19	137.30	0.03
MHS 241	MYSTERY HILLS	22.75	0.28	82.61	0.03
CSL 242	CASSEL	26.86	0.15	184.58	0.03

Feeder	Substation	SAIDI	SAIFI	CAIDI	Composite
ANO 241	ANTIGO	23.08	0.26	87.91	0.03
MCR 242	MEARS CORNERS	19.54	0.32	61.27	0.02
MAD 242	MAPLEWOOD	27.04	0.09	302.43	0.02
ONT 241	ONTARIO ROAD	24.74	0.14	177.00	0.02
AVN 242	AVIATION	20.14	0.27	75.32	0.02
PBL 243	PREBLE	21.16	0.21	100.16	0.02
PAV 241	PEARL	21.33	0.20	105.83	0.02
TOW 243	TOWNLINE	17.69	0.19	93.23	0.02
EOD 242	ELLINWOOD	14.18	0.28	51.25	0.02
UGB 123	UNIVERSITY	19.22	0.12	157.51	0.02
SHS 241	SHERMAN STREET	15.41	0.23	68.29	0.02
HOW 241	HOWARD	16.85	0.16	108.35	0.02
LIS 243	LIBERTY ST	16.25	0.14	113.05	0.02
MSN 243	MASON STREET	14.86	0.16	91.84	0.02
WMK 241	WESMARK	16.76	0.10	160.32	0.02
MSN 242	MASON STREET	14.45	0.10	151.04	0.01
SPT 241	SUNSET POINT	14.33	0.10	145.34	0.01
WPA 241	WAUPACA	13.94	0.10	135.31	0.01
HIP 242	HILLTOP	11.63	0.11	103.48	0.01
HES 122	HENRY STREET	8.16	0.20	40.94	0.01
ONT 242	ONTARIO ROAD	12.37	0.07	187.86	0.01
EAV 242	EASTMAN AVE	9.95	0.13	74.37	0.01
SPT 242	SUNSET POINT	9.07	0.14	63.25	0.01
LIS 241	LIBERTY ST	10.25	0.10	107.34	0.01
GLR 242	GLORY ROAD	10.18	0.09	113.58	0.01
DYK 242	DYCKESVILLE	10.51	0.08	132.40	0.01
HIV 242	HIGHWAY V	7.57	0.16	46.93	0.01
HIP 241	HILLTOP	9.74	0.08	126.63	0.01
GLR 241	GLORY ROAD	7.36	0.14	52.10	0.01
HIV 243	HIGHWAY V	8.48	0.10	88.34	0.01
BNS 241	BOWEN STREET	6.73	0.12	57.01	0.01
ASH 241	ASHLAND AVE	7.05	0.11	67.09	0.01
7TH 241	7TH STREET	7.97	0.07	110.82	0.01
HIV 241	HIGHWAY V	6.93	0.10	71.04	0.01
PIN 241	PINE	6.64	0.10	69.87	0.01
BLN 241	BLUESTONE	6.76	0.09	77.12	0.01
PBL 242	PREBLE	7.95	0.04	180.74	0.01
OKY 241	OKRAY	6.19	0.06	105.82	0.01
VLP 242	VELP AVE	6.02	0.06	94.75	0.01
TOW 121	TOWNLINE	5.25	0.07	75.49	0.01
KEL 243	KELLY	5.56	0.05	123.02	0.01
TOR 241	TOWER DRIVE	5.17	0.06	83.23	0.01
OSH 241	OSHKOSH	3.71	0.07	52.62	0.00
A12 242	TWELFTH AVE	3.14	0.07	45.03	0.00
EAV 241	EASTMAN AVE	3.75	0.04	96.33	0.00
OSH 243	OSHKOSH	2.23	0.03	68.87	0.00
RML 242	RED MAPLE	2.10	0.03	67.41	0.00
TOW 122	TOWNLINE	0.57	0.03	20.54	0.00
RML 241	RED MAPLE	0.96	0.01	176.67	0.00

Feeder	Substation	SAIDI	SAIFI	CAIDI	Composite
BES 121	BEARDSLEY ST	0.76	0.01	53.44	0.00
MIT 121	MISHICOT	0.00	0.00	63.87	0.00
MIT 122	MISHICOT	0.00	0.00	98.29	0.00
STS 121	STROWBRIDGE ST	0.00	0.00	39.00	0.00

PSC 113.0604(2)(b)

A list of the worst-performing circuits based on SAIFI, SAIDI, and CAIDI indexes for the calendar year. This section of the report shall describe the actions that the utility has taken or will take to remedy the conditions responsible for each listed circuit's unacceptable performance. The action(s) taken or planned should be briefly described. Target dates for corrective action(s) shall be included in the report. When the utility determines that actions on its part are unwarranted, its report shall provide adequate justification for such a conclusion.

Wisconsin Public Service Corporation analyzed the 179 distribution circuits in Wisconsin that experienced an outage in 2009. SAIFI, SAIDI, CAIDI, and the calculated composite indices are listed for the 10 worst feeders for 2009. The calculation for the composite index is based on the formula: $COMPOSITE = [(SAIFI/SAIFI\ MAX) * 0.2 + (SAIDI/SAIDI\ MAX) * 0.8 + (CAIDI/CAIDI\ MAX) * 0]$ where MAX = the maximum value of SAIFI, SAIDI, and CAIDI for all distribution circuits. The indices were calculated using interruptions greater than 5 minutes and excluded transmission related outages. Note that in 2009, as in 2008, there were no storms that met the definition of "major storm."

Feeder	Substation	SAIDI	SAIFI	CAIDI	Composite
SIS 242	SISTER BAY	992.88	4.25	233.70	0.91
BES 122	BEARDSLEY ST	647.45	7.43	87.09	0.72
GON 241	GOODMAN	775.86	2.37	327.17	0.69
CLK 243	CLEAR LAKE	732.91	3.64	201.57	0.69
SGM 241	ST. GERMAIN	727.70	3.37	215.93	0.68
SGM 242	ST. GERMAIN	697.58	4.21	165.67	0.68
CRB 244	CRANBERRY	640.96	3.94	162.52	0.62
MTN 242	MOUNTAIN	656.05	2.92	224.35	0.61
SUL 241	SUMMIT LAKE	548.02	3.02	181.51	0.52
VEN 241	VENUS	538.99	2.49	216.17	0.50

This section of the report will describe the actions the utility has taken or will take to improve the conditions responsible for each listed circuit's performance.

1. Sister Bay 242: Sister Bay 242 is a large rural feeder serving the northern tip of Door County. The two causes that contributed the most to the customer outage minutes were off right-of-way trees and weather accounting for 43.67% and 53.77% respectively. Looking at these two causes, 55.22% of the total outage minutes on Sister Bay 242

occurred December 9, 2009, when a severe snow storm dropped 14-17 inches of wet, heavy snow across the area.

2. Beardsley St 122: Beardsley St 122 is a small urban 12.47 kV feeder in the Kewaunee district. Based on total customer minutes of interruption, it actually ranked 81st out of 179 feeders with outages, but since it has so few customers three outages related to a severe snow storm on December 9, 2009, caused most of the SAIDI impact. This storm dropped 14-17 inches of wet, heavy snow across the area. There was a wire down that impacted 125 customers for 390 minutes, a blown fuse with no exact cause listed that impacted 75 customers for 477 minutes, and a feeder lockout with no known cause that impacted 1,196 customers for 28 minutes. The longer durations were due to extremely poor road conditions and a large number of outages in the Kewaunee district that day.
3. Goodman 241: Goodman 241 is a feeder in the Wabeno district that covers a large circuit area with a large exposure to trees. In 2009, there were two feeder lockouts of Goodman 241, one of which accounted for 791,000 customer minutes of outage time for a substation equipment failure. There are numerous tree related outages. We will continue to perform tree trimming on this feeder.
4. Clear Lake 243: The Clear Lake 243 feeder is in the Minocqua district situated in a wooded area and there are numerous tree related outages. There was a large storm in April but not classified as a major outage. There was also a main line cable failure that added significant customer outage minutes. We will continue to perform tree trimming on this feeder.
5. St. Germain 241: The Saint Germain 241 feeder is in the Minocqua district situated in a wooded area and has over 300 miles of distribution exposure. There appear to be no feeder lockouts, just many tree related outages. Again, we will continue to perform tree trimming on this feeder.
6. St. Germain 242: The Saint Germain 242 feeder is in the Minocqua district situated in a wooded area and has a large exposure to tree related outages. We are continuing tree trimming on the normal cycle.
7. Cranberry 244: The Cranberry 244 feeder is in the Eagle River district also situated in a wooded area with a large exposure to tree related outages. We are continuing tree trimming on the normal cycle.
8. Mountain 242: The Mountain 242 feeder is in the Wabeno district. It is on the end of a radial transmission line. It experienced a transmission line outage due to weather for 5 minutes and a feeder lockout for 90 minutes due to tree related causes. There are other tree related outages and we will continue on the normal cycle of tree trimming in the area.

9. Summit Lake 241: The Summit Lake 241 feeder is in the Antigo and Wabeno districts. It traverses wooded areas and has a large amount of exposure to trees. We are continuing tree trimming in these areas on normal cycle.
10. Venus 241: The Venus 241 feeder is in the Rhinelander district. It too traverses heavily wooded areas and has numerous tree related outages. We are continuing tree trimming on the normal cycle in these areas.

PSC 113.0604(2)(d)

A report on the accomplishment of the improvements proposed in prior reports for which completion has not been previously reported.

District	Project Name
Antigo	Install regulator near Crestwood and Orchard Rds
Antigo	Install regulators on County Road B
Chilton	Convert 12 KV area of GRA 242
Chilton	Convert Ariens Corp to 24.9 kV
Chilton	Install Regulators On Morrison Rd
Chilton	Reconductor Hwy 55
Green Bay	Add Two Phases on Packerland
Green Bay	Construct 3-Phase Tie by Packerland and Waube
Green Bay	Construct feeder exit for Bluestone 241
Green Bay	Construct Feeder Exit for Seventh St Sub
Green Bay	Construct Glory Road 243 feeder exit
Green Bay	Construct Mainline Along Hwy 29
Green Bay	Construct Suamico 242 feeder exit
Green Bay	Construct Underground Feeder Exit
Green Bay	Convert Highway 29 Stepdown (ONT 242, Hwy 29)
Green Bay	Install Regulators Along Kunesh Rd
Green Bay	Install Regulators at 2222-26R9
Green Bay	Install Regulators on State Rd 32 & 57
Green Bay	Reconductor 2600 Ft Along West Point Rd
Green Bay	Reconductor 4/0 ACSR on School Ln
Green Bay	Reconductor 8ACW outside Maplewood sub
Green Bay	Reconductor Along Lawrence Dr
Green Bay	Reconductor James St
Green Bay	Reconductor Line Between Adams St. and Jefferson St.
Green Bay	Reconductor Lost Dauphin Rd
Green Bay	Reconductor Mainline on County Rd G
Green Bay	Replace Regulators at County Hwy C

District	Project Name
Kewaunee	Construct ~700 ft of 1/0 ACSR
Kewaunee	Convert Algoma 121 Part 3
Kewaunee	Convert Algoma 121 Part 4
Kewaunee	Install Regulator on County Rd FF
Kewaunee	Install Regulators on Cherneyville Rd
Kewaunee	Install Regulators on Washington Rd
Kewaunee	Reconductor 4/0 on County Rd C
Kewaunee	Replace Regulators at 2523-28E7
Kewaunee	Replace Regulators on Hemlock Dr
Marinette	Add line regulator on Oconto 242
Marinette	Convert Stepdown 2821-25E34
Marinette	Convert Stepdown 2918-12L3
Marinette	Convert Stepdown 3024-18L41
Marinette	Convert Stepdown 66BB8 on Shore Drive
Marinette	Install Line Regulators on Roosevelt Rd
Marinette	Install Regulators on Bagley Rd
Marinette	Reconductor 10th Ave north along 25th
Marinette	Reconductor County Rd T
Marinette	Reconductor single strand in WI
Marinette	Reconductor WEM 7500`
Marinette	Replace regulators on Sherwood 241
Minocqua	Install Capacitor Bank on County Hwy M
Minocqua	Install Capacitor Banks on Clear Lake 241
Minocqua	Reconductor Along Hwy 70
Oshkosh	Construct Feeder Exit from Ellinwood 243 to Pole 205 DD1
Oshkosh	Convert step-down 1916 21E9
Oshkosh	Convert step-down 1916-34W23
Oshkosh	Install voltage regulators on County Rd T
Oshkosh	Install voltage regulators on State Rd 76
Oshkosh	Reconductor 1300 ft of mainline
Oshkosh	Reconductor Moser St
Oshkosh	Reconductor Omro Rd and Leonard Point Rd Part 1
Oshkosh	Reconductor Omro Rd and Leonard Point Rd Part 2
Oshkosh	Reconductor Omro Rd from Oakwood Rd to Leonard Point Rd
Stevens Point	Convert Step-down at County Rd K
Stevens Point	Install Capacitor Bank along Church St
Stevens Point	Install Capacitor Bank along State Rd 66
Sturgeon Bay	Convert BRU 122 on County Road C

District	Project Name
Sturgeon Bay	Convert CTH D Step-down
Sturgeon Bay	Convert Dunn Road 121 Part 2
Sturgeon Bay	Convert Dunn Road 121 Part 3
Sturgeon Bay	Convert Dunn Road 121 Part 4
Sturgeon Bay	Convert Europe Bay Step-down 3229 7R2
Sturgeon Bay	Convert Garrett Bay Step-down 3228 11L18
Sturgeon Bay	Convert Hwy 57 East
Sturgeon Bay	Convert Stepdown 3027-32L12
Sturgeon Bay	Convert step-down on County Rd O at 2725-22E1
Sturgeon Bay	Convert step-down on Emerald Rd at 2725-14L10
Sturgeon Bay	Install Regulators on State Rd 57 at 3028-30R4
Tomahawk	Tomahawk-Wisconsin River Crossing
Two Rivers	Construct 3 phase mainline along Woodlawn Dr from Cottage Ln to Johnston Dr
Two Rivers	Convert Mishicot 121 Part A
Two Rivers	Convert Mishicot 121 Part B
Two Rivers	Convert Mishicot 121 Part C
Two Rivers	Install Regulators Near Pole 1823-11R34
Two Rivers	Install Regulators Near Pole 2024-31L20
Two Rivers	Replace Switch 1924-4W38
Wabeno	Install Regulator Near Pole 3312-3L13
Wabeno	Install Regulator Near Pole 3313-34E5
Wabeno	Install Regulators Near Pole 3315-23L48
Wabeno	Install Regulators on Mountain 241
Wabeno	Reconductor and Rebuild Silver Cliff 241
Waupaca	Convert County K Step-down
Waupaca	Convert Elm St Step-down
Waupaca	Convert Smith Rd Step-down south of State Hwy 22
Wausau	Convert Grand Ave
Wausau	Convert Strowbridge Feeder South and West of Knox St
Wausau	Convert Winton st 122
Wausau	Install Capacitor on County Rd WW
Wausau	Install Winton St 241 Fdr exit
Wausau	Reconductor 28th Ave
Wausau	Reconductor Norsau 121 #2 ACSR
Wausau	Reconductor Stewart Ave
Wausaukee	Add one phase on County Rd C west of County Rd A
Wausaukee	Construct feeder exit at Crivitz sub

District	Project Name
Wausaukee	Convert Beech Rd step-down
Wausaukee	Install 100 amp Voltage Regulators near 3218-24E10
Wausaukee	Install line regulators on County Rd K
Wausaukee	Install line regulators on County Rd X
Wausaukee	Install regulators on Daves Falls 241
Wausaukee	Move open points on Sandstone 241
Wausaukee	Reconductor 3rd Road, County Rd P, and Riverview Rd
Wausaukee	Reconductor County Rd W
Wausaukee	Reconductor from 3318-25E9 to Thunder Rd
Wausaukee	Reconductor Two Mile Rd

PSC 113.0604(2)(e)

A description of any new reliability or power quality programs and changes that are made to existing programs.

There have been no changes to existing power quality or reliability programs at Wisconsin Public Service Corporation in 2009.

PSC 113.0604(2)(f)

A status report of any long range electric distribution plans.

District	Project Name	In-Service Date
Antigo	Install Voltage Regulators on County Hwy Y	2012
Antigo	Install Regulator Near Pole 3111-8L12	2012
Antigo	Install Capacitor Bank Near Pole 3112-6W3	2013
Antigo	Construct Feeder Exit for Summit Lake 242	2013
Antigo	Summit lake 242 - New feeder	2013
Antigo	Antigo Sub Add 2nd Feeder	2019
Chilton	Reconductor Irish Rd	2010
Chilton	Brillion Iron Works - Upgrade Bank 1	2011
Eagle River	Three Lakes - Replace small transformer	2015
Eagle River	Install Regulator Near Pole 3911-6L5	2010
Eagle River	Install Regulator Near Pole 3911-20W15	2013
Eagle River	Install Regulators Near Pole 3809-13W24	2013
Green Bay	Reconductor 4/0 ACSR on Lime Kiln	2009
Green Bay	Construct Underground Feeder Exit	2009

District	Project Name	In-Service Date
Green Bay	Reconductor Line Along Hwy 32	2009
Green Bay	Replace Breakers at P&G North and South Subs	2009
Green Bay	Construct 3 phase mainline from Bayport Sub to the east	2010
Green Bay	Construct Greenleaf 241 feeder exit	2010
Green Bay	Construct Mainline Along Hwy 32	2010
Green Bay	Reconductor Finger Rd	2010
Green Bay	Add 2 Phases Along Nicolet Dr	2010
Green Bay	Construct 3 Phase Line 1/0 ACSR West of Hwy 41	2011
Green Bay	Reconductor Hwy NN	2011
Green Bay	Reconductor 336 ACSR from Feeder Exit to West Point Rd	2012
Green Bay	Reconductor 2500 Ft on West Point Rd	2012
Green Bay	Install Regulator Near Pole 2520-32L9	2013
Green Bay	Construct Greenleaf 242 Overhead Feeder Exit	2013
Green Bay	Install Regulators Lineville and Pinecrest	2013
Green Bay	Construct BAT 242 Overhead Feeder Exit	2015
Green Bay	Replace Feeder Exit on Highway V	2015
Green Bay	Reconductor Mainline After Feeder Exit	On Hold
Green Bay	Reconductor James St	2010
Green Bay	Greenleaf 241 - New feeder	2010
Green Bay	Greenleaf 242 - New feeder	2013
Green Bay	Ashland 241 - Upgrade regs & OCR	2014
Green Bay	Bay Ridge - New sub	2015
Green Bay	Bayport - Add 2nd 24.9 kV feeder	2015
Green Bay	Eastern Green Bay - Purchase Property	2015
Green Bay	Highway V - Change out substation regs to 400A	2015
Green Bay	Mystery Hills - Add 3rd feeder	2016
Green Bay	Seventh Street - Add second feeder	2017
Green Bay	Eastern Green Bay - New source	2018
Green Bay	West Wrightstown - New sub	On Hold
Green Bay	West Wrightstown - Purchase Property	On Hold
Kewaunee	Install Regulators on County Rd AB and Old Settlers Rd	2010
Kewaunee	Reconductor County Rd S, Apple Rd, and Pheasant Rd	2010
Kewaunee	Install Line Regulators on State Rd 29 west of County Rd AB	2011
Kewaunee	East Krok - Replace transformers	2019
Marinette	Ogden St - Upgrade Banks 1 & 2	2010
MM	Install Line Regulators on State Hwy 64	2009
MM	Rebuild County Rd G	2009
Merrill	Install Voltage Regulator West of Pole 3206 35R6	2011
Merrill	Grandfather Falls - Construct new 24.9kV feeder	On Hold
Minocqua	Install Capacitor Bank Near Pole 3906-10R23	2010

District	Project Name	In-Service Date
Minocqua	Install Capacitor Bank on 3906-11E105	2011
Minocqua	Extend 3 phase Line from Arnett Sub to 70 W Distribution	2012
Minocqua	Construct Feeder Exit for Woodmin 241	2012
Minocqua	Woodmin - New 24.9kV source	2012
Minocqua	Install Capacitor Bank Near Pole 4107 26R4	2013
Minocqua	Boulder Junction - Add 24.9 kV source	On Hold
Oshkosh	Reconductor 750 UG feeder exit	2009
Oshkosh	Reconductor S Washburn between pole 264 BB8 and 244 CC28	2010
Oshkosh	Reconductor Washburn Ave	2010
Oshkosh	Pearl Ave. 121/122 - Convert to 24.9kV	2010
Oshkosh	Reconductor Osborne Ave	2011
Oshkosh	Install 3-Phase on Mason St	2011
Oshkosh	Reconductor 20th Ave	2011
Oshkosh	Reconductor N Washburn St	2012
Oshkosh	Reconductor Omro Rd & Brooks Rd	2012
Oshkosh	Reconductor W 6th Ave	2015
Oshkosh	Ellinwood 243 - Install 24.9kV feeder	2019
Oshkosh	Pearl Ave. - Add 2nd 24.9kV source	2019
Oshkosh	Reconductor S Washburn from pole 264 AA48 to 1716 9E5	On Hold
Rhineland	Install regulators on Highway 8	2009
Rhineland	Install Regulator Near 3707-36L1 on County Hwy K	2010
Rhineland	Convert Thompson Rd Step-down at Pole 3709-35R12	2010
Rhineland	Install Regulator Near 3709-29L25 on County Rd W	2010
Rhineland	Install Regulator Near 3709-30R46 on River Rd	2010
Rhineland	Install Regulator Near Pole 3608 35E2	2011
Rhineland	Install 2 Regulators Near Pole 3608 25L5	2011
Rhineland	Install Regulator Near 3707-2E1 near Fawn Lake Rd	2011
Rhineland	Change the 450 kvar Capacitor Bank at 54 AA41 to a 1200 kvar Capacitor Bank	2011
Rhineland	Convert Pine Lake Step-down at Pole 3712-23W16	2011
Rhineland	Install Capacitor Bank Near Pole 3613 5L4	2012
Rhineland	Install Capacitor Bank Near Pole 3612 26E21	2012
Rhineland	Highway 8 241 - Upgrade OCR's	2012
Rhineland	Highway 8 241 - Upgrade regulators	2012
Rhineland	Hodag 242 - Add 22.4 MVA transformer	2017
Rhineland	Metonga 242 - Add second feeder	2018
Sturgeon Bay	Install Regulator on North Bay Dr	2009
Sturgeon Bay	Convert Stepdown 3027-29L13	2009
Sturgeon Bay	Convert Stepdown 2927-6W11	2009

District	Project Name	In-Service Date
Sturgeon Bay	Install regulators on County Rd J	2010
Sturgeon Bay	Convert State Hwy 42 Step-down	2010
Stevens Point	Install Third Phase on Torun Rd	2011
Stevens Point	Install Regulator on State Rd 66	2012
Stevens Point	Northpoint - Upgrade fdr 241 OCR and Regs	2018
Stevens Point	Okray - Add second feeder	2019
Stevens Point	Reconductor State Hwy 66	On Hold
Stevens Point	River Sub St. Pt. West - Add a 24.9kV source	On Hold
Tomahawk	Tomahawk Hydro 24.9kV feeder 241	2019
Two Rivers	Mishicot - Convert to 24.9kV 1 feeder	2009
Two Rivers	Howards Grove - Add 24.9kV Source	2010
Two Rivers	St Nazianz 241 & 242 - Upgrade Fdr Regs	2012
Two Rivers	Manrap - Add 2nd 24.9kV source & feeder	2016
Two Rivers	St. Nazianz 242 - Upgrade xfmr to 22 MVA unit	2018
Wabeno	Reconductor Silver Cliff 241	2007
Wabeno	Convert Coleman Lake to 24.9 KV	2009
Wabeno	Convert Birch Lake	2010
Wabeno	Install Capacitor Bank Near Pole 3817 31W8	2013
Wabeno	Mountain 241 - Upgrade regs to 400A	2013
Wausau	Extension on Aster Road	2008
Wausau	Weston P-94 Relay Mods	2009
Wausau	Mosinee - Switch Str. RTU and SW Upgrade	2009
Wausau	Kronen Q-69 Removal	2010
Wausau	Replace Copperweld Conductor South of 2808 25E3	2012
Wausau	Install Regulator Near Pole 2709 13R6	2012
Wausau	Sherman St. replace xfmr with 56MVA	2012
Wausau	Replace Copperweld Conductor South of 2705 27E4	2013
Wausau	Replace Copperweld Conductor South of 2606 3E9	2013
Wausau	Mosinee - Install new 24.9kV feeder T-20	2017
Wausau	Wausau Hydro 241 - Upgrade OCR/Regs	2018
Wausau	Reconductor Hilltop 241 Feeder Exit	2019
Wausau	Hilltop 241 -Upgrade OCR/Regs	2019
Wausau	Reconductor Cassel 242 Feeder Exit	2020
Wausau	Cassel 241 - Upgrade OCR/Regs	2020
Wausau	Cassel 242 - Upgrade OCR/Regs	2020
Wausau	Reconductor Kelly 241 Mainline	On Hold
Wausau	Edgar - Install new sub and 24.9kV feeder	On Hold
Wausau	Wausau Rural NE - New 24.9kV feeder M-13	On Hold
Wausau	Wausau Rural SE - New 24.9kV feeder A-313	On Hold
Waupaca	Convert Area Beyond 44 KK35	2012
Waupaca	Harrison 241 - Upgrade OCR/Regs to 800/400A	On Hold
Waupaca	Harrison 242 - Upgrade OCR/Regs to 800/400A	On Hold
Waupaca	Hartman - Add 24.9kV source	On Hold
Wausaukee	Install Regulators on US 41	2011

District	Project Name	In-Service Date
Wausaukee	Construct Feeder Exit Dave's Falls 241	2013
Wausaukee	Construct Feeder Exit Dave's Falls 242	2013
Wausaukee	Move Open Points on Sandstone 241	2013
Wausaukee	Amberg Sub-2 new sources to replace DAF	2013

PSC 113.0604(3)(a)

Route miles of electric distribution line reconstructed during the year. Separate totals for single- and three-phase circuits shall be provided.

The approximate route miles of electric distribution reconstruction is:

- 1 Phase – 46.75 miles
- 2 Phase – 7.43 miles
- 3 Phase – 50.39 miles

PSC 113.0604(3)(b)

Total route miles of electric distribution line in service at year's end, segregated by voltage level

**WISCONSIN PUBLIC SERVICE CORPORATION
ROUTE MILES OF ELECTRIC DISTRIBUTION LINE BY VOLTAGE LEVEL
BASED ON AN EXTRACT FROM THE EAGLE GIS**

Voltage	Route Miles	Percent of Total
46 kV	69.19	0.35%
24.94 kV	19,102.10	97.54%
13.8 kV	10.98	0.06%
12.47 kV	389.45	1.99%
4.16 kV	12.69	0.06%
Total	19,584.43	100.00%

PSC 113.0604(3)(c)

Monthly average speed of answer, as defined in s. PSC 113.0503(1) (b), for telephone calls received regarding emergencies, outages and customer billing problems.

Listed is the average speed of answer in seconds for telephone calls received regarding emergencies, outages, and customer billing problems for the year 2009.

January	24 sec
February	12 sec.
March	51 sec.
April	35 sec.
May	51 sec.
June	68 sec.
July	44 sec.
August	98 sec
September	85 sec
October	75 sec
November	37 sec
December	52 sec.
2009 Year-to-Date	57 sec

The service quality standard for average speed of answer given in PSC 113.0503(1) is:

(a) A utility or its agent shall maintain sufficient employees and equipment to achieve an average speed of answer of not more than 90 seconds. The average speed of answer shall be determined by summing the total queuing time and dividing by the total number of customer calls handled by automated systems. A utility or its agent shall calculate this average speed of answer on a monthly basis, including customer service calls, outage calls and emergency calls.

(b) A utility or its agent shall maintain sufficient employees to achieve an average speed of live response of not more than 90 seconds. The average speed of live response shall be determined by summing the total time from indication of request for live response and divided by the total number of calls answered by a live agent. A utility or its agent shall calculate this average speed of answer on a monthly basis, including customer service calls, outage calls and emergency calls.

PSC 113.0604(3)(d)

The average number of calendar days a utility takes to install and energize service to a customer site once it is ready to receive service. A separate average shall be calculated for each month, including all extensions energized during the calendar month.

WPSC's Distribution Work Management System tracks our construction process in the Work Management Information System (WMIS) component. WMIS provides the following data:

- Requested Completion Date
- Meter Set Date

Average number of calendar days from the Requested Completion Date to the Electric Meter set date in 2009:

January	3.56
February	3.27
March	4.39
April	3.89
May	4.75
June	6.08
July	5.45
August	5.53
September	5.76
October	7.92
November	6.79
December	9.70

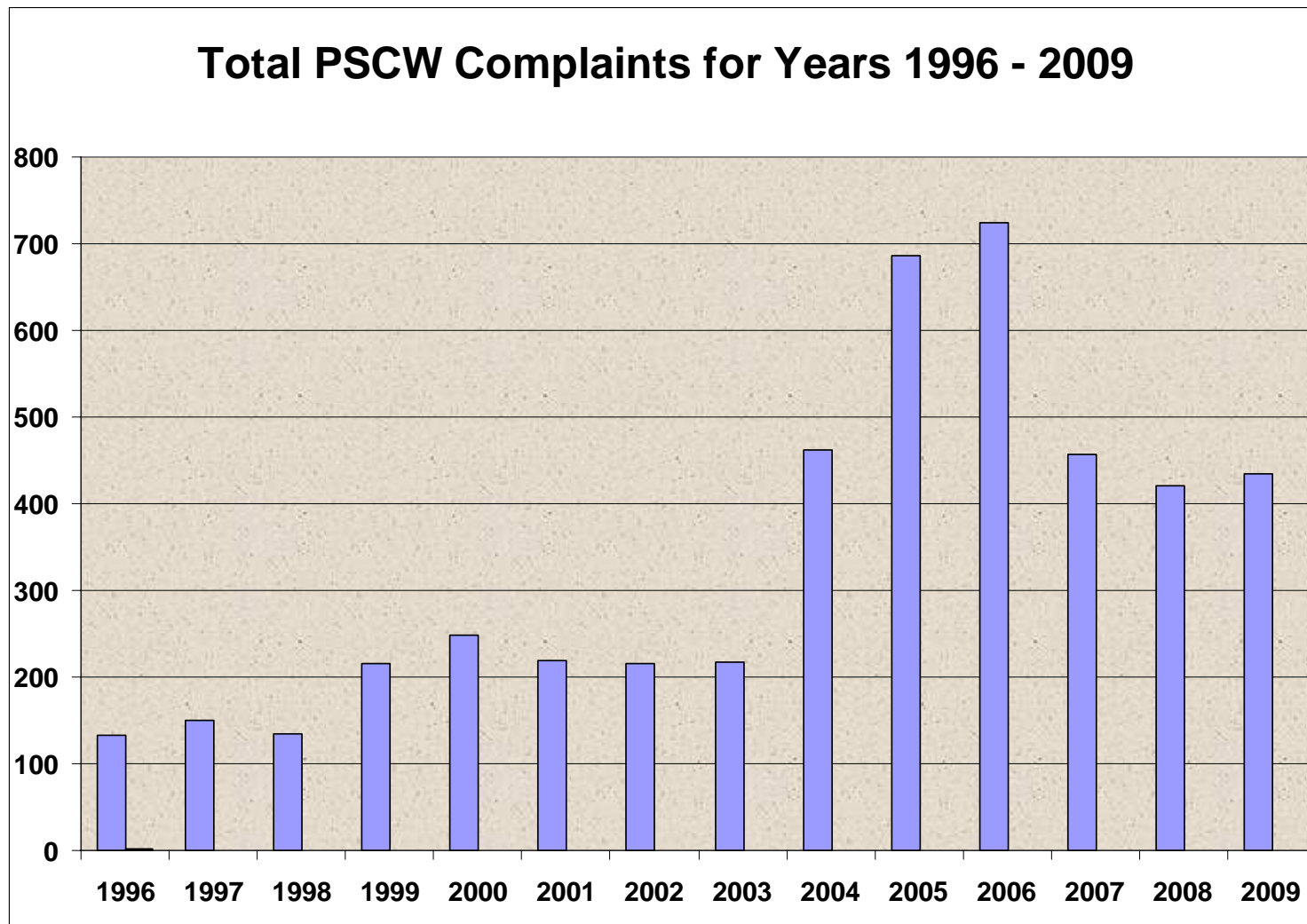
Annual Average:	6.09
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These averages are based on the work requests that had **both** the Requested Completion Date and the Electric Meter Set Date entered in the WMIS System at the time this data was extracted.

This data also includes work requests that have a Service Measures comment.

PSC 113.0604(3)(e)

The total number of written and telephone customer complaints received in the areas of safety, customer billing, outages, power quality, customer property damage, and other areas, by month filed.



PSCW Complaints By Month - 2009

Type of Complaint	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
B = Billing	0	2	2	1	3	3	0	4	0	0	0	0	15
BB=Backbilling/Defective Meter	3	4	5	0	1	1	0	2	2	1	2	0	21
C = Credit	7	4	12	37	50	63	49	39	47	45	2	7	362
CSC=Customer Service Calls	1	0	0	0	1	0	1	0	2	0	0	0	5
ES=Electric Service Extensions	0	0	0	0	0	0	0	0	0	0	0	0	0
GO=Gas Odor	0	0	0	0	0	0	0	0	0	0	0	0	0
GS=Gas Service Extensions	0	0	0	0	0	0	0	0	0	0	0	1	1
LC=Line Clearance	0	0	0	0	0	0	0	0	0	0	0	0	0
M=Miscellaneous Other	3	3	1	5	4	2	5	0	0	0	4	2	29
ML=Meter Locations	0	0	0	0	0	0	0	0	0	0	0	0	0
O = Outages	0	0	0	0	0	0	0	0	0	0	0	0	0
PDC=Property Damage to Customers	0	0	0	0	0	0	0	0	0	0	0	0	0
R=Rate Classification	0	0	0	0	0	0	0	0	0	0	0	0	0
Rel=Relocate WPSC Facilities	0	0	0	1	0	0	0	0	1	0	0	0	2
SREL=Service Reliability	0	0	0	0	0	0	0	0	0	0	0	0	0
SV=Stray Voltage	0	0	0	0	0	0	0	0	0	0	0	0	0
USC=Unacceptable Service Condition	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	14	13	20	44	59	69	55	45	52	46	8	10	435

PSC 113.0604(3)(f)

Total annual tree trimming budget and actual expenses.

2009 Line Clearance Budget Summary

Total annual tree trimming budget: **\$5,358,963**

Total annual tree trimming actual expenses: **\$5,344,635**

PSC 113.0604(3)(g)

Total annual projected and actual miles of distribution line tree trimmed.

2009 Line Clearance Line-Mile Summary

Annual projected miles of distribution line tree trimmed: **3,064**

Total actual miles of distribution line tree trimmed: **2,739**



Wisconsin Public Service Corporation

700 North Adams Street

P.O. Box 19001

Green Bay, WI 54307-9001

Public Service Commission of Wisconsin
RECEIVED: 03/14/11, 11:26:53 AM

March `4, 2011

Ms. Sandra Paske
Secretary of the Commission
Public Service Commission of Wisconsin
610 N. Whitney Way
Madison, WI 53705-2729

Dear Ms. Paske:

Docket 05-GF-113

Re: PSC 113.0604 Annual Report

Enclosed is Wisconsin Public Service Corporation's filing to meet the requirements for the PSC 113.0604 Annual Report.

Please call me at (920) 433-1716 if you have any questions or concerns. I can also be reached by e-mail at SDeMerritt@wisconsinpublicservice.com.

Sincerely,

A handwritten signature in black ink, appearing to read "Steven L. De Merritt", with a stylized flourish at the end.

Steven L. De Merritt, P.E.
Senior Planning Engineer – Distribution

wab

Enclosure

Contents

PSC 113.0603(2)	2
PSC 113.0604(2)(a)	6
PSC 113.0604(2)(a)	7
PSC 113.0604(2)(b)	12
PSC 113.0604(2)(b)	16
PSC 113.0604(2)(d)	17
PSC 113.0604(2)(e)	18
PSC 113.0604(2)(f)	18
PSC 113.0604(3)(a)	22
PSC 113.0604(3)(b)	22
PSC 113.0604(3)(c)	23
PSC 113.0604(3)(d)	24
PSC 113.0604(3)(e)	25
PSC 113.0604(3)(f)	27
PSC 113.0604(3)(g)	27

PSC 113.0603(2)

Each utility also shall, at the end of each calendar year, calculate the SAIFI, SAIDI and CAIDI indices for each circuit in each operating area. Each circuit in each operating area shall then be listed in order separately according to its SAIFI index, its SAIDI index, and also its CAIDI index, beginning with the highest values for each index.

**2010 Electric Distribution Customer Interruptions
Total Distribution System Reliability Indices by Feeder
Excluding Transmission Caused Outages and Momentaries LE 5 Min**

Feeder	Substation	SAIDI	Feeder	Substation	SAIFI	Feeder	Substation	CAIDI
SGM 241	ST. GERMAIN	3,921.08	SOT 242	SHOTO	7.24	MTN 241	MOUNTAIN	1,360.64
VEN 241	VENUS	3,583.07	SGM 241	ST. GERMAIN	6.97	MGA 241	METONGA	957.59
MTN 242	MOUNTAIN	3,377.39	CLK 242	CLEAR LAKE	6.87	GON 241	GOODMAN	926.28
SUL 241	SUMMIT LAKE	3,173.64	SUL 241	SUMMIT LAKE	6.73	VEN 242	VENUS	825.17
CLK 241	CLEAR LAKE	2,930.48	CLK 243	CLEAR LAKE	6.04	MRP 241	MANRAP	753.48
CLK 243	CLEAR LAKE	2,821.85	VEN 241	VENUS	5.79	SIC 241	SILVER CLIFF	740.77
SIC 241	SILVER CLIFF	2,685.27	MTN 242	MOUNTAIN	5.65	DAF 241	DAVES FALLS	738.18
MTN 241	MOUNTAIN	2,659.15	CLK 241	CLEAR LAKE	5.34	TDR 241	THUNDER	621.12
MGA 241	METONGA	2,606.98	SGM 242	ST. GERMAIN	4.80	VEN 241	VENUS	618.87
CRB 244	CRANBERRY	2,529.28	CRB 244	CRANBERRY	4.73	EST 243	EASTOM	610.19
TDR 241	THUNDER	2,466.79	THL 241	THREE LAKES	4.48	MTN 242	MOUNTAIN	597.27
GON 241	GOODMAN	2,185.05	TDR 241	THUNDER	3.97	MIT 241	MISHICOT	582.43
CLK 242	CLEAR LAKE	2,121.59	HI8 242	HIGHWAY 8	3.93	SAE 241	SANDSTONE DIST	575.06
SGM 242	ST. GERMAIN	2,021.80	SIS 242	SISTER BAY	3.72	SGM 241	ST. GERMAIN	562.27
THL 241	THREE LAKES	2,021.20	EST 242	EASTOM	3.71	PIN 242	PINE	560.58
VEN 242	VENUS	1,970.86	SIC 241	SILVER CLIFF	3.63	CLK 241	CLEAR LAKE	549.16
SOT 242	SHOTO	1,956.53	BLN 241	BLUESTONE	3.19	CRB 244	CRANBERRY	535.19
DAF 241	DAVES FALLS	1,854.84	A12 241	TWELFTH AVE	3.09	EAK 241	EAST KROK	526.98
HI8 242	HIGHWAY 8	1,779.59	DAF 242	DAVES FALLS	3.01	HI8 243	HIGHWAY 8	499.23
SAE 241	SANDSTONE DIST	1,639.63	EAK 242	EAST KROK	2.88	WMK 241	WESMARK	498.38
SIS 242	SISTER BAY	1,587.24	SAE 241	SANDSTONE DIST	2.85	SUL 241	SUMMIT LAKE	471.35
EST 242	EASTOM	1,508.88	HI8 241	HIGHWAY 8	2.72	LEA 241	LENA	470.09
PIN 242	PINE	1,258.21	MGA 241	METONGA	2.72	NOU 122	NORSAU	467.79
DAF 242	DAVES FALLS	1,212.99	HRR 241	HARRISON	2.68	CLK 243	CLEAR LAKE	467.46
HOD 241	HODAG	1,155.53	SRD 241	SHERWOOD	2.58	AUS 241	AURORA STREET	463.15
EST 243	EASTOM	903.84	ALA 241	ALGOMA	2.56	HOD 241	HODAG	454.94
EAK 241	EAST KROK	861.23	PBL 242	PREBLE	2.55	HI8 242	HIGHWAY 8	452.79
HI8 241	HIGHWAY 8	846.74	WAV 242	WHITING AVE	2.55	THL 241	THREE LAKES	451.61
LEA 241	LENA	799.60	HOD 241	HODAG	2.54	EGH 242	EGG HARBOR	428.92
EAK 242	EAST KROK	539.27	DAF 241	DAVES FALLS	2.51	SIS 242	SISTER BAY	426.91
EWA 241	EAST WAUSAU	511.31	OKY 241	OKRAY	2.51	EGH 241	EGG HARBOR	426.40
EGH 241	EGG HARBOR	486.40	AVN 242	AVIATION	2.44	SGM 242	ST. GERMAIN	420.97
AUS 241	AURORA STREET	479.01	EWA 241	EAST WAUSAU	2.40	ASH 242	ASHLAND AVE	414.96
MRP 241	MANRAP	474.01	VEN 242	VENUS	2.39	EST 242	EASTOM	406.74
ALA 241	ALGOMA	466.93	MAV 242	MORRISON AVE	2.37	DAF 242	DAVES FALLS	402.81
MAI 241	MAINE	452.29	GON 241	GOODMAN	2.36	KEV 242	KELLNERSVILLE	380.40
CRI 242	CRIVITZ	434.33	SPT 241	SUNSET POINT	2.36	CRI 242	CRIVITZ	380.04
SRD 241	SHERWOOD	427.05	PIN 242	PINE	2.24	PLO 242	PLOVER	379.00

Feeder	Substation	SAIDI	Feeder	Substation	SAIFI	Feeder	Substation	CAIDI
AUS 242	AURORA STREET	415.45	TOW 243	TOWNLINE	2.05	SRD 242	SHERWOOD	370.82
WMK 241	WESMARK	414.35	MAI 241	MAINE	2.02	EOD 242	ELLINWOOD	356.48
BLN 241	BLUESTONE	384.68	MTN 241	MOUNTAIN	1.95	BES 122	BEARDSLEY ST	350.40
MIT 241	MISHICOT	362.30	SNZ 241	ST. NAZIANZ	1.93	GNF 241	GREENLEAF	347.40
SMO 241	SUAMICO	354.97	KRN 241	KRONEN	1.81	MEL 241	MERRILL HYDRO	322.87
EOD 242	ELLINWOOD	352.54	LUX 241	LUXEMBURG	1.73	GLW 242	GLENVIEW	321.15
SRD 242	SHERWOOD	346.67	LEA 241	LENA	1.70	POU 241	POUND	317.61
LUX 241	LUXEMBURG	344.97	AUS 242	AURORA STREET	1.68	HI8 241	HIGHWAY 8	311.35
EGH 242	EGG HARBOR	340.67	KRN 242	KRONEN	1.68	CLK 242	CLEAR LAKE	308.84
GNF 241	GREENLEAF	316.87	EOD 241	ELLINWOOD	1.65	OCO 242	OCONTO	301.65
DUR 241	DUNN ROAD	299.04	EAK 241	EAST KROK	1.63	SOT 242	SHOTO	270.19
TOW 243	TOWNLINE	290.56	SMO 241	SUAMICO	1.61	UGB 122	UNIVERSITY	269.00
UGB 122	UNIVERSITY	269.00	GLW 241	GLENVIEW	1.60	MAD 242	MAPLEWOOD	262.38
MEL 241	MERRILL HYDRO	267.69	DUR 241	DUNN ROAD	1.53	DYK 242	DYCKESVILLE	261.12
KRN 241	KRONEN	260.18	HIP 242	HILLTOP	1.53	AUS 242	AURORA STREET	247.14
RSR 241	ROSIERE	244.19	MCR 242	MEARS CORNERS	1.52	HOW 241	HOWARD	239.42
HES 241	HENRY STREET	232.94	OSH 241	OSHKOSH	1.51	MAV 241	MORRISON AVE	237.52
STD 241	STRATFORD	232.94	EST 243	EASTOM	1.48	SNZ 242	ST. NAZIANZ	233.81
SNZ 242	ST. NAZIANZ	226.29	HES 241	HENRY STREET	1.48	VLP 241	VELP AVE	230.79
CSL 241	CASSEL	225.32	MAD 241	MAPLEWOOD	1.45	SIS 241	SISTER BAY	230.58
KEV 242	KELLNERSVILLE	218.54	NPT 241	NORTHPOINT	1.43	DYK 241	DYCKESVILLE	229.22
MAD 241	MAPLEWOOD	217.63	CSL 241	CASSEL	1.39	LIS 243	LIBERTY ST	227.45
GLW 241	GLENVIEW	214.79	HIV 241	HIGHWAY V	1.35	BRU 242	BRUSBAY	223.87
GOS 242	GOLDEN SANDS	211.51	GOS 242	GOLDEN SANDS	1.32	MAI 241	MAINE	223.70
OKY 241	OKRAY	210.02	ASH 241	ASHLAND AVE	1.31	SBY 242	SOUTH BROADWAY	222.40
TOW 122	TOWNLINE	193.28	NPT 242	NORTHPOINT	1.28	SMO 241	SUAMICO	220.49
MCR 242	MEARS CORNERS	192.45	STD 241	STRATFORD	1.24	HOO 241	HOOVER	220.16
WAV 242	WHITING AVE	191.08	AVN 241	AVIATION	1.22	RSR 241	ROSIERE	219.78
MAV 242	MORRISON AVE	190.74	SMO 242	SUAMICO	1.20	MSN 242	MASON STREET	214.20
KRN 242	KRONEN	190.45	TOW 121	TOWNLINE	1.19	EWA 241	EAST WAUSAU	213.00
RYN 123	RYAN STREET	189.90	TOW 122	TOWNLINE	1.19	PBL 243	PREBLE	212.61
A12 241	TWELFTH AVE	189.61	OAS 241	OAK STREET	1.17	EAV 241	EASTMAN AVE	202.40
SIS 241	SISTER BAY	188.01	GRA 242	GRAVESVILLE	1.16	LUX 241	LUXEMBURG	199.49
PAV 122	PEARL	187.50	CRI 242	CRIVITZ	1.14	KEL 243	KELLY	197.85
HIP 242	HILLTOP	184.96	EGH 241	EGG HARBOR	1.14	RLD 242	ROCKLAND	196.49
GRA 242	GRAVESVILLE	178.20	MHS 242	MYSTERY HILLS	1.12	DUR 241	DUNN ROAD	195.82
SPT 241	SUNSET POINT	174.20	RSR 241	ROSIERE	1.11	SPT 242	SUNSET POINT	195.75
PBL 242	PREBLE	173.02	SHS 242	SHERMAN STREET	1.07	ROD 241	ROTHSCHILD	194.56
BRU 242	BRUSBAY	165.26	BES 121	BEARDSLEY ST	1.05	RYN 123	RYAN STREET	189.90
WEM 241	WEST MARINETTE	161.55	OSH 243	OSHKOSH	1.05	STD 241	STRATFORD	188.11
WAV 241	WHITING AVE	149.82	WAV 241	WHITING AVE	1.04	PAV 122	PEARL	187.50
HI8 243	HIGHWAY 8	148.16	AUS 241	AURORA STREET	1.03	EAK 242	EAST KROK	187.13
EOD 241	ELLINWOOD	146.12	PAV 122	PEARL	1.00	RML 242	RED MAPLE	186.34
SMO 242	SUAMICO	145.16	RYN 123	RYAN STREET	1.00	ALA 241	ALGOMA	182.58
SHS 242	SHERMAN STREET	141.60	UGB 122	UNIVERSITY	1.00	RSR 242	ROSIERE	179.56
GLW 242	GLENVIEW	140.54	EOD 242	ELLINWOOD	0.99	WMK 242	WESMARK	174.47
OCO 242	OCONTO	138.27	WEM 241	WEST MARINETTE	0.98	BAT 241	BAYPORT	174.38
HRR 241	HARRISON	136.44	OCO 241	OCONTO	0.97	HIP 241	HILLTOP	174.03
DYK 242	DYCKESVILLE	133.46	SNZ 242	ST. NAZIANZ	0.97	MHS 241	MYSTERY HILLS	170.15

Feeder	Substation	SAIDI	Feeder	Substation	SAIFI	Feeder	Substation	CAIDI
TOW 121	TOWNLINE	132.25	GRA 241	GRAVESVILLE	0.96	WEM 241	WEST MARINETTE	165.63
ASH 241	ASHLAND AVE	129.17	OSH 242	OSHKOSH	0.96	SRD 241	SHERWOOD	165.60
AVN 242	AVIATION	128.34	SRD 242	SHERWOOD	0.93	GLR 241	GLORY ROAD	162.54
KEL 241	KELLY	122.32	GNF 241	GREENLEAF	0.91	TOW 122	TOWNLINE	162.40
MHS 242	MYSTERY HILLS	118.64	KEL 241	KELLY	0.87	CSL 242	CASSEL	162.26
PBL 241	PREBLE	117.57	MEL 241	MERRILL HYDRO	0.83	CSL 241	CASSEL	161.63
SBY 242	SOUTH BROADWAY	117.56	WMK 241	WESMARK	0.83	GOS 242	GOLDEN SANDS	159.66
OCO 241	OCONTO	115.34	SIS 241	SISTER BAY	0.82	HIV 242	HIGHWAY V	157.78
BES 121	BEARDSLEY ST	108.64	EGH 242	EGG HARBOR	0.79	HES 241	HENRY STREET	157.53
GOS 241	GOLDEN SANDS	108.22	PBL 241	PREBLE	0.79	GRA 242	GRAVESVILLE	153.46
HIV 241	HIGHWAY V	106.40	GOS 241	GOLDEN SANDS	0.76	WPA 242	WAUPACA	153.29
GRA 241	GRAVESVILLE	105.94	BRU 242	BRUSBAY	0.74	MAD 241	MAPLEWOOD	150.22
NPT 242	NORTHPOINT	102.07	SOI 241	SOBIESKI	0.73	PBL 241	PREBLE	149.60
SOI 241	SOBIESKI	98.05	GRA 244	GRAVESVILLE	0.64	BNS 121	BOWEN STREET	145.82
WMK 242	WESMARK	97.60	MRP 241	MANRAP	0.63	PAV 241	PEARL	145.26
SNZ 241	ST. NAZIANZ	96.79	MIT 241	MISHICOT	0.62	WAV 241	WHITING AVE	143.92
POU 241	POUND	96.44	KEV 242	KELLNERSVILLE	0.57	RLD 241	ROCKLAND	143.81
NPT 241	NORTHPOINT	95.57	HOO 242	HOOVER	0.56	KRN 241	KRONEN	143.38
HOO 241	HOOVER	89.30	MCR 241	MEARS CORNERS	0.56	GOS 241	GOLDEN SANDS	143.06
OSH 241	OSHKOSH	89.03	WMK 242	WESMARK	0.56	KEL 242	KELLY	142.64
VLP 241	VELP AVE	88.20	GLR 243	GLORY ROAD	0.53	HOO 242	HOOVER	141.83
MAD 242	MAPLEWOOD	85.18	SBY 242	SOUTH BROADWAY	0.53	TOW 243	TOWNLINE	141.41
NOU 122	NORSAU	81.12	DYK 242	DYCKESVILLE	0.51	KEL 241	KELLY	141.21
HOO 242	HOOVER	79.55	HES 122	HENRY STREET	0.50	HES 122	HENRY STREET	140.98
ASH 242	ASHLAND AVE	78.02	KEV 241	KELLNERSVILLE	0.50	LSD 241	LOST DAUPHIN	139.89
AVN 241	AVIATION	75.34	HIV 243	HIGHWAY V	0.48	7ST 241	7TH STREET	137.12
PBL 243	PREBLE	75.29	HIV 242	HIGHWAY V	0.47	MSN 244	MASON STREET	134.74
HIV 242	HIGHWAY V	73.93	OCO 242	OCONTO	0.46	SOI 241	SOBIESKI	134.43
RML 242	RED MAPLE	72.05	GLW 242	GLENVIEW	0.44	GLW 241	GLENVIEW	134.28
HIP 241	HILLTOP	71.79	HCR 241	HARTMAN CREEK	0.43	SUV 241	SUNNYVALE	133.60
HES 122	HENRY STREET	71.14	HIP 241	HILLTOP	0.41	SHS 242	SHERMAN STREET	131.86
GRA 244	GRAVESVILLE	69.79	HOO 241	HOOVER	0.41	EAV 242	EASTMAN AVE	131.06
MAV 241	MORRISON AVE	68.73	ANO 241	ANTIGO	0.40	BNS 241	BOWEN STREET	129.79
HOW 241	HOWARD	66.87	7ST 241	7TH STREET	0.39	HCR 241	HARTMAN CREEK	128.73
MCR 241	MEARS CORNERS	64.95	RML 242	RED MAPLE	0.39	MCR 242	MEARS CORNERS	127.00
ROD 241	ROTHSCHILD	63.92	WSU 241	WAUSAU HYDRO	0.39	SMO 242	SUAMICO	121.39
RLD 242	ROCKLAND	61.28	BNS 241	BOWEN STREET	0.38	HOW 242	HOWARD	121.23
OAS 241	OAK STREET	58.19	VLP 241	VELP AVE	0.38	HIP 242	HILLTOP	121.08
HCR 241	HARTMAN CREEK	55.57	LIS 241	LIBERTY ST	0.37	BLN 241	BLUESTONE	120.48
7ST 241	7TH STREET	53.74	PBL 243	PREBLE	0.35	ANO 241	ANTIGO	119.54
OSH 243	OSHKOSH	50.67	SHS 241	SHERMAN STREET	0.35	OCO 241	OCONTO	119.19
BNS 241	BOWEN STREET	49.10	ROD 241	ROTHSCHILD	0.33	JAS 241	JAMES ST.	116.93
ANO 241	ANTIGO	47.38	MAD 242	MAPLEWOOD	0.32	LIS 241	LIBERTY ST	116.09
CSL 242	CASSEL	46.88	ONT 241	ONTARIO ROAD	0.31	MCR 241	MEARS CORNERS	115.44
KEV 241	KELLNERSVILLE	46.24	RLD 242	ROCKLAND	0.31	VLP 242	VELP AVE	115.14
OSH 242	OSHKOSH	43.27	HI8 243	HIGHWAY 8	0.30	SOT 241	SHOTO	113.68
GLR 243	GLORY ROAD	42.61	MSN 243	MASON STREET	0.30	KRN 242	KRONEN	113.11
HIV 243	HIGHWAY V	42.60	POU 241	POUND	0.30	TOW 121	TOWNLINE	111.32
LIS 241	LIBERTY ST	42.57	CSL 242	CASSEL	0.29	GRA 241	GRAVESVILLE	110.23

Feeder	Substation	SAIDI	Feeder	Substation	SAIFI	Feeder	Substation	CAIDI
RLD 241	ROCKLAND	39.71	GLR 242	GLORY ROAD	0.29	GRA 244	GRAVESVILLE	109.73
MSN 242	MASON STREET	39.10	MAV 241	MORRISON AVE	0.29	HRR 242	HARRISON	107.29
WPA 242	WAUPACA	38.91	MSN 241	MASON STREET	0.29	ONT 241	ONTARIO ROAD	106.89
BAT 241	BAYPORT	37.58	HOW 241	HOWARD	0.28	MHS 242	MYSTERY HILLS	105.77
WSU 241	WAUSAU HYDRO	37.24	RLD 241	ROCKLAND	0.28	BES 121	BEARDSLEY ST	103.88
SUV 241	SUNNYVALE	36.68	SOT 241	SHOTO	0.28	ONT 242	ONTARIO ROAD	102.03
BES 122	BEARDSLEY ST	36.31	SUV 241	SUNNYVALE	0.27	ASH 241	ASHLAND AVE	98.76
RSR 242	ROSIERE	33.02	WPA 242	WAUPACA	0.25	MSN 241	MASON STREET	98.60
ONT 241	ONTARIO ROAD	32.71	MSN 244	MASON STREET	0.24	GLR 242	GLORY ROAD	96.75
MSN 244	MASON STREET	32.64	BAT 241	BAYPORT	0.22	MSN 243	MASON STREET	96.52
SOT 241	SHOTO	31.68	RML 241	RED MAPLE	0.22	RML 241	RED MAPLE	96.19
MSN 243	MASON STREET	28.81	ASH 242	ASHLAND AVE	0.19	WSU 241	WAUSAU HYDRO	95.31
GLR 242	GLORY ROAD	28.48	HOW 242	HOWARD	0.19	KEV 241	KELLNERSVILLE	92.76
LIS 243	LIBERTY ST	28.43	LIS 242	LIBERTY ST	0.19	LUX 242	LUXEMBURG	90.44
MSN 241	MASON STREET	28.20	EAV 242	EASTMAN AVE	0.18	HIV 243	HIGHWAY V	88.97
SHS 241	SHERMAN STREET	28.02	MSN 242	MASON STREET	0.18	EOD 241	ELLINWOOD	88.81
EAV 242	EASTMAN AVE	24.17	PLO 241	PLOVER	0.18	WET 242	WELLS ST	87.00
HOW 242	HOWARD	22.89	RSR 242	ROSIERE	0.18	PIN 241	PINE	86.70
RML 241	RED MAPLE	21.09	NOU 122	NORSAU	0.17	A12 242	TWELFTH AVE	86.00
DYK 241	DYCKESVILLE	20.07	JAS 241	JAMES ST.	0.16	PLO 241	PLOVER	84.50
MHS 241	MYSTERY HILLS	19.91	WET 121	WELLS ST	0.15	OKY 241	OKRAY	83.60
JAS 241	JAMES ST.	18.96	TOR 241	TOWER DRIVE	0.14	GLR 243	GLORY ROAD	80.67
KEL 243	KELLY	16.72	LIS 243	LIBERTY ST	0.13	SHS 241	SHERMAN STREET	80.51
KEL 242	KELLY	15.83	MHS 241	MYSTERY HILLS	0.12	MAV 242	MORRISON AVE	80.34
PLO 242	PLOVER	15.79	KEL 242	KELLY	0.11	NPT 242	NORTHPOINT	79.93
PLO 241	PLOVER	15.51	ONT 242	ONTARIO ROAD	0.11	HIV 241	HIGHWAY V	78.72
PAV 241	PEARL	13.70	BES 122	BEARDSLEY ST	0.10	WAV 242	WHITING AVE	75.02
EAV 241	EASTMAN AVE	13.48	VLP 242	VELP AVE	0.10	UGB 123	UNIVERSITY	74.13
LIS 242	LIBERTY ST	13.15	A12 242	TWELFTH AVE	0.09	SPT 241	SUNSET POINT	73.70
VLP 242	VELP AVE	11.65	DYK 241	DYCKESVILLE	0.09	LIS 242	LIBERTY ST	68.34
ONT 242	ONTARIO ROAD	10.86	LUX 242	LUXEMBURG	0.09	PBL 242	PREBLE	67.79
GLR 241	GLORY ROAD	9.28	PAV 241	PEARL	0.09	NPT 241	NORTHPOINT	67.02
LUX 242	LUXEMBURG	8.28	KEL 243	KELLY	0.08	WPA 241	WAUPACA	66.27
A12 242	TWELFTH AVE	7.81	PIN 241	PINE	0.08	AVN 241	AVIATION	61.96
PIN 241	PINE	6.92	EAV 241	EASTMAN AVE	0.07	A12 241	TWELFTH AVE	61.27
BNS 121	BOWEN STREET	5.86	WET 242	WELLS ST	0.07	OSH 241	OSHKOSH	58.82
WET 242	WELLS ST	5.67	GLR 241	GLORY ROAD	0.06	AVN 242	AVIATION	52.50
TOR 241	TOWER DRIVE	5.09	WPA 241	WAUPACA	0.05	HRR 241	HARRISON	50.92
LSD 241	LOST DAUPHIN	4.55	BNS 121	BOWEN STREET	0.04	SNZ 241	ST. NAZIANZ	50.03
WET 121	WELLS ST	3.93	PLO 242	PLOVER	0.04	OAS 241	OAK STREET	49.55
WPA 241	WAUPACA	3.19	UGB 123	UNIVERSITY	0.04	OSH 243	OSHKOSH	48.41
HRR 242	HARRISON	3.04	HRR 242	HARRISON	0.03	OSH 242	OSHKOSH	45.10
UGB 123	UNIVERSITY	2.64	LSD 241	LOST DAUPHIN	0.03	TOR 241	TOWER DRIVE	36.41
SPT 242	SUNSET POINT	0.54	SPT 242	SUNSET POINT	0.00	WET 121	WELLS ST	26.22

PSC 113.0604(2)(a)

An overall assessment of the reliability performance including the aggregate SAIFI, SAIDI and CAIDI indices by system and each operating area, as applicable.

**2010 Electric Distribution Customer Interruptions
Total Distribution System Reliability Indices by District
Excluding Transmission Caused Outages and Momentaries LE 5 Min**

District	SAIDI	CAIDI	SAIFI
Antigo	702	380	1.85
Chilton	146	156	0.94
Eagle River	2,327	505	4.60
Green Bay	82	135	0.61
Kewaunee	309	239	1.29
Merrill	602	506	1.19
Minocqua	2,927	469	6.24
Marinette	206	225	0.91
Oshkosh	111	109	1.02
Rhineland	1,820	552	3.30
Sturgeon Bay	436	332	1.31
Stevens point	121	98	1.23
Tomahawk	1,197	467	2.56
Two Rivers	393	308	1.27
Wabeno	2,950	655	4.50
Wausau	184	150	1.22
Waupaca	73	58	1.25
Wausaukee	1,846	600	3.07
Total Company:	640.32	378.83	1.69

PSC 113.0604(2)(a)

An overall assessment of the reliability performance including the aggregate SAIFI, SAIDI, and CAIDI indices by system and each operating area, as applicable.

**2010 Electric Distribution Customer Interruptions
Total Distribution System Reliability Indices by District and Feeder
Excluding Transmission Caused Outages and Momentaries LE 5 Min**

District	Feeder	Substation	SAIDI	SAIFI	CAIDI
Antigo	ANO 241	ANTIGO	47.38	0.4	119.54
	AUS 241	AURORA STREET	479.01	1.03	463.15
	AUS 242	AURORA STREET	415.45	1.68	247.14
	SUL 241	SUMMIT LAKE	3,173.64	6.73	471.35
Chilton	GLW 241	GLENVIEW	214.79	1.6	134.28
	GLW 242	GLENVIEW	140.54	0.44	321.15
	GRA 241	GRAVESVILLE	105.94	0.96	110.23
	GRA 242	GRAVESVILLE	178.2	1.16	153.46
	GRA 244	GRAVESVILLE	69.79	0.64	109.73
	RYN 123	RYAN STREET	189.9	1	189.9
Eagle River	CRB 244	CRANBERRY	2,529.28	4.73	535.19
	THL 241	THREE LAKES	2,021.20	4.48	451.61
Green Bay	7ST 241	7TH STREET	53.74	0.39	137.12
	ASH 241	ASHLAND AVE	129.17	1.31	98.76
	ASH 242	ASHLAND AVE	78.02	0.19	414.96
	BAT 241	BAYPORT	37.58	0.22	174.38
	BLN 241	BLUESTONE	384.68	3.19	120.48
	DYK 241	DYCKESVILLE	20.07	0.09	229.22
	DYK 242	DYCKESVILLE	133.46	0.51	261.12
	EAV 241	EASTMAN AVE	13.48	0.07	202.4
	EAV 242	EASTMAN AVE	24.17	0.18	131.06
	GLR 241	GLORY ROAD	9.28	0.06	162.54
	GLR 242	GLORY ROAD	28.48	0.29	96.75
	GLR 243	GLORY ROAD	42.61	0.53	80.67
	GNF 241	GREENLEAF	316.87	0.91	347.4
	HES 122	HENRY STREET	71.14	0.5	140.98
	HES 241	HENRY STREET	232.94	1.48	157.53
	HIV 241	HIGHWAY V	106.4	1.35	78.72
	HIV 242	HIGHWAY V	73.93	0.47	157.78
	HIV 243	HIGHWAY V	42.6	0.48	88.97
	HOW 241	HOWARD	66.87	0.28	239.42
	HOW 242	HOWARD	22.89	0.19	121.23
	JAS 241	JAMES ST.	18.96	0.16	116.93

District	Feeder	Substation	SAIDI	SAIFI	CAIDI
	LIS 241	LIBERTY ST	42.57	0.37	116.09
	LIS 242	LIBERTY ST	13.15	0.19	68.34
	LIS 243	LIBERTY ST	28.43	0.13	227.45
	LSD 241	LOST DAUPHIN	4.55	0.03	139.89
	MAD 241	MAPLEWOOD	217.63	1.45	150.22
	MAD 242	MAPLEWOOD	85.18	0.32	262.38
	MSN 241	MASON STREET	28.2	0.29	98.6
	MSN 242	MASON STREET	39.1	0.18	214.2
	MSN 243	MASON STREET	28.81	0.3	96.52
	MSN 244	MASON STREET	32.64	0.24	134.74
	MHS 241	MYSTERY HILLS	19.91	0.12	170.15
	MHS 242	MYSTERY HILLS	118.64	1.12	105.77
	OAS 241	OAK STREET	58.19	1.17	49.55
	ONT 241	ONTARIO ROAD	32.71	0.31	106.89
	ONT 242	ONTARIO ROAD	10.86	0.11	102.03
	PBL 241	PREBLE	117.57	0.79	149.6
	PBL 242	PREBLE	173.02	2.55	67.79
	PBL 243	PREBLE	75.29	0.35	212.61
	RML 241	RED MAPLE	21.09	0.22	96.19
	RML 242	RED MAPLE	72.05	0.39	186.34
	RLD 241	ROCKLAND	39.71	0.28	143.81
	RLD 242	ROCKLAND	61.28	0.31	196.49
	SOI 241	SOBIESKI	98.05	0.73	134.43
	SBY 242	SOUTH BROADWAY	117.56	0.53	222.4
	SMO 241	SUAMICO	354.97	1.61	220.49
	SMO 242	SUAMICO	145.16	1.2	121.39
	TOR 241	TOWER DRIVE	5.09	0.14	36.41
	UGB 122	UNIVERSITY	269	1	269
	UGB 123	UNIVERSITY	2.64	0.04	74.13
	VLP 241	VELP AVE	88.2	0.38	230.79
	VLP 242	VELP AVE	11.65	0.1	115.14
	WMK 241	WESMARK	414.35	0.83	498.38
	WMK 242	WESMARK	97.6	0.56	174.47
Kewaunee					
	ALA 241	ALGOMA	466.93	2.56	182.58
	BES 121	BEARDSLEY ST	108.64	1.05	103.88
	BES 122	BEARDSLEY ST	36.31	0.1	350.4
	EAK 241	EAST KROK	861.23	1.63	526.98
	EAK 242	EAST KROK	539.27	2.88	187.13
	LUX 241	LUXEMBURG	344.97	1.73	199.49
	LUX 242	LUXEMBURG	8.28	0.09	90.44
	RSR 241	ROSIERE	244.19	1.11	219.78
	RSR 242	ROSIERE	33.02	0.18	179.56
Marinette					
	LEA 241	LENA	799.6	1.7	470.09
	OCO 241	OCONTO	115.34	0.97	119.19
	OCO 242	OCONTO	138.27	0.46	301.65

District	Feeder	Substation	SAIDI	SAIFI	CAIDI
Merrill	POU 241	POUND	96.44	0.3	317.61
	SRD 241	SHERWOOD	427.05	2.58	165.6
	SRD 242	SHERWOOD	346.67	0.93	370.82
	WET 121	WELLS ST	3.93	0.15	26.22
	WET 242	WELLS ST	5.67	0.07	87
	WEM 241	WEST MARINETTE	161.55	0.98	165.63
	MEL 241	MERRILL HYDRO	267.69	0.83	322.87
	PIN 241	PINE	6.92	0.08	86.7
	PIN 242	PINE	1,258.21	2.24	560.58
Minocqua	CLK 241	CLEAR LAKE	2,930.48	5.34	549.16
	CLK 242	CLEAR LAKE	2,121.59	6.87	308.84
	CLK 243	CLEAR LAKE	2,821.85	6.04	467.46
	SGM 241	ST. GERMAIN	3,921.08	6.97	562.27
	SGM 242	ST. GERMAIN	2,021.80	4.8	420.97
Oshkosh	AVN 241	AVIATION	75.34	1.22	61.96
	AVN 242	AVIATION	128.34	2.44	52.5
	BNS 121	BOWEN STREET	5.86	0.04	145.82
	BNS 241	BOWEN STREET	49.1	0.38	129.79
	EOD 241	ELLINWOOD	146.12	1.65	88.81
	EOD 242	ELLINWOOD	352.54	0.99	356.48
	MCR 241	MEARS CORNERS	64.95	0.56	115.44
	MCR 242	MEARS CORNERS	192.45	1.52	127
	OSH 241	OSHKOSH	89.03	1.51	58.82
	OSH 242	OSHKOSH	43.27	0.96	45.1
	OSH 243	OSHKOSH	50.67	1.05	48.41
	PAV 122	PEARL	187.5	1	187.5
	PAV 241	PEARL	13.7	0.09	145.26
	SPT 241	SUNSET POINT	174.2	2.36	73.7
	SPT 242	SUNSET POINT	0.54	0	195.75
	A12 241	TWELFTH AVE	189.61	3.09	61.27
	A12 242	TWELFTH AVE	7.81	0.09	86
Rhineland	HI8 241	HIGHWAY 8	846.74	2.72	311.35
	HI8 242	HIGHWAY 8	1,779.59	3.93	452.79
	HI8 243	HIGHWAY 8	148.16	0.3	499.23
	HOD 241	HODAG	1,155.53	2.54	454.94
	MGA 241	METONGA	2,606.98	2.72	957.59
	VEN 241	VENUS	3,583.07	5.79	618.87
	VEN 242	VENUS	1,970.86	2.39	825.17
Stevens Point	GOS 241	GOLDEN SANDS	108.22	0.76	143.06
	GOS 242	GOLDEN SANDS	211.51	1.32	159.66
	HOO 241	HOOVER	89.3	0.41	220.16

District	Feeder	Substation	SAIDI	SAIFI	CAIDI
Sturgeon Bay	HOO 242	HOOVER	79.55	0.56	141.83
	NPT 241	NORTHPOINT	95.57	1.43	67.02
	NPT 242	NORTHPOINT	102.07	1.28	79.93
	OKY 241	OKRAY	210.02	2.51	83.6
	PLO 241	PLOVER	15.51	0.18	84.5
	PLO 242	PLOVER	15.79	0.04	379
	WAV 241	WHITING AVE	149.82	1.04	143.92
	WAV 242	WHITING AVE	191.08	2.55	75.02
Tomahawk	BRU 242	BRUSBAY	165.26	0.74	223.87
	DUR 241	DUNN ROAD	299.04	1.53	195.82
	EGH 241	EGG HARBOR	486.4	1.14	426.4
	EGH 242	EGG HARBOR	340.67	0.79	428.92
	SIS 241	SISTER BAY	188.01	0.82	230.58
	SIS 242	SISTER BAY	1,587.24	3.72	426.91
Two Rivers	EST 242	EASTOM	1,508.88	3.71	406.74
	EST 243	EASTOM	903.84	1.48	610.19
	KEV 241	KELLNERSVILLE	46.24	0.5	92.76
	KEV 242	KELLNERSVILLE	218.54	0.57	380.4
	MRP 241	MANRAP	474.01	0.63	753.48
	MIT 241	MISHICOT	362.3	0.62	582.43
	SOT 241	SHOTO	31.68	0.28	113.68
	SOT 242	SHOTO	1,956.53	7.24	270.19
Wabeno	SNZ 241	ST. NAZIANZ	96.79	1.93	50.03
	SNZ 242	ST. NAZIANZ	226.29	0.97	233.81
	GON 241	GOODMAN	2,185.05	2.36	926.28
	MTN 241	MOUNTAIN	2,659.15	1.95	1,360.64
	MTN 242	MOUNTAIN	3,377.39	5.65	597.27
	SIC 241	SILVER CLIFF	2,685.27	3.63	740.77
	HRR 241	HARRISON	136.44	2.68	50.92
	HRR 242	HARRISON	3.04	0.03	107.29
Waupaca	HCR 241	HARTMAN CREEK	55.57	0.43	128.73
	WPA 241	WAUPACA	3.19	0.05	66.27
	WPA 242	WAUPACA	38.91	0.25	153.29
Wausau	CSL 241	CASSEL	225.32	1.39	161.63
	CSL 242	CASSEL	46.88	0.29	162.26
	EWA 241	EAST WAUSAU	511.31	2.4	213
	HIP 241	HILLTOP	71.79	0.41	174.03
	HIP 242	HILLTOP	184.96	1.53	121.08
	KEL 241	KELLY	122.32	0.87	141.21
	KEL 242	KELLY	15.83	0.11	142.64

District	Feeder	Substation	SAIDI	SAIFI	CAIDI
	KEL 243	KELLY	16.72	0.08	197.85
	KRN 241	KRONEN	260.18	1.81	143.38
	KRN 242	KRONEN	190.45	1.68	113.11
	MAI 241	MAINE	452.29	2.02	223.7
	MAV 241	MORRISON AVE	68.73	0.29	237.52
	MAV 242	MORRISON AVE	190.74	2.37	80.34
	NOU 122	NORSAU	81.12	0.17	467.79
	ROD 241	ROTHSCHILD	63.92	0.33	194.56
	SHS 241	SHERMAN STREET	28.02	0.35	80.51
	SHS 242	SHERMAN STREET	141.6	1.07	131.86
	STD 241	STRATFORD	232.94	1.24	188.11
	SUV 241	SUNNYVALE	36.68	0.27	133.6
	TOW 121	TOWNLINE	132.25	1.19	111.32
	TOW 122	TOWNLINE	193.28	1.19	162.4
	TOW 243	TOWNLINE	290.56	2.05	141.41
	WSU 241	WAUSAU HYDRO	37.24	0.39	95.31
Wausaukee	CRI 242	CRIVITZ	434.33	1.14	380.04
	DAF 241	DAVES FALLS	1,854.84	2.51	738.18
	DAF 242	DAVES FALLS	1,212.99	3.01	402.81
	SAE 241	SANDSTONE DIST	1,639.63	2.85	575.06
	TDR 241	THUNDER	2,466.79	3.97	621.12

PSC 113.0604(2)(b)

A list of the worst-performing circuits based on SAIFI, SAIDI, and CAIDI indexes for the calendar year.

SAIFI, SAIDI, and CAIDI were calculated for each of the WPS distribution feeders. Due to the difficulty in ranking the feeders, a composite value was calculated in order to normalize SAIFI, SAIDI, and CAIDI. The following formula was used to develop a composite value based on 20% SAIFI and 80% SAIDI.

COMPOSITE = [(SAIFI/SAIFI MAX) * 0.2 + (SAIDI/SAIDI MAX) * 0.8 + (CAIDI/CAIDI MAX) * 0] where MAX = the maximum value of SAIFI, SAIDI, and CAIDI for all distribution circuits.

**2010 Electric Distribution Customer Interruptions
Total Distribution System Reliability Indices by Feeder
Excluding Transmission Caused Outages and Momentaries LE 5 Min**

Feeder	Substation	SAIDI	SAIFI	CAIDI	Composite
SGM 241	ST. GERMAIN	3,921.08	6.97	562.27	0.99
VEN 241	VENUS	3,583.07	5.79	618.87	0.89
MTN 242	MOUNTAIN	3,377.39	5.65	597.27	0.85
SUL 241	SUMMIT LAKE	3,173.64	6.73	471.35	0.83
CLK 241	CLEAR LAKE	2,930.48	5.34	549.16	0.75
CLK 243	CLEAR LAKE	2,821.85	6.04	467.46	0.74
SIC 241	SILVER CLIFF	2,685.27	3.63	740.77	0.65
CRB 244	CRANBERRY	2,529.28	4.73	535.19	0.65
CLK 242	CLEAR LAKE	2,121.59	6.87	308.84	0.62
TDR 241	THUNDER	2,466.79	3.97	621.12	0.61
MGA 241	METONGA	2,606.98	2.72	957.59	0.61
SOT 242	SHOTO	1,956.53	7.24	270.19	0.60
MTN 241	MOUNTAIN	2,659.15	1.95	1,360.64	0.60
SGM 242	ST. GERMAIN	2,021.80	4.80	420.97	0.55
THL 241	THREE LAKES	2,021.20	4.48	451.61	0.54
GON 241	GOODMAN	2,185.05	2.36	926.28	0.51
HI8 242	HIGHWAY 8	1,779.59	3.93	452.79	0.47
VEN 242	VENUS	1,970.86	2.39	825.17	0.47
DAF 241	DAVES FALLS	1,854.84	2.51	738.18	0.45
SIS 242	SISTER BAY	1,587.24	3.72	426.91	0.43
SAE 241	SANDSTONE DIST	1,639.63	2.85	575.06	0.41
EST 242	EASTOM	1,508.88	3.71	406.74	0.41
DAF 242	DAVES FALLS	1,212.99	3.01	402.81	0.33
PIN 242	PINE	1,258.21	2.24	560.58	0.32
HOD 241	HODAG	1,155.53	2.54	454.94	0.31
HI8 241	HIGHWAY 8	846.74	2.72	311.35	0.25
EST 243	EASTOM	903.84	1.48	610.19	0.23
EAK 241	EAST KROK	861.23	1.63	526.98	0.22
LEA 241	LENA	799.60	1.70	470.09	0.21
EAK 242	EAST KROK	539.27	2.88	187.13	0.19

Feeder	Substation	SAIDI	SAIFI	CAIDI	Composite
EWA 241	EAST WAUSAU	511.31	2.40	213.00	0.17
BLN 241	BLUESTONE	384.68	3.19	120.48	0.17
ALA 241	ALGOMA	466.93	2.56	182.58	0.17
SRD 241	SHERWOOD	427.05	2.58	165.60	0.16
MAI 241	MAINE	452.29	2.02	223.70	0.15
AUS 242	AURORA STREET	415.45	1.68	247.14	0.13
EGH 241	EGG HARBOR	486.40	1.14	426.40	0.13
AUS 241	AURORA STREET	479.01	1.03	463.15	0.13
A12 241	TWELFTH AVE	189.61	3.09	61.27	0.12
CRI 242	CRIVITZ	434.33	1.14	380.04	0.12
LUX 241	LUXEMBURG	344.97	1.73	199.49	0.12
SMO 241	SUAMICO	354.97	1.61	220.49	0.12
TOW 243	TOWNLINE	290.56	2.05	141.41	0.12
MRP 241	MANRAP	474.01	0.63	753.48	0.11
OKY 241	OKRAY	210.02	2.51	83.60	0.11
WAV 242	WHITING AVE	191.08	2.55	75.02	0.11
WMK 241	WESMARK	414.35	0.83	498.38	0.11
PBL 242	PREBLE	173.02	2.55	67.79	0.11
MAV 242	MORRISON AVE	190.74	2.37	80.34	0.10
DUR 241	DUNN ROAD	299.04	1.53	195.82	0.10
KRN 241	KRONEN	260.18	1.81	143.38	0.10
HRR 241	HARRISON	136.44	2.68	50.92	0.10
SPT 241	SUNSET POINT	174.20	2.36	73.70	0.10
EOD 242	ELLINWOOD	352.54	0.99	356.48	0.10
SRD 242	SHERWOOD	346.67	0.93	370.82	0.10
AVN 242	AVIATION	128.34	2.44	52.50	0.09
EGH 242	EGG HARBOR	340.67	0.79	428.92	0.09
MIT 241	MISHICOT	362.30	0.62	582.43	0.09
GNF 241	GREENLEAF	316.87	0.91	347.40	0.09
HES 241	HENRY STREET	232.94	1.48	157.53	0.09
GLW 241	GLENVIEW	214.79	1.60	134.28	0.09
KRN 242	KRONEN	190.45	1.68	113.11	0.09
MAD 241	MAPLEWOOD	217.63	1.45	150.22	0.08
CSL 241	CASSEL	225.32	1.39	161.63	0.08
UGB 122	UNIVERSITY	269.00	1.00	269.00	0.08
STD 241	STRATFORD	232.94	1.24	188.11	0.08
MCR 242	MEARS CORNERS	192.45	1.52	127.00	0.08
RSR 241	ROSIERE	244.19	1.11	219.78	0.08
HIP 242	HILLTOP	184.96	1.53	121.08	0.08
GOS 242	GOLDEN SANDS	211.51	1.32	159.66	0.08
MEL 241	MERRILL HYDRO	267.69	0.83	322.87	0.08
EOD 241	ELLINWOOD	146.12	1.65	88.81	0.08
SNZ 241	ST. NAZIANZ	96.79	1.93	50.03	0.07
SNZ 242	ST. NAZIANZ	226.29	0.97	233.81	0.07
TOW 122	TOWNLINE	193.28	1.19	162.40	0.07
GRA 242	GRAVESVILLE	178.20	1.16	153.46	0.07
RYN 123	RYAN STREET	189.90	1.00	189.90	0.07

Feeder	Substation	SAIDI	SAIFI	CAIDI	Composite
PAV 122	PEARL	187.50	1.00	187.50	0.07
SMO 242	SUAMICO	145.16	1.20	121.39	0.06
ASH 241	ASHLAND AVE	129.17	1.31	98.76	0.06
SIS 241	SISTER BAY	188.01	0.82	230.58	0.06
KEV 242	KELLNERSVILLE	218.54	0.57	380.40	0.06
WEM 241	WEST MARINETTE	161.55	0.98	165.63	0.06
OSH 241	OSHKOSH	89.03	1.51	58.82	0.06
TOW 121	TOWNLINE	132.25	1.19	111.32	0.06
WAV 241	WHITING AVE	149.82	1.04	143.92	0.06
NPT 241	NORTHPOINT	95.57	1.43	67.02	0.06
HIV 241	HIGHWAY V	106.40	1.35	78.72	0.06
SHS 242	SHERMAN STREET	141.60	1.07	131.86	0.06
NPT 242	NORTHPOINT	102.07	1.28	79.93	0.06
MHS 242	MYSTERY HILLS	118.64	1.12	105.77	0.06
BRU 242	BRUSBAY	165.26	0.74	223.87	0.05
BES 121	BEARDSLEY ST	108.64	1.05	103.88	0.05
OCO 241	OCONTO	115.34	0.97	119.19	0.05
AVN 241	AVIATION	75.34	1.22	61.96	0.05
KEL 241	KELLY	122.32	0.87	141.21	0.05
GRA 241	GRAVESVILLE	105.94	0.96	110.23	0.05
PBL 241	PREBLE	117.57	0.79	149.60	0.05
OAS 241	OAK STREET	58.19	1.17	49.55	0.04
GOS 241	GOLDEN SANDS	108.22	0.76	143.06	0.04
DYK 242	DYCKESVILLE	133.46	0.51	261.12	0.04
OCO 242	OCONTO	138.27	0.46	301.65	0.04
GLW 242	GLENVIEW	140.54	0.44	321.15	0.04
SOI 241	SOBIESKI	98.05	0.73	134.43	0.04
OSH 243	OSHKOSH	50.67	1.05	48.41	0.04
SBY 242	SOUTH BROADWAY	117.56	0.53	222.40	0.04
HI8 243	HIGHWAY 8	148.16	0.30	499.23	0.04
WMK 242	WESMARK	97.60	0.56	174.47	0.04
OSH 242	OSHKOSH	43.27	0.96	45.10	0.04
GRA 244	GRAVESVILLE	69.79	0.64	109.73	0.03
HOO 242	HOOVER	79.55	0.56	141.83	0.03
HOO 241	HOOVER	89.30	0.41	220.16	0.03
MCR 241	MEARS CORNERS	64.95	0.56	115.44	0.03
VLP 241	VELP AVE	88.20	0.38	230.79	0.03
HES 122	HENRY STREET	71.14	0.50	140.98	0.03
HIV 242	HIGHWAY V	73.93	0.47	157.78	0.03
POU 241	POUND	96.44	0.30	317.61	0.03
MAD 242	MAPLEWOOD	85.18	0.32	262.38	0.03
HIP 241	HILLTOP	71.79	0.41	174.03	0.03
RML 242	RED MAPLE	72.05	0.39	186.34	0.03
PBL 243	PREBLE	75.29	0.35	212.61	0.03
GLR 243	GLORY ROAD	42.61	0.53	80.67	0.02
KEV 241	KELLNERSVILLE	46.24	0.50	92.76	0.02
HCR 241	HARTMAN CREEK	55.57	0.43	128.73	0.02

Feeder	Substation	SAIDI	SAIFI	CAIDI	Composite
ROD 241	ROTHSCHILD	63.92	0.33	194.56	0.02
MAV 241	MORRISON AVE	68.73	0.29	237.52	0.02
HIV 243	HIGHWAY V	42.60	0.48	88.97	0.02
7ST 241	7TH STREET	53.74	0.39	137.12	0.02
HOW 241	HOWARD	66.87	0.28	239.42	0.02
NOU 122	NORSAU	81.12	0.17	467.79	0.02
ASH 242	ASHLAND AVE	78.02	0.19	414.96	0.02
RLD 242	ROCKLAND	61.28	0.31	196.49	0.02
ANO 241	ANTIGO	47.38	0.40	119.54	0.02
BNS 241	BOWEN STREET	49.10	0.38	129.79	0.02
LIS 241	LIBERTY ST	42.57	0.37	116.09	0.02
WSU 241	WAUSAU HYDRO	37.24	0.39	95.31	0.02
CSL 242	CASSEL	46.88	0.29	162.26	0.02
RLD 241	ROCKLAND	39.71	0.28	143.81	0.02
SHS 241	SHERMAN STREET	28.02	0.35	80.51	0.02
ONT 241	ONTARIO ROAD	32.71	0.31	106.89	0.02
SUV 241	SUNNYVALE	36.68	0.27	133.60	0.01
WPA 242	WAUPACA	38.91	0.25	153.29	0.01
SOT 241	SHOTO	31.68	0.28	113.68	0.01
MSN 243	MASON STREET	28.81	0.30	96.52	0.01
GLR 242	GLORY ROAD	28.48	0.29	96.75	0.01
MSN 241	MASON STREET	28.20	0.29	98.60	0.01
BAT 241	BAYPORT	37.58	0.22	174.38	0.01
MSN 244	MASON STREET	32.64	0.24	134.74	0.01
MSN 242	MASON STREET	39.10	0.18	214.20	0.01
RSR 242	ROSIERE	33.02	0.18	179.56	0.01
RML 241	RED MAPLE	21.09	0.22	96.19	0.01
BES 122	BEARDSLEY ST	36.31	0.10	350.40	0.01
HOW 242	HOWARD	22.89	0.19	121.23	0.01
EAV 242	EASTMAN AVE	24.17	0.18	131.06	0.01
LIS 243	LIBERTY ST	28.43	0.13	227.45	0.01
JAS 241	JAMES ST.	18.96	0.16	116.93	0.01
PLO 241	PLOVER	15.51	0.18	84.50	0.01
LIS 242	LIBERTY ST	13.15	0.19	68.34	0.01
MHS 241	MYSTERY HILLS	19.91	0.12	170.15	0.01
DYK 241	DYCKESVILLE	20.07	0.09	229.22	0.01
KEL 242	KELLY	15.83	0.11	142.64	0.01
KEL 243	KELLY	16.72	0.08	197.85	0.01
PAV 241	PEARL	13.70	0.09	145.26	0.01
ONT 242	ONTARIO ROAD	10.86	0.11	102.03	0.01
VLP 242	VELP AVE	11.65	0.10	115.14	0.01
WET 121	WELLS ST	3.93	0.15	26.22	0.00
TOR 241	TOWER DRIVE	5.09	0.14	36.41	0.00
EAV 241	EASTMAN AVE	13.48	0.07	202.40	0.00
PLO 242	PLOVER	15.79	0.04	379.00	0.00
LUX 242	LUXEMBURG	8.28	0.09	90.44	0.00
A12 242	TWELFTH AVE	7.81	0.09	86.00	0.00

Feeder	Substation	SAIDI	SAIFI	CAIDI	Composite
PIN 241	PINE	6.92	0.08	86.70	0.00
GLR 241	GLORY ROAD	9.28	0.06	162.54	0.00
WET 242	WELLS ST	5.67	0.07	87.00	0.00
BNS 121	BOWEN STREET	5.86	0.04	145.82	0.00
WPA 241	WAUPACA	3.19	0.05	66.27	0.00
LSD 241	LOST DAUPHIN	4.55	0.03	139.89	0.00
UGB 123	UNIVERSITY	2.64	0.04	74.13	0.00
HRR 242	HARRISON	3.04	0.03	107.29	0.00
SPT 242	SUNSET POINT	0.54	0.00	195.75	0.00

PSC 113.0604(2)(b)

A list of the worst-performing circuits based on SAIFI, SAIDI, and CAIDI indexes for the calendar year. This section of the report shall describe the actions that the utility has taken or will take to remedy the conditions responsible for each listed circuit's unacceptable performance. The action(s) taken or planned should be briefly described. Target dates for corrective action(s) shall be included in the report. When the utility determines that actions on its part are unwarranted, its report shall provide adequate justification for such a conclusion.

Wisconsin Public Service Corporation analyzed the 179 distribution circuits in Wisconsin that experienced an outage in 2010. SAIFI, SAIDI, CAIDI, and the calculated composite indices are listed for the 10 worst feeders for 2010. The calculation for the composite index is based on the formula: COMPOSITE = [(SAIFI/SAIFI MAX) * 0.2 + (SAIDI/SAIDI MAX) * 0.8 + (CAIDI/CAIDI MAX) * 0] where MAX = the maximum value of SAIFI, SAIDI, and CAIDI for all distribution circuits. The indices were calculated using interruptions greater than 5 minutes and excluded transmission related outages.

Feeder	Substation	SAIDI	SAIFI	CAIDI	Composite
SGM 241	ST. GERMAIN	3,921.08	6.97	562.27	0.99
VEN 241	VENUS	3,583.07	5.79	618.87	0.89
MTN 242	MOUNTAIN	3,377.39	5.65	597.27	0.85
SUL 241	SUMMIT LAKE	3,173.64	6.73	471.35	0.83
CLK 241	CLEAR LAKE	2,930.48	5.34	549.16	0.75
CLK 243	CLEAR LAKE	2,821.85	6.04	467.46	0.74
SIC 241	SILVER CLIFF	2,685.27	3.63	740.77	0.65
CRB 244	CRANBERRY	2,529.28	4.73	535.19	0.65
CLK 242	CLEAR LAKE	2,121.59	6.87	308.84	0.62
TDR 241	THUNDER	2,466.79	3.97	621.12	0.61

The 10 worst performing feeders were all in heavily wooded areas in northern Wisconsin, and between 66 and 92.2% of the outages were directly attributable to the severe wind storms of June 23rd & 24th and October 26th through October 30th. At its worst, the October storm had low pressures equivalent to a category 3 hurricane. No major or significant changes will be driven by this storm, however, we will continue to evaluate cost and benefits of distribution system design changes to improve reliability. The table below shows how the major storms contributed to the outage minutes for each of the 10 worst feeders.

Feeder	Substation	Large Storm % of Total
SGM 241	ST. GERMAIN	89.4%
VEN 241	VENUS	66.0%
MTN 242	MOUNTAIN	80.4%
SUL 241	SUMMIT LAKE	69.9%
CLK 241	CLEAR LAKE	92.0%
CLK 243	CLEAR LAKE	85.9%
SIC 241	SILVER CLIFF	92.2%
CRB 244	CRANBERRY	75.2%
CLK 242	CLEAR LAKE	81.7%
TDR 241	THUNDER	92.0%

The table below reflects the performance of these feeders without the major storms.

Feeder	Substation	SAIDI	SAIFI	CAIDI	Composite
SGM 241	ST. GERMAIN	1,179.63	4.57	258.03	0.37
VEN 241	VENUS	1,767.77	4.62	382.61	0.49
MTN 242	MOUNTAIN	695.81	3.56	195.24	0.24
SUL 241	SUMMIT LAKE	682.79	3.42	199.41	0.23
CLK 241	CLEAR LAKE	741.02	3.8	194.76	0.26
CLK 243	CLEAR LAKE	676.6	4.2	160.99	0.25
SIC 241	SILVER CLIFF	222.42	1.65	134.61	0.09
CRB 244	CRANBERRY	488.28	2.81	173.6	0.18
CLK 242	CLEAR LAKE	844.05	4.03	209.65	0.28
TDR 241	THUNDER	139.86	1.47	95.01	0.07

PSC 113.0604(2)(d)

A report on the accomplishment of the improvements proposed in prior reports for which completion has not been previously reported.

District	Project Name	Requested In-Service Date
Chilton	Reconductor Irish Rd	2010
Eagle River	Install Regulator Near Pole 3911-6L5	2010
Green Bay	Reconductor 4/0 ACSR on Lime Kiln	2009
Green Bay	Construct Underground Feeder Exit	2009
Green Bay	Reconductor Line Along Hwy 32	2009
Green Bay	Replace Breakers at P&G North and South Subs	2009
Green Bay	Construct 3 phase mainline from Bayport Sub to the east	2010
Green Bay	Construct Mainline Along Hwy 32	2010

District	Project Name	Requested In-Service Date
Green Bay	Reconductor Finger Rd	2010
Kewaunee	Install Regulators on County Rd AB and Old Settlers Rd	2010
Kewaunee	Reconductor County Rd S, Apple Rd, and Pheasant Rd	2010
Marinette	Ogden St - Upgrade Banks 1 & 2	2010
MM	Install Line Regulators on State Hwy 64	2009
MM	Rebuild County Rd G	2009
Minocqua	Install Capacitor Bank Near Pole 3906-10R23	2010
Oshkosh	Reconductor 750 UG feeder exit	2009
Oshkosh	Reconductor Washburn Ave	2010
Oshkosh	Pearl Ave. 121/122 - Convert to 24.9kV	2010
Rhineland	Install regulators on Highway 8	2009
Rhineland	Convert Thompson Rd Step-down at Pole 3709-35R12	2010
Rhineland	Install Regulator Near 3709-29L25 on County Rd W	2010
Rhineland	Install Regulator Near 3709-30R46 on River Rd	2010
Sturgeon Bay	Install Regulator on North Bay Dr	2009
Sturgeon Bay	Convert Stepdown 3027-29L13	2009
Sturgeon Bay	Convert Stepdown 2927-6W11	2009
Sturgeon Bay	Install regulators on County Rd J	2010
Sturgeon Bay	Convert State Hwy 42 Step-down	2010
Two Rivers	Mishicot - Convert to 24.9kV 1 feeder	2009
Wabeno	Reconductor Silver Cliff 241	2007
Wausau	Extension on Aster Road	2008
Wausau	Weston P-94 Relay Mods	2009
Wausau	Mosinee - Switch Str. RTU and SW Upgrade	2009
Wausau	Kronen Q-69 Removal	2010

PSC 113.0604(2)(e)

A description of any new reliability or power quality programs and changes that are made to existing programs.

There have been no changes to existing power quality or reliability programs at Wisconsin Public Service Corporation in 2010.

PSC 113.0604(2)(f)

A status report of any long range electric distribution plans.

The projects below may be in a planning stage, currently under construction, or completed pending accounting close-out.

District	Project	Need Date
Antigo	AUS 241 Install Regulator near pole 3010-2R21 on Cty Hwy Y near Hansen Rd.	7/1/2010
Antigo	AUS 242 Install Regulator near pole 3111-8L12 near the intersection of CTY Y and State Hwy 45	6/30/2012
Antigo	SUL 242 Install a new substation feeder	6/30/2013
Antigo	AUS 242 Install Capacitor bank near pole location 3112-6W3	6/30/2013
Antigo	SUL 242 Construct Feeder Exit for SUMmit Lake 242	6/30/2013
Chilton	GLW 241 Install Regulator at Glenview 241 substation	6/30/2013
Chilton	GLW 242 Install Regulator at Glenview 242 substation	6/30/2013
Eagle River	CRB 244 Construct Other Device 550' of #1 Solid URD on Green Bass Rd	6/1/2011
Eagle River	Install Regulator Near Pole 3911-20W15	6/1/2013
Eagle River	Install Regulators Near Pole 3809-13W24	6/1/2013
Eagle River	THL 241 Upgrade substation transformer	6/30/2015
Green Bay	PBL 241 Add Phase(s) along Nicolet Drive	6/30/2010
Green Bay	GLF 241 Construct Feeder Exit and mainline for the new substation in the village of Wrightstown	6/30/2010
Green Bay	SMO 241 Construct Feeder Mainline approximately 20,000 ft west of Hwy 41 from Allen Rd to Cross Rd to Chase Rd to Killdeer Lane	6/30/2011
Green Bay	WMK 242 Reconductor line on County Hwy NN to 336 ACSR	6/30/2011
Green Bay	HOW 241 Install Regulator near intersection of Lineville and Pinecrest Roads	6/30/2011
Green Bay	BAT 241 Install Regulator near pole location 2520-32L9 near County Rd M and Northwood Rd	6/30/2011
Green Bay	MSN 243 Reconductor approximately 3500 ft of 336 ACSR to 795 from feeder exit to West Point Rd.	6/30/2012
Green Bay	MSN 244 Reconductor approximately 2500 feet on West Point Rd to 795	6/30/2012
Green Bay	PBL 241 Add Phase(s) from the end of the three phase on Humboldt Rd to Spartan Rd then north on Spartan to Highland Center Rd.	6/30/2012
Green Bay	GLR 241 Reconductor to 336 kcm from 101 BB6 to corner of Scheuring and Mid Valley Rd	6/1/2013
Green Bay	GLF 242 Construct Feeder Exit to add a second feeder at the Greenleaf Substation	6/30/2013
Green Bay	ASH 241 Install Regulator at Ashland Ave 241 substation and replace feeder exit	6/30/2014
Green Bay	DYK 241 Install Regulator near 2522 34L13	6/30/2014
Green Bay	BAT 242 Construct Feeder Exit for Bayport substation	6/30/2015
Green Bay	HIV 241 Install Regulator at the Highway V 241 substation and replace the feeder exit	6/30/2015

District	Project	Need Date
Green Bay	BAT 242 Install feeder	6/30/2015
Green Bay	RLD 241 Construct Feeder Mainline from Rockland Substation to Mystery Hills	6/30/2017
Green Bay	GBEast Construct Feeder Exit in the East Green Bay area east of Ontario Substation	6/30/2018
Green Bay	SOI 242 Construct Feeder Exit at the Sobieski Substation	6/30/2019
Kewaunee	RSR 242 Reconductor 1 mile on Hemlock Rd	6/1/2011
Kewaunee	EAK 242 Reconductor 5.4 miles of copperweld	6/1/2011
Kewaunee	LUX 241 Install Regulator on State Rd 29 west of County Rd AB	6/30/2011
Kewaunee	EAK 242 Reconductor 3 miles on County J	6/1/2012
Kewaunee	EAK 242 Install Regulator on County AB	6/1/2013
Marinette	CRI 241 Install Regulator on State Highway 64	6/30/2009
Marinette	SRD 241 Install Regulator on Potato Rapids Rd	6/1/2011
Marinette	POU 241 Install Regulator on County Rd B	6/1/2013
Marinette	POU 241 Install Regulator on Hale Rd	6/1/2014
Marinette	LEA 241 Phase Balance	6/1/2015
Merrill	MAI 241 Phase Balance Maine 241	6/1/2010
Merrill	Pine 242 Install Regulator just west of pole location 3206-35R6	6/30/2011
Minocqua	CLK 242 Install capacitor bank near pole location 3906-10R23 on old Highway 70	6/30/2010
Minocqua	CLK 242 Install capacitor on pole location 3906-11E105	6/30/2011
Minocqua	Woodmin 241 Install a substation feeder west of Minocqua	6/30/2012
Minocqua	Woodmin 241 Construct Feeder Exit Woodmin 241 and other distribution infrastructure improvements to connect to existing facilities	6/30/2012
Minocqua	SGM 241 Install capacitor bank near pole 4107-26R4 on Hwy N	6/30/2013
Minocqua	Boulder Junction Construct Feeder Exit in the Boulder Junction area	6/30/2020
Oshkosh	EOD 241 Reconductor 1750 ft of 336 ACSR on S. Washburn St.	6/30/2010
Oshkosh	AVN 242 Reconductor 2050 feet of 4/0 ACSR on S. Washburn St.	6/30/2010
Oshkosh	12A 242 Reconductor Osborne Avenue	6/30/2011
Oshkosh	12A 242 Reconductor 650 feet of 3-phase 336 ACSR along Mason St. from 12th Ave to Osborne Ave	6/30/2011
Oshkosh	EOD 242 Reconductor 5000 feet of existing single phase and 3 phase on Omro Rd and Brooks Ln between Oakwood Rd and N. Washburn St.	6/30/2012
Oshkosh	EOD 241 Reconductor Reconductor 2200 feet on 20th Ave between S. Washburn St. and 203BB77.	6/30/2013
Oshkosh	OSH 243 Reconductor W. 6th Avenue	6/30/2015
Oshkosh	PAV 242 Construct Feeder Exit at Pearl Avenue Substation.	6/30/2017
Oshkosh	EOD 243 Construct Feeder Exit at Ellinwood Substation	6/30/2020
Rhineland	HI8 242 Install Regulator on single tap near 3707-36L1 on Cty Hwy K	12/31/2010
Rhineland	HOD 241 Install Regulator near 3709-29L40 for Hodag Festival Grounds	12/31/2010

District	Project	Need Date
Rhineland	HOD 241 Convert Step-down at Thompson Rd	12/31/2010
Rhineland	HI8 242 Install Regulator on single tap new 3707-2E1 near Fawn Lake Rd.	6/30/2011
Rhineland	MGA 241 Convert Step-down at Pine Lake	6/30/2011
Rhineland	MGA 241 Install Capacitor at 54AA41	6/30/2011
Rhineland	HI8 241 Install Regulator near pole location 3608-35E2	6/30/2011
Rhineland	HI8 241 Install Regulator near 3608-25L5 - Lassig Rd & State Hwy 17	6/30/2011
Rhineland	HI8 241 Install Regulator and OCR at substation	6/30/2012
Rhineland	VEN 241 Install Capacitor bank near pole 3612-26E21 on US Hwy 8	6/30/2012
Rhineland	MGA 241 Install Capacitor near pole 3613-5L4 on State Hwy 32	6/30/2012
Rhineland	THL 241 Install Regulator near pole location 3809-13W24	6/30/2013
Rhineland	HI8 243 Install 22.4 MVA transformer and separate 243 feeder from Bank #2	6/30/2017
Rhineland	MGA 242 Install second feeder at Metonga Substation	6/30/2018
Stevens Point	HOO 242 Install 3rd phase on Torun Rd.	6/30/2011
Stevens Point	HOO 242 Install Regulator on State Rd 66	6/30/2012
Stevens Point	HOO 241 Install new feeder exit cable.	6/30/2013
Stevens Point	NPT 241 Install OCR and regulator at Northpoint 241.	6/30/2018
Stevens Point	OKY 242 Construct Feeder Exit at Okray Drive Substation	6/30/2019
Stevens Point	HOO 242 Construct Feeder Exit at Hoover 242.	6/30/2019
Sturgeon Bay	EGH 242 Reconductor 2 miles on County Rd A	6/1/2011
Sturgeon Bay	RSR 241 Install Regulator on Mill Rd	6/1/2011
Sturgeon Bay	EGH 242 Install Regulator on Lakeshore Dr	6/1/2011
Sturgeon Bay	RSR 242 Install Regulator on County AB	6/1/2015
Tomahawk	EST 243 Install 4/0 conductor tie in new conduit system Pull 3 4/0 conductors to replace the present crossing of the Wisconsin River through the newly installed conduit.	6/30/2012
Tomahawk	TOK 241 Construct Feeder Exit for an additional feeder (Tomahawk Sub).	6/30/2020
Two Rivers	SNZ 241 Install Regulator at St. Nazianz 241.	6/30/2012
Two Rivers	SNZ 242 Install Regulator at St. Nazianz 242.	6/30/2012
Wabeno	GON 241 Convert Step-down in Coleman Lake area to 24.9 kV.	12/31/2009
Wabeno	MGA 241 Convert Step-down Birch Lake	12/31/2010
Wabeno	GON 241 Install Capacitor new pole 3817-31W8 on State Rd 101.	6/30/2013
Wabeno	MTN 241 Reconductor feeder exit to 336 ACSR at MTN 241	6/30/2016
Wausau	WSB Rebuild P-94.	6/30/2010
Wausau	MAI 241 Phase balance Maine 141 for load and voltage support.	6/30/2010
Wausau	EWA 241 Install Phase balance downstream of 26DD3 on East Wausau 241	6/30/2011
Wausau	KEL 241 Replace copperweld conductor south of 2808-25E3.	6/30/2012
Wausau	KEL 241 Install Regulator near pole 2709-13R6	6/30/2012
Wausau	KRN 241 Replace copperweld conductor south of 2705-27E4	6/30/2013

District	Project	Need Date
Wausau	KRN 241 Replace copperweld conductor south of 2606-3E9.	6/30/2013
Wausau	KRN 242 Reconductor feeder exit on Kronen 242	6/30/2015
Wausau	MMI 241 Construct Feeder Exit in Mosinee/Kronenwetter area new T-20.	6/30/2017
Wausaukee	TDR 241 Install Regulator On Boatlanding 7 Rd	6/1/2011
Wausaukee	SAE 241 Phase Balance	6/1/2011
Wausaukee	SAE 241 Phase Balance	6/1/2013
Wausaukee	AMB 241 Construct Feeder Exit from the new Amberg Substation source	6/1/2013
Wausaukee	AMB 242 Construct Feeder Exit from the new Amberg Substation source	6/1/2013
Wausaukee	DAF 241 Phase Balance	6/1/2014

PSC 113.0604(3)(a)

Route miles of electric distribution line reconstructed during the year. Separate totals for single- and three-phase circuits shall be provided.

The approximate route miles of electric distribution reconstruction is:

- 1 Phase – 71.3 miles
- 2 Phase – 0.04 miles
- 3 Phase – 34.9 miles

PSC 113.0604(3)(b)

Total route miles of electric distribution line in service at year's end, segregated by voltage level

**WISCONSIN PUBLIC SERVICE CORPORATION
ROUTE MILES OF ELECTRIC DISTRIBUTION LINE BY VOLTAGE LEVEL
BASED ON AN EXTRACT FROM THE EAGLE GIS**

Voltage	Route Miles	Percent of Total
46 kV	67.8	0.34%
24.94 kV	19,201.3	97.69%
13.8 kV	10.5	0.05%
12.47 kV	362.4	1.84%
4.16 kV	12.7	0.06%
Total	19,654.7	100.00%

PSC 113.0604(3)(c)

Monthly average speed of answer, as defined in s. PSC 113.0503(1) (b), for telephone calls received regarding emergencies, outages and customer billing problems.

Listed is the average speed of answer in seconds for telephone calls received regarding emergencies, outages, and customer billing problems for the year 2010.

January	38 sec
February	24 sec.
March	88 sec.
April	60 sec.
May	78 sec.
June	85 sec.
July	75 sec.
August	92 sec
September	86 sec
October	70 sec
November	58 sec
December	42 sec.
2010 Average	71 sec

The service quality standard for average speed of answer given in PSC 113.0503(1) is:

(a) A utility or its agent shall maintain sufficient employees and equipment to achieve an average speed of answer of not more than 90 seconds. The average speed of answer shall be determined by summing the total queuing time and dividing by the total number of customer calls handled by automated systems. A utility or its agent shall calculate this average speed of answer on a monthly basis, including customer service calls, outage calls and emergency calls.

(b) A utility or its agent shall maintain sufficient employees to achieve an average speed of live response of not more than 90 seconds. The average speed of live response shall be determined by summing the total time from indication of request for live response and divided by the total number of calls answered by a live agent. A utility or its agent shall calculate this average speed of answer on a monthly basis, including customer service calls, outage calls and emergency calls.

PSC 113.0604(3)(d)

The average number of calendar days a utility takes to install and energize service to a customer site once it is ready to receive service. A separate average shall be calculated for each month, including all extensions energized during the calendar month.

WPSC's Distribution Work Management System tracks our construction process in the Work Management Information System (WMIS) component. WMIS provides the following data:

- Requested Completion Date
- Meter Set Date

Average number of calendar days from the Requested Completion Date to the Electric Meter set date in 2010:

January	5.64
February	4.25
March	6.59
April	6.80
May	6.50
June	7.03
July	6.46
August	6.53
September	6.51
October	6.75
November	8.09
December	7.59

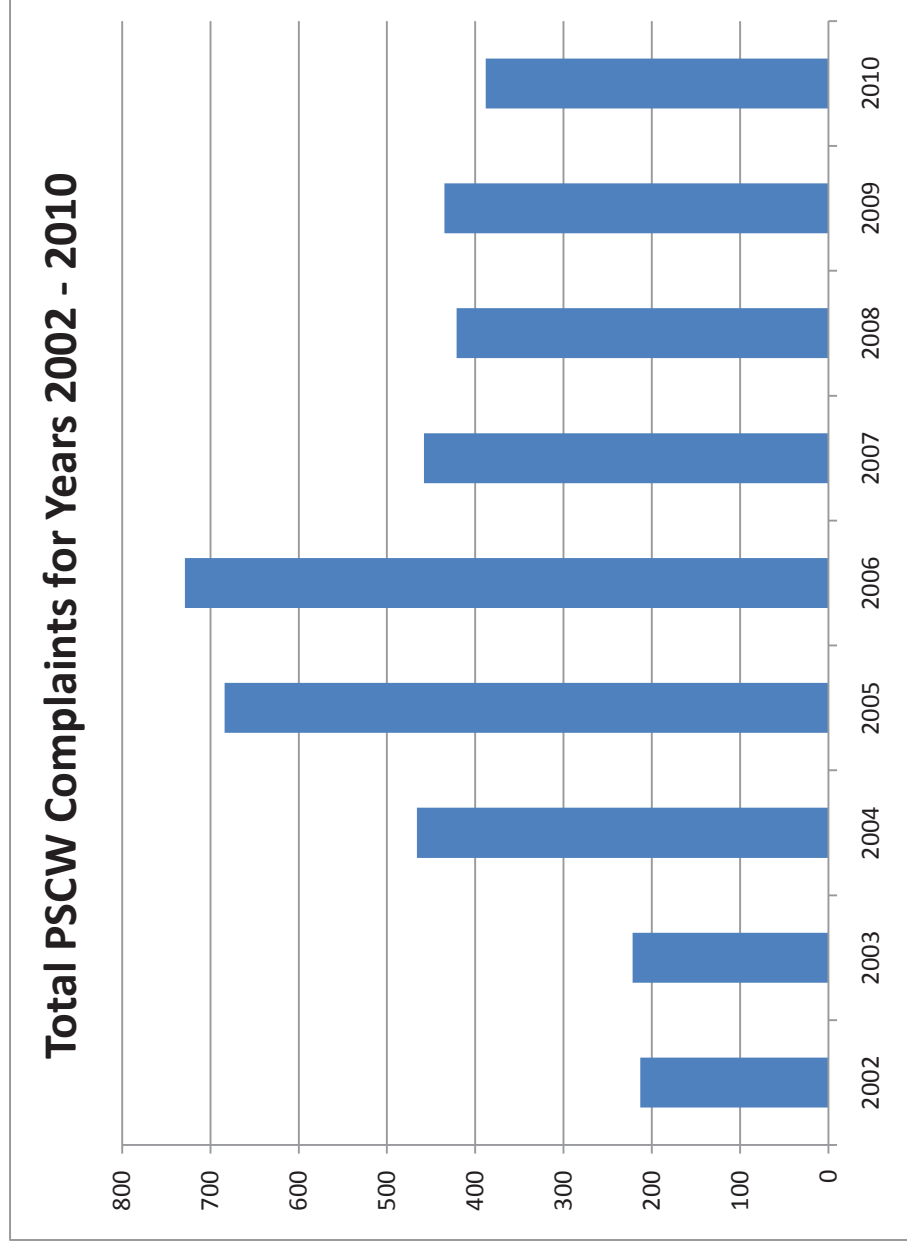
Annual Average:	6.81
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These averages are based on the work requests that had **both** the Requested Completion Date and the Electric Meter Set Date entered in the WMIS System at the time this data was extracted.

This data also includes work requests that have a Service Measures comment.

PSC 113.0604(3)(e)

The total number of written and telephone customer complaints received in the areas of safety, customer billing, outages, power quality, customer property damage, and other areas, by month filed.



PSCW Complaints By Month - 2010

Type of Complaint	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
B = Billing	7	0	3	1	2	1	1	1	2	1	2	3	24
BB=Backbilling/Defective Meter	0	1	3	1	1	0	2	0	2	0	0	1	11
C = Credit	3	10	10	24	34	44	47	62	49	27	6	2	318
CSC=Customer Service Calls	0	0	0	0	0	3	0	0	0	0	0	0	3
ES=Electric Service Extensions	0	0	0	1	0	0	0	0	2	0	0	0	3
GO=Gas Odor	0	0	0	0	0	0	0	0	0	0	0	0	0
GS=Gas Service Extensions	0	0	0	0	0	0	0	1	0	0	0	0	1
LC=Line Clearance	0	0	0	0	0	0	0	0	1	0	0	0	1
M=Miscellaneous Other	0	5	3	5	0	0	2	1	1	1	2	0	20
ML=Meter Locations	0	0	0	0	0	0	0	0	0	0	0	0	0
O = Outages	0	0	0	0	0	0	1	1	0	2	0	1	5
PDC=Property Damage to Customers	0	0	0	0	0	0	0	0	0	0	0	0	0
R=Rate Classification	0	0	0	0	0	0	0	0	1	1	0	0	2
Rel=Relocate WPSC Facilities	0	0	0	0	0	1	0	0	0	0	0	0	1
SREL=Service Reliability	0	0	0	0	0	0	0	0	0	0	0	0	0
SV=Stray Voltage	0	0	0	0	0	0	0	0	0	0	0	0	0
USC=Unacceptable Service Condition	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	10	16	19	32	37	49	53	66	58	32	10	7	389

PSC 113.0604(3)(f)

Total annual tree trimming budget and actual expenses.

2010 Line Clearance Budget Summary

Total annual tree trimming budget: **\$5,958,963**

Total annual tree trimming actual expenses: **\$5,993,238**

PSC 113.0604(3)(g)

Total annual projected and actual miles of distribution line tree trimmed.

2010 Line Clearance Line-Mile Summary

Annual projected miles of distribution line tree trimmed: **3,055**

Total actual miles of distribution line tree trimmed: **2,690**



Wisconsin Public Service Corporation

700 North Adams Street

P.O. Box 19001

Green Bay, WI 54307-9001

Public Service Commission of Wisconsin
RECEIVED: 04/03/12, 11:10:28 AM

April 2, 2012

Ms. Sandra Paske
Secretary of the Commission
Public Service Commission of Wisconsin
610 N. Whitney Way
Madison, WI 53705-2729

Dear Ms. Paske:

Docket 05-GF-113

Re: PSC 113.0604 Annual Report

Enclosed is Wisconsin Public Service Corporation's filing to meet the requirements for the PSC 113.0604 Annual Report.

Please call me at (920) 433-1716 if you have any questions or concerns. I can also be reached by e-mail at SDeMerritt@wisconsinpublicservice.com.

Sincerely,

A handwritten signature in black ink, appearing to read "Steven L. De Merritt".

Steven L. De Merritt, P.E.
Senior Planning Engineer – Distribution

dd

Enclosure

Contents

PSC 113.0603(2)	3
PSC 113.0604(2)(a)	7
PSC 113.0604(2)(a)	8
PSC 113.0604(2)(b)	13
PSC 113.0604(2)(b)	18
PSC 113.0604(2)(d)	20
PSC 113.0604(2)(e)	21
PSC 113.0604(2)(f)	21
PSC 113.0604(3)(a)	27
PSC 113.0604(3)(b)	27
PSC 113.0604(3)(c)	28
PSC 113.0604(3)(d)	29
PSC 113.0604(3)(e)	30
PSC 113.0604(3)(f)	32
PSC 113.0604(3)(g)	32

PSC 113.0603(2)

Each utility also shall, at the end of each calendar year, calculate the SAIFI, SAIDI and CAIDI indices for each circuit in each operating area. Each circuit in each operating area shall then be listed in order separately according to its SAIFI index, its SAIDI index, and also its CAIDI index, beginning with the highest values for each index.

**2011 Electric Distribution Customer Interruptions
Total Distribution System Reliability Indices by Feeder
Excluding Transmission Caused Outages and Momentaries LE 5 Min**

Feeder	Substation	SAIDI	Feeder	Substation	SAIFI	Feeder	Substation	CAIDI
SIS 242	SISTER BAY	3,323.04	WAV 242	WHITING AVE	8.22	WET 121	WELLS ST	2,341.65
WAV 242	WHITING AVE	3,120.43	VEN 241	VENUS	5.75	EGH 242	EGG HARBOR	1,237.48
SUL 241	SUMMIT LAKE	2,604.93	SUL 241	SUMMIT LAKE	5.65	SIS 242	SISTER BAY	1,126.33
EGH 242	EGG HARBOR	2,483.72	VEN 242	VENUS	5.41	WET 242	WELLS ST	1,114.99
SIS 241	SISTER BAY	1,972.91	GOS 241	GOLDEN SANDS	5.07	SIS 241	SISTER BAY	1,111.08
GON 241	GOODMAN	1,940.51	PIN 242	PINE	4.90	EGH 241	EGG HARBOR	866.39
DUR 241	DUNN ROAD	1,909.53	SGM 241	ST. GERMAIN	4.77	DUR 241	DUNN ROAD	643.14
VEN 242	VENUS	1,860.24	DAF 242	DAVES FALLS	4.42	KEL 242	KELLY	604.25
SGM 241	ST. GERMAIN	1,673.51	MGA 241	METONGA	4.17	MTN 242	MOUNTAIN	541.94
MTN 242	MOUNTAIN	1,662.76	THL 241	THREE LAKES	4.08	GON 241	GOODMAN	516.82
HOO 242	HOOVER	1,304.20	CLK 242	CLEAR LAKE	4.06	BRU 242	BRUSBAY	497.29
BRU 242	BRUSBAY	1,300.41	DAF 241	DAVES FALLS	3.99	PIN 241	PINE	471.90
THL 241	THREE LAKES	1,270.47	CLK 243	CLEAR LAKE	3.78	SUL 241	SUMMIT LAKE	461.41
WET 121	WELLS ST	1,268.39	GON 241	GOODMAN	3.75	HCR 241	HARTMAN CREEK	447.50
VEN 241	VENUS	1,264.29	KEL 241	KELLY	3.71	OAS 241	OAK STREET	443.00
PIN 242	PINE	1,259.68	AUS 241	AURORA STREET	3.69	OSH 242	OSHKOSH	435.33
EGH 241	EGG HARBOR	1,259.48	CRB 244	CRANBERRY	3.64	HOO 242	HOOVER	422.05
SGM 242	ST. GERMAIN	1,223.49	WPA 242	WAUPACA	3.57	SIC 241	SILVER CLIFF	405.02
CRB 244	CRANBERRY	1,200.89	MTN 241	MOUNTAIN	3.38	LUX 241	LUXEBURG	400.68
HCR 241	HARTMAN CREEK	1,181.47	SGM 242	ST. GERMAIN	3.23	DYK 242	DYCKESVILLE	389.56
MGA 241	METONGA	1,177.42	SOI 241	SOBIESKI	3.20	ROO 241	ROOSEVELT RD	383.98
WPA 242	WAUPACA	1,163.70	GOS 242	GOLDEN SANDS	3.13	SRD 242	SHERWOOD	382.05
MTN 241	MOUNTAIN	1,153.06	HRR 241	HARRISON	3.12	WAV 242	WHITING AVE	379.64
HRR 241	HARRISON	1,142.83	HOO 242	HOOVER	3.09	SGM 242	ST. GERMAIN	378.35
CLK 242	CLEAR LAKE	1,120.47	MTN 242	MOUNTAIN	3.07	TDR 241	THUNDER	371.46
DAF 242	DAVES FALLS	1,102.08	NPT 242	NORTHPOINT	3.07	HRR 241	HARRISON	365.71
MEL 241	MERRILL HYDRO	1,076.54	MEL 241	MERRILL HYDRO	3.02	HRR 242	HARRISON	363.32
GOS 241	GOLDEN SANDS	1,070.03	ANO 241	ANTIGO	3.00	HIV 242	HIGHWAY V	359.89
AUS 241	AURORA STREET	1,054.05	DUR 241	DUNN ROAD	2.97	RSR 241	ROSIERE	358.96
HRR 242	HARRISON	1,051.09	MCR 242	MEARS CORNERS	2.96	POU 241	POUND	356.82
RSR 241	ROSIERE	1,032.50	SIS 242	SISTER BAY	2.95	MEL 241	MERRILL HYDRO	356.02
SIC 241	SILVER CLIFF	1,022.05	NPT 241	NORTHPOINT	2.93	MHS 242	MYSTERY HILLS	352.84
GOS 242	GOLDEN SANDS	996.12	HRR 242	HARRISON	2.89	SGM 241	ST. GERMAIN	351.12
NPT 241	NORTHPOINT	924.35	RSR 241	ROSIERE	2.88	VEN 242	VENUS	343.69
CLK 243	CLEAR LAKE	923.72	MSN 243	MASON STREET	2.82	MTN 241	MOUNTAIN	341.04

Feeder	Substation	SAIDI	Feeder	Substation	SAIFI	Feeder	Substation	CAIDI
NPT 242	NORTHPOINT	923.58	CLK 241	CLEAR LAKE	2.75	WAV 241	WHITING AVE	338.52
DAF 241	DAVES FALLS	861.69	KEV 241	KELLNERSVILLE	2.69	WEM 241	WEST MARINETTE	334.03
WAV 241	WHITING AVE	807.64	EST 242	EASTOM	2.66	CRB 244	CRANBERRY	330.09
EST 242	EASTOM	732.23	HCR 241	HARTMAN CREEK	2.64	WPA 242	WAUPACA	326.30
CLK 241	CLEAR LAKE	708.88	BRU 242	BRUSBAY	2.61	SAE 241	SANDSTONE DIST	322.30
MAV 241	MORRISON AVE	678.28	SRD 241	SHERWOOD	2.53	OCO 241	OCONTO	321.53
MCR 242	MEARS CORNERS	672.77	SIC 241	SILVER CLIFF	2.52	GOS 242	GOLDEN SANDS	318.54
OKY 241	OKRAY	655.96	SOT 241	SHOTO	2.48	NPT 241	NORTHPOINT	315.30
HOD 241	HODAG	652.85	EST 243	EASTOM	2.46	HES 241	HENRY STREET	314.77
TDR 241	THUNDER	644.10	WAV 241	WHITING AVE	2.39	THL 241	THREE LAKES	311.75
ANO 241	ANTIGO	641.19	HES 122	HENRY STREET	2.38	WMK 242	WESMARK	310.44
SRD 241	SHERWOOD	631.85	KEV 242	KELLNERSVILLE	2.32	TOW 121	TOWNLINE	310.34
HI8 242	HIGHWAY 8	606.32	ALA 241	ALGOMA	2.31	PBL 242	PREBLE	310.02
HI8 241	HIGHWAY 8	600.78	MAV 241	MORRISON AVE	2.21	HOO 241	HOOVER	309.69
STD 241	STRATFORD	572.66	OKY 241	OKRAY	2.21	HI8 241	HIGHWAY 8	309.41
KEL 241	KELLY	572.64	HOD 241	HODAG	2.18	HI8 242	HIGHWAY 8	309.33
MSN 243	MASON STREET	528.34	EGH 242	EGG HARBOR	2.01	MAV 241	MORRISON AVE	306.68
GRA 241	GRAVESVILLE	513.68	PAV 121	PEARL	2.00	MAD 241	MAPLEWOOD	303.79
SOT 241	SHOTO	471.28	STD 241	STRATFORD	1.99	NPT 242	NORTHPOINT	300.61
SRD 242	SHERWOOD	467.67	MIT 241	MISHICOT	1.97	HOD 241	HODAG	299.66
ALA 241	ALGOMA	460.78	HI8 242	HIGHWAY 8	1.96	OKY 241	OKRAY	296.74
SOI 241	SOBIESKI	460.64	HI8 241	HIGHWAY 8	1.94	BAT 241	BAYPORT	295.60
PIN 241	PINE	444.20	AVN 241	AVIATION	1.88	AUS 242	AURORA STREET	295.18
GRA 242	GRAVESVILLE	443.23	RSR 242	ROSIERE	1.87	OCO 242	OCONTO	288.95
LUX 241	LUXEMBURG	430.50	MRP 241	MANRAP	1.86	STD 241	STRATFORD	287.37
WMK 242	WESMARK	428.33	SMO 242	SUAMICO	1.83	AUS 241	AURORA STREET	285.82
RSR 242	ROSIERE	417.88	GRA 241	GRAVESVILLE	1.80	GRA 241	GRAVESVILLE	284.65
HES 122	HENRY STREET	395.18	CSL 241	CASSEL	1.79	CRI 242	CRIVITZ	284.02
EST 243	EASTOM	386.91	SIS 241	SISTER BAY	1.78	GRA 242	GRAVESVILLE	282.74
POU 241	POUND	385.04	SNZ 241	ST. NAZIANZ	1.76	MGA 241	METONGA	282.51
WEM 241	WEST MARINETTE	369.72	TDR 241	THUNDER	1.73	EAK 242	EAST KROK	277.33
AUS 242	AURORA STREET	353.32	HIP 242	HILLTOP	1.69	RLD 242	ROCKLAND	277.13
SAE 241	SANDSTONE DIST	353.03	LEA 241	LENA	1.66	CSL 242	CASSEL	276.29
PBL 243	PREBLE	337.92	GRA 244	GRAVESVILLE	1.62	CLK 242	CLEAR LAKE	276.25
GRA 244	GRAVESVILLE	335.73	GRA 242	GRAVESVILLE	1.57	EST 242	EASTOM	275.44
CSL 241	CASSEL	328.26	WPA 241	WAUPACA	1.54	HIV 243	HIGHWAY V	274.58
CRI 242	CRIVITZ	323.08	MSN 244	MASON STREET	1.47	PBL 243	PREBLE	270.37
CSL 242	CASSEL	314.76	EGH 241	EGG HARBOR	1.45	7ST 241	7TH STREET	268.91
OCO 242	OCONTO	311.61	KRN 241	KRONEN	1.42	RYN 123	RYAN STREET	264.00
KEV 241	KELLNERSVILLE	288.42	SNZ 242	ST. NAZIANZ	1.40	CLK 241	CLEAR LAKE	257.94
AVN 241	AVIATION	267.42	WMK 242	WESMARK	1.38	PIN 242	PINE	256.99
LEA 241	LENA	249.91	LIS 241	LIBERTY ST	1.36	PAV 241	PEARL	254.52
ROD 241	ROTHSCHILD	243.20	MCR 241	MEARS CORNERS	1.36	LUX 242	LUXEMBURG	251.59
OCO 241	OCONTO	241.87	VLP 242	VELP AVE	1.36	SRD 241	SHERWOOD	250.00
KEV 242	KELLNERSVILLE	241.79	AVN 242	AVIATION	1.34	DAF 242	DAVES FALLS	249.25
AVN 242	AVIATION	236.72	KEL 243	KELLY	1.30	VLP 241	VELP AVE	247.93
MIT 241	MISHICOT	230.29	PBL 243	PREBLE	1.25	MSN 242	MASON STREET	247.63

Feeder	Substation	SAIDI	Feeder	Substation	SAIFI	Feeder	Substation	CAIDI
SHS 241	SHERMAN STREET	206.95	LIS 243	LIBERTY ST	1.22	GNF 241	GREENLEAF	245.94
SMO 242	SUAMICO	206.38	SRD 242	SHERWOOD	1.22	CLK 243	CLEAR LAKE	244.67
KRN 241	KRONEN	204.19	AUS 242	AURORA STREET	1.20	MAV 242	MORRISON AVE	244.43
GLW 241	GLENVIEW	198.66	SPT 242	SUNSET POINT	1.15	PLO 241	PLOVER	242.09
MAV 242	MORRISON AVE	194.59	CRI 242	CRIVITZ	1.14	SUV 241	SUNNYVALE	238.74
ASH 241	ASHLAND AVE	192.94	CSL 242	CASSEL	1.14	SHS 241	SHERMAN STREET	238.66
HIP 242	HILLTOP	187.53	SMO 241	SUAMICO	1.14	EAV 241	EASTMAN AVE	228.14
MRP 241	MANRAP	186.28	GLW 241	GLENVIEW	1.13	ROD 241	ROTHSCHILD	227.90
SNZ 241	ST. NAZIANZ	184.70	WEM 241	WEST MARINETTE	1.11	MCR 242	MEARS CORNERS	227.31
TOW 121	TOWNLINE	184.26	HOW 241	HOWARD	1.10	KRN 242	KRONEN	225.58
BAT 241	BAYPORT	183.78	SAE 241	SANDSTONE DIST	1.10	RSR 242	ROSIERE	223.39
VLP 241	VELP AVE	183.50	TOR 241	TOWER DRIVE	1.09	VEN 241	VENUS	219.70
EAK 242	EAST KROK	183.06	OCO 242	OCONTO	1.08	MHS 241	MYSTERY HILLS	218.58
GLW 242	GLENVIEW	174.71	POU 241	POUND	1.08	EWA 241	EAST WAUSAU	216.52
HOO 241	HOOVER	169.79	LUX 241	LUXEMBURG	1.07	DAF 241	DAVES FALLS	215.82
WMK 241	WESMARK	169.49	ROD 241	ROTHSCHILD	1.07	HI8 243	HIGHWAY 8	214.59
MAD 241	MAPLEWOOD	168.36	SOT 242	SHOTO	1.05	ANO 241	ANTIGO	213.87
RLD 242	ROCKLAND	151.51	ASH 241	ASHLAND AVE	1.03	TOW 243	TOWNLINE	211.39
OAS 241	OAK STREET	149.36	RML 241	RED MAPLE	1.01	GOS 241	GOLDEN SANDS	210.98
KEL 242	KELLY	145.53	PAV 122	PEARL	1.00	BNS 121	BOWEN STREET	207.87
EAK 241	EAST KROK	137.37	EAK 241	EAST KROK	0.95	GRA 244	GRAVESVILLE	207.45
DYK 242	DYCKESVILLE	135.09	GLW 242	GLENVIEW	0.95	LSD 241	LOST DAUPHIN	205.54
MCR 241	MEARS CORNERS	134.09	PIN 241	PINE	0.94	ASH 242	ASHLAND AVE	202.08
MAI 241	MAINE	132.87	WMK 241	WESMARK	0.89	ALA 241	ALGOMA	199.26
VLP 242	VELP AVE	130.12	SHS 241	SHERMAN STREET	0.87	GLR 241	GLORY ROAD	195.26
WPA 241	WAUPACA	129.50	MAI 241	MAINE	0.82	WMK 241	WESMARK	190.46
SOT 242	SHOTO	126.79	PBL 241	PREBLE	0.81	SOT 241	SHOTO	189.68
HOW 241	HOWARD	124.16	MAV 242	MORRISON AVE	0.80	ASH 241	ASHLAND AVE	187.97
KEL 243	KELLY	119.60	BES 122	BEARDSLEY ST	0.78	MSN 243	MASON STREET	187.56
ROO 241	ROOSEVELT RD	118.05	OCO 241	OCONTO	0.75	SBY 242	SOUTH BROADWAY	187.33
SNZ 242	ST. NAZIANZ	116.66	VLP 241	VELP AVE	0.74	EAV 242	EASTMAN AVE	184.78
GNF 241	GREENLEAF	112.50	EAK 242	EAST KROK	0.66	GLW 242	GLENVIEW	184.08
SMO 241	SUAMICO	108.83	HIP 241	HILLTOP	0.63	CSL 241	CASSEL	183.61
WET 242	WELLS ST	106.84	BAT 241	BAYPORT	0.62	AVN 242	AVIATION	176.33
HIV 243	HIGHWAY V	102.70	MAD 242	MAPLEWOOD	0.60	GLW 241	GLENVIEW	176.23
TOW 243	TOWNLINE	101.59	TOW 121	TOWNLINE	0.59	ONT 242	ONTARIO ROAD	174.84
7ST 241	7TH STREET	96.27	HOO 241	HOOVER	0.55	NOU 122	NORSAU	173.59
KRN 242	KRONEN	91.06	MAD 241	MAPLEWOOD	0.55	GLR 242	GLORY ROAD	168.04
SUV 241	SUNNYVALE	89.95	RLD 242	ROCKLAND	0.55	HES 122	HENRY STREET	166.15
PBL 241	PREBLE	82.97	WET 121	WELLS ST	0.54	JAS 241	JAMES ST.	165.06
NOU 122	NORSAU	81.76	MSN 241	MASON STREET	0.53	A12 242	TWELFTH AVE	162.93
MAD 242	MAPLEWOOD	81.11	TOW 243	TOWNLINE	0.48	MAI 241	MAINE	161.07
TOR 241	TOWER DRIVE	78.29	NOU 122	NORSAU	0.47	DYK 241	DYCKESVILLE	158.22
PAV 121	PEARL	78.00	GNF 241	GREENLEAF	0.46	EST 243	EASTOM	157.34
MSN 244	MASON STREET	75.34	HOW 242	HOWARD	0.44	RML 242	RED MAPLE	155.98
ASH 242	ASHLAND AVE	72.44	JAS 241	JAMES ST.	0.42	KEL 241	KELLY	154.19
HIP 241	HILLTOP	72.12	RLD 241	ROCKLAND	0.42	LEA 241	LENA	150.48

Feeder	Substation	SAIDI	Feeder	Substation	SAIFI	Feeder	Substation	CAIDI
MSN 241	MASON STREET	71.75	BES 121	BEARDSLEY ST	0.41	HOW 242	HOWARD	146.38
EAV 242	EASTMAN AVE	70.04	RML 242	RED MAPLE	0.41	SOI 241	SOBIESKI	143.98
JAS 241	JAMES ST.	68.80	KRN 242	KRONEN	0.40	EAK 241	EAST KROK	143.85
LIS 241	LIBERTY ST	64.50	DYK 241	DYCKESVILLE	0.38	KRN 241	KRONEN	143.82
RML 242	RED MAPLE	64.30	EAV 242	EASTMAN AVE	0.38	AVN 241	AVIATION	142.61
HOW 242	HOWARD	64.04	SUV 241	SUNNYVALE	0.38	LIS 242	LIBERTY ST	137.77
DYK 241	DYCKESVILLE	59.35	UGB 123	UNIVERSITY	0.38	UGB 123	UNIVERSITY	136.29
RML 241	RED MAPLE	59.08	HIV 243	HIGHWAY V	0.37	BLN 241	BLUESTONE	136.01
PLO 241	PLOVER	58.31	7ST 241	7TH STREET	0.36	MSN 241	MASON STREET	135.76
SPT 242	SUNSET POINT	56.11	ASH 242	ASHLAND AVE	0.36	MAD 242	MAPLEWOOD	134.69
BES 122	BEARDSLEY ST	55.72	DYK 242	DYCKESVILLE	0.35	EOD 241	ELLINWOOD	132.91
MHS 242	MYSTERY HILLS	55.40	OAS 241	OAK STREET	0.34	RLD 241	ROCKLAND	130.51
RLD 241	ROCKLAND	54.53	LIS 242	LIBERTY ST	0.33	BNS 241	BOWEN STREET	128.73
GLR 241	GLORY ROAD	52.47	ROO 241	ROOSEVELT RD	0.31	SOT 242	SHOTO	121.18
UGB 123	UNIVERSITY	52.20	ONT 241	ONTARIO ROAD	0.29	MIT 241	MISHICOT	116.85
LSD 241	LOST DAUPHIN	50.49	OSH 243	OSHKOSH	0.29	HIP 241	HILLTOP	115.11
PBL 242	PREBLE	50.35	GLR 241	GLORY ROAD	0.27	SMO 242	SUAMICO	112.77
EWA 241	EAST WAUSAU	49.21	EOD 241	ELLINWOOD	0.26	HOW 241	HOWARD	112.64
MHS 241	MYSTERY HILLS	48.77	LSD 241	LOST DAUPHIN	0.25	HIP 242	HILLTOP	111.04
HIV 242	HIGHWAY V	46.94	GLR 242	GLORY ROAD	0.24	GLR 243	GLORY ROAD	108.15
MSN 242	MASON STREET	45.43	HIV 241	HIGHWAY V	0.24	HIV 241	HIGHWAY V	107.91
LIS 242	LIBERTY ST	44.80	KEL 242	KELLY	0.24	KEV 241	KELLNERSVILLE	107.23
BES 121	BEARDSLEY ST	42.46	PLO 241	PLOVER	0.24	SNZ 241	ST. NAZIANZ	105.20
GLR 242	GLORY ROAD	40.57	EWA 241	EAST WAUSAU	0.23	KEV 242	KELLNERSVILLE	104.37
PAV 122	PEARL	38.00	EOD 242	ELLINWOOD	0.22	PBL 241	PREBLE	102.88
HES 241	HENRY STREET	35.80	MHS 241	MYSTERY HILLS	0.22	BES 121	BEARDSLEY ST	102.39
EOD 241	ELLINWOOD	34.70	A12 241	TWELFTH AVE	0.20	MRP 241	MANRAP	100.06
SBY 242	SOUTH BROADWAY	33.65	MSN 242	MASON STREET	0.18	MCR 241	MEARS CORNERS	98.39
LIS 243	LIBERTY ST	31.63	SBY 242	SOUTH BROADWAY	0.18	VLP 242	VELP AVE	95.57
EAV 241	EASTMAN AVE	28.39	SPT 241	SUNSET POINT	0.17	SMO 241	SUAMICO	95.42
ONT 241	ONTARIO ROAD	26.50	MHS 242	MYSTERY HILLS	0.16	OSH 241	OSHKOSH	95.08
H18 243	HIGHWAY 8	26.23	PBL 242	PREBLE	0.16	ONT 241	ONTARIO ROAD	92.79
HIV 241	HIGHWAY V	25.86	BLN 241	BLUESTONE	0.14	KEL 243	KELLY	91.79
BNS 121	BOWEN STREET	23.40	HIV 242	HIGHWAY V	0.13	EOD 242	ELLINWOOD	89.19
LUX 242	LUXEMBURG	22.46	EAV 241	EASTMAN AVE	0.12	WPA 241	WAUPACA	84.07
EOD 242	ELLINWOOD	19.30	H18 243	HIGHWAY 8	0.12	SNZ 242	ST. NAZIANZ	83.31
ONT 242	ONTARIO ROAD	18.70	BNS 121	BOWEN STREET	0.11	A12 241	TWELFTH AVE	75.32
BLN 241	BLUESTONE	18.43	HES 241	HENRY STREET	0.11	TOR 241	TOWER DRIVE	72.08
OSH 243	OSHKOSH	17.87	ONT 242	ONTARIO ROAD	0.11	BES 122	BEARDSLEY ST	71.11
OSH 242	OSHKOSH	15.93	WET 242	WELLS ST	0.10	WSU 241	WAUSAU HYDRO	66.24
A12 241	TWELFTH AVE	14.80	LUX 242	LUXEMBURG	0.09	OSH 243	OSHKOSH	61.37
A12 242	TWELFTH AVE	11.71	OSH 241	OSHKOSH	0.09	RML 241	RED MAPLE	58.66
RYN 123	RYAN STREET	11.23	A12 242	TWELFTH AVE	0.07	SPT 241	SUNSET POINT	56.18
SPT 241	SUNSET POINT	9.55	GLR 243	GLORY ROAD	0.07	MSN 244	MASON STREET	51.35
PAV 241	PEARL	9.01	SHS 242	SHERMAN STREET	0.07	SPT 242	SUNSET POINT	48.60
OSH 241	OSHKOSH	8.93	WSU 241	WAUSAU HYDRO	0.07	LIS 241	LIBERTY ST	47.33
BNS 241	BOWEN STREET	8.21	BNS 241	BOWEN STREET	0.06	SHS 242	SHERMAN STREET	46.26

Feeder	Substation	SAIDI	Feeder	Substation	SAIFI	Feeder	Substation	CAIDI
GLR 243	GLORY ROAD	7.99	OSH 242	OSHKOSH	0.04	PAV 121	PEARL	39.00
WSU 241	WAUSAU HYDRO	4.31	PAV 241	PEARL	0.04	PAV 122	PEARL	38.00
SHS 242	SHERMAN STREET	3.17	PLO 242	PLOVER	0.04	LIS 243	LIBERTY ST	25.84
PLO 242	PLOVER	0.41	RYN 123	RYAN STREET	0.04	PLO 242	PLOVER	11.00

PSC 113.0604(2)(a)

An overall assessment of the reliability performance including the aggregate SAIFI, SAIDI and CAIDI indices by system and each operating area, as applicable.

**2011 Electric Distribution Customer Interruptions
Total Distribution System Reliability Indices by District
Excluding Transmission Caused Outages and Momentaries LE 5 Min**

District	SAIDI	CAIDI	SAIFI
Antigo	1,242	333	3.73
Chilton	325	233	1.39
Eagle River	1,265	331	3.82
Green Bay	116	164	0.71
Kewaunee	239	277	0.86
Merrill	972	303	3.2
Minocqua	1,065	282	3.77
Marinette	339	339	1
Oshkosh	88	154	0.57
Rhineland	867	285	3.04
Sturgeon Bay	1,966	816	2.41
Stevens Point	1,001	341	2.93
Tomahawk	553	216	2.55
Two Rivers	232	127	1.83
Wabeno	1,478	466	3.17
Wausau	203	187	1.09
Waupaca	901	340	2.65
Wausaukee	670	260	2.58
Total Company:	531.41	308.23	1.72

PSC 113.0604(2)(a)

An overall assessment of the reliability performance including the aggregate SAIFI, SAIDI, and CAIDI indices by system and each operating area, as applicable.

**2011 Electric Distribution Customer Interruptions
Total Distribution System Reliability Indices by District and Feeder
Excluding Transmission Caused Outages and Momentaries LE 5 Min**

District	Feeder	Substation	SAIDI	SAIFI	CAIDI
Antigo					
	ANO 241	ANTIGO	641.19	3.00	213.87
	AUS 241	AURORA STREET	1054.05	3.69	285.82
	AUS 242	AURORA STREET	353.32	1.20	295.18
	SUL 241	SUMMIT LAKE	2604.93	5.65	461.41
Chilton					
	GLW 241	GLENVIEW	198.66	1.13	176.23
	GLW 242	GLENVIEW	174.71	0.95	184.08
	GRA 241	GRAVESVILLE	513.68	1.80	284.65
	GRA 242	GRAVESVILLE	443.23	1.57	282.74
	GRA 244	GRAVESVILLE	335.73	1.62	207.45
	RYN 123	RYAN STREET	11.23	0.04	264.00
Eagle River					
	CRB 244	CRANBERRY	1200.89	3.64	330.09
	THL 241	THREE LAKES	1270.47	4.08	311.75
Green Bay					
	7ST 241	7TH STREET	96.27	0.36	268.91
	ASH 241	ASHLAND AVE	192.94	1.03	187.97
	ASH 242	ASHLAND AVE	72.44	0.36	202.08
	BAT 241	BAYPORT	183.78	0.62	295.60
	BLN 241	BLUESTONE	18.43	0.14	136.01
	DYK 241	DYCKESVILLE	59.35	0.38	158.22
	DYK 242	DYCKESVILLE	135.09	0.35	389.56
	EAV 133	EASTMAN AVE	4786.00	3.00	1595.33
	EAV 241	EASTMAN AVE	28.39	0.12	228.14
	EAV 242	EASTMAN AVE	70.04	0.38	184.78
	GLR 241	GLORY ROAD	52.47	0.27	195.26
	GLR 242	GLORY ROAD	40.57	0.24	168.04
	GLR 243	GLORY ROAD	7.99	0.07	108.15
	GNF 241	GREENLEAF	112.50	0.46	245.94
	HES 122	HENRY STREET	395.18	2.38	166.15
	HES 241	HENRY STREET	35.80	0.11	314.77
	HIV 241	HIGHWAY V	25.86	0.24	107.91
	HIV 242	HIGHWAY V	46.94	0.13	359.89
	HIV 243	HIGHWAY V	102.70	0.37	274.58

District	Feeder	Substation	SAIDI	SAIFI	CAIDI
	HOW 241	HOWARD	124.16	1.10	112.64
	HOW 242	HOWARD	64.04	0.44	146.38
	JAS 241	JAMES ST.	68.80	0.42	165.06
	LIS 241	LIBERTY ST	64.50	1.36	47.33
	LIS 242	LIBERTY ST	44.80	0.33	137.77
	LIS 243	LIBERTY ST	31.63	1.22	25.84
	LSD 241	LOST DAUPHIN	50.49	0.25	205.54
	MAD 241	MAPLEWOOD	168.36	0.55	303.79
	MAD 242	MAPLEWOOD	81.11	0.60	134.69
	MSN 241	MASON STREET	71.75	0.53	135.76
	MSN 242	MASON STREET	45.43	0.18	247.63
	MSN 243	MASON STREET	528.34	2.82	187.56
	MSN 244	MASON STREET	75.34	1.47	51.35
	MHS 241	MYSTERY HILLS	48.77	0.22	218.58
	MHS 242	MYSTERY HILLS	55.40	0.16	352.84
	OAS 241	OAK STREET	149.36	0.34	443.00
	ONT 241	ONTARIO ROAD	26.50	0.29	92.79
	ONT 242	ONTARIO ROAD	18.70	0.11	174.84
	PBL 241	PREBLE	82.97	0.81	102.88
	PBL 242	PREBLE	50.35	0.16	310.02
	PBL 243	PREBLE	337.92	1.25	270.37
	RML 241	RED MAPLE	59.08	1.01	58.66
	RML 242	RED MAPLE	64.30	0.41	155.98
	RLD 241	ROCKLAND	54.53	0.42	130.51
	RLD 242	ROCKLAND	151.51	0.55	277.13
	SOI 241	SOBIESKI	460.64	3.20	143.98
	SBY 242	SOUTH BROADWAY	33.65	0.18	187.33
	SMO 241	SUAMICO	108.83	1.14	95.42
	SMO 242	SUAMICO	206.38	1.83	112.77
	TOR 241	TOWER DRIVE	78.29	1.09	72.08
	UGB 123	UNIVERSITY	52.20	0.38	136.29
	VLP 241	VELP AVE	183.50	0.74	247.93
	VLP 242	VELP AVE	130.12	1.36	95.57
	WMK 241	WESMARK	169.49	0.89	190.46
	WMK 242	WESMARK	428.33	1.38	310.44
Kewaunee					
	ALA 241	ALGOMA	460.78	2.31	199.26
	BES 121	BEARDSLEY ST	42.46	0.41	102.39
	BES 122	BEARDSLEY ST	55.72	0.78	71.11
	EAK 241	EAST KROK	137.37	0.95	143.85
	EAK 242	EAST KROK	183.06	0.66	277.33
	LUX 241	LUXEMBURG	430.50	1.07	400.68
	LUX 242	LUXEMBURG	22.46	0.09	251.59
	RSR 241	ROSIERE	1032.50	2.88	358.96
	RSR 242	ROSIERE	417.88	1.87	223.39

District	Feeder	Substation	SAIDI	SAIFI	CAIDI
Marinette					
	LEA 241	LENA	249.91	1.66	150.48
	OCO 241	OCONTO	241.87	0.75	321.53
	OCO 242	OCONTO	311.61	1.08	288.95
	POU 241	POUND	385.04	1.08	356.82
	ROO 241	ROOSEVELT RD	118.05	0.31	383.98
	SRD 241	SHERWOOD	631.85	2.53	250.00
	SRD 242	SHERWOOD	467.67	1.22	382.05
	WET 121	WELLS ST	1268.39	0.54	2341.65
	WET 242	WELLS ST	106.84	0.10	1114.99
	WEM 241	WEST MARINETTE	369.72	1.11	334.03
Merrill					
	MEL 241	MERRILL HYDRO	1076.54	3.02	356.02
	PIN 241	PINE	444.20	0.94	471.90
	PIN 242	PINE	1259.68	4.90	256.99
Minocqua					
	CLK 241	CLEAR LAKE	708.88	2.75	257.94
	CLK 242	CLEAR LAKE	1120.47	4.06	276.25
	CLK 243	CLEAR LAKE	923.72	3.78	244.67
	SGM 241	ST. GERMAIN	1673.51	4.77	351.12
	SGM 242	ST. GERMAIN	1223.49	3.23	378.35
Oshkosh					
	AVN 241	AVIATION	267.42	1.88	142.61
	AVN 242	AVIATION	236.72	1.34	176.33
	BNS 121	BOWEN STREET	23.40	0.11	207.87
	BNS 241	BOWEN STREET	8.21	0.06	128.73
	EOD 241	ELLINWOOD	34.70	0.26	132.91
	EOD 242	ELLINWOOD	19.30	0.22	89.19
	MCR 241	MEARS CORNERS	134.09	1.36	98.39
	MCR 242	MEARS CORNERS	672.77	2.96	227.31
	OSH 241	OSHKOSH	8.93	0.09	95.08
	OSH 242	OSHKOSH	15.93	0.04	435.33
	OSH 243	OSHKOSH	17.87	0.29	61.37
	PAV 121	PEARL	78.00	2.00	39.00
	PAV 122	PEARL	38.00	1.00	38.00
	PAV 241	PEARL	9.01	0.04	254.52
	SPT 241	SUNSET POINT	9.55	0.17	56.18
	SPT 242	SUNSET POINT	56.11	1.15	48.60
	A12 241	TWELFTH AVE	14.80	0.20	75.32
	A12 242	TWELFTH AVE	11.71	0.07	162.93
Rhineland					
	HI8 241	HIGHWAY 8	600.78	1.94	309.41
	HI8 242	HIGHWAY 8	606.32	1.96	309.33
	HI8 243	HIGHWAY 8	26.23	0.12	214.59
	HOD 241	HODAG	652.85	2.18	299.66

District	Feeder	Substation	SAIDI	SAIFI	CAIDI
	MGA 241	METONGA	1177.42	4.17	282.51
	VEN 241	VENUS	1264.29	5.75	219.70
	VEN 242	VENUS	1860.24	5.41	343.69
Stevens Point					
	GOS 241	GOLDEN SANDS	1070.03	5.07	210.98
	GOS 242	GOLDEN SANDS	996.12	3.13	318.54
	HOO 241	HOOVER	169.79	0.55	309.69
	HOO 242	HOOVER	1304.20	3.09	422.05
	NPT 241	NORTHPOINT	924.35	2.93	315.30
	NPT 242	NORTHPOINT	923.58	3.07	300.61
	OKY 241	OKRAY	655.96	2.21	296.74
	PLO 241	PLOVER	58.31	0.24	242.09
	PLO 242	PLOVER	0.41	0.04	11.00
	WAV 241	WHITING AVE	807.64	2.39	338.52
	WAV 242	WHITING AVE	3120.43	8.22	379.64
Sturgeon Bay					
	BRU 242	BRUSBAY	1300.41	2.61	497.29
	DUR 241	DUNN ROAD	1909.53	2.97	643.14
	EGH 241	EGG HARBOR	1259.48	1.45	866.39
	EGH 242	EGG HARBOR	2483.72	2.01	1237.48
	SIS 241	SISTER BAY	1972.91	1.78	1111.08
	SIS 242	SISTER BAY	3323.04	2.95	1126.33
Tomahawk					
	EST 242	EASTOM	732.23	2.66	275.44
	EST 243	EASTOM	386.91	2.46	157.34
Two Rivers					
	KEV 241	KELLNERSVILLE	288.42	2.69	107.23
	KEV 242	KELLNERSVILLE	241.79	2.32	104.37
	MRP 241	MANRAP	186.28	1.86	100.06
	MIT 241	MISHICOT	230.29	1.97	116.85
	SOT 241	SHOTO	471.28	2.48	189.68
	SOT 242	SHOTO	126.79	1.05	121.18
	SNZ 241	ST. NAZIANZ	184.70	1.76	105.20
	SNZ 242	ST. NAZIANZ	116.66	1.40	83.31
Wabeno					
	GON 241	GOODMAN	1940.51	3.75	516.82
	MTN 241	MOUNTAIN	1153.06	3.38	341.04
	MTN 242	MOUNTAIN	1662.76	3.07	541.94
	SIC 241	SILVER CLIFF	1022.05	2.52	405.02
Waupaca					
	HRR 241	HARRISON	1142.83	3.12	365.71
	HRR 242	HARRISON	1051.09	2.89	363.32
	HCR 241	HARTMAN CREEK	1181.47	2.64	447.50
	WPA 241	WAUPACA	129.50	1.54	84.07
	WPA 242	WAUPACA	1163.70	3.57	326.30

District	Feeder	Substation	SAIDI	SAIFI	CAIDI
Wausau					
	CSL 241	CASSEL	328.26	1.79	183.61
	CSL 242	CASSEL	314.76	1.14	276.29
	EWA 241	EAST WAUSAU	49.21	0.23	216.52
	HIP 241	HILLTOP	72.12	0.63	115.11
	HIP 242	HILLTOP	187.53	1.69	111.04
	KEL 241	KELLY	572.64	3.71	154.19
	KEL 242	KELLY	145.53	0.24	604.25
	KEL 243	KELLY	119.60	1.30	91.79
	KRN 241	KRONEN	204.19	1.42	143.82
	KRN 242	KRONEN	91.06	0.40	225.58
	MAI 241	MAINE	132.87	0.82	161.07
	MAV 241	MORRISON AVE	678.28	2.21	306.68
	MAV 242	MORRISON AVE	194.59	0.80	244.43
	NOU 122	NORSAU	81.76	0.47	173.59
	ROD 241	ROTHSCHILD	243.20	1.07	227.90
	SHS 241	SHERMAN STREET	206.95	0.87	238.66
	SHS 242	SHERMAN STREET	3.17	0.07	46.26
	STD 241	STRATFORD	572.66	1.99	287.37
	SUV 241	SUNNYVALE	89.95	0.38	238.74
	TOW 121	TOWNLINE	184.26	0.59	310.34
	TOW 243	TOWNLINE	101.59	0.48	211.39
	WSU 241	WAUSAU HYDRO	4.31	0.07	66.24
Wausaukee					
	CRI 242	CRIVITZ	323.08	1.14	284.02
	DAF 241	DAVES FALLS	861.69	3.99	215.82
	DAF 242	DAVES FALLS	1102.08	4.42	249.25
	SAE 241	SANDSTONE DIST	353.03	1.10	322.30
	TDR 241	THUNDER	644.10	1.73	371.46

PSC 113.0604(2)(b)

A list of the worst-performing circuits based on SAIFI, SAIDI, and CAIDI indexes for the calendar year.

SAIFI, SAIDI, and CAIDI were calculated for each of the WPS distribution feeders. Due to the difficulty in ranking the feeders, a composite value was calculated in order to normalize SAIFI, SAIDI, and CAIDI. The following formula was used to develop a composite value based on 20% SAIFI and 80% SAIDI:

COMPOSITE = [(SAIFI/SAIFI MAX) * 0.2 + (SAIDI/SAIDI MAX) * 0.8 + (CAIDI/CAIDI MAX) * 0] where MAX = the maximum value of SAIFI, SAIDI, and CAIDI for all distribution circuits.

**2011 Electric Distribution Customer Interruptions
Total Distribution System Reliability Indices by Feeder
Excluding Transmission Caused Outages and Momentaries LE 5 Min**

Feeder	Substation	SAIDI	SAIFI	CAIDI	Composite
WAV 242	WHITING AVE	3,120.43	8.22	379.64	0.95
SIS 242	SISTER BAY	3,323.04	2.95	1,126.33	0.87
SUL 241	SUMMIT LAKE	2,604.93	5.65	461.41	0.76
EGH 242	EGG HARBOR	2,483.72	2.01	1,237.48	0.65
VEN 242	VENUS	1,860.24	5.41	343.69	0.58
GON 241	GOODMAN	1,940.51	3.75	516.82	0.56
DUR 241	DUNN ROAD	1,909.53	2.97	643.14	0.53
SGM 241	ST. GERMAIN	1,673.51	4.77	351.12	0.52
SIS 241	SISTER BAY	1,972.91	1.78	1,111.08	0.52
MTN 242	MOUNTAIN	1,662.76	3.07	541.94	0.47
VEN 241	VENUS	1,264.29	5.75	219.70	0.44
PIN 242	PINE	1,259.68	4.90	256.99	0.42
THL 241	THREE LAKES	1,270.47	4.08	311.75	0.41
HOO 242	HOOVER	1,304.20	3.09	422.05	0.39
MGA 241	METONGA	1,177.42	4.17	282.51	0.38
GOS 241	GOLDEN SANDS	1,070.03	5.07	210.98	0.38
CRB 244	CRANBERRY	1,200.89	3.64	330.09	0.38
BRU 242	BRUSBAY	1,300.41	2.61	497.29	0.38
SGM 242	ST. GERMAIN	1,223.49	3.23	378.35	0.37
DAF 242	DAVES FALLS	1,102.08	4.42	249.25	0.37
CLK 242	CLEAR LAKE	1,120.47	4.06	276.25	0.37
WPA 242	WAUPACA	1,163.70	3.57	326.30	0.37
MTN 241	MOUNTAIN	1,153.06	3.38	341.04	0.36
HRR 241	HARRISON	1,142.83	3.12	365.71	0.35
HCR 241	HARTMAN CREEK	1,181.47	2.64	447.50	0.35
AUS 241	AURORA STREET	1,054.05	3.69	285.82	0.34
EGH 241	EGG HARBOR	1,259.48	1.45	866.39	0.34
MEL 241	MERRILL HYDRO	1,076.54	3.02	356.02	0.33
HRR 242	HARRISON	1,051.09	2.89	363.32	0.32
RSR 241	ROSIERE	1,032.50	2.88	358.96	0.32

Feeder	Substation	SAIDI	SAIFI	CAIDI	Composite
WET 121	WELLS ST	1,268.39	0.54	2,341.65	0.32
GOS 242	GOLDEN SANDS	996.12	3.13	318.54	0.32
CLK 243	CLEAR LAKE	923.72	3.78	244.67	0.31
SIC 241	SILVER CLIFF	1,022.05	2.52	405.02	0.31
DAF 241	DAVES FALLS	861.69	3.99	215.82	0.30
NPT 242	NORTHPOINT	923.58	3.07	300.61	0.30
NPT 241	NORTHPOINT	924.35	2.93	315.30	0.29
WAV 241	WHITING AVE	807.64	2.39	338.52	0.25
EST 242	EASTOM	732.23	2.66	275.44	0.24
CLK 241	CLEAR LAKE	708.88	2.75	257.94	0.24
MCR 242	MEARS CORNERS	672.77	2.96	227.31	0.23
KEL 241	KELLY	572.64	3.71	154.19	0.23
ANO 241	ANTIGO	641.19	3.00	213.87	0.23
MAV 241	MORRISON AVE	678.28	2.21	306.68	0.22
SRD 241	SHERWOOD	631.85	2.53	250.00	0.21
OKY 241	OKRAY	655.96	2.21	296.74	0.21
HOD 241	HODAG	652.85	2.18	299.66	0.21
TDR 241	THUNDER	644.10	1.73	371.46	0.20
MSN 243	MASON STREET	528.34	2.82	187.56	0.20
HI8 242	HIGHWAY 8	606.32	1.96	309.33	0.19
HI8 241	HIGHWAY 8	600.78	1.94	309.41	0.19
SOI 241	SOBIESKI	460.64	3.20	143.98	0.19
STD 241	STRATFORD	572.66	1.99	287.37	0.19
SOT 241	SHOTO	471.28	2.48	189.68	0.17
GRA 241	GRAVESVILLE	513.68	1.80	284.65	0.17
ALA 241	ALGOMA	460.78	2.31	199.26	0.17
HES 122	HENRY STREET	395.18	2.38	166.15	0.15
EST 243	EASTOM	386.91	2.46	157.34	0.15
RSR 242	ROSIERE	417.88	1.87	223.39	0.15
GRA 242	GRAVESVILLE	443.23	1.57	282.74	0.14
SRD 242	SHERWOOD	467.67	1.22	382.05	0.14
WMK 242	WESMARK	428.33	1.38	310.44	0.14
KEV 241	KELLNERSVILLE	288.42	2.69	107.23	0.13
PIN 241	PINE	444.20	0.94	471.90	0.13
LUX 241	LUXEMBURG	430.50	1.07	400.68	0.13
CSL 241	CASSEL	328.26	1.79	183.61	0.12
GRA 244	GRAVESVILLE	335.73	1.62	207.45	0.12
POU 241	POUND	385.04	1.08	356.82	0.12
WEM 241	WEST MARINETTE	369.72	1.11	334.03	0.12
KEV 242	KELLNERSVILLE	241.79	2.32	104.37	0.11
AUS 242	AURORA STREET	353.32	1.20	295.18	0.11
PBL 243	PREBLE	337.92	1.25	270.37	0.11
SAE 241	SANDSTONE DIST	353.03	1.10	322.30	0.11
AVN 241	AVIATION	267.42	1.88	142.61	0.11
CRI 242	CRIVITZ	323.08	1.14	284.02	0.11

Feeder	Substation	SAIDI	SAIFI	CAIDI	Composite
CSL 242	CASSEL	314.76	1.14	276.29	0.10
MIT 241	MISHICOT	230.29	1.97	116.85	0.10
OCO 242	OCONTO	311.61	1.08	288.95	0.10
LEA 241	LENA	249.91	1.66	150.48	0.10
SMO 242	SUAMICO	206.38	1.83	112.77	0.09
MRP 241	MANRAP	186.28	1.86	100.06	0.09
AVN 242	AVIATION	236.72	1.34	176.33	0.09
SNZ 241	ST. NAZIANZ	184.70	1.76	105.20	0.09
HIP 242	HILLTOP	187.53	1.69	111.04	0.09
ROD 241	ROTHSCHILD	243.20	1.07	227.90	0.08
KRN 241	KRONEN	204.19	1.42	143.82	0.08
OCO 241	OCONTO	241.87	0.75	321.53	0.08
GLW 241	GLENVIEW	198.66	1.13	176.23	0.08
ASH 241	ASHLAND AVE	192.94	1.03	187.97	0.07
SHS 241	SHERMAN STREET	206.95	0.87	238.66	0.07
WPA 241	WAUPACA	129.50	1.54	84.07	0.07
PAV 121	PEARL	78.00	2.00	39.00	0.07
MAV 242	MORRISON AVE	194.59	0.80	244.43	0.07
MCR 241	MEARS CORNERS	134.09	1.36	98.39	0.07
GLW 242	GLENVIEW	174.71	0.95	184.08	0.07
VLP 242	VELP AVE	130.12	1.36	95.57	0.06
WMK 241	WESMARK	169.49	0.89	190.46	0.06
VLP 241	VELP AVE	183.50	0.74	247.93	0.06
SNZ 242	ST. NAZIANZ	116.66	1.40	83.31	0.06
KEL 243	KELLY	119.60	1.30	91.79	0.06
EAK 242	EAST KROK	183.06	0.66	277.33	0.06
BAT 241	BAYPORT	183.78	0.62	295.60	0.06
TOW 121	TOWNLINE	184.26	0.59	310.34	0.06
HOW 241	HOWARD	124.16	1.10	112.64	0.06
EAK 241	EAST KROK	137.37	0.95	143.85	0.06
SOT 242	SHOTO	126.79	1.05	121.18	0.06
HOO 241	HOOVER	169.79	0.55	309.69	0.05
SMO 241	SUAMICO	108.83	1.14	95.42	0.05
MAD 241	MAPLEWOOD	168.36	0.55	303.79	0.05
MSN 244	MASON STREET	75.34	1.47	51.35	0.05
MAI 241	MAINE	132.87	0.82	161.07	0.05
RLD 242	ROCKLAND	151.51	0.55	277.13	0.05
LIS 241	LIBERTY ST	64.50	1.36	47.33	0.05
TOR 241	TOWER DRIVE	78.29	1.09	72.08	0.05
OAS 241	OAK STREET	149.36	0.34	443.00	0.04
SPT 242	SUNSET POINT	56.11	1.15	48.60	0.04
DYK 242	DYCKESVILLE	135.09	0.35	389.56	0.04
KEL 242	KELLY	145.53	0.24	604.25	0.04
PBL 241	PREBLE	82.97	0.81	102.88	0.04
RML 241	RED MAPLE	59.08	1.01	58.66	0.04

Feeder	Substation	SAIDI	SAIFI	CAIDI	Composite
GNF 241	GREENLEAF	112.50	0.46	245.94	0.04
LIS 243	LIBERTY ST	31.63	1.22	25.84	0.04
TOW 243	TOWNLINE	101.59	0.48	211.39	0.04
ROO 241	ROOSEVELT RD	118.05	0.31	383.98	0.04
MAD 242	MAPLEWOOD	81.11	0.60	134.69	0.03
HIV 243	HIGHWAY V	102.70	0.37	274.58	0.03
PAV 122	PEARL	38.00	1.00	38.00	0.03
HIP 241	HILLTOP	72.12	0.63	115.11	0.03
BES 122	BEARDSLEY ST	55.72	0.78	71.11	0.03
7ST 241	7TH STREET	96.27	0.36	268.91	0.03
KRN 242	KRONEN	91.06	0.40	225.58	0.03
NOU 122	NORSAU	81.76	0.47	173.59	0.03
SUV 241	SUNNYVALE	89.95	0.38	238.74	0.03
MSN 241	MASON STREET	71.75	0.53	135.76	0.03
WET 242	WELLS ST	106.84	0.10	1,114.99	0.03
JAS 241	JAMES ST	68.80	0.42	165.06	0.03
ASH 242	ASHLAND AVE	72.44	0.36	202.08	0.03
HOW 242	HOWARD	64.04	0.44	146.38	0.03
EAV 242	EASTMAN AVE	70.04	0.38	184.78	0.03
RML 242	RED MAPLE	64.30	0.41	155.98	0.03
DYK 241	DYCKESVILLE	59.35	0.38	158.22	0.02
RLD 241	ROCKLAND	54.53	0.42	130.51	0.02
UGB 123	UNIVERSITY	52.20	0.38	136.29	0.02
BES 121	BEARDSLEY ST	42.46	0.41	102.39	0.02
PLO 241	PLOVER	58.31	0.24	242.09	0.02
GLR 241	GLORY ROAD	52.47	0.27	195.26	0.02
LIS 242	LIBERTY ST	44.80	0.33	137.77	0.02
LSD 241	LOST DAUPHIN	50.49	0.25	205.54	0.02
EWA 241	EAST WAUSAU	49.21	0.23	216.52	0.02
MHS 242	MYSTERY HILLS	55.40	0.16	352.84	0.02
MHS 241	MYSTERY HILLS	48.77	0.22	218.58	0.02
PBL 242	PREBLE	50.35	0.16	310.02	0.02
GLR 242	GLORY ROAD	40.57	0.24	168.04	0.02
MSN 242	MASON STREET	45.43	0.18	247.63	0.02
EOD 241	ELLINWOOD	34.70	0.26	132.91	0.01
HIV 242	HIGHWAY V	46.94	0.13	359.89	0.01
ONT 241	ONTARIO ROAD	26.50	0.29	92.79	0.01
SBY 242	SOUTH BROADWAY	33.65	0.18	187.33	0.01
HIV 241	HIGHWAY V	25.86	0.24	107.91	0.01
OSH 243	OSHKOSH	17.87	0.29	61.37	0.01
HES 241	HENRY STREET	35.80	0.11	314.77	0.01
EOD 242	ELLINWOOD	19.30	0.22	89.19	0.01
EAV 241	EASTMAN AVE	28.39	0.12	228.14	0.01
H18 243	HIGHWAY 8	26.23	0.12	214.59	0.01
A12 241	TWELFTH AVE	14.80	0.20	75.32	0.01

Feeder	Substation	SAIDI	SAIFI	CAIDI	Composite
BNS 121	BOWEN STREET	23.40	0.11	207.87	0.01
BLN 241	BLUESTONE	18.43	0.14	136.01	0.01
LUX 242	LUXEMBURG	22.46	0.09	251.59	0.01
ONT 242	ONTARIO ROAD	18.70	0.11	174.84	0.01
SPT 241	SUNSET POINT	9.55	0.17	56.18	0.01
OSH 242	OSHKOSH	15.93	0.04	435.33	0.00
A12 242	TWELFTH AVE	11.71	0.07	162.93	0.00
OSH 241	OSHKOSH	8.93	0.09	95.08	0.00
RYN 123	RYAN STREET	11.23	0.04	264.00	0.00
GLR 243	GLORY ROAD	7.99	0.07	108.15	0.00
BNS 241	BOWEN STREET	8.21	0.06	128.73	0.00
PAV 241	PEARL	9.01	0.04	254.52	0.00
WSU 241	WAUSAU HYDRO	4.31	0.07	66.24	0.00
SHS 242	SHERMAN STREET	3.17	0.07	46.26	0.00
PLO 242	PLOVER	0.41	0.04	11.00	0.00

PSC 113.0604(2)(b)

A list of the worst-performing circuits based on SAIFI, SAIDI, and CAIDI indexes for the calendar year. This section of the report shall describe the actions that the utility has taken or will take to remedy the conditions responsible for each listed circuit's unacceptable performance. The action(s) taken or planned should be briefly described. Target dates for corrective action(s) shall be included in the report. When the utility determines that actions on its part are unwarranted, its report shall provide adequate justification for such a conclusion.

Wisconsin Public Service Corporation analyzed the 180 distribution circuits in Wisconsin that experienced an outage in 2011. SAIFI, SAIDI, CAIDI, and the calculated composite indices are listed for the 10 worst feeders for 2011. The calculation for the composite index is based on the formula: $\text{COMPOSITE} = [(\text{SAIFI}/\text{SAIFI MAX}) * 0.2 + (\text{SAIDI}/\text{SAIDI MAX}) * 0.8 + (\text{CAIDI}/\text{CAIDI MAX}) * 0]$ where MAX = the maximum value of SAIFI, SAIDI, and CAIDI for all distribution circuits. The indices were calculated using interruptions greater than 5 minutes and excluded transmission related outages.

Feeder	Substation	SAIDI	SAIFI	CAIDI	Composite
WAV 242	WHITING AVE	3,120.43	8.22	379.64	0.95
SIS 242	SISTER BAY	3,323.04	2.95	1,126.33	0.87
SUL 241	SUMMIT LAKE	2,604.93	5.65	461.41	0.76
EGH 242	EGG HARBOR	2,483.72	2.01	1,237.48	0.65
VEN 242	VENUS	1,860.24	5.41	343.69	0.58
GON 241	GOODMAN	1,940.51	3.75	516.82	0.56
DUR 241	DUNN ROAD	1,909.53	2.97	643.14	0.53
SGM 241	ST. GERMAIN	1,673.51	4.77	351.12	0.52
SIS 241	SISTER BAY	1,972.91	1.78	1,111.08	0.52
MTN 242	MOUNTAIN	1,662.76	3.07	541.94	0.47

This section of the report will describe the actions the utility has taken or will take to improve the conditions responsible for each listed circuit's performance.

1. Whiting Avenue 242 – Whiting Avenue 242 serves an urban area inside the city of Stevens Point and also serves some rural areas west of the city. 65.7% of the customer minutes of interruption were due to a three day wind storm and 28.8% of the outages were due to off right-of-way trees.
2. Sister Bay 241 – Sister Bay 241 is a large rural feeder serving the northern area of Door County. The most significant contribution to the customer outage minutes was a strong wind storm which caused outages between September 29, 2011 and October 2, 2011 across Door County. The outages during this timeframe accounted for approximately 99% of the outage minutes for the year.
3. Summit Lake 241 – Summit Lake 241 is a large rural feeder serving the northern portions of the Antigo District and the western portions of the Wabeno District. Most of the area is heavily wooded. 60.6% of the customer minutes of interruption were caused by off right-of-way trees and 32% were attributed to weather.

4. Egg Harbor 242 – Egg Harbor 242 is a large rural feeder serving the northern-central area of Door County. The most significant contribution to the customer outage minutes was a strong wind storm which caused outages between September 29, 2011 and October 2, 2011 across Door County. The outages during this timeframe accounted for approximately 97% of the outage minutes for the year.
5. Venus 242 – Venus 242 is a large rural feeder serving portions of the eastern Rhinelander District. It is in a heavily wooded area. 60.2% of the customer minutes of interruption were caused by off right-of-way trees and 30.8% by weather. 21.9% of the total customer minutes of interruption occurred during a wind storm in July.
6. Goodman 241 – Goodman 241 is a large rural feeder serving the northern most portion of the Wabeno District. The area is heavily wooded. 46% of the customer minutes of interruption were caused by off right-of-way trees, 6% weather, and 25.3% by nearly simultaneous events on June 24th – a piece of equipment inside a customer substation failed causing the feeder to trip and go to lock-out, and an animal climbed into the bus inside the Goodman Sub blowing two of the 69 kV fuses.
7. Dunn Rd 241 – Dunn Rd 241 is a large rural feeder serving the central area of Door County. The most significant contribution to the customer outage minutes was a strong wind storm which caused outages between September 29, 2011 and October 2, 2011 across Door County. The outages during this timeframe accounted for approximately 95% of the outage minutes for the year.
8. St. Germain 241 – St. Germain is a large rural feeder serving the northern portion of the Minocqua District, including the communities of Sayner and Boulder Junction. It is a heavily wooded area. 71.1% of the customer minutes of interruption were caused by off right-of-way trees and 22.7% was attributed to weather.
9. Sister Bay 242 – Sister Bay 242 is a large rural feeder serving the northern tip of Door County. The most significant contribution to the customer outage minutes was a strong wind storm which caused outages between September 29, 2011 and October 2, 2011 across Door County. The outages during this timeframe accounted for approximately 96% of the outage minutes for the year.
10. Mountain 242 – Mountain 242 is a large rural feeder serving the south-central portion of the Wabeno district from Mountain to Carter including the communities of Lakewood and Townsend. It is a heavily wooded area. 89.1% of the customer minutes of interruption were caused by off right-of-way trees.

In 2012, Wisconsin Public Service will be implementing a Mobile Dispatch Application and GPS Tracking System to assist in outage restoration efforts. Mobile Dispatch will allow for the electronic transfer of emergency and outage orders to field crews and the GPS Tracking will monitor field crew positions in real-time. WPS expects that these advancements will help to expedite the response of field crews, subsequently improving public safety and reducing the duration of system outages.

PSC 113.0604(2)(d)

A report on the accomplishment of the improvements proposed in prior reports for which completion has not been previously reported.

District	Project	Need Date
Antigo	AUS 241 Install Regulator near pole 3010-2R21 on Cty Hwy Y near Hansen Rd	7/1/2010
Antigo	AUS 242 Install Regulator near pole 3111-8L12 near the intersection of CTY Y and State Hwy 45	6/30/2012
Antigo	SUL 242 Install a new substation feeder	6/30/2013
Antigo	SUL 242 Construct Feeder Exit for Summit Lake 242	6/30/2013
Eagle River	Install Regulator Near Pole 3911-20W15	6/1/2013
Eagle River	Install Regulators Near Pole 3809-13W24	6/1/2013
Kewaunee	LUX 241 Install Regulator on State Rd 29 west of County Rd AB	6/30/2011
Kewaunee	EAK 242 Reconductor 3 miles on County J	6/1/2012
Kewaunee	EAK 242 Install Regulator on County AB	6/1/2013
Marinette	CRI 241 Install Regulator on State Highway 64	6/30/2009
Marinette	SRD 241 Install Regulator on Potato Rapids Rd	6/1/2011
Oshkosh	EOD 241 Reconductor 1750 ft of 336 ACSR on S. Washburn St	6/30/2010
Oshkosh	AVN 242 Reconductor 2050 feet of 4/0 ACSR on S. Washburn St	6/30/2010
Oshkosh	12A 242 Reconductor Osborne Avenue	6/30/2011
Rhineland	HI8 242 Install Regulator on single tap near 3707-36L1 on Cty Hwy K	12/31/2010
Sturgeon Bay	EGH 242 Reconductor 2 miles on County Rd A	6/1/2011
Sturgeon Bay	RSR 241 Install Regulator on Mill Rd	6/1/2011
Sturgeon Bay	EGH 242 Install Regulator on Lakeshore Dr	6/1/2011
Wausaukee	TDR 241 Install Regulator on Boatlanding 7 Rd	6/1/2011

PSC 113.0604(2)(e)

A description of any new reliability or power quality programs and changes that are made to existing programs.

There have been no changes to existing reliability programs at Wisconsin Public Service Corporation in 2011.

The fee based Advanced Power Services power quality monitoring and diagnostic services were eliminated in 2011.

In 2012, Wisconsin Public Service will be implementing a Mobile Dispatch Application and GPS Tracking System to assist in outage restoration efforts. Mobile Dispatch will allow for the electronic transfer of emergency and outage orders to field crews and the GPS Tracking will monitor field crew positions in real-time. WPS expects that these advancements will help to expedite the response of field crews, subsequently improving public safety and reducing the duration of system outages.

PSC 113.0604(2)(f)

A status report of any long range electric distribution plans.

The projects below may be in a planning stage, currently under construction, or completed pending accounting close-out.

District	Name	Need Date
Antigo	AUS 242 Install Capacitor bank near pole location 3112-6W3	6/30/2013
Chilton	RYN 123 Upgrade Line Fuses	6/1/2012
Chilton	BIW Upgrade Transformers	6/1/2012
Chilton	GLW 241 Upgrade Sub Regulators	6/30/2013
Chilton	GLW 242 Upgrade Sub Regulators	6/30/2013
Chilton	GLW 242 Reconductor Feeder Exit	6/1/2021
Eagle River	CRB 244 Construct Other Device 550' of #1 Solid URD on Green Bass Rd	6/1/2011
Eagle River	THL 241 Upgrade substation transformer	6/30/2015
Green Bay	PBL 241 Add Phase(s) along Nicolet Drive	6/30/2010
Green Bay	GLF 241 Reconductor mainline and river crossing in the village of Wrightstown	6/30/2010
Green Bay	SMO 241 Construct Feeder Mainline approximately 20,000 ft west of Hwy 41 from Allen Rd to Cross Rd to Chase Rd to Killdeer Lane	6/30/2011
Green Bay	WMK 242 Reconductor line on County Hwy NN to 336 ACSR	6/30/2011

District	Name	Need Date
Green Bay	HOW 241 Install Regulator near intersection of Lineville and Pinecrest Roads	6/30/2011
Green Bay	BAT 241 Install Regulator near pole location 2520-32L9 near County Rd M and Northwood Rd	6/30/2011
Green Bay	HOW 241 Reconductor 1950' of Main Line	6/1/2012
Green Bay	MSN 243 Reconductor approximately 3500 ft of 336 ACSR to 795 from feeder exit to West Point Rd	6/30/2012
Green Bay	MSN 244 Reconductor approximately 2500 feet on West Point Rd to 795	6/30/2012
Green Bay	PBL 241 Add Phase(s) from the end of the three phase on Humboldt Rd to Spartan Rd then north on Spartan to Highland Center Rd	6/30/2012
Green Bay	GLR 241 Reconductor to 336 kcm from 101 BB6 to corner of Scheuring and Mid Valley Rd	6/1/2013
Green Bay	GLF 242 Construct Feeder Exit to add a second feeder at the Greenleaf Substation	6/30/2013
Green Bay	ASH 241 Install Regulator at Ashland Ave 241 substation and replace feeder exit	6/30/2014
Green Bay	DYK 241 Install Regulator near 2522 34L13	6/30/2014
Green Bay	BAT 242 Construct Feeder Exit for Bayport substation	6/30/2015
Green Bay	HIV 241 Install Regulator at the Highway V 241 substation and replace the feeder exit	6/30/2015
Green Bay	BAT 242 Install feeder	6/30/2015
Green Bay	RLD 241 Construct Feeder Mainline from Rockland Substation to Mystery Hills	6/30/2017
Green Bay	GB East Construct Feeder Exit in the East Green Bay area east of Ontario Substation	6/30/2018
Green Bay	SOI 242 Construct Feeder Exit at the Sobieski Substation	6/30/2019
Kewaunee	RSR 242 Reconductor 1 mile on Hemlock Rd	6/1/2011
Kewaunee	EAK 241 Upgrade Line OCRs	6/1/2012
Kewaunee	LUX 241/242 Transfer Load	6/1/2012
Kewaunee	EAK 241 Phase Balance	6/1/2012
Kewaunee	LUX 242 Phase Balance	6/1/2012
Kewaunee	EAK 242 Install Regulator on County AB	6/1/2013
Kewaunee	EAK Upgrade Banked Transformers	6/1/2013
Kewaunee	EAK 242 Upgrade Sub Regulators	6/1/2013
Kewaunee	RSR 241 Upgrade Sub Regulators	6/1/2013
Marinette	WET 121 Convert Feeder to 24.9 kV	6/1/2013
Marinette	WET 241 Install Capacitors 3 - 1200 kVAR	6/1/2013
Marinette	POU 241 Install Regulator on County Rd B	6/1/2013

District	Name	Need Date
Marinette	SRD 242 Install Regulator on Hale Rd	6/1/2014
Marinette	WEM 241 Install Regulator On Shore Dr north of Leaf Rd	6/1/2015
Marinette	LEA 241 Phase Balance	6/1/2015
Merrill	MAI 241 Phase Balance Maine 241	6/1/2010
Merrill	Pine 242 Install Regulator just west of pole location 3206-35R6	6/30/2011
Minocqua	CLK 242 Install capacitor bank near pole location 3906-10R23 on old Highway 70	6/30/2010
Minocqua	CLK 242 Install capacitor on pole location 3906-11E105	6/30/2011
Minocqua	Woodmin 241 Install a substation feeder west of Minocqua	6/30/2012
Minocqua	Woodmin 241 Construct Feeder Exit Woodmin 241 and other distribution infrastructure improvements to connect to existing facilities	6/30/2012
Minocqua	SGM 241 Install capacitor bank near pole 4107-26R4 on Hwy N	6/30/2013
Minocqua	Boulder Junction Construct Feeder Exit in the Boulder Junction area	6/30/2020
Oshkosh	12A 242 Reconductor 650 feet of 3-phase 336 ACSR along Mason St. from 12th Ave to Osborne Ave	6/30/2011
Oshkosh	MCR 242 Phase Balance	6/1/2012
Oshkosh	MCR 242 Phase Balance	6/1/2012
Oshkosh	EOD 242 Reconductor 5000 feet of existing single phase and 3 phase on Omro Rd and Brooks Ln between Oakwood Rd and N. Washburn St	6/30/2012
Oshkosh	EOD 241 Reconductor 2200 feet on 20th Ave between S. Washburn St. and 203BB77	6/30/2013
Oshkosh	OSH 243 Reconductor W. 6th Avenue	6/30/2015
Oshkosh	PAV 242 Construct Feeder Exit at Pearl Avenue Substation	6/30/2017
Oshkosh	EOD 243 Construct Feeder Exit at Ellinwood Substation	6/30/2020
Rhineland	HOD 241 Install Regulator near 3709-29L40 for Hodag Festival Grounds	12/31/2010
Rhineland	HOD 241 Convert Step-down at Thompson Rd	12/31/2010
Rhineland	HI8 242 Install Regulator on single tap new 3707-2E1 near Fawn Lake Rd	6/30/2011
Rhineland	MGA 241 Convert Step-down at Pine Lake	6/30/2011
Rhineland	MGA 241 Install Capacitor at 54AA41	6/30/2011
Rhineland	HI8 241 Install Regulator near pole location 3608-35E2	6/30/2011

District	Name	Need Date
Rhineland	HI8 241 Install Regulator near 3608-25L5 - Lassig Rd & State Hwy 17	6/30/2011
Rhineland	HI8 241 Install Regulator and OCR at substation	6/30/2012
Rhineland	VEN 241 Install Capacitor bank near pole 3612-26E21 on US Hwy 8	6/30/2012
Rhineland	MGA 241 Install Capacitor near pole 3613-5L4 on State Hwy 32	6/30/2012
Rhineland	THL 241 Install Regulator near pole location 3809-13W24	6/30/2013
Rhineland	HI8 243 Install 22.4 MVA transformer and separate 243 feeder from Bank #2	6/30/2017
Rhineland	MGA 242 Install second feeder at Metonga Substation	6/30/2018
Stevens Point	HOO 242 Install 3rd phase on Torun Rd	6/30/2011
Stevens Point	HOO 242 Install Regulator on State Rd 66	6/30/2012
Stevens Point	HOO 241 Install new feeder exit cable	6/30/2013
Stevens Point	NPT 241 Install OCR and regulator at Northpoint 241	6/30/2018
Stevens Point	OKY 242 Construct Feeder Exit at Okray Drive Substation	6/30/2019
Stevens Point	HOO 242 Construct Feeder Exit at Hoover 242	6/30/2019
Sturgeon Bay	SIS 242 Voltage Checks	3/1/2012
Sturgeon Bay	EGH 241 Phase Balance	6/1/2012
Sturgeon Bay	BRU 242 Phase Balance	6/1/2012
Sturgeon Bay	EGH 241 Upgrade Sub Regulators	6/1/2013
Sturgeon Bay	EGH 242 Upgrade Sub Regulators	6/1/2013
Sturgeon Bay	SIS 241 Upgrade Sub Regulators	6/1/2013
Sturgeon Bay	SIS 242 Upgrade Sub Regulators	6/1/2013
Sturgeon Bay	RSR 242 Install Regulator on County AB	6/1/2015
Tomahawk	EST 243 Install 4/0 conductor tie in new conduit system Pull 3 4/0 conductors to replace the present crossing of the Wisconsin River through the newly installed conduit	6/30/2012

District	Name	Need Date
Tomahawk	TOK 241 Construct Feeder Exit for an additional feeder (Tomahawk Sub)	6/30/2020
Two Rivers	MRP 241 Upgrade Line Fuses	6/1/2012
Two Rivers	MRP 241 Phase Balance	6/1/2012
Two Rivers	SNZ 241 / SOT 241 Transfer Load	6/1/2012
Two Rivers	SNZ 241 Install Line Regulator	6/1/2012
Two Rivers	SNZ 241 Install Line Regulator	6/1/2012
Two Rivers	SNZ 242 Reconductor	6/1/2012
Two Rivers	SNZ 241 Upgrade Sub Regulators	6/30/2012
Two Rivers	SNZ 242 Upgrade Sub Regulators	6/30/2012
Two Rivers	SNZ 242 Voltage Checks	8/1/2012
Two Rivers	SOT 241 Upgrade Sub Regulators	6/1/2013
Two Rivers	SOT 242 Upgrade Sub Regulators	6/1/2013
Two Rivers	SNZ 242 Upgrade Sub Transformer	6/1/2015
Two Rivers	MRP 241 Upgrade Sub Transformers	6/1/2016
Wabeno	GON 241 Convert Step-down in Coleman Lake area to 24.9 kV	12/31/2009
Wabeno	MGA 241 Convert Step-down Birch Lake	12/31/2010
Wabeno	GON 241 Install Capacitor new pole 3817-31W8 on State Rd 101	6/30/2013
Wabeno	MTN 241 Reconductor feeder exit to 336 ACSR at MTN 241	6/30/2016
Wausau	WSB Rebuild P-94	6/30/2010
Wausau	MAI 241 Phase balance Maine 141 for load and voltage support	6/30/2010
Wausau	EWA 241 Install Phase balance downstream of 26DD3 on East Wausau 241	6/30/2011
Wausau	KEL 241 Replace copperweld conductor south of 2808-25E3	6/30/2012
Wausau	KEL 241 Install Regulator near pole 2709-13R6	6/30/2012
Wausau	KRN 241 Replace copperweld conductor south of 2705-27E4	6/30/2013
Wausau	KRN 241 Replace copperweld conductor south of 2606-3E9	6/30/2013
Wausau	KRN 242 Reconductor feeder exit on Kronen 242	6/30/2015
Wausau	MMI 241 Construct Feeder Exit in Mosinee/Kronenwetter area new T-20	6/30/2017
Wausaukee	SAE 241 Phase Balance Smith Creek Rd at St Paul Rd from "C" to "B" phase	6/1/2013
Wausaukee	SAE 241 Phase Balance Single phase tap at 3219-26R4 from "A" to "B" phase	6/1/2013
Wausaukee	TDR 241 Install Regulator On CTH A south of Nelson Rd	6/1/2013

District	Name	Need Date
Wausaukee	DAF 242 Reconductor 3 miles of main line from substation	6/1/2013
Wausaukee	SAE 241 Phase Balance	6/1/2013
Wausaukee	AMB 241 Construct Feeder Exit from the new Amberg Substation source	6/1/2013
Wausaukee	AMB 242 Construct Feeder Exit from the new Amberg Substation source	6/1/2013
Wausaukee	TDR 242 Construct Feeder Exit Feeder 242	6/1/2014
Wausaukee	DAF 241 Phase Balance	6/1/2014
Wausaukee	TDR 241 Phase Balance tap at fuse 3320-20L14	6/1/2015
Wausaukee	SAE 241 Install Regulator On St Paul Rd between Addison Trl and Smith Creek Rd	6/1/2015

PSC 113.0604(3)(a)

Route miles of electric distribution line reconstructed during the year. Separate totals for single- and three-phase circuits shall be provided.

The approximate route miles of electric distribution reconstruction is:

- 1 Phase – 181.74 miles
- 2 Phase – 2.39 miles
- 3 Phase – 33.93 miles

PSC 113.0604(3)(b)

Total route miles of electric distribution line in service at year's end, segregated by voltage level

**WISCONSIN PUBLIC SERVICE CORPORATION
ROUTE MILES OF ELECTRIC DISTRIBUTION LINE BY VOLTAGE LEVEL
BASED ON AN EXTRACT FROM THE EAGLE GIS**

Voltage	Route Miles	Percent of Total
46 kV	68.0	0.34%
24.94 kV	19,382.5	97.81%
13.8 kV	10.6	0.05%
12.47 kV	341.0	1.72%
4.16 kV	13.4	0.07%
Total	19,815.6	100.00%

PSC 113.0604(3)(c)

Monthly average speed of answer, as defined in s. PSC 113.0503(1) (b), for telephone calls received regarding emergencies, outages and customer billing problems.

Listed is the average speed of answer in seconds for telephone calls received regarding emergencies, outages, and customer billing problems for the year 2011.

Month	Speed
January	39 sec
February	61 sec.
March	61 sec.
April	37 sec.
May	59 sec.
June	112 sec.
July	119 sec.
August	93 sec
September	127 sec
October	108 sec
November	53 sec
December	24 sec.
2011 Average	82 sec

The service quality standard for average speed of answer given in PSC 113.0503(1) is:

(a) A utility or its agent shall maintain sufficient employees and equipment to achieve an average speed of answer of not more than 90 seconds. The average speed of answer shall be determined by summing the total queuing time and dividing by the total number of customer calls handled by automated systems. A utility or its agent shall calculate this average speed of answer on a monthly basis, including customer service calls, outage calls and emergency calls.

(b) A utility or its agent shall maintain sufficient employees to achieve an average speed of live response of not more than 90 seconds. The average speed of live response shall be determined by summing the total time from indication of request for live response and divided by the total number of calls answered by a live agent. A utility or its agent shall calculate this average speed of answer on a monthly basis, including customer service calls, outage calls and emergency calls.

PSC 113.0604(3)(d)

The average number of calendar days a utility takes to install and energize service to a customer site once it is ready to receive service. A separate average shall be calculated for each month, including all extensions energized during the calendar month.

WPSC's Distribution Work Management System tracks our construction process in the Work Management Information System (WMIS) component. WMIS provides the following data:

- Requested Completion Date
- Meter Set Date

Average number of calendar days from the Requested Completion Date to the Electric Meter set date in 2011:

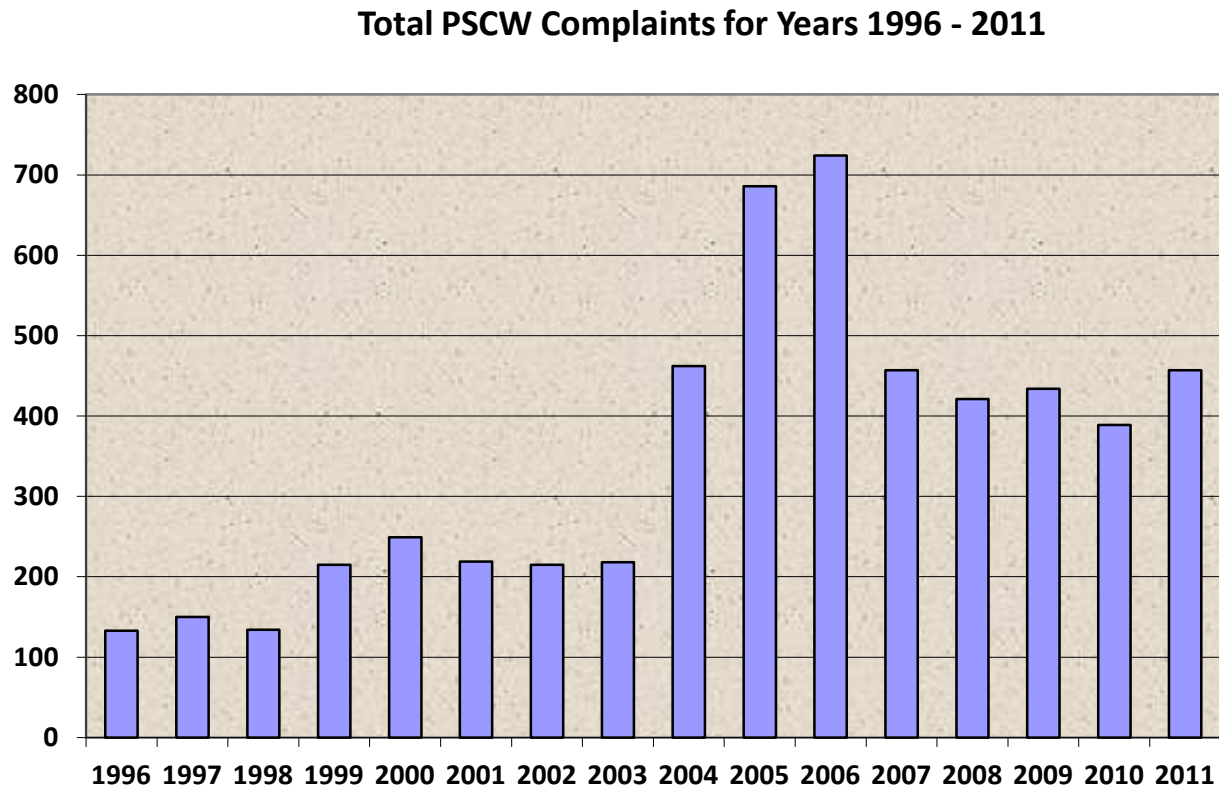
Month	Days
January	5.76
February	5.50
March	2.83
April	4.53
May	5.37
June	7.53
July	6.46
August	5.71
September	5.28
October	7.33
November	6.75
December	8.6
2011 Average	6.48

These averages are based on the work requests that had **both** the Requested Completion Date and the Electric Meter Set Date entered in the WMIS System at the time this data was extracted.

This data also includes work requests that have a Service Measures comment.

PSC 113.0604(3)(e)

The total number of written and telephone customer complaints received in the areas of safety, customer billing, outages, power quality, customer property damage, and other areas, by month filed.



PSCW Complaints By Month - 2011

Type of Complaint	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
B = Billing	4	2	6	4	2	4	3	1	1	3	4	1	35
BB=Backbilling/Defective Meter	1	1	5	2	2	0	0	2	0	1	1	1	16
C = Credit	5	8	38	32	48	49	39	51	46	33	9	10	368
CSC=Customer Service Calls	0	0	1	0	0	0	0	0	0	0	0	1	2
ES=Electric Service Extensions	0	0	0	0	0	0	0	0	0	0	0	0	0
GO=Gas Odor	0	0	0	0	0	0	0	0	0	0	0	0	0
GS=Gas Service Extensions	0	0	0	1	0	0	0	0	0	0	0	1	2
LC=Line Clearance	0	0	0	0	0	0	0	0	0	0	0	0	0
M=Miscellaneous Other	0	0	1	1	1	1	2	3	2	3	0	1	15
ML=Meter Locations	0	0	0	0	0	0	0	0	0	0	0	0	0
O = Outages	0	0	0	0	1	0	0	9	0	5	0	0	15
PDC=Property Damage to Customers	0	0	0	0	0	0	0	0	0	0	0	0	0
R=Rate Classification	0	0	1	0	0	1	0	0	0	0	0	0	2
Rel=Relocate WPSC Facilities	0	0	0	0	0	0	0	0	1	0	0	1	2
SREL=Service Reliability	0	0	0	0	0	0	0	0	0	0	0	0	0
SV=Stray Voltage	0	0	0	0	0	0	0	0	0	0	0	0	0
USC=Unacceptable Service Condition	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	10	11	52	40	54	55	44	66	50	45	14	16	457

PSC 113.0604(3)(f)

Total annual tree trimming budget and actual expenses.

2011 Line Clearance Budget Summary

Total annual tree trimming budget: **\$6,000,000**

Total annual tree trimming actual expenses: **\$7,033,742**

PSC 113.0604(3)(g)

Total annual projected and actual miles of distribution line tree trimmed.

2011 Line Clearance Line-Mile Summary

Annual projected miles of distribution line tree trimmed: **3,100**

Total actual miles of distribution line tree trimmed: **3,502**



Wisconsin Public Service Corporation

700 North Adams Street

P.O. Box 19001

Green Bay, WI 54307-9001

Public Service Commission of Wisconsin
RECEIVED: 04/29/13, 1:46:22 PM

April 2, 2013

Ms. Sandra Paske
Secretary of the Commission
Public Service Commission of Wisconsin
610 N. Whitney Way
Madison, WI 53705-2729

Dear Ms. Paske:

Docket 05-GF-113

Re: PSC 113.0604 Annual Report

Enclosed is Wisconsin Public Service Corporation's filing to meet the requirements for the PSC 113.0604 Annual Report.

Please call me at (920) 433-1691 if you have any questions or concerns. I can also be reached by e-mail at JCheng@wisconsinpublicservice.com.

Sincerely,

A handwritten signature in black ink, appearing to read "Jui-Ning Cheng".

Jui-Ning Cheng, P.E.
Senior Planning Engineer – Distribution

dd

Enclosure

Contents

PSC 113.0603(2)	3
PSC 113.0604(2)(a)	7
PSC 113.0604(2)(a)	8
PSC 113.0604(2)(b)	14
PSC 113.0604(2)(b)	19
PSC 113.0604(2)(d)	22
PSC 113.0604(2)(e)	24
PSC 113.0604(2)(f)	25
PSC 113.0604(3)(a)	31
PSC 113.0604(3)(b)	31
PSC 113.0604(3)(c)	32
PSC 113.0604(3)(d)	33
PSC 113.0604(3)(e)	34
PSC 113.0604(3)(f)	36
PSC 113.0604(3)(g)	36

PSC 113.0603(2)

Each utility also shall, at the end of each calendar year, calculate the SAIFI, SAIDI and CAIDI indices for each circuit in each operating area. Each circuit in each operating area shall then be listed in order separately according to its SAIFI index, its SAIDI index, and also its CAIDI index, beginning with the highest values for each index.

**2012 Electric Distribution Customer Interruptions
Total Distribution System Reliability Indices by Feeder
Excluding Transmission Caused Outages and Momentaries LE 5 Min**

Feeder	Substation	SAIDI	Feeder	Substation	SAIFI	Feeder	Substation	CAIDI
GON 241	GOODMAN	1268.27	SAE 241	SANDSTONE DIST	5.56	GON 241	GOODMAN	401.21
VEN 241	VENUS	1114.59	CLK 242	CLEAR LAKE	5.41	GRA 242	GRAVESVILLE	393.89
SUL 241	SUMMIT LAKE	1063.67	GOS 242	GOLDEN SANDS	5.33	EGH 242	EGG HARBOR	360.57
VEN 242	VENUS	1002.45	SGM 241	ST. GERMAIN	4.83	VEN 241	VENUS	360.55
SGM 241	ST. GERMAIN	927.70	ASH 242	ASHLAND AVE	4.56	LEA 241	LENA	360.40
HI8 242	HIGHWAY 8	731.06	DAF 242	DAVES FALLS	4.43	MRP 241	MANRAP	359.97
SIS 242	SISTER BAY	704.28	KEV 242	KELLNERSVILLE	4.15	MGA 241	METONGA	350.81
EST 242	EASTOM	690.23	EST 242	EASTOM	3.81	12A 241	TWELFTH AVE	342.70
DAF 242	DAVES FALLS	644.98	SUL 241	SUMMIT LAKE	3.80	WEM 241	WEST MARINETTE	330.14
SIC 241	SILVER CLIFF	644.63	TDR 241	THUNDER	3.54	SRD 242	SHERWOOD	326.82
GRA 242	GRAVESVILLE	635.51	VEN 242	VENUS	3.32	WET 121	WELLS ST	320.37
SAE 241	SANDSTONE DIST	596.37	SOT 242	SHOTO	3.22	AUS 241	AURORA STREET	316.51
CRB 244	CRANBERRY	581.80	GON 241	GOODMAN	3.16	SIS 242	SISTER BAY	305.05
THL 241	THREE LAKES	577.95	HI8 242	HIGHWAY 8	3.13	PIN 242	PINE	303.01
CLK 242	CLEAR LAKE	558.28	VEN 241	VENUS	3.09	VEN 242	VENUS	301.88
KEV 242	KELLNERSVILLE	554.15	GOS 241	GOLDEN SANDS	3.05	HIP 242	HILLTOP	290.59
TDR 241	THUNDER	553.38	SIC 241	SILVER CLIFF	2.74	SUL 241	SUMMIT LAKE	279.79
PIN 241	PINE	521.38	MCR 241	MEARS CORNERS	2.72	GRA 244	GRAVESVILLE	277.71
MTN 241	MOUNTAIN	514.97	SHS 241	SHERMAN STREET	2.69	SPT 241	SUNSET POINT	267.09
CLK 241	CLEAR LAKE	505.68	SOI 241	SOBIESKI	2.67	LIS 243	LIBERTY ST	265.27
HOD 241	HODAG	493.33	ROD 241	ROTHSCHILD	2.58	WMK 241	WESMARK	257.67
MGA 241	METONGA	478.89	EST 243	EASTOM	2.56	SGM 242	ST. GERMAIN	249.43
EGH 242	EGG HARBOR	475.60	CRB 244	CRANBERRY	2.44	DYK 242	DYCKESVILLE	241.33
PIN 242	PINE	474.42	MTN 241	MOUNTAIN	2.42	THL 241	THREE LAKES	241.00
MRP 241	MANRAP	459.94	THL 241	THREE LAKES	2.40	STD 241	STRATFORD	240.91
MEM 122	MERRILL MFG	436.00	CLK 241	CLEAR LAKE	2.37	TOW 243	TOWNLINE	238.84
SGM 242	ST. GERMAIN	433.52	HOD 241	HODAG	2.37	CRB 244	CRANBERRY	238.66
CLK 243	CLEAR LAKE	432.48	CLK 243	CLEAR LAKE	2.32	PIN 241	PINE	235.52
SHS 241	SHERMAN STREET	419.93	SIS 242	SISTER BAY	2.31	SIC 241	SILVER CLIFF	234.99
SOT 242	SHOTO	411.82	DUR 241	DUNN ROAD	2.22	HI8 242	HIGHWAY 8	233.69
SRD 241	SHERWOOD	395.14	PIN 241	PINE	2.21	TOR 241	TOWER DRIVE	229.30
MAV 242	MORRISON AVE	353.64	BES 121	BEARDSLEY ST	2.15	HIP 241	HILLTOP	223.76
EST 243	EASTOM	331.83	ALA 241	ALGOMA	2.13	HI8 241	HIGHWAY 8	219.18
ROD 241	ROTHSCHILD	324.80	NOU 122	NORSAU	2.10	MEM 122	MERRILL MFG	218.00
NOU 122	NORSAU	323.07	POU 241	POUND	2.08	MTN 242	MOUNTAIN	215.76

Feeder	Substation	SAIDI	Feeder	Substation	SAIFI	Feeder	Substation	CAIDI
H18 241	HIGHWAY 8	318.75	SRD 241	SHERWOOD	2.07	CLK 241	CLEAR LAKE	212.93
MTN 242	MOUNTAIN	313.28	MEM 122	MERRILL MFG	2.00	MTN 241	MOUNTAIN	212.83
WET 121	WELLS ST	312.68	PAV 122	PEARL	2.00	MAV 242	MORRISON AVE	212.01
SRD 242	SHERWOOD	306.07	CRI 242	CRIVITZ	1.98	HOD 241	HODAG	207.74
AUS 241	AURORA STREET	305.60	GLW 242	GLENVIEW	1.83	WPA 241	WAUPACA	207.53
GLW 242	GLENVIEW	304.26	SGM 242	ST. GERMAIN	1.74	WMK 242	WESMARK	204.56
DUR 241	DUNN ROAD	297.10	BRU 242	BRUSBAY	1.71	MEL 241	MERRILL HYDRO	204.10
POU 241	POUND	281.42	EWA 241	EAST WAUSAU	1.67	12A 242	TWELFTH AVE	198.33
SOI 241	SOBIESKI	275.06	MAV 242	MORRISON AVE	1.67	MAI 241	MAINE	198.01
WMK 242	WESMARK	270.03	GRA 242	GRAVESVILLE	1.61	WAV 242	WHITING AVE	197.61
LEA 241	LENA	268.66	SMO 241	SUAMICO	1.61	RSR 242	ROSIERE	195.29
GOS 242	GOLDEN SANDS	266.83	PIN 242	PINE	1.57	CSL 241	CASSEL	194.92
DYK 242	DYCKESVILLE	248.94	VLP 242	VELP AVE	1.53	SGM 241	ST. GERMAIN	192.23
CRI 242	CRIVITZ	248.85	MSN 243	MASON STREET	1.52	TOW 121	TOWNLINE	191.07
MCR 241	MEARS CORNERS	248.42	SOT 241	SHOTO	1.47	SRD 241	SHERWOOD	190.72
TOW 121	TOWNLINE	244.55	H18 241	HIGHWAY 8	1.45	TOW 122	TOWNLINE	189.86
RSR 242	ROSIERE	242.74	MTN 242	MOUNTAIN	1.45	RML 241	RED MAPLE	189.16
12A 242	TWELFTH AVE	230.89	MGA 241	METONGA	1.37	CLK 243	CLEAR LAKE	186.77
GRA 244	GRAVESVILLE	214.84	RLD 241	ROCKLAND	1.36	SIS 241	SISTER BAY	185.88
WEM 241	WEST MARINETTE	211.83	OCO 242	OCONTO	1.36	LSD 241	LOST DAUPHIN	182.83
ASH 242	ASHLAND AVE	207.73	GNF 241	GREENLEAF	1.34	EST 242	EASTOM	181.21
CSL 241	CASSEL	199.64	SMO 242	SUAMICO	1.32	KRN 241	KRONEN	180.46
TOW 122	TOWNLINE	199.21	WMK 242	WESMARK	1.32	7ST 241	7TH STREET	176.75
MAI 241	MAINE	195.71	EGH 242	EGG HARBOR	1.32	OSH 241	OSHKOSH	175.56
MAV 241	MORRISON AVE	195.11	AVN 241	AVIATION	1.30	KRN 242	KRONEN	174.98
PAV 122	PEARL	194.50	EOD 242	ELLINWOOD	1.28	MSN 241	MASON STREET	172.78
ALA 241	ALGOMA	189.23	MRP 241	MANRAP	1.28	KEL 241	KELLY	169.90
EGH 241	EGG HARBOR	177.87	TOW 121	TOWNLINE	1.28	ROO 241	ROOSEVELT RD	169.67
KRN 242	KRONEN	176.22	GLW 241	GLENVIEW	1.26	SHS 242	SHERMAN STREET	168.82
SMO 242	SUAMICO	175.70	MAV 241	MORRISON AVE	1.26	KEL 243	KELLY	167.36
SMO 241	SUAMICO	175.44	RSR 242	ROSIERE	1.24	GLW 242	GLENVIEW	166.67
DAF 241	DAVES FALLS	163.97	HES 241	HENRY STREET	1.21	EGH 241	EGG HARBOR	160.97
OCO 242	OCONTO	160.70	GLR 241	GLORY ROAD	1.20	AVN 242	AVIATION	157.10
SOT 241	SHOTO	157.21	LUX 242	LUXEMBURG	1.20	SNZ 241	ST. NAZIANZ	156.48
CSL 242	CASSEL	154.14	12A 242	TWELFTH AVE	1.16	PAV 241	PEARL	156.30
GOS 241	GOLDEN SANDS	144.81	EOD 241	ELLINWOOD	1.15	TDR 241	THUNDER	156.21
SIS 241	SISTER BAY	140.71	CSL 242	CASSEL	1.13	SHS 241	SHERMAN STREET	155.95
OSH 242	OSHKOSH	136.39	KEL 242	KELLY	1.11	DAF 241	DAVES FALLS	154.37
SNZ 242	ST. NAZIANZ	130.19	EGH 241	EGG HARBOR	1.10	MAV 241	MORRISON AVE	154.34
TOR 241	TOWER DRIVE	128.13	RYN 123	RYAN STREET	1.06	NOU 122	NORSAU	153.88
AVN 241	AVIATION	123.48	EAK 242	EAST KROK	1.06	WET 242	WELLS ST	152.77
BRU 242	BRUSBAY	121.66	SNZ 242	ST. NAZIANZ	1.06	BES 122	BEARDSLEY ST	152.00
EAK 241	EAST KROK	121.63	DAF 241	DAVES FALLS	1.06	HOO 241	HOOVER	151.77
MSN 243	MASON STREET	120.59	RML 242	RED MAPLE	1.05	HRR 241	HARRISON	150.67
SNZ 241	ST. NAZIANZ	120.26	TOW 122	TOWNLINE	1.05	OCO 241	OCONTO	147.31
AVN 242	AVIATION	111.76	HES 122	HENRY STREET	1.04	HOO 242	HOOVER	146.74
HES 241	HENRY STREET	111.47	DYK 242	DYCKESVILLE	1.03	BLN 241	BLUESTONE	146.27

Feeder	Substation	SAIDI	Feeder	Substation	SAIFI	Feeder	Substation	CAIDI
GLW 241	GLENVIEW	110.93	EAK 241	EAST KROK	1.02	DAF 242	DAVES FALLS	145.60
EOD 242	ELLINWOOD	110.33	CSL 241	CASSEL	1.02	GRA 241	GRAVESVILLE	144.75
HIP 242	HILLTOP	108.34	MAD 242	MAPLEWOOD	1.01	ASH 241	ASHLAND AVE	143.94
VLP 242	VELP AVE	107.27	KRN 242	KRONEN	1.01	HI8 243	HIGHWAY 8	143.31
WMK 241	WESMARK	107.23	TOR 135	TOWER DRIVE	1.00	HOW 242	HOWARD	143.19
HES 122	HENRY STREET	107.17	TOR 138	TOWER DRIVE	1.00	OSH 242	OSHKOSH	141.22
12A 241	TWELFTH AVE	105.11	MEM 121	MERRILL MFG	1.00	MSN 244	MASON STREET	139.65
EOD 241	ELLINWOOD	104.25	PAV 121	PEARL	1.00	MHS 242	MYSTERY HILLS	139.42
OCO 241	OCONTO	103.17	MAI 241	MAINE	0.99	WAV 241	WHITING AVE	139.17
HOO 242	HOOVER	101.95	DYK 241	DYCKESVILLE	0.98	RSR 241	ROSIERE	138.98
DYK 241	DYCKESVILLE	101.21	WET 121	WELLS ST	0.98	CSL 242	CASSEL	136.10
GNF 241	GREENLEAF	99.18	AUS 241	AURORA STREET	0.97	POU 241	POUND	135.38
PAV 121	PEARL	98.00	OSH 242	OSHKOSH	0.97	DUR 241	DUNN ROAD	134.11
EWA 241	EAST WAUSAU	96.54	SRD 242	SHERWOOD	0.94	OKY 241	OKRAY	133.61
WAV 242	WHITING AVE	94.98	ONT 242	ONTARIO ROAD	0.83	KEV 242	KELLNERSVILLE	133.60
STD 241	STRATFORD	92.14	HCR 241	HARTMAN CREEK	0.82	HIV 241	HIGHWAY V	133.53
ASH 241	ASHLAND AVE	90.96	GRA 244	GRAVESVILLE	0.77	SMO 242	SUAMICO	132.82
MAD 242	MAPLEWOOD	87.36	SNZ 241	ST. NAZIANZ	0.77	NPT 242	NORTHPOINT	131.11
TOR 138	TOWER DRIVE	87.00	SIS 241	SISTER BAY	0.76	PBL 243	PREBLE	130.69
EAK 242	EAST KROK	84.93	MAD 241	MAPLEWOOD	0.75	NPT 241	NORTHPOINT	129.87
RLD 241	ROCKLAND	82.64	LEA 241	LENA	0.75	EST 243	EASTOM	129.39
MEL 241	MERRILL HYDRO	81.57	WPA 242	WAUPACA	0.72	AUS 242	AURORA STREET	128.47
OSH 241	OSHKOSH	80.62	AVN 242	AVIATION	0.71	SOT 242	SHOTO	127.93
WPA 242	WAUPACA	79.29	MCR 242	MEARS CORNERS	0.71	CRI 242	CRIVITZ	125.76
BES 121	BEARDSLEY ST	78.94	OCO 241	OCONTO	0.70	ROD 241	ROTHSCHILD	125.70
GLR 241	GLORY ROAD	78.41	HOO 242	HOOVER	0.69	PBL 242	PREBLE	124.50
AUS 242	AURORA STREET	75.87	WEM 241	WEST MARINETTE	0.64	UGB 123	UNIVERSITY	123.41
RSR 241	ROSIERE	75.80	ASH 241	ASHLAND AVE	0.63	SNZ 242	ST. NAZIANZ	123.04
TOW 243	TOWNLINE	75.67	AUS 242	AURORA STREET	0.59	HOW 241	HOWARD	121.07
KEL 241	KELLY	74.63	MIT 241	MISHICOT	0.58	PBL 241	PREBLE	120.98
OKY 241	OKRAY	74.38	TOR 241	TOWER DRIVE	0.56	EAK 241	EAST KROK	119.19
HCR 241	HARTMAN CREEK	70.09	OKY 241	OKRAY	0.56	JAS 241	JAMES ST.	118.38
HIP 241	HILLTOP	68.88	RSR 241	ROSIERE	0.55	OCO 242	OCONTO	118.10
MEM 121	MERRILL MFG	68.00	LUX 241	LUXEMBURG	0.53	MSN 242	MASON STREET	116.86
MAD 241	MAPLEWOOD	67.89	SUV 241	SUNNYVALE	0.50	ONT 241	ONTARIO ROAD	116.72
KEL 242	KELLY	65.18	OAS 241	OAK STREET	0.48	EAV 241	EASTMAN AVE	116.10
MSN 241	MASON STREET	64.58	WAV 242	WHITING AVE	0.48	SBY 242	S BROADWAY	115.04
RYN 123	RYAN STREET	64.49	OSH 241	OSHKOSH	0.46	KEV 241	KELLNERSVILLE	113.14
LUX 242	LUXEMBURG	63.72	UGB 123	UNIVERSITY	0.45	PLO 241	PLOVER	112.23
7ST 241	7TH STREET	62.89	KEL 241	KELLY	0.44	WPA 242	WAUPACA	109.89
ONT 242	ONTARIO ROAD	61.46	WMK 241	WESMARK	0.42	SMO 241	SUAMICO	109.12
MCR 242	MEARS CORNERS	60.59	MEL 241	MERRILL HYDRO	0.40	RLD 242	ROCKLAND	108.41
HOO 241	HOOVER	58.73	HOO 241	HOOVER	0.39	SAE 241	SANDSTONE DIST	107.21
UGB 123	UNIVERSITY	55.83	STD 241	STRATFORD	0.38	SOT 241	SHOTO	106.93
MIT 241	MISHICOT	54.53	MSN 241	MASON STREET	0.37	BNS 121	BOWEN STREET	106.44
NPT 242	NORTHPOINT	48.49	NPT 242	NORTHPOINT	0.37	CLK 242	CLEAR LAKE	103.27
OAS 241	OAK STREET	47.75	HIP 242	HILLTOP	0.37	HES 122	HENRY STREET	103.15

Feeder	Substation	SAIDI	Feeder	Substation	SAIFI	Feeder	Substation	CAIDI
SHS 242	SHERMAN STREET	47.57	7ST 241	7TH STREET	0.36	DYK 241	DYCKESVILLE	103.12
WAV 241	WHITING AVE	46.50	HOW 241	HOWARD	0.35	SOI 241	SOBIESKI	103.01
TOR 135	TOWER DRIVE	46.00	BNS 121	BOWEN STREET	0.34	ANO 241	ANTIGO	102.58
MSN 244	MASON STREET	44.98	WAV 241	WHITING AVE	0.33	EAV 242	EASTMAN AVE	98.57
LUX 241	LUXEMBURG	43.53	WSU 241	WAUSAU HYDRO	0.33	OAS 241	OAK STREET	98.57
HOW 241	HOWARD	41.82	HIV 242	HIGHWAY V	0.32	PAV 121	PEARL	98.00
GRA 241	GRAVESVILLE	40.80	MSN 244	MASON STREET	0.32	PAV 122	PEARL	97.25
KEL 243	KELLY	39.22	TOW 243	TOWNLINE	0.32	BNS 241	BOWEN STREET	97.09
SUV 241	SUNNYVALE	38.01	12A 241	TWELFTH AVE	0.31	WDM 241	WOODMIN	96.51
BNS 121	BOWEN STREET	36.25	HIP 241	HILLTOP	0.31	VLP 241	VELP AVE	96.05
MHS 242	MYSTERY HILLS	35.54	GRA 241	GRAVESVILLE	0.28	AVN 241	AVIATION	94.81
HRR 241	HARRISON	35.45	SHS 242	SHERMAN STREET	0.28	MIT 241	MISHICOT	94.68
HOW 242	HOWARD	34.85	LIS 241	LIBERTY ST	0.27	BAT 241	BAYPORT	92.37
KRN 241	KRONEN	27.23	MHS 242	MYSTERY HILLS	0.25	HES 241	HENRY STREET	91.94
SPT 241	SUNSET POINT	25.86	HOW 242	HOWARD	0.24	MCR 241	MEARS CORNERS	91.23
PBL 241	PREBLE	25.75	MHS 241	MYSTERY HILLS	0.24	MAD 241	MAPLEWOOD	90.96
JAS 241	JAMES ST.	25.46	HRR 241	HARRISON	0.24	EOD 241	ELLINWOOD	90.73
RML 242	RED MAPLE	25.31	KEL 243	KELLY	0.23	MHS 241	MYSTERY HILLS	90.41
NPT 241	NORTHPOINT	24.91	HIV 243	HIGHWAY V	0.22	ALA 241	ALGOMA	88.64
WET 242	WELLS ST	23.35	JAS 241	JAMES ST.	0.22	GLW 241	GLENVIEW	88.04
MHS 241	MYSTERY HILLS	22.06	PBL 241	PREBLE	0.21	TOR 138	TOWER DRIVE	87.00
LIS 241	LIBERTY ST	21.70	BAT 241	BAYPORT	0.19	MAD 242	MAPLEWOOD	86.40
WSU 241	WAUSAU HYDRO	21.31	NPT 241	NORTHPOINT	0.19	EOD 242	ELLINWOOD	86.27
HIV 242	HIGHWAY V	19.89	GLR 243	GLORY ROAD	0.18	MCR 242	MEARS CORNERS	85.78
PBL 243	PREBLE	19.84	ONT 241	ONTARIO ROAD	0.17	HCR 241	HARTMAN CREEK	85.49
ONT 241	ONTARIO ROAD	19.66	PBL 243	PREBLE	0.15	GLR 242	GLORY ROAD	83.52
WPA 241	WAUPACA	17.65	WET 242	WELLS ST	0.15	SPT 242	SUNSET POINT	83.17
BAT 241	BAYPORT	17.61	BNS 241	BOWEN STREET	0.15	LUX 241	LUXEMBURG	82.76
PAV 241	PEARL	17.47	KRN 241	KRONEN	0.15	LIS 241	LIBERTY ST	81.60
HIV 243	HIGHWAY V	16.53	KEV 241	KELLNERSVILLE	0.13	EAK 242	EAST KROK	80.46
LIS 243	LIBERTY ST	15.65	PBL 242	PREBLE	0.12	MSN 243	MASON STREET	79.47
HI8 243	HIGHWAY 8	15.32	VLP 241	VELP AVE	0.12	SUV 241	SUNNYVALE	76.28
PBL 242	PREBLE	15.14	HIV 241	HIGHWAY V	0.11	HIV 243	HIGHWAY V	75.72
KEV 241	KELLNERSVILLE	15.08	PAV 241	PEARL	0.11	ONT 242	ONTARIO ROAD	74.31
LSD 241	LOST DAUPHIN	15.02	HI8 243	HIGHWAY 8	0.11	GLR 243	GLORY ROAD	74.10
BNS 241	BOWEN STREET	14.94	WAV 243	WHITING AVE	0.11	GNF 241	GREENLEAF	73.92
HIV 241	HIGHWAY V	14.79	SPT 241	SUNSET POINT	0.10	BRU 242	BRUSBAY	71.10
GLR 243	GLORY ROAD	13.44	WPA 241	WAUPACA	0.09	VLP 242	VELP AVE	70.22
VLP 241	VELP AVE	11.84	EAV 242	EASTMAN AVE	0.08	MEM 121	MERRILL MFG	68.00
RML 241	RED MAPLE	10.45	GLR 242	GLORY ROAD	0.08	GLR 241	GLORY ROAD	65.52
EAV 242	EASTMAN AVE	7.99	LSD 241	LOST DAUPHIN	0.08	WSU 241	WAUSAU HYDRO	65.15
RLD 242	ROCKLAND	7.66	RLD 242	ROCKLAND	0.07	HIV 242	HIGHWAY V	61.24
EAV 241	EASTMAN AVE	7.35	EAV 241	EASTMAN AVE	0.06	RLD 241	ROCKLAND	60.65
BLN 241	BLUESTONE	7.32	LIS 242	LIBERTY ST	0.06	RYN 123	RYAN STREET	60.62
PLO 241	PLOVER	7.20	LIS 243	LIBERTY ST	0.06	KEL 242	KELLY	58.72
GLR 242	GLORY ROAD	6.70	RML 241	RED MAPLE	0.06	EWA 241	EAST WAUSAU	57.86
WAV 243	WHITING AVE	5.56	PLO 241	PLOVER	0.06	LUX 242	LUXEMBURG	53.07

Feeder	Substation	SAIDI	Feeder	Substation	SAIFI	Feeder	Substation	CAIDI
SPT 242	SUNSET POINT	4.49	BLN 241	BLUESTONE	0.05	GOS 242	GOLDEN SANDS	50.05
ANO 241	ANTIGO	3.07	SPT 242	SUNSET POINT	0.05	WAV 243	WHITING AVE	50.00
MSN 242	MASON STREET	3.06	ANO 241	ANTIGO	0.03	GOS 241	GOLDEN SANDS	47.43
LIS 242	LIBERTY ST	2.48	MSN 242	MASON STREET	0.03	TOR 135	TOWER DRIVE	46.00
SBY 242	S BROADWAY	1.98	SBY 242	S BROADWAY	0.02	ASH 242	ASHLAND AVE	45.52
ROO 241	ROOSEVELT RD	1.64	BES 122	BEARDSLEY ST	0.01	LIS 242	LIBERTY ST	42.45
BES 122	BEARDSLEY ST	0.78	ROO 241	ROOSEVELT RD	0.01	BES 121	BEARDSLEY ST	36.64
HRR 242	HARRISON	0.28	HRR 242	HARRISON	0.01	OSH 243	OSHKOSH	35.00
OSH 243	OSHKOSH	0.15	OSH 243	OSHKOSH	0.00	HRR 242	HARRISON	33.00
WDM 241	WOODMIN	0.00	WDM 241	WOODMIN	0.00	RML 242	RED MAPLE	24.07

PSC 113.0604(2)(a)

An overall assessment of the reliability performance including the aggregate SAIFI, SAIDI and CAIDI indices by system and each operating area, as applicable.

**2012 Electric Distribution Customer Interruptions
Total Distribution System Reliability Indices by District
Excluding Transmission Caused Outages and Momentaries LE 5 Min**

District	SAIDI	CAIDI	SAIFI
Antigo	313	278	1.13
Chilton	247	200	1.24
Eagle River	582	243	2.40
Green Bay	55	103	0.53
Kewaunee	116	98	1.18
Merrill	376	263	1.43
Minocqua	627	163	3.83
Marinette	214	226	0.95
Oshkosh	95	120	0.79
Rhineland	580	261	2.22
Sturgeon Bay	288	193	1.49
Stevens Point	71	96	0.74
Tomahawk	505	159	3.17
Two Rivers	217	157	1.38
Wabeno	653	268	2.44
Wausau	154	150	1.03
Waupaca	40	113	0.36
Wausaukee	448	135	3.30
Total Company:	226.63	174.66	1.30

PSC 113.0604(2)(a)

An overall assessment of the reliability performance including the aggregate SAIFI, SAIDI, and CAIDI indices by system and each operating area, as applicable.

**2012 Electric Distribution Customer Interruptions
Total Distribution System Reliability Indices by District and Feeder
Excluding Transmission Caused Outages and Momentaries LE 5 Min**

District	Feeder	Substation	SAIDI	SAIFI	CAIDI
Antigo					
	ANO 241	ANTIGO	3.07	0.03	102.58
	AUS 241	AURORA STREET	305.60	0.97	316.51
	AUS 242	AURORA STREET	75.87	0.59	128.47
	SUL 241	SUMMIT LAKE	1063.67	3.80	279.79
Chilton					
	GLW 241	GLENVIEW	110.93	1.26	88.04
	GLW 242	GLENVIEW	304.26	1.83	166.67
	GRA 241	GRAVESVILLE	40.80	0.28	144.75
	GRA 242	GRAVESVILLE	635.51	1.61	393.89
	GRA 244	GRAVESVILLE	214.84	0.77	277.71
	RYN 123	RYAN STREET	64.49	1.06	60.62
Eagle River					
	CRB 244	CRANBERRY	581.80	2.44	238.66
	THL 241	THREE LAKES	577.95	2.40	241.00
Green Bay					
	7ST 241	7TH STREET	62.89	0.36	176.75
	ASH 241	ASHLAND AVE	90.96	0.63	143.94
	ASH 242	ASHLAND AVE	207.73	4.56	45.52
	BAT 241	BAYPORT	17.61	0.19	92.37
	BLN 241	BLUESTONE	7.32	0.05	146.27
	DYK 241	DYCKESVILLE	101.21	0.98	103.12
	DYK 242	DYCKESVILLE	248.94	1.03	241.33
	EAV 241	EASTMAN AVE	7.35	0.06	116.10
	EAV 242	EASTMAN AVE	7.99	0.08	98.57
	GLR 241	GLORY ROAD	78.41	1.20	65.52
	GLR 242	GLORY ROAD	6.70	0.08	83.52
	GLR 243	GLORY ROAD	13.44	0.18	74.10
	GNF 241	GREENLEAF	99.18	1.34	73.92
	HES 122	HENRY STREET	107.17	1.04	103.15
	HES 241	HENRY STREET	111.47	1.21	91.94
	HIV 241	HIGHWAY V	14.79	0.11	133.53
	HIV 242	HIGHWAY V	19.89	0.32	61.24
	HIV 243	HIGHWAY V	16.53	0.22	75.72
	HOW 241	HOWARD	41.82	0.35	121.07

District	Feeder	Substation	SAIDI	SAIFI	CAIDI
	HOW 242	HOWARD	34.85	0.24	143.19
	JAS 241	JAMES ST.	25.46	0.22	118.38
	LIS 241	LIBERTY ST	21.70	0.27	81.60
	LIS 242	LIBERTY ST	2.48	0.06	42.45
	LIS 243	LIBERTY ST	15.65	0.06	265.27
	LSD 241	LOST DAUPHIN	15.02	0.08	182.83
	MAD 241	MAPLEWOOD	67.89	0.75	90.96
	MAD 242	MAPLEWOOD	87.36	1.01	86.40
	MSN 241	MASON STREET	64.58	0.37	172.78
	MSN 242	MASON STREET	3.06	0.03	116.86
	MSN 243	MASON STREET	120.59	1.52	79.47
	MSN 244	MASON STREET	44.98	0.32	139.65
	MHS 241	MYSTERY HILLS	22.06	0.24	90.41
	MHS 242	MYSTERY HILLS	35.54	0.25	139.42
	OAS 241	OAK STREET	47.75	0.48	98.57
	ONT 241	ONTARIO ROAD	19.66	0.17	116.72
	ONT 242	ONTARIO ROAD	61.46	0.83	74.31
	PBL 241	PREBLE	25.75	0.21	120.98
	PBL 242	PREBLE	15.14	0.12	124.50
	PBL 243	PREBLE	19.84	0.15	130.69
	RML 241	RED MAPLE	10.45	0.06	189.16
	RML 242	RED MAPLE	25.31	1.05	24.07
	RLD 241	ROCKLAND	82.64	1.36	60.65
	RLD 242	ROCKLAND	7.66	0.07	108.41
	SBY 242	S BROADWAY	1.98	0.02	115.04
	SOI 241	SOBIESKI	275.06	2.67	103.01
	SMO 241	SUAMICO	175.44	1.61	109.12
	SMO 242	SUAMICO	175.70	1.32	132.82
	TOR 135	TOWER DRIVE	46.00	1.00	46.00
	TOR 138	TOWER DRIVE	87.00	1.00	87.00
	TOR 241	TOWER DRIVE	128.13	0.56	229.30
	UGB 123	UNIVERSITY	55.83	0.45	123.41
	VLP 241	VELP AVE	11.84	0.12	96.05
	VLP 242	VELP AVE	107.27	1.53	70.22
	WMK 241	WESMARK	107.23	0.42	257.67
	WMK 242	WESMARK	270.03	1.32	204.56
Kewaunee					
	ALA 241	ALGOMA	189.23	2.13	88.64
	BES 121	BEARDSLEY ST	78.94	2.15	36.64
	BES 122	BEARDSLEY ST	0.78	0.01	152.00
	EAK 241	EAST KROK	121.63	1.02	119.19
	EAK 242	EAST KROK	84.93	1.06	80.46
	LUX 241	LUXEMBURG	43.53	0.53	82.76
	LUX 242	LUXEMBURG	63.72	1.20	53.07
	RSR 241	ROSIERE	75.80	0.55	138.98

District	Feeder	Substation	SAIDI	SAIFI	CAIDI
Marin/Menom	RSR 242	ROSIERE	242.74	1.24	195.29
	LEA 241	LENA	268.66	0.75	360.40
	OCO 241	OCONTO	103.17	0.70	147.31
	OCO 242	OCONTO	160.70	1.36	118.10
	POU 241	POUND	281.42	2.08	135.38
	ROO 241	ROOSEVELT RD	1.64	0.01	169.67
	SRD 241	SHERWOOD	395.14	2.07	190.72
	SRD 242	SHERWOOD	306.07	0.94	326.82
	WET 121	WELLS ST	312.68	0.98	320.37
	WET 242	WELLS ST	23.35	0.15	152.77
	WEM 241	WEST MARINETTE	211.83	0.64	330.14
Merrill					
	MEL 241	MERRILL HYDRO	81.57	0.40	204.10
	MEM 121	MERRILL MFG	68.00	1.00	68.00
	MEM 122	MERRILL MFG	436.00	2.00	218.00
	PIN 241	PINE	521.38	2.21	235.52
	PIN 242	PINE	474.42	1.57	303.01
Minocqua					
	CLK 241	CLEAR LAKE	505.68	2.37	212.93
	CLK 242	CLEAR LAKE	558.28	5.41	103.27
	CLK 243	CLEAR LAKE	432.48	2.32	186.77
	SGM 241	ST. GERMAIN	927.70	4.83	192.23
	SGM 242	ST. GERMAIN	433.52	1.74	249.43
	WDM 241	WOODMIN	0.00	0.00	96.51
Oshkosh					
	AVN 241	AVIATION	123.48	1.30	94.81
	AVN 242	AVIATION	111.76	0.71	157.10
	BNS 121	BOWEN STREET	36.25	0.34	106.44
	BNS 241	BOWEN STREET	14.94	0.15	97.09
	EOD 241	ELLINWOOD	104.25	1.15	90.73
	EOD 242	ELLINWOOD	110.33	1.28	86.27
	MCR 241	MEARS CORNERS	248.42	2.72	91.23
	MCR 242	MEARS CORNERS	60.59	0.71	85.78
	OSH 241	OSHKOSH	80.62	0.46	175.56
	OSH 242	OSHKOSH	136.39	0.97	141.22
	OSH 243	OSHKOSH	0.15	0.00	35.00
	PAV 121	PEARL	98.00	1.00	98.00
	PAV 122	PEARL	194.50	2.00	97.25
	PAV 241	PEARL	17.47	0.11	156.30
	SPT 241	SUNSET POINT	25.86	0.10	267.09
	SPT 242	SUNSET POINT	4.49	0.05	83.17
	12A 241	TWELFTH AVE	105.11	0.31	342.70
	12A 242	TWELFTH AVE	230.89	1.16	198.33
Rhineland					

District	Feeder	Substation	SAIDI	SAIFI	CAIDI
	HI8 241	HIGHWAY 8	318.75	1.45	219.18
	HI8 242	HIGHWAY 8	731.06	3.13	233.69
	HI8 243	HIGHWAY 8	15.32	0.11	143.31
	HOD 241	HODAG	493.33	2.37	207.74
	MGA 241	METONGA	478.89	1.37	350.81
	VEN 241	VENUS	1114.59	3.09	360.55
	VEN 242	VENUS	1002.45	3.32	301.88
Stevens Point					
	GOS 241	GOLDEN SANDS	144.81	3.05	47.43
	GOS 242	GOLDEN SANDS	266.83	5.33	50.05
	HOO 241	HOOVER	58.73	0.39	151.77
	HOO 242	HOOVER	101.95	0.69	146.74
	NPT 241	NORTHPOINT	24.91	0.19	129.87
	NPT 242	NORTHPOINT	48.49	0.37	131.11
	OKY 241	OKRAY	74.38	0.56	133.61
	PLO 241	PLOVER	7.20	0.06	112.23
	WAV 241	WHITING AVE	46.50	0.33	139.17
	WAV 242	WHITING AVE	94.98	0.48	197.61
	WAV 243	WHITING AVE	5.56	0.11	50.00
Sturgeon Bay					
	BRU 242	BRUSBAY	121.66	1.71	71.10
	DUR 241	DUNN ROAD	297.10	2.22	134.11
	EGH 241	EGG HARBOR	177.87	1.10	160.97
	EGH 242	EGG HARBOR	475.60	1.32	360.57
	SIS 241	SISTER BAY	140.71	0.76	185.88
	SIS 242	SISTER BAY	704.28	2.31	305.05
Tomahawk					
	EST 242	EASTOM	690.23	3.81	181.21
	EST 243	EASTOM	331.83	2.56	129.39
Two Rivers					
	KEV 241	KELLNERSVILLE	15.08	0.13	113.14
	KEV 242	KELLNERSVILLE	554.15	4.15	133.60
	MRP 241	MANRAP	459.94	1.28	359.97
	MIT 241	MISHICOT	54.53	0.58	94.68
	SOT 241	SHOTO	157.21	1.47	106.93
	SOT 242	SHOTO	411.82	3.22	127.93
	SNZ 241	ST. NAZIANZ	120.26	0.77	156.48
	SNZ 242	ST. NAZIANZ	130.19	1.06	123.04
Wabeno					
	GON 241	GOODMAN	1268.27	3.16	401.21
	MTN 241	MOUNTAIN	514.97	2.42	212.83
	MTN 242	MOUNTAIN	313.28	1.45	215.76
	SIC 241	SILVER CLIFF	644.63	2.74	234.99
Waupaca					
	HRR 241	HARRISON	35.45	0.24	150.67

District	Feeder	Substation	SAIDI	SAIFI	CAIDI
	HRR 242	HARRISON	0.28	0.01	33.00
	HCR 241	HARTMAN CREEK	70.09	0.82	85.49
	WPA 241	WAUPACA	17.65	0.09	207.53
	WPA 242	WAUPACA	79.29	0.72	109.89
Wausau					
	CSL 241	CASSEL	199.64	1.02	194.92
	CSL 242	CASSEL	154.14	1.13	136.10
	EWA 241	EAST WAUSAU	96.54	1.67	57.86
	HIP 241	HILLTOP	68.88	0.31	223.76
	HIP 242	HILLTOP	108.34	0.37	290.59
	KEL 241	KELLY	74.63	0.44	169.90
	KEL 242	KELLY	65.18	1.11	58.72
	KEL 243	KELLY	39.22	0.23	167.36
	KRN 241	KRONEN	27.23	0.15	180.46
	KRN 242	KRONEN	176.22	1.01	174.98
	MAI 241	MAINE	195.71	0.99	198.01
	MAV 241	MORRISON AVE	195.11	1.26	154.34
	MAV 242	MORRISON AVE	353.64	1.67	212.01
	NOU 122	NORSAU	323.07	2.10	153.88
	ROD 241	ROTHSCHILD	324.80	2.58	125.70
	SHS 241	SHERMAN STREET	419.93	2.69	155.95
	SHS 242	SHERMAN STREET	47.57	0.28	168.82
	STD 241	STRATFORD	92.14	0.38	240.91
	SUV 241	SUNNYVALE	38.01	0.50	76.28
	TOW 121	TOWNLINE	244.55	1.28	191.07
	TOW 122	TOWNLINE	199.21	1.05	189.86
	TOW 243	TOWNLINE	75.67	0.32	238.84
	WSU 241	WAUSAU HYDRO	21.31	0.33	65.15
Wausaukee					
	CRI 242	CRIVITZ	248.85	1.98	125.76
	DAF 241	DAVES FALLS	163.97	1.06	154.37
	DAF 242	DAVES FALLS	644.98	4.43	145.60
	SAE 241	SANDSTONE DIST	596.37	5.56	107.21
	TDR 241	THUNDER	553.38	3.54	156.21

PSC 113.0604(2)(b)

A list of the worst-performing circuits based on SAIFI, SAIDI, and CAIDI indexes for the calendar year.

SAIFI, SAIDI, and CAIDI were calculated for each of the WPS distribution feeders. Due to the difficulty in ranking the feeders, a composite value was calculated in order to normalize SAIFI, SAIDI, and CAIDI. The following formula was used to develop a composite value based on 20% SAIFI and 80% SAIDI:

COMPOSITE = [(SAIFI/SAIFI MAX) * 0.2 + (SAIDI/SAIDI MAX) * 0.8 + (CAIDI/CAIDI MAX) * 0] where MAX = the maximum value of SAIFI, SAIDI, and CAIDI for all distribution circuits.

**2012 Electric Distribution Customer Interruptions
Total Distribution System Reliability Indices by Feeder
Excluding Transmission Caused Outages and Momentaries LE 5 Min**

Feeder	Substation	SAIDI	SAIFI	CAIDI	Composite Index
GON 241	GOODMAN	1268.27	3.16	401.21	0.91
VEN 241	VENUS	1114.59	3.09	360.55	0.81
SUL 241	SUMMIT LAKE	1063.67	3.80	279.79	0.81
SGM 241	ST. GERMAIN	927.70	4.83	192.23	0.76
VEN 242	VENUS	1002.45	3.32	301.88	0.75
SAE 241	SANDSTONE DIST	596.37	5.56	107.21	0.58
HI8 242	HIGHWAY 8	731.06	3.13	233.69	0.57
EST 242	EASTOM	690.23	3.81	181.21	0.57
DAF 242	DAVES FALLS	644.98	4.43	145.60	0.57
CLK 242	CLEAR LAKE	558.28	5.41	103.27	0.55
SIS 242	SISTER BAY	704.28	2.31	305.05	0.53
SIC 241	SILVER CLIFF	644.63	2.74	234.99	0.51
KEV 242	KELLNERSVILLE	554.15	4.15	133.60	0.50
TDR 241	THUNDER	553.38	3.54	156.21	0.48
GRA 242	GRAVESVILLE	635.51	1.61	393.89	0.46
CRB 244	CRANBERRY	581.80	2.44	238.66	0.45
THL 241	THREE LAKES	577.95	2.40	241.00	0.45
MTN 241	MOUNTAIN	514.97	2.42	212.83	0.41
PIN 241	PINE	521.38	2.21	235.52	0.41
CLK 241	CLEAR LAKE	505.68	2.37	212.93	0.40
HOD 241	HODAG	493.33	2.37	207.74	0.40
SOT 242	SHOTO	411.82	3.22	127.93	0.38
SHS 241	SHERMAN STREET	419.93	2.69	155.95	0.36
GOS 242	GOLDEN SANDS	266.83	5.33	50.05	0.36
CLK 243	CLEAR LAKE	432.48	2.32	186.77	0.36
PIN 242	PINE	474.42	1.57	303.01	0.36
MGA 241	METONGA	478.89	1.37	350.81	0.35
EGH 242	EGG HARBOR	475.60	1.32	360.57	0.35
MEM 122	MERRILL MFG	436.00	2.00	218.00	0.35

Feeder	Substation	SAIDI	SAIFI	CAIDI	Composite Index
MRP 241	MANRAP	459.94	1.28	359.97	0.34
SGM 242	ST. GERMAIN	433.52	1.74	249.43	0.34
SRD 241	SHERWOOD	395.14	2.07	190.72	0.32
EST 243	EASTOM	331.83	2.56	129.39	0.30
ROD 241	ROTHSCHILD	324.80	2.58	125.70	0.30
ASH 242	ASHLAND AVE	207.73	4.56	45.52	0.30
MAV 242	MORRISON AVE	353.64	1.67	212.01	0.28
NOU 122	NORSAU	323.07	2.10	153.88	0.28
SOI 241	SOBIESKI	275.06	2.67	103.01	0.27
DUR 241	DUNN ROAD	297.10	2.22	134.11	0.27
GLW 242	GLENVIEW	304.26	1.83	166.67	0.26
MCR 241	MEARS CORNERS	248.42	2.72	91.23	0.25
HI8 241	HIGHWAY 8	318.75	1.45	219.18	0.25
POU 241	POUND	281.42	2.08	135.38	0.25
MTN 242	MOUNTAIN	313.28	1.45	215.76	0.25
WET 121	WELLS ST	312.68	0.98	320.37	0.23
CRI 242	CRIVITZ	248.85	1.98	125.76	0.23
AUS 241	AURORA STREET	305.60	0.97	316.51	0.23
SRD 242	SHERWOOD	306.07	0.94	326.82	0.23
WMK 242	WESMARK	270.03	1.32	204.56	0.22
GOS 241	GOLDEN SANDS	144.81	3.05	47.43	0.20
TOW 121	TOWNLINE	244.55	1.28	191.07	0.20
RSR 242	ROSIERE	242.74	1.24	195.29	0.20
LEA 241	LENA	268.66	0.75	360.40	0.20
ALA 241	ALGOMA	189.23	2.13	88.64	0.20
PAV 122	PEARL	194.50	2.00	97.25	0.19
DYK 242	DYCKESVILLE	248.94	1.03	241.33	0.19
12A 242	TWELFTH AVE	230.89	1.16	198.33	0.19
SMO 241	SUAMICO	175.44	1.61	109.12	0.17
MAV 241	MORRISON AVE	195.11	1.26	154.34	0.17
TOW 122	TOWNLINE	199.21	1.05	189.86	0.16
GRA 244	GRAVESVILLE	214.84	0.77	277.71	0.16
CSL 241	CASSEL	199.64	1.02	194.92	0.16
MAI 241	MAINE	195.71	0.99	198.01	0.16
SMO 242	SUAMICO	175.70	1.32	132.82	0.16
WEM 241	WEST MARINETTE	211.83	0.64	330.14	0.16
SOT 241	SHOTO	157.21	1.47	106.93	0.15
EGH 241	EGG HARBOR	177.87	1.10	160.97	0.15
OCO 242	OCONTO	160.70	1.36	118.10	0.15
KRN 242	KRONEN	176.22	1.01	174.98	0.15
DAF 241	DAVES FALLS	163.97	1.06	154.37	0.14
BRU 242	BRUSBAY	121.66	1.71	71.10	0.14
CSL 242	CASSEL	154.14	1.13	136.10	0.14
MSN 243	MASON STREET	120.59	1.52	79.47	0.13

Feeder	Substation	SAIDI	SAIFI	CAIDI	Composite Index
BES 121	BEARDSLEY ST	78.94	2.15	36.64	0.13
AVN 241	AVIATION	123.48	1.30	94.81	0.12
VLP 242	VELP AVE	107.27	1.53	70.22	0.12
EWA 241	EAST WAUSAU	96.54	1.67	57.86	0.12
OSH 242	OSHKOSH	136.39	0.97	141.22	0.12
SNZ 242	ST. NAZIANZ	130.19	1.06	123.04	0.12
SIS 241	SISTER BAY	140.71	0.76	185.88	0.12
EOD 242	ELLINWOOD	110.33	1.28	86.27	0.12
GLW 241	GLENVIEW	110.93	1.26	88.04	0.12
HES 241	HENRY STREET	111.47	1.21	91.94	0.11
EAK 241	EAST KROK	121.63	1.02	119.19	0.11
GNF 241	GREENLEAF	99.18	1.34	73.92	0.11
EOD 241	ELLINWOOD	104.25	1.15	90.73	0.11
HES 122	HENRY STREET	107.17	1.04	103.15	0.11
SNZ 241	ST. NAZIANZ	120.26	0.77	156.48	0.10
RLD 241	ROCKLAND	82.64	1.36	60.65	0.10
TOR 241	TOWER DRIVE	128.13	0.56	229.30	0.10
DYK 241	DYCKESVILLE	101.21	0.98	103.12	0.10
PAV 121	PEARL	98.00	1.00	98.00	0.10
AVN 242	AVIATION	111.76	0.71	157.10	0.10
GLR 241	GLORY ROAD	78.41	1.20	65.52	0.09
EAK 242	EAST KROK	84.93	1.06	80.46	0.09
MAD 242	MAPLEWOOD	87.36	1.01	86.40	0.09
TOR 138	TOWER DRIVE	87.00	1.00	87.00	0.09
OCO 241	OCONTO	103.17	0.70	147.31	0.09
HOO 242	HOOVER	101.95	0.69	146.74	0.09
LUX 242	LUXEMBURG	63.72	1.20	53.07	0.08
WMK 241	WESMARK	107.23	0.42	257.67	0.08
HIP 242	HILLTOP	108.34	0.37	290.59	0.08
KEL 242	KELLY	65.18	1.11	58.72	0.08
ASH 241	ASHLAND AVE	90.96	0.63	143.94	0.08
MEM 121	MERRILL MFG	68.00	1.00	68.00	0.08
RYN 123	RYAN STREET	64.49	1.06	60.62	0.08
12A 241	TWELFTH AVE	105.11	0.31	342.70	0.08
WAV 242	WHITING AVE	94.98	0.48	197.61	0.08
WPA 242	WAUPACA	79.29	0.72	109.89	0.08
HCR 241	HARTMAN CREEK	70.09	0.82	85.49	0.07
STD 241	STRATFORD	92.14	0.38	240.91	0.07
MAD 241	MAPLEWOOD	67.89	0.75	90.96	0.07
AUS 242	AURORA STREET	75.87	0.59	128.47	0.07
ONT 242	ONTARIO ROAD	61.46	0.83	74.31	0.07
RSR 241	ROSIERE	75.80	0.55	138.98	0.07
OSH 241	OSHKOSH	80.62	0.46	175.56	0.07
OKY 241	OKRAY	74.38	0.56	133.61	0.07

Feeder	Substation	SAIDI	SAIFI	CAIDI	Composite Index
MEL 241	MERRILL HYDRO	81.57	0.40	204.10	0.07
TOR 135	TOWER DRIVE	46.00	1.00	46.00	0.06
MCR 242	MEARS CORNERS	60.59	0.71	85.78	0.06
KEL 241	KELLY	74.63	0.44	169.90	0.06
TOW 243	TOWNLINE	75.67	0.32	238.84	0.06
MIT 241	MISHICOT	54.53	0.58	94.68	0.06
HIP 241	HILLTOP	68.88	0.31	223.76	0.05
MSN 241	MASON STREET	64.58	0.37	172.78	0.05
RML 242	RED MAPLE	25.31	1.05	24.07	0.05
7ST 241	7TH STREET	62.89	0.36	176.75	0.05
UGB 123	UNIVERSITY	55.83	0.45	123.41	0.05
HOO 241	HOOVER	58.73	0.39	151.77	0.05
OAS 241	OAK STREET	47.75	0.48	98.57	0.05
LUX 241	LUXEBURG	43.53	0.53	82.76	0.05
NPT 242	NORTHPOINT	48.49	0.37	131.11	0.04
SUV 241	SUNNYVALE	38.01	0.50	76.28	0.04
WAV 241	WHITING AVE	46.50	0.33	139.17	0.04
SHS 242	SHERMAN STREET	47.57	0.28	168.82	0.04
MSN 244	MASON STREET	44.98	0.32	139.65	0.04
HOW 241	HOWARD	41.82	0.35	121.07	0.04
GRA 241	GRAVESVILLE	40.80	0.28	144.75	0.04
BNS 121	BOWEN STREET	36.25	0.34	106.44	0.04
KEL 243	KELLY	39.22	0.23	167.36	0.03
MHS 242	MYSTERY HILLS	35.54	0.25	139.42	0.03
HRR 241	HARRISON	35.45	0.24	150.67	0.03
HOW 242	HOWARD	34.85	0.24	143.19	0.03
WSU 241	WAUSAU HYDRO	21.31	0.33	65.15	0.03
HIV 242	HIGHWAY V	19.89	0.32	61.24	0.02
JAS 241	JAMES ST.	25.46	0.22	118.38	0.02
PBL 241	PREBLE	25.75	0.21	120.98	0.02
LIS 241	LIBERTY ST	21.70	0.27	81.60	0.02
KRN 241	KRONEN	27.23	0.15	180.46	0.02
MHS 241	MYSTERY HILLS	22.06	0.24	90.41	0.02
NPT 241	NORTHPOINT	24.91	0.19	129.87	0.02
WET 242	WELLS ST	23.35	0.15	152.77	0.02
SPT 241	SUNSET POINT	25.86	0.10	267.09	0.02
ONT 241	ONTARIO ROAD	19.66	0.17	116.72	0.02
HIV 243	HIGHWAY V	16.53	0.22	75.72	0.02
BAT 241	BAYPORT	17.61	0.19	92.37	0.02
PBL 243	PREBLE	19.84	0.15	130.69	0.02
PAV 241	PEARL	17.47	0.11	156.30	0.01
GLR 243	GLORY ROAD	13.44	0.18	74.10	0.01
BNS 241	BOWEN STREET	14.94	0.15	97.09	0.01
WPA 241	WAUPACA	17.65	0.09	207.53	0.01

Feeder	Substation	SAIDI	SAIFI	CAIDI	Composite Index
KEV 241	KELLNERSVILLE	15.08	0.13	113.14	0.01
PBL 242	PREBLE	15.14	0.12	124.50	0.01
HI8 243	HIGHWAY 8	15.32	0.11	143.31	0.01
HIV 241	HIGHWAY V	14.79	0.11	133.53	0.01
LSD 241	LOST DAUPHIN	15.02	0.08	182.83	0.01
LIS 243	LIBERTY ST	15.65	0.06	265.27	0.01
VLP 241	VELP AVE	11.84	0.12	96.05	0.01
RML 241	RED MAPLE	10.45	0.06	189.16	0.01
EAV 242	EASTMAN AVE	7.99	0.08	98.57	0.01
WAV 243	WHITING AVE	5.56	0.11	50.00	0.01
RLD 242	ROCKLAND	7.66	0.07	108.41	0.01
GLR 242	GLORY ROAD	6.70	0.08	83.52	0.01
EAV 241	EASTMAN AVE	7.35	0.06	116.10	0.01
PLO 241	PLOVER	7.20	0.06	112.23	0.01
BLN 241	BLUESTONE	7.32	0.05	146.27	0.01
SPT 242	SUNSET POINT	4.49	0.05	83.17	0.00
LIS 242	LIBERTY ST	2.48	0.06	42.45	0.00
ANO 241	ANTIGO	3.07	0.03	102.58	0.00
MSN 242	MASON STREET	3.06	0.03	116.86	0.00
SBY 242	S BROADWAY	1.98	0.02	115.04	0.00
ROO 241	ROOSEVELT RD	1.64	0.01	169.67	0.00
BES 122	BEARDSLEY ST	0.78	0.01	152.00	0.00
HRR 242	HARRISON	0.28	0.01	33.00	0.00
OSH 243	OSHKOSH	0.15	0.00	35.00	0.00
WDM 241	WOODMIN	0.00	0.00	96.51	0.00

PSC 113.0604(2)(b)

A list of the worst-performing circuits based on SAIFI, SAIDI, and CAIDI indexes for the calendar year. This section of the report shall describe the actions that the utility has taken or will take to remedy the conditions responsible for each listed circuit's unacceptable performance. The action(s) taken or planned should be briefly described. Target dates for corrective action(s) shall be included in the report. When the utility determines that actions on its part are unwarranted, its report shall provide adequate justification for such a conclusion.

Wisconsin Public Service Corporation analyzed the 185 distribution circuits in Wisconsin that experienced an outage in 2012. SAIFI, SAIDI, CAIDI, and the calculated composite indices are listed for the 10 worst feeders for 2012. The calculation for the composite index is based on the formula: $COMPOSITE = [(SAIFI/SAIFI\ MAX) * 0.2 + (SAIDI/SAIDI\ MAX) * 0.8 + (CAIDI/CAIDI\ MAX) * 0]$ where MAX = the maximum value of SAIFI, SAIDI, and CAIDI for all distribution circuits. The indices were calculated using interruptions greater than 5 minutes and excluded transmission related outages.

Feeder	Substation	SAIDI	SAIFI	CAIDI	Composite
GON 241	GOODMAN	1268.27	3.16	401.21	0.91
VEN 241	VENUS	1114.59	3.09	360.55	0.81
SUL 241	SUMMIT LAKE	1063.67	3.80	279.79	0.81
SGM 241	ST. GERMAIN	927.70	4.83	192.23	0.76
VEN 242	VENUS	1002.45	3.32	301.88	0.75
SAE 241	SANDSTONE DIST	596.37	5.56	107.21	0.58
HI8 242	HIGHWAY 8	731.06	3.13	233.69	0.57
EST 242	EASTOM	690.23	3.81	181.21	0.57
DAF 242	DAVES FALLS	644.98	4.43	145.60	0.57
CLK 242	CLEAR LAKE	558.28	5.41	103.27	0.55

This section of the report will describe the actions the utility has taken or will take to improve the conditions responsible for each listed circuit's performance.

1. Goodman 241 -- Goodman 241 is a large rural feeder serving the northern most portion of the Wabeno District. The area is heavily wooded. 48% of the customer minutes of interruption were caused by off right-of-way trees, 12% of the outage minutes were caused by a single transmission on May 27, 32% of the customer minutes of interruption were caused by unknown cause. Overall 49% of the customer minutes of interruption occurred during the July 2/3 storm.
2. Venus 241 – Venus 241 is a large rural feeder in northern Langlade County serving the areas around the Village of Elcho and Pelican Lake. 83% of the customer minutes of interruption were caused by off right-of-way trees. Two storm days (6/14 & 7/3) accounted for 62% of the customer minutes of interruption.
3. Summit Lake 241 – Summit Lake 241 is a large rural feeder serving the northern portions of the Antigo District and the western portions of the Wabeno District. Most of the area is heavily

wooded. 84% of the customer minutes of interruption were caused by off right-of-way trees. The July 2/3 storm accounted for 32% of the customer minutes of interruption.

4. Saint Germain 241 – St. Germain 241 is a large rural feeder serving the northern portion of the Minocqua District, including the communities of Sayner and Boulder Junction. It is a heavily wooded area. 80% of the customer minutes of interruption were caused by off right-of-way trees. The July 2/3 storm accounted for 39% of the customer minutes of interruption.
5. Venus 242 – Venus 242 is a large rural feeder serving portions of the eastern Rhinelander District. It is in a heavily wooded area. 86% of the customer minutes of interruption were caused by off right-of-way trees. Two storm days (6/14 & 7/3) accounted for 70% of the customer minutes of interruption.
6. Sandstone 241 – Sandstone 241 is a larger feeder serving a portion of the Village of Crivitz and surrounding area. 91% of the customer minutes of interruption were caused by off right-of-way trees. Two storm days (5/24 and 6/19) accounted for 52% of the customer minutes of interruption.
7. Highway 8 242 – Highway 8 242 serves a portion of the City of Rhinelander and a large rural areas west and north of the city. 55% of the customer minutes of interruption were caused by off right-of-way trees. An insulator failure outside the Highway 8 substation on July 5 accounted for 32% of the customer minutes of interruption.
8. Eastom 242 – Eastom 242 serves a large rural area north and east of the City of Tomahawk. 68% of the customer minutes of interruption were caused by off right-of-way trees, 12% to unknown causes during adverse weather. The storm of 6/24 contributed 38% of the customer minutes of interruption.
9. Daves Falls 242 – Daves Falls 242 is a large rural feeder serving the Village of Wausaukee and surrounding region of northern Marinette County. 63% of the customer minutes of interruption were caused by off right-of-way trees and 25% were attributed to weather issues.
10. Clear Lake 242 – Clear Lake 242 serves a portion of the Villages of Minocqua and Woodruff and west along HWY 70. 32% of the customer minutes of interruption were caused by off right-of-way trees, 17% caused by human error, 26% due to an issue with some temporary construction and 14% were attributed to unknown causes during adverse weather. The western half of the feeder will be transferred to Woodmin 241 in 2013.

In 2012 Wisconsin Public Service implemented a Mobile Dispatch Application and GPS Tracking System to assist in outage restoration efforts. Mobile Dispatch allows for the electronic transfer of emergency and outage orders to field crews and the GPS Tracking will monitor field crew positions in real-time. WPS expects that these advancements will help to expedite the response of field crews, subsequently improving public safety and reducing the duration of system outages.

Wisconsin Public Service has completed an evaluation of reliability data across the company. In an effort to improve overall system reliability, the company has proposed a number of projects to target areas on the system of specific concern. These projects include the conversion of overhead distribution facilities to underground and the implementation of distribution system automation. In

the fall of 2012 Wisconsin Public Service submitted an application for a Certificate of Authority for a System Modernization and Reliability Project (SMRP) that encompasses these efforts (Docket #6690-CE-198). Each feeder listed as “worst performing” in 2012 has at least one improvement project that is a part of program outlined in the CA application. The SMRP is proposed to be completed over a five year period, 2014 through 2018.

PSC 113.0604(2)(d)

A report on the accomplishment of the improvements proposed in prior reports for which completion has not been previously reported.

District	Name	Need Date
Chilton	RYN 123 Upgrade Line Fuses	6/1/2012
Green Bay	PBL 241 Add Phase(s) along Nicolet Drive	6/30/2010
Green Bay	HOW 241 Install Regulator near intersection of Lineville and Pinecrest Roads	6/30/2011
Green Bay	PBL 241 Add Phase(s) from the end of the three phase on Humboldt Rd to Spartan Rd then north on Spartan to Highland Center Rd	6/30/2012
Kewaunee	RSR 242 Reconductor 1 mile on Hemlock Rd	6/1/2011
Kewaunee	LUX 241/242 Transfer Load	6/1/2012
Kewaunee	EAK 241 Phase Balance	6/1/2012
Merrill	Pine 242 Install Regulator just west of pole location 3206-35R6	6/30/2011
Minocqua	CLK 242 Install capacitor bank near pole location 3906-10R23 on old Highway 70	6/30/2010
Minocqua	CLK 242 Install capacitor on pole location 3906-11E105	6/30/2011
Minocqua	Woodmin 241 Install a substation feeder west of Minocqua	6/30/2012
Minocqua	Woodmin 241 Construct Feeder Exit Woodmin 241 and other distribution infrastructure improvements to connect to existing facilities	6/30/2012
Oshkosh	12A 242 Reconductor 650 feet of 3-phase 336 ACSR along Mason St. from 12th Ave to Osborne Ave	6/30/2011
Oshkosh	EOD 242 Reconductor 5000 feet of existing single phase and 3 phase on Omro Rd and Brooks Ln between Oakwood Rd and N. Washburn St	6/30/2012
Rhineland	HOD 241 Convert Step-down at Thompson Rd	12/31/2010
Rhineland	HI8 242 Install Regulator on single tap new 3707-2E1 near Fawn Lake Rd	6/30/2011
Rhineland	MGA 241 Convert Step-down at Pine Lake	6/30/2011
Rhineland	HI8 241 Install Regulator near pole location 3608-35E2	6/30/2011
Rhineland	HI8 241 Install Regulator near 3608-25L5 - Lassig Rd & State Hwy 17	6/30/2011
Sturgeon Bay	SIS 242 Voltage Checks	3/1/2012
Sturgeon Bay	EGH 241 Phase Balance	6/1/2012
Two Rivers	MRP 241 Upgrade Line Fuses	6/1/2012

District	Name	Need Date
Two Rivers	MRP 241 Phase Balance	6/1/2012
Two Rivers	SNZ 241 / SOT 241 Transfer Load	6/1/2012
Two Rivers	SNZ 241 Install Line Regulator	6/1/2012
Two Rivers	SNZ 241 Install Line Regulator	6/1/2012
Two Rivers	SNZ 242 Reconductor	6/1/2012
Two Rivers	SNZ 242 Voltage Checks	8/1/2012
Wabeno	GON 241 Convert Step-down in Coleman Lake area to 24.9 kV	12/31/2009
Wabeno	MGA 241 Convert Step-down Birch Lake	12/31/2010
Wausau	WSB Rebuild P-94	6/30/2010

PSC 113.0604(2)(e)

A description of any new reliability or power quality programs and changes that are made to existing programs.

In 2012 Wisconsin Public Service implemented a Mobile Dispatch Application and GPS Tracking System to assist in outage restoration efforts. Mobile Dispatch allows for the electronic transfer of emergency and outage orders to field crews and the GPS Tracking will monitor field crew positions in real-time. WPS expects that these advancements will help to expedite the response of field crews, subsequently improving public safety and reducing the duration of system outages.

Wisconsin Public Service has completed an evaluation of reliability data across the company. In an effort to improve overall system reliability, the company has proposed a number of projects to target areas on the system of specific concern. These projects include the conversion of overhead distribution facilities to underground and the implementation of distribution system automation. In the fall of 2012 Wisconsin Public Service submitted an application for a Certificate of Authority for a System Modernization and Reliability Project (SMRP) that encompasses these efforts (Docket #6690-CE-198). The SMRP is proposed to be completed over a five year period, 2014 through 2018.

There were no changes to the Power Quality Investigation programs at WPS in 2012.

PSC 113.0604(2)(f)

A status report of any long range electric distribution plans.

The projects below may be in a planning stage, currently under construction, or completed pending accounting close-out.

District	Name	Need Date
Antigo	SUL 241 Add Phase(s) County J from County B to Forest Rd	6/1/2016
Antigo	SUL 242 Install a new substation feeder	6/1/2014
Antigo	SUL 242 Construct Feeder Exit for Summit Lake 242	6/1/2014
Antigo	AUS 241 Install Regulator near pole 3010-2R21 on Cty Hwy Y between Hansen Rd and Cty Rd E.	6/1/2014
Chilton	GLW 242 Phase Balance	6/1/2013
Chilton	GRA 241 Load Check	8/1/2013
Chilton	GRA 242 Fuse Move	6/1/2013
Chilton	GRA 241 Convert Step-Downs	6/1/2013
Chilton	GRA 244 Reconductor	9/1/2013
Eagle River	CRB 244 Phase Balance Bloom south of HWY 70 (4010-34W26)	6/1/2013
Eagle River	CRB 244 Phase Balance HWY 70 east of Bloom Rd (4010-34E3)	6/1/2013
Eagle River	CRB 244 Install Regulator near pole location 3910-24W45	6/1/2013
Eagle River	THL 242 Feeder Addition	6/30/2017
Green Bay	HOW 241 Reconductor 1950' of Main Line	6/1/2012
Green Bay	HOW 241 Add Phase(s) Reconductor 4700 Ft of 1 phase to 3 Phase on Linneville Rd	6/1/2013
Green Bay	ASH 241 Install Feeder Exit	1/1/2015
Green Bay	ASH 242 Construct Feeder Exit	1/1/2015
Green Bay	7ST 242 Construct Feeder Exit	1/1/2015
Green Bay	GLF 241 Construct Feeder Exit and mainline for the new substation in the village of Wrightstown	6/30/2010
Green Bay	LSD 241 Install Capacitor Install a 1200 KVAR capacitor	6/1/2012
Green Bay	MAD 241 Add Phase(s) Along N Pine Tree Rd	6/1/2015
Green Bay	MHS 241 Add Phase(s) Add Phase and Rebuild 5500 ft along Lebrun St	6/1/2015
Green Bay	RLD 242 Reconductor along Old Martin (3900 ft) from Ryan Rd to County PP	6/1/2015

District	Name	Need Date
Green Bay	SMO 241 Construct Feeder Mainline approximately 20,000 ft west of Hwy 41 from Allen Rd to Cross Rd to Chase Rd to Killdeer Lane	6/30/2011
Green Bay	HOW 241 Install Regulator near intersection of Lineville and Pinecrest Roads	6/30/2011
Green Bay	GLR 241 Reconductor to 336 kcm from 101 BB6 to corner of Scheuring and Mid Valley Rd	6/1/2013
Green Bay	GLF 242 Construct Feeder Exit to add a second feeder at the Greenleaf Substation	6/30/2017
Green Bay	ASH 241 Install Regulator at Ashland Ave 241 substation and replace feeder exit	6/30/2014
Green Bay	DYK 241 Install Regulator near 2522 34L13	6/30/2014
Green Bay	BAT 242 Construct Feeder Exit for Bayport substation	6/30/2015
Green Bay	HIV 241 Install Regulator at the Highway V 241 substation and replace the feeder exit	6/30/2015
Green Bay	BAT 242 Install feeder	6/30/2015
Green Bay	RLD 241 Construct Feeder Mainline from Rockland Substation to Mystery Hills	6/30/2017
Green Bay	GBEast Construct Feeder Exit in the East Green Bay area east of Ontario Substation	6/30/2018
Green Bay	SOI 242 Construct Feeder Exit at the Sobieski Substation	6/30/2019
Kewaunee	LUX 241 Phase Balance	6/1/2013
Kewaunee	LUX 242 Phase Balance	6/1/2013
Kewaunee	EAK 241 Upgrade Line OCRs	6/1/2013
Kewaunee	EAK 242 Install Regulator on County AB	Pending Load Add.
Marinette	OCO 242 Phase Balance	6/1/2013
Marinette	OCO 241 Remove 300 amp cutouts and replace with 900 amp disconnects	6/1/2013
Marinette	NS2 241 Install Other Device 900 Amp switches at 26 GG1	6/1/2013
Marinette	SRD 241 Reconductor Bagley Rd from Hwy 64 to County G	6/1/2013
Marinette	LEA 241 Reconductor County Rd A w/ 336 ACSR	6/1/2016
Marinette	WEM 241 Install Regulator On Shore Dr north of Leaf Rd	6/1/2015
Marinette	POU 241 Install Regulator on County Rd B	6/1/2013
Marinette	SRD 242 Install Regulator on Hale Rd	6/1/2016
Marinette	LEA 241 Phase Balance	6/1/2013
Menominee	A30 122 Reconductor Feeder Exit to 336	6/1/2013

District	Name	Need Date
Menominee	INS 241 Phase Balance	6/1/2013
Menominee	2NS 241 Convert Step-down River Dr	6/1/2016
Menominee	BDN 241 Install Regulator On M-35 S of Twin Creek Rd	6/1/2013
Menominee	MEN 121 Convert Feeder north of 3227-23W20 to BDN 241	6/1/2016
Merrill	PIN 241 Phase Balance	6/1/2013
Merrill	PIN 242 Phase Balance	6/1/2013
Merrill	MER 241 Phase Balance	6/1/2013
Minocqua	CLK 241 Phase Balance Along US HWY 51 and HWY 47.	6/1/2013
Minocqua	CLK 242 Reconductor 5000 ft on Mercer Lake Rd to #1 AL UG.	6/1/2016
Minocqua	WDM 242 Construct New Feeder Exit	6/1/2018
Minocqua	CLK 242 Reconductor CTY J from Hansen Rd to US 51	6/1/2014
Minocqua	CLK 243 Add Phase(s) and Rebuild 1/0 ACSR CTH Y, Meadow Ln, Oak Dr, Kucera Rd, Cedar Falls Rd	6/1/2014
Minocqua	WDM 241 Install Regulator on HWY 47 east of County D	6/1/2013
Minocqua	WDM 241 Relocate Regulators (4005-3E8) On HWY 47 near 4005-12L9	6/1/2013
Minocqua	Boulder Junction Construct Feeder Exit in the Boulder Junction area	6/30/2022
Oshkosh	AVN 242 Move 200E fuse 264 BB7 on Waukau Ave downstream	6/30/2013
Oshkosh	BNS 121 Convert 2.5 MVA to BNS 241 or SPT 241	6/30/2013
Oshkosh	MCR 242 Upgrade OCRs 1915 13R12 to Hubbell Versatech Reclosers	6/30/2013
Oshkosh	AVN 242 Reconductor 1/0 AL to 336 ACSR Waukau Ave from S Washburn St to State Rd 44	6/30/2017
Oshkosh	A12 242 Reconductor 4/0 ACSR to 336 ACSR along W 23rd Ave	9/1/2013
Oshkosh	A12 242 Reconductor 4/0 ACSR to 336 ACSR along Minnesota St	9/1/2013
Oshkosh	Pearl Ave Bk1 – 12 kV Upgrade	9/1/2015
Oshkosh	Bowen Street 242 – Install New 24.9 kV Feeder	6/1/2017
Oshkosh	EOD 243 Construct Feeder Exit at Ellinwood Substation	6/30/2020
Rhineland	THL 241 Reconductor County Rd D from Blackberry Dr to Pine Lake Rd	6/1/2014
Rhineland	VEN 241 Reconductor To 3 phase County Rd K, & Close Gap on County Rd U	6/1/2014

District	Name	Need Date
Rhineland	VEN 241 Convert 3511 18R33 Pelican Lake North Step-down	6/1/2016
Rhineland	VEN 241 Convert 3511 18R33 Pelican Lake North Step-down	6/1/2016
Rhineland	HOD 241 Construct 2200ft of single phase on Cross Country Dr.	6/1/2013
Rhineland	MGA 241 Install Capacitor at 54AA41	6/30/2011
Rhineland	HI8 241 Install Regulator and OCR at substation	6/30/2020
Rhineland	VEN 242 Install Capacitor bank near pole 3612-26E21 on US Hwy 8	6/30/2012
Rhineland	MGA 241 Install Capacitor near pole 3613-5L4 on State Hwy 32	6/30/2012
Rhineland	THL 241 Install Regulator near pole location 3809-13W24	6/30/2013
Rhineland	HI8 243 Install 22.4 MVA transformer and separate 243 feeder from Bank #2	6/1/2022
Rhineland	MGA 242 Install second feeder at Metonga Substation	6/30/2022
Rhineland	HOD 241 Install Regulator near 3709-29L40 for Hodag Festival Grounds	12/31/2010
Stevens Point	OKY 241 Upgrade reclosers at 55 AA33 to Hubbell Versatech reclosers	6/30/2014
Stevens Point	GOS 242 Install new feeder exit cables	6/30/2016
Stevens Point	OKY 241 Increase substation VCR minimum pickup setting	6/30/2019
Stevens Point	GOS 241 Upgrade regulators at 2108-13L7, 8, 9 on 3rd Ave to 200 amp	6/30/2014
Stevens Point	HOO 241 Install new feeder exit cables.	6/30/2013
Stevens Point	NPT 241 Upgrade substation OCR and regulator.	6/30/2020
Stevens Point	OKY 242 Construct new feeder at Okray Sub	6/30/2020
Stevens Point	HOO 242 Install new feeder exit cables.	6/30/2014
Sturgeon Bay	EGH 242 Install Capacitor	6/1/2013
Sturgeon Bay	BRU 242 Phase Balance	6/1/2013
Sturgeon Bay	SIS 241 Amp Readings	8/1/2013
Sturgeon Bay	SIS 241 Convert Step-Down	6/1/2013
Sturgeon Bay	EGH 242 Reconductor	6/1/2023
Tomahawk	EST 242 Install Regulator Add 1 Phase Regulator CTY RD B	6/1/2013
Tomahawk	EST 242 Add Phases and close gap on County D	6/1/2014
Tomahawk	EST 243 Install Regulator County O area of 3406-16R2 (C Phase)	6/1/2014
Tomahawk	EST 242 Move Regulator 3506-11W46 (Bus 51 & USH8)	6/1/2013

District	Name	Need Date
Tomahawk	EST 242 Move Regulator 3606-22E15 (County Rd L & Olson Rd)	6/1/2016
Tomahawk	EST 243 Install 4/0 conductor tie in new conduit system Pull 3 4/0 conductors to replace the present crossing of the Wisconsin River through the newly installed conduit.	6/30/2012
Tomahawk	TOK 241 Construct Feeder Exit for an additional feeder (Tomahawk Sub).	6/30/2018
Two Rivers	SOT 241 Reconductor	6/1/2013
Two Rivers	SOT 242 Remove Line Regulator	6/1/2013
Wabeno	SUL 241 Add Phase(s) County Rd T, State Rd 55 and Pickerel Lake Rd.	6/1/2013
Wabeno	MTN 242 Move Regs Thelen Rd (3216-9W30)	6/1/2013
Wabeno	MTN 242 Move Regulators Townsend (3315-23L49)	6/1/2013
Wabeno	MTN 242 Phase Balance Transfer ~23 amps from B phase to A phase at pole location 3316-31E55	6/1/2013
Wabeno	SIC 241 Add Phase(s) On Old J Rd and County Rd C	6/1/2014
Wabeno	MTN 242 Convert Step-down Crooked Lake (3216-26W5)	6/1/2016
Wabeno	Suring Construct Feeder Exit	6/1/2017
Wabeno	Townsend Construct Feeder Exit	6/1/2017
Wabeno	MTN 242 Reconductor Star Lake Rd	6/1/2013
Wabeno	MTN 241 Relocate Nelligan Lake Rd Regulator to Bachman Rd	6/1/2013
Wabeno	SIC 241 Install Regulators near 3416-16L4 (end of 336 ACSR)	6/1/2013
Wabeno	MGA 241 Convert Step-down Airport Rd from 2.4 kV to 7.2 kV	6/1/2013
Wabeno	GON 241 Install Capacitor new pole 3817-31W8 on State Rd 101.	6/30/2013
Wabeno	MTN 242 Reconductor feeder exit to 795 AA	6/30/2016
Wausau	KRN 242 Reconductor Old Hwy 51	9/1/2013
Wausau	EWA 241 Phase Balance	6/1/2013
Wausau	KRN 241 Spot Check	8/1/2013
Wausau	MAV 241 Phase Balance	6/1/2013
Wausau	MAV 242 Phase Balance	6/1/2013
Wausau	ROD 241 Spot Checks	8/1/2013
Wausau	TOW 243 Spot Checks	8/1/2013
Wausau	SHS 241 Spot Checks	8/1/2013
Wausau	NSU 122 Install Step-Down Transformer	6/1/2013
Wausau	KEL 241 Reconductor Schofield Ave	6/1/2021

District	Name	Need Date
Wausaukee	TDR 241 Phase Balance Parkway Rd	6/1/2013
Wausaukee	TDR 241 Reconductor and Add Phases on County X and Deer Lake Rd	6/1/2014
Wausaukee	SAE 241 Add Phase(s) Along Old W, Cty W and CTY GG	6/1/2014
Wausaukee	TDR 241 Add Phase(s) 31,400 ft on County A from Dreamland Ave to County C	6/1/2014
Wausaukee	TDR 241 Add Phase(s) and Rebuild 5124 ft of 8A CW on County C	6/1/2014
Wausaukee	DAF 241 Reconductor Dow Dam Rd (~9500 ft)	6/1/2014
Wausaukee	DAF 241 Reconductor County Rd K	8/1/2014
Wausaukee	DAF 241 Reconductor County Rd Z	6/1/2016
Wausaukee	TDR 241 Add Phase(s) County Rd W	6/1/2016
Wausaukee	TDR 241 Convert Feeder Parkway Stepdown	6/1/2020
Wausaukee	SAE 241 Phase Balance Smith Creek Rd at St Paul Rd from "C" to "B" phase	6/1/2013
Wausaukee	TDR 241 Install Regulator On CTH A south of Nelson Rd	6/1/2013
Wausaukee	DAF 242 Reconductor 6.2 miles of main line from substation	6/1/2013
Wausaukee	TDR 242 Construct Feeder Exit Feeder 242	8/1/2014
Wausaukee	SAE 241 Convert Cemetery Rd Step-down	6/1/2013
Wausaukee	AMB 241 Construct Feeder Exit from the new Amberg Substation source	8/1/2014
Wausaukee	AMB 242 Construct Feeder Exit from the new Amberg Substation source	6/1/2015

PSC 113.0604(3)(a)

Route miles of electric distribution line reconstructed during the year. Separate totals for single- and three-phase circuits shall be provided.

The approximate route miles of electric distribution reconstruction is:

- 1 Phase – 185.9 miles
- 2 Phase – 0.45 miles
- 3 Phase – 45.5 miles

PSC 113.0604(3)(b)

Total route miles of electric distribution line in service at year's end, segregated by voltage level

**WISCONSIN PUBLIC SERVICE CORPORATION
ROUTE MILES OF ELECTRIC DISTRIBUTION LINE BY VOLTAGE LEVEL
BASED ON AN EXTRACT FROM THE EAGLE GIS**

Voltage	Route Miles	Percent of Total
46 kV	68.0	0.34%
24.94 kV	19,452.0	97.87%
13.8 kV	10.6	0.05%
12.47 kV	337.5	1.71%
4.16 kV	6.5	0.03%
Total	19,874.6	100.00%

PSC 113.0604(3)(c)

Monthly average speed of answer, as defined in s. PSC 113.0503(1) (b), for telephone calls received regarding emergencies, outages and customer billing problems.

Listed is the average speed of answer in seconds for telephone calls received regarding emergencies, outages, and customer billing problems for the year 2012.

Month	Speed
January	24 sec
February	20 sec
March	45 sec
April	49 sec
May	47 sec
June	62 sec
July	76 sec
August	52 sec
September	74 sec
October	62 sec
November	27 sec
December	37 sec
2012 Average	52 sec

The service quality standard for average speed of answer given in PSC 113.0503(1) is:

(a) A utility or its agent shall maintain sufficient employees and equipment to achieve an average speed of answer of not more than 90 seconds. The average speed of answer shall be determined by summing the total queuing time and dividing by the total number of customer calls handled by automated systems. A utility or its agent shall calculate this average speed of answer on a monthly basis, including customer service calls, outage calls and emergency calls.

(b) A utility or its agent shall maintain sufficient employees to achieve an average speed of live response of not more than 90 seconds. The average speed of live response shall be determined by summing the total time from indication of request for live response and divided by the total number of calls answered by a live agent. A utility or its agent shall calculate this average speed of answer on a monthly basis, including customer service calls, outage calls and emergency calls.

PSC 113.0604(3)(d)

The average number of calendar days a utility takes to install and energize service to a customer site once it is ready to receive service. A separate average shall be calculated for each month, including all extensions energized during the calendar month.

WPSC's Distribution Work Management System tracks our construction process in the Work Management Information System (WMIS) component. WMIS provides the following data:

- Requested Completion Date
- Meter Set Date

Average number of calendar days from the Requested Completion Date to the Electric Meter set date in 2012:

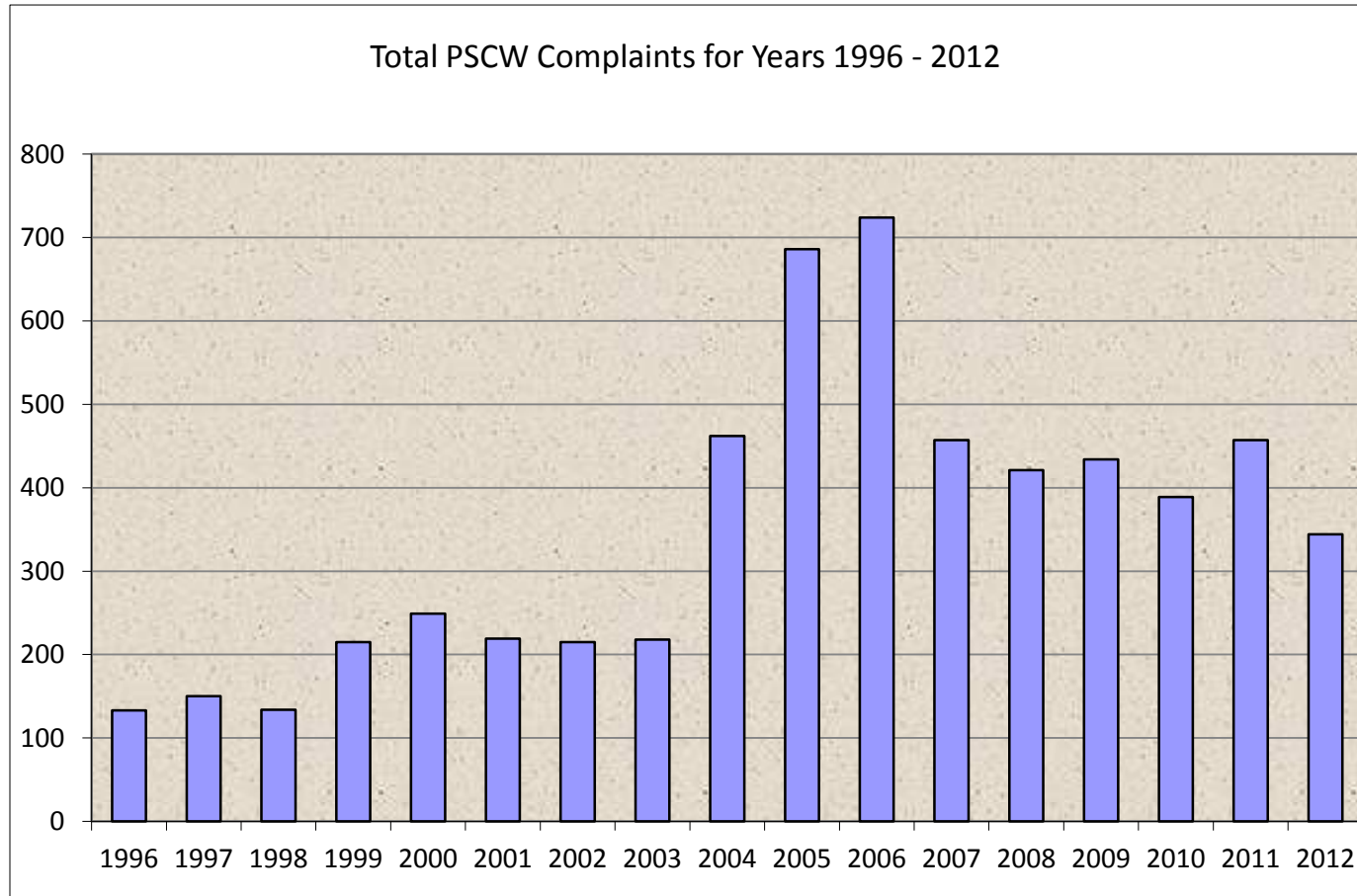
Month	Days
January	6.02
February	4.62
March	4.47
April	6.67
May	7.16
June	7.07
July	7.30
August	7.54
September	7.22
October	7.78
November	7.92
December	7.74
2012 Average	7.29

These averages are based on the work requests that had **both** the Requested Completion Date and the Electric Meter Set Date entered in the WMIS System at the time this data was extracted.

This data also includes work requests that have a Service Measures comment.

PSC 113.0604(3)(e)

The total number of written and telephone customer complaints received in the areas of safety, customer billing, outages, power quality, customer property damage, and other areas, by month filed.



PSCW Complaints By Month - 2012

Type of Complaint	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
B = Billing	5	2	1	2	0	0	1	3	3	4	0	2	23
BB=Backbilling/Defective Meter	0	1	2	2	2	1	0	0	0	3	0	0	11
C = Credit	4	8	35	35	22	21	30	36	39	29	6	1	266
CSC=Customer Service Calls	0	1	4	0	0	0	0	0	0	0	0	0	5
ES=Electric Service Extensions	0	0	1	0	1	0	0	1	0	0	0	0	3
GO=Gas Odor	0	0	0	0	0	0	0	0	0	0	0	0	0
GS=Gas Service Extensions	0	0	1	0	0	0	0	0	0	0	0	0	1
LC=Line Clearance	0	1	0	0	0	0	0	0	0	0	0	0	1
M=Miscellaneous Other	1	0	6	3	0	3	6	1	3	1	0	0	24
ML=Meter Locations	0	0	0	0	0	0	0	0	0	0	0	0	0
O = Outages	0	0	0	0	0	1	2	0	0	0	0	0	3
PDC=Property Damage to Customers	1	0	1	0	0	1	0	1	0	0	0	0	4
R=Rate Classification	0	0	0	0	1	0	0	0	0	0	1	0	2
Rel=Relocate WPSC Facilities	0	0	0	0	0	0	0	1	0	0	0	0	1
SREL=Service Reliability	0	0	0	0	0	0	0	0	0	0	0	0	0
SV=Stray Voltage	0	0	0	0	0	0	0	0	0	0	0	0	0
USC=Unacceptable Service Condition	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	11	13	51	42	26	27	39	43	45	37	7	3	344

PSC 113.0604(3)(f)

Total annual tree trimming budget and actual expenses.

2012 Line Clearance Budget Summary

Total annual tree trimming budget: **\$6,656,000**

Total annual tree trimming actual expenses: **\$5,819,654**

PSC 113.0604(3)(g)

Total annual projected and actual miles of distribution line tree trimmed.

2012 Line Clearance Line-Mile Summary

Annual projected miles of distribution line tree trimmed: **2,333**

Total actual miles of distribution line tree trimmed: **2,165**