

ELECTRIC SERVICE RELIABILITY IN PENNSYLVANIA 2006

PENNSYLVANIA PUBLIC UTILITY COMMISSION





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EXECUTIVE SUMMARY

The Electricity Generation Customer Choice and Competition Act mandates that the Pennsylvania Public Utility Commission (Commission) ensure that levels of reliability that existed prior to the restructuring of the electric utility industry continue in the new competitive markets. Act of Dec. 3, 1996, P.L. 802, No. 138, 66 Pa.C.S. Sec. 2801 et. seq.

In response to this mandate, the Commission adopted reporting requirements designed to ensure the continuing safety, adequacy and reliability of the generation, transmission and distribution of electricity in the Commonwealth.¹ The Commission also established reliability benchmarks and standards to measure the performance of each electric distribution company (EDC).²

Given the uncertainty of weather and other events that can affect reliability performance, the Commission has stated that EDCs should set goals to achieve benchmark performance in order to prepare for those times when unforeseen circumstances push the indices above the benchmark.³ In recognition of these unforeseen circumstances, the Commission set the performance standard as the minimum level of EDC reliability performance. The standard is the level of performance beyond which the company must either justify its poor performance or provide information on the corrective measures it will take to improve performance. Performance that does not meet the standard for any reliability measure may be the threshold for triggering additional scrutiny and potential compliance enforcement actions.

In 2006, all 11 EDCs achieved compliance with the 12-month Customer Average Interruption Duration Index (CAIDI) performance standard for duration of service outages. In fact, six of the 11 EDCs performed better than the 12-month CAIDI performance benchmark. Thus, when measured on a company wide basis, each EDC provided adequate restoration of service. Six of the EDCs actually provided restoration of service in a more timely manner than was experienced over the five years prior to the restructuring of the electric utility industry.

Eight of 11 EDCs achieved compliance with the 12-month System Average Interruption Frequency Index (SAIFI) performance standards for the average frequency of service outages per customer. Three EDCs performed better than the 12-month SAIFI performance benchmark. Therefore, the majority of the EDCs have maintained the number of customer outages at an acceptable level, with three

¹ Docket No. L-00970120; 52 Pa. Code §§ 57.191-57.197.

² Docket No. M-00991220.

³ Docket No. M-00991220, page 25.

EDCs reducing customer outage levels beyond the levels experienced over the five years prior to the restructuring of the electric utility industry.

As mandated, enforcement of the three-year rolling average standard began with the utilities' filing of their 2006 annual reports. The three-year performance standard only allows a deviation of 10 percent from the reliability index benchmark, as compared with the 20 percent or 35 percent deviations allowed by the 12-month performance standard. We have assessed the average reliability performance of EDCs over a three-year period, utilizing data from 2004, 2005 and 2006.

Eight of the 11 EDCs performed better than the three-year standard for average duration of service outages. For the average frequency of service outages per customer, only five of the 11 EDCs performed better than the three-year performance standard. Most of the EDCs that failed to perform better than the three-year standards were EDCs that had performance issues in 2004, 2005 or prior years. Due in part to renewed Commission oversight, these EDCs have shown a trend toward improving performance, that, if it continues, should bring those EDCs into compliance with the three-year standards.

A variety of non-compliance enforcement actions were taken with EDCs that failed to meet any of the Commission's electric reliability performance standards. These enforcement actions ranged from meetings with the companies to discuss reliability improvement plans to formal reliability investigations.

On Jan. 31, 2007, the Legislative Budget and Finance Committee (LB&FC) released a performance audit of the PUC. The report observed that the PUC has enhanced the monitoring of electric reliability and generally has the processes and procedures in place to adequately monitor electric reliability.

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Section 1 – Introduction

Purpose

This report discusses the reliability performance of EDCs operating under the Commission’s jurisdiction within the Commonwealth. Although the reliability of the bulk transmission system⁴ is integral to the overall reliability of electric service, this report focuses on the reliability of the electric distribution system.

The data contained in this report was obtained from the quarterly and annual reliability reports submitted by the EDCs pursuant to the Commission’s regulations.⁵ These annual reports provide an assessment of electric service reliability for each EDC’s service territory.

Background

The Electricity Generation Customer Choice and Competition Act⁶ (Act) became effective Jan. 1, 1997. The Act amended Title 66 of the Pennsylvania Consolidated Statutes (Code) by adding Chapter 28 to establish standards and procedures to create direct access by retail customers to the competitive market for the generation of electricity, while maintaining the safety and reliability of the electric distribution system. Specifically, the Commission was given a legislative mandate to ensure that levels of reliability that existed prior to the restructuring of the electric utility industry would continue in the new competitive markets.⁷

In response to this legislative mandate, the Commission adopted a Final Rulemaking Order on April 23, 1998, setting forth various reporting requirements designed to ensure the continued safety, adequacy and reliability of the generation, transmission and distribution of electricity in the Commonwealth.⁸ The Final Rulemaking Order also suggested that the Commission could reevaluate its monitoring efforts, at a later time, as deemed appropriate.

Then, on Dec. 16, 1999, the Commission entered a Final Order establishing reliability benchmarks and standards for the EDCs.⁹ The purpose of these reliability indices is to measure the performance of EDCs’ transmission and distribution systems in terms of the frequency and duration of unplanned electric

⁴ The high voltage transmission system, nominally >100 kV, is regulated by the Federal Energy Regulatory Commission. The electric distribution system is under the purview of the Pennsylvania Public Utility Commission.

⁵ 52 Pa. Code § 57.195.

⁶ Dec. 3, P.L. 802, No. 138 § 4.

⁷ 66 Pa.C.S. §§ 2802(12), 2804(1) and 2807(d).

⁸ Docket No. L-00970120; 52 Pa. Code §§ 57.191-57.197.

⁹ Docket No. M-00991220.

service outages to ensure that the levels of reliability existing prior to retail competition do not deteriorate.

On May 7, 2004, the Commission adopted amendments to its existing regulations regarding electric reliability standards, which became effective on Sept. 18, 2004.¹⁰ In conjunction with the adoption of the amended regulations, the Commission adopted an Order amending its benchmarks and standards.

Subsequently, five EDCs filed petitions requesting an adjustment to their amended benchmarks and standards. The Commission adopted Orders granting adjustments to the benchmarks and standards of the five EDCs as follows:

Met-Ed, Penelec and Penn Power on Feb. 17, 2006, at Docket No. P-00042115;
Allegheny Power on July 20, 2006, at Docket No. M-00991220F0003; and
Pike County Light & Power Company on Aug. 17, 2006, at Docket No. M-00991220F0003.

In order to enhance reliability performance monitoring of the EDCs, the Commission initiated a rulemaking proceeding to determine the type and scope of inspection and maintenance standards that would be appropriate for electric transmission and distribution systems.¹¹ A Proposed Rulemaking Order was adopted by the Commission on April 20, 2006. All comments to the Proposed Rulemaking Order have been received. Staff is currently working on drafting a Final Proposed Rulemaking Order regarding Inspection, Maintenance and Repair Standards. It is expected that a Final Rulemaking Order is scheduled to be entered before the end of 2007.

On Jan. 31, 2007, the LB&FC released a performance audit of the PUC. The report observed that the PUC has enhanced the monitoring of electric reliability and generally has the processes and procedures in place to adequately monitor electric reliability. The performance audit was directed by House Resolution 695 of 2006 and is available on the LB&FC's Web site at <http://lbfc.legis.state.pa.us/>.

¹⁰ Docket No. L-00030161; 34 Pa.B. 5135.

¹¹ Docket No. L-00040167.

Section 2 – Reliability Performance Measures

Reliability Performance Indices

The benchmarks and standards established by the Commission are based on four reliability performance indices which have been adopted by the Institute of Electrical and Electronic Engineers, Inc (IEEE). These indices include: (1) Customer Average Interruption Duration Index (CAIDI); (2) System Average Interruption Frequency Index (SAIFI); (3) System Average Interruption Duration Index (SAIDI); and (4) Momentary Average Interruption Frequency index (MAIFI).

CAIDI is the average duration of sustained interruptions¹² for those customers who experience interruptions during the analysis period. CAIDI represents the average time required to restore service to the average customer per sustained interruption. It is determined by dividing the sum of all sustained customer interruption durations, in minutes, by the total number of interrupted customers;

SAIFI measures the average frequency of sustained interruptions per customer occurring during the analysis period. It is calculated by dividing the total number of sustained customer interruptions by the total number of customers served;

SAIDI is the average duration of sustained customer interruptions per customer occurring during the analysis period. It is the average time customers were without power. It is determined by dividing the sum of all sustained customer interruption durations, in minutes, by the total number of customers served. SAIDI is also the product of CAIDI and SAIFI; and

MAIFI measures the average frequency of momentary interruptions¹³ per customer occurring during the analysis period. It is calculated by dividing the total number of momentary customer interruptions by the total number of customers served.

The actual values of these four reliability indices are submitted by the EDCs, on both a quarterly (rolling 12-month average) and annual basis. Also included, is the data used in calculating the indices, namely the average number

¹² The loss of electric service by one or more customers for the period defined as a sustained customer interruption by IEEE as it may change from time to time – currently five minutes or greater. The term does not include “major events” or the authorized termination of service to an individual customer.

¹³ The loss of electric service by one or more customers for the period defined as a momentary customer interruption by the IEEE as it may change from time to time – currently is less than five minutes. The term does not include “major events” or the authorized termination of service to an individual customer.

of customers served, the number of sustained customer interruption minutes and the number of customers affected by service interruptions.¹⁴

It is noted that some EDCs do not currently have the necessary equipment to collect data relating to momentary service interruptions (MAIFI). However, the Commission desires to assess, where possible, the affect of frequent momentary interruptions on EDCs' customers. Thus, the provision of this data is required, if available.

In addition to the outage data mentioned above, the Commission's regulations require EDCs to report a breakdown and analysis of outage causes, such as equipment failure, animal contact and contact with trees. This analysis is helpful in identifying the primary causes of service interruptions and determining which causes, if any, can be prevented in the future through proposed solutions.

The revised regulations require EDCs to report reliability performance on a system-wide basis, rather than on an operating area basis, and provide an analysis of the worst performing five percent of circuits and major remedial efforts to improve those circuits.

Major Events

In order to analyze and set measurable goals for electric service reliability performance, outage data is separated into normal and abnormal periods so that only normal event periods are used for calculating reliability indices. The term "major event" is used to identify an abnormal event, such as a major storm, and is defined as either of the following:

An interruption of electric service resulting from conditions beyond the control of the EDC which affects at least 10 percent of the customers in the EDC's service territory during the course of the event for a duration of five minutes or greater; and

An unscheduled interruption of electric service resulting from an action taken by an EDC to maintain the adequacy and security of the electrical system.

Outage data relating to major events are to be excluded from the calculation of reliability indices. In order to avoid the inappropriate exclusion of outage data, the Commission has implemented a process whereby an EDC must submit a formal request for exclusion of service interruptions for reporting

¹⁴ For some EDCs, MAIFI statistics are unavailable due to insufficient field equipment necessary to provide meaningful data.

purposes, accompanied by data which demonstrates that a service interruption qualifies as a major event.

During 2006, 12 requests for exclusion of major outage data relating to major events were filed by the EDCs, as compared to 31 requests in 2005. Of these requests, 10 were approved and two were partially approved. A major event exclusion request may be denied for a variety of reasons, including such things as the event not meeting the 10 percent of customers interrupted threshold or equipment failure without supporting maintenance records.

Reliability Performance Benchmarks and Standards

As currently established, the performance benchmark represents the statistical average of the EDC's annual, system-wide, reliability performance index values for the five-year time period from 1994-1998. The benchmark serves as an objective level of performance that each EDC should strive to achieve and maintain, and is a reference point for comparison of future reliability performance.

The current performance standard is a numerical value that represents the minimal performance allowed for each reliability index for a given EDC. Performance standards are based on each EDC's historical performance benchmarks. Both long-term (rolling three-year) and short-term (rolling 12-month) performance standards have been established for each EDC. The performance standard is the minimum level of EDC reliability performance permitted by the Commission and is a level of performance beyond which the company must either justify its poor performance or provide information on corrective measures it will take to improve performance. Performance that does not meet the standard for any reliability measure is the threshold for triggering additional scrutiny and potential compliance enforcement actions.

The rolling 12-month standard is 120 percent of the benchmark for the major EDCs and 135 percent for the small EDCs.¹⁵ A greater degree of short-term latitude recognizes that small EDCs have fewer customers and fewer circuits than large EDCs, potentially allowing a single event to have a more significant impact on the reliability performance of the small EDCs' distribution systems. The 12-month standard became effective on Nov. 1, 2004.

The rolling three-year standard is 110 percent of the benchmark for all EDCs. This new performance standard was set at 10 percent above the historical benchmark to ensure that the standard is no higher than the worst annual performance experienced during the years prior to restructuring. The

¹⁵ Large EDCs currently include: Allegheny Power, Duquesne Light, Met-Ed, Penelec, Penn Power, PECO and PPL. Small EDCs include: UGI, Citizens', Pike County and Wellsboro.

three-year average performance will be measured against the standard at the end of each calendar year. Enforcement of the rolling three-year standard begins with the submission of the annual reports due on or before April 30, 2007. The first rolling three-year standard analysis, contained in this report, utilizes 2004, 2005 and 2006 calendar year data.

If any electric distribution company's reliability performance does not meet Commission standards, the Commission may require a report discussing the reasons for not meeting the standard and the corrective measures the company is taking to improve performance.¹⁶ In addition, Commission staff may initiate an investigation to determine whether an electric distribution company is providing reliable service.¹⁷

Benchmarks and standards for EDC reliability performance are listed in Appendix A.

Note: A lower number for any index indicates better reliability performance; i.e., a lower frequency of outages or shorter outage duration. A higher number indicates worse performance. For example, if an EDC has a CAIDI benchmark of 180 minutes, a rolling 12-month CAIDI standard of 216 minutes and an actual CAIDI for a particular year of 200 minutes, its performance is considered to be adequate. If CAIDI is 160 minutes, the performance is better than the historical average performance. A CAIDI of 240 minutes, on the other hand, indicates a failure to meet the performance standard.

¹⁶ 52 Pa. Code § 57.195(g).

¹⁷ 52 Pa. Code § 57.197(a).

Section 3 – Statistical Utility Performance Data

Statewide Summary

The 2006 reliability data submitted by the EDCs indicates all EDCs achieved compliance with the 12-month CAIDI performance standard for duration of service outages, and that six (Duquesne Light, Penelec, UGI Electric, Citizens, Pike County and Wellsboro) of the 11 EDCs performed better than the CAIDI benchmark.

Three EDCs (Duquesne Light, UGI Electric and Citizens) performed better than the 12-month SAIFI performance benchmark. In contrast, three of the 11 EDCs (Met-Ed, PPL and Pike County) failed to meet their rolling 12-month SAIFI performance standards for the average frequency of service outages per customer.

Table 1 provides the actual 2006 reliability performance for each EDC and the benchmarks and standards for each reliability index.

For the first time, we have assessed the average reliability performance of EDCs for a three-year period, utilizing data from 2004, 2005 and 2006. Three EDCs (Allegheny Power, Penelec and Penn Power) failed to meet their rolling three-year CAIDI performance standard.

Six EDCs (Met-Ed, Penelec, Penn Power, PPL, Pike County and Wellsboro) failed to meet their rolling three-year SAIFI performance standard.

Table 2 contains the actual 2004, 2005 and 2006 performance for each EDC, and the results of the three-year performance analysis.

The remedial actions taken for EDCs not meeting performance standards are discussed in detail in the appropriate utility specific performance data sections within this report.

Table 1: 12-Month Average Electric Reliability Indices for 2006

Customer Average Interruption Duration Index (CAIDI)				% Above (+) or Below (-) Standard	% Above (+) or Below (-) Benchmark
EDC	2006	Benchmark	Standard		
Allegheny Power	185	170	204	-9.3%	8.8%
Duquesne Light	102	108	130	-21.5%	-5.6%
Met-Ed (FE)	121	117	140	-13.6%	3.4%
Penelec (FE)	108	117	141	-23.4%	-7.7%
Penn Power (FE)	112	101	121	-7.4%	10.9%
PECO	133	112	134	-0.7%	18.8%
PPL	165	145	174	-5.2%	13.8%
UGI	112	169	228	-50.9%	-33.7%
Citizens	68	105	141	-51.8%	-35.2%
Pike County	142	174	235	-39.6%	-18.4%
Wellsboro	91	124	167	-45.5%	-26.6%
System Average Interruption Frequency Index (SAIFI)				% Above (+) or Below (-) Standard	% Above (+) or Below (-) Benchmark
EDC	2006	Benchmark	Standard		
Allegheny Power	1.16	1.05	1.26	-7.9%	10.5%
Duquesne Light	0.79	1.17	1.40	-43.6%	-32.5%
Met-Ed (FE)	1.73	1.15	1.38	25.4%	50.4%
Penelec (FE)	1.47	1.26	1.52	-3.3%	16.7%
Penn Power (FE)	1.22	1.12	1.34	-9.0%	8.9%
PECO	1.35	1.23	1.48	-8.8%	9.8%
PPL	1.27	0.98	1.18	7.6%	29.6%
UGI	0.79	0.83	1.12	-29.5%	-4.8%
Citizens	0.14	0.20	0.27	-48.1%	-30.0%
Pike County	1.16	0.61	0.82	41.5%	90.2%
Wellsboro	1.50	1.23	1.66	-9.6%	22.0%
System Average Interruption Duration Index (SAIDI)				% Above (+) or Below (-) Standard	% Above (+) or Below (-) Benchmark
EDC	2006	Benchmark	Standard		
Allegheny Power	215	179	257	-16.3%	20.1%
Duquesne Light	81	126	182	-55.5%	-35.7%
Met-Ed (FE)	210	135	194	8.2%	55.6%
Penelec (FE)	158	148	213	-25.8%	6.8%
Penn Power (FE)	137	113	162	-15.4%	21.2%
PECO	179	138	198	-9.6%	29.7%
PPL	209	142	205	2.0%	47.2%
UGI	88	140	256	-65.6%	-37.1%
Citizens	10	21	38	-73.7%	-52.4%
Pike County	165	106	194	-15.2%	55.3%
Wellsboro	139	153	278	-50.0%	-9.2%

Note: GREEN = better than benchmark; RED = worse than standard; BLACK = between benchmark and standard.

Table 2: Three-Year Average Electric Reliability Indices for 2004-06

Customer Average Interruption Duration Index (CAIDI)				3-Year	3-Year	% Above (+) or
EDC	2004	2005	2006	Average	Standard	Below (-) Standard
Allegheny Power	190	195	185	190	187	1.6%
Duquesne Light	92	98	102	97	119	-18.2%
Met-Ed (FE)	128	122	121	124	129	-4.1%
Penelec (FE)	140	151	108	133	129	3.1%
Penn Power (FE)	120	151	112	128	111	15.0%
PECO	106	99	133	113	123	-8.4%
PPL	159	125	165	150	160	-6.5%
UGI	143	119	112	125	186	-33.0%
Citizens	64	116	68	83	115	-28.1%
Pike County	172	109	142	141	192	-26.6%
Wellsboro	84	105	91	93	136	-31.4%
System Average Interruption Frequency Index (SAIFI)				3-Year	3-Year	% Above (+) or
EDC	2004	2005	2006	Average	Standard	Below (-) Standard
Allegheny Power	1.13	1.15	1.16	1.15	1.16	-1.1%
Duquesne Light	1.03	0.98	0.79	0.93	1.29	-27.6%
Met-Ed (FE)	1.54	1.70	1.73	1.66	1.27	30.4%
Penelec (FE)	1.77	1.87	1.47	1.70	1.39	22.5%
Penn Power (FE)	1.43	1.56	1.22	1.40	1.23	14.1%
PECO	0.98	1.02	1.35	1.12	1.35	-17.3%
PPL	1.09	0.97	1.27	1.11	1.08	2.7%
UGI	0.65	0.64	0.79	0.69	0.91	-23.8%
Citizens	0.39	0.10	0.14	0.21	0.22	-4.5%
Pike County	0.52	1.85	1.16	1.18	0.67	75.6%
Wellsboro	3.13	1.37	1.50	2.00	1.35	48.1%
System Average Interruption Duration Index (SAIDI)				3-Year	3-Year	% Above (+) or
EDC	2004	2005	2006	Average	Standard	Below (-) Standard
Allegheny Power	216	224	215	218	217	0.6%
Duquesne Light	95	97	81	91	153	-40.5%
Met-Ed (FE)	197	209	210	205	163	26.0%
Penelec (FE)	248	284	158	230	179	28.5%
Penn Power (FE)	172	236	137	182	136	33.6%
PECO	104	100	179	128	167	-23.6%
PPL	173	121	209	168	172	-2.5%
UGI	93	76	88	86	170	-49.6%
Citizens	25	12	10	16	25	-37.3%
Pike County	90	202	165	152	129	18.0%
Wellsboro	263	144	139	182	185	-1.7%

Note: GREEN = better than standard; RED = worse than standard.

Utility Specific Performance Data

Allegheny Power

On May 26, 2004, Allegheny Power filed a petition to amend its benchmarks, asserting that the recomputed benchmarks were unrealistic and artificially low.¹⁸ On July 20, 2006, the Commission adopted an Order modifying the benchmarks and standards for Allegheny Power. Allegheny's CAIDI benchmark was decreased from 178 minutes to 170 minutes; the SAIFI benchmark was increased from 0.67 interruptions to 1.05 interruptions; and the SAIDI benchmark was increased from 119 minutes to 179 minutes.

Allegheny's overall reliability performance in 2006, was fairly consistent with its performance during the calendar year 2005. Allegheny's 2006 SAIFI, CAIDI and SAIDI values were between the newly adjusted benchmarks and the standards. The CAIDI three-year average was 1.6 percent (three minutes) above the standard of 187 minutes and SAIFI was 1.1 percent below (better than) the three-year standard of 1.16.

Even though Allegheny's three-year CAIDI performance was slightly above the standard, since the company's CAIDI demonstrated significant improvement in 2006, staff did not recommend any formal enforcement action against Allegheny. Staff will continue to closely monitor Allegheny's progress toward meeting the three-year CAIDI standard.

No major events occurred during 2006.

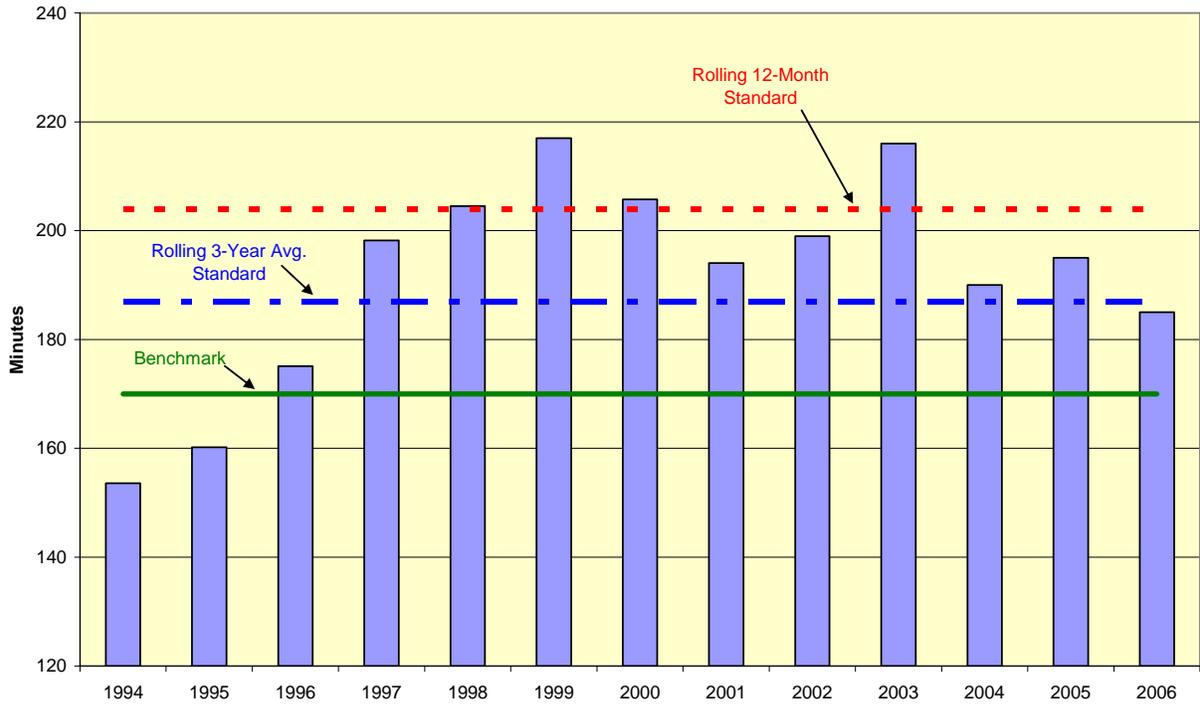
In 2006, Allegheny experienced 807,863 customer interruptions with a total duration of 149.7 million minutes, which was about 3.8 percent lower than that was reported last year.

The following graphs depict trends in the duration of customer interruptions for the Allegheny system from 1994 to 2006, and the first quarter of 2007, compared to the established benchmarks and standards.

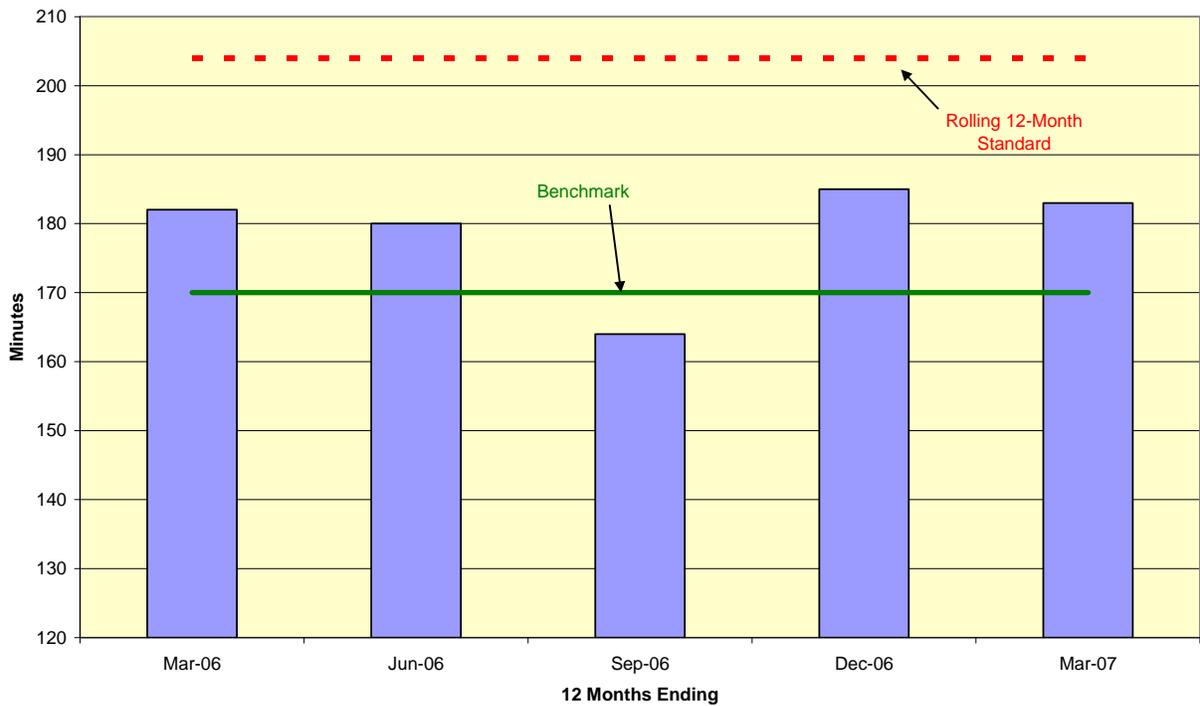
Average CAIDI values decreased from 199 minutes in 2005, to 178 minutes in 2006, which was a 10.6 percent improvement. Performance remained within an acceptable range throughout 2006.

¹⁸ Docket No. M-00991220 F0003.

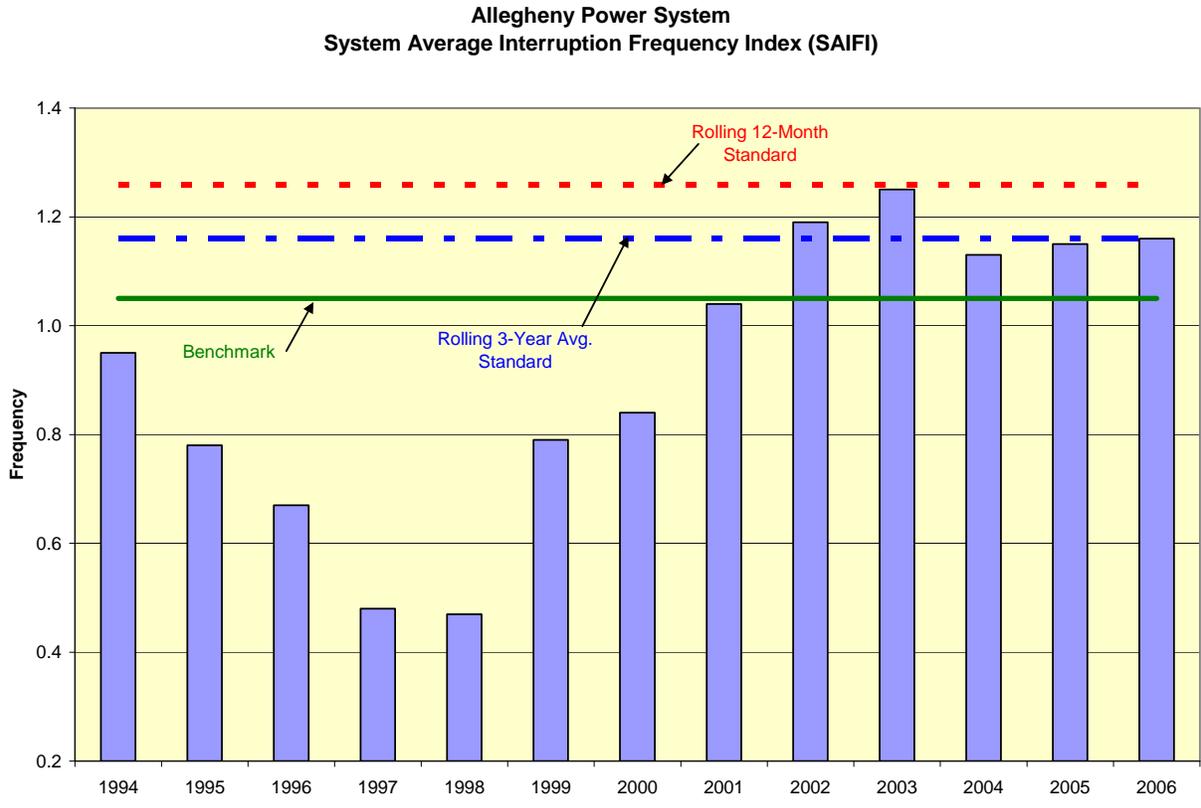
**Allegheny Power System
Customer Average Interruption Duration Index (CAIDI)**



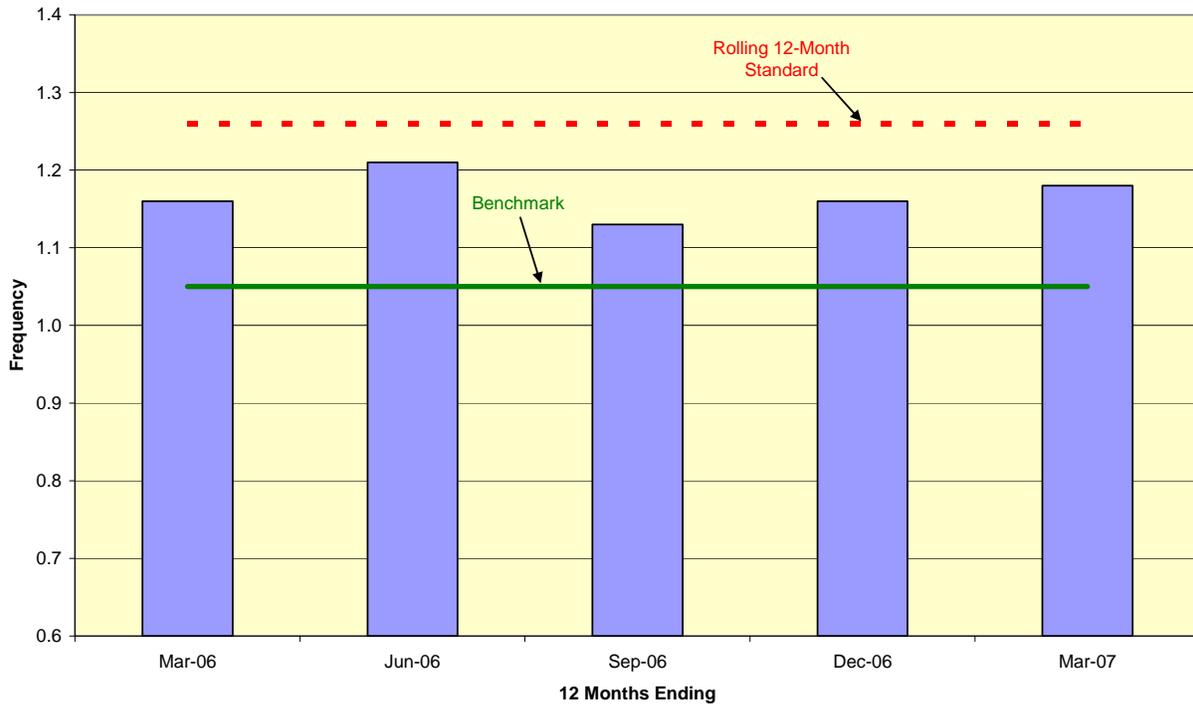
**Allegheny Power System
Customer Average Interruption Duration Index (CAIDI)**



The next two graphs depict trends in the frequency of service interruptions for the Allegheny system from 1994 to 2006, and the first quarter of 2007, compared to the established benchmarks and standards for SAIFI.

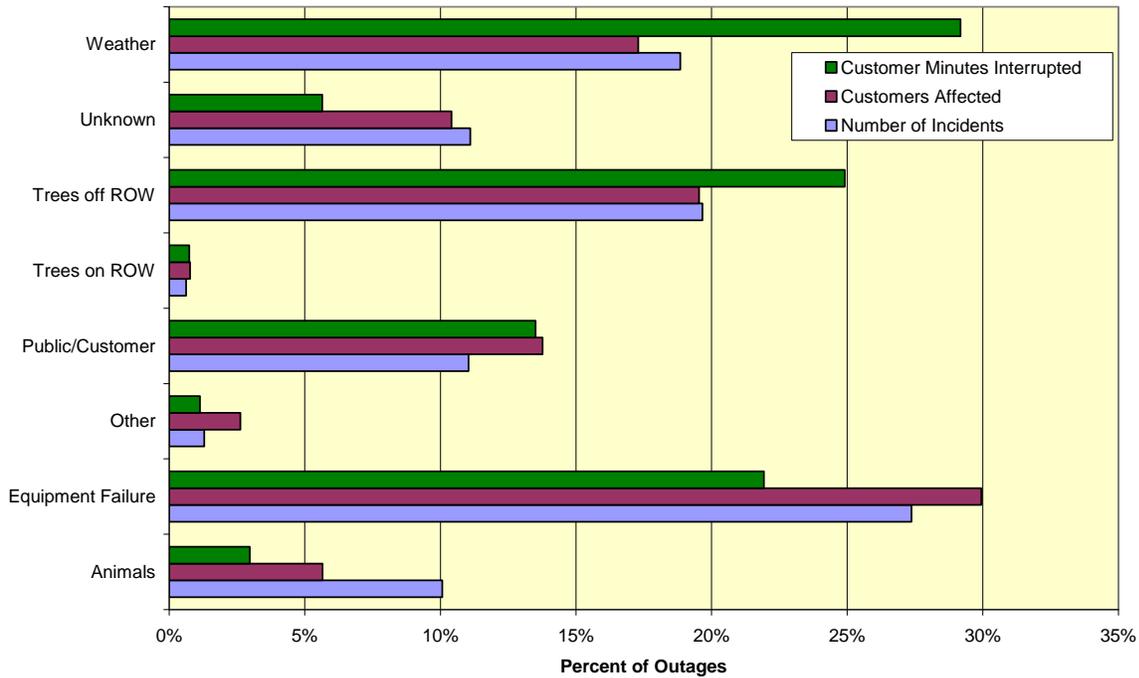


**Allegheny Power System
System Average Interruption Frequency Index (SAIFI)**



The next graph shows the distribution of causes of service outages occurring during 2006 as a percentage of total outages. Equipment failure was responsible for 27.4 percent of the outages, 29.9 percent of customers affected, and 21.9 percent of customer minutes interrupted. Trees off the right-of-way were the second leading cause of service interruptions, with 19.7 percent of the outages, 19.5 percent of customers affected and 24.9 percent of interruption minutes. Weather accounted for 18.8 percent of total outages, 17.3 percent of customers affected, and 29.2 percent of interruption minutes.

**Allegheny Power System
2006 Outage Causes**



Duquesne Light Company

Duquesne’s overall performance continues to be better than the reliability standard. Duquesne’s 2006 CAIDI of 102 minutes was six minutes better than the benchmark of 108 minutes. The 2006 SAIFI was an average of 0.79 outages per customer, compared to a benchmark of 1.17 outages.¹⁹ For the three-year average performance, Duquesne was better than the standard for all three indices.

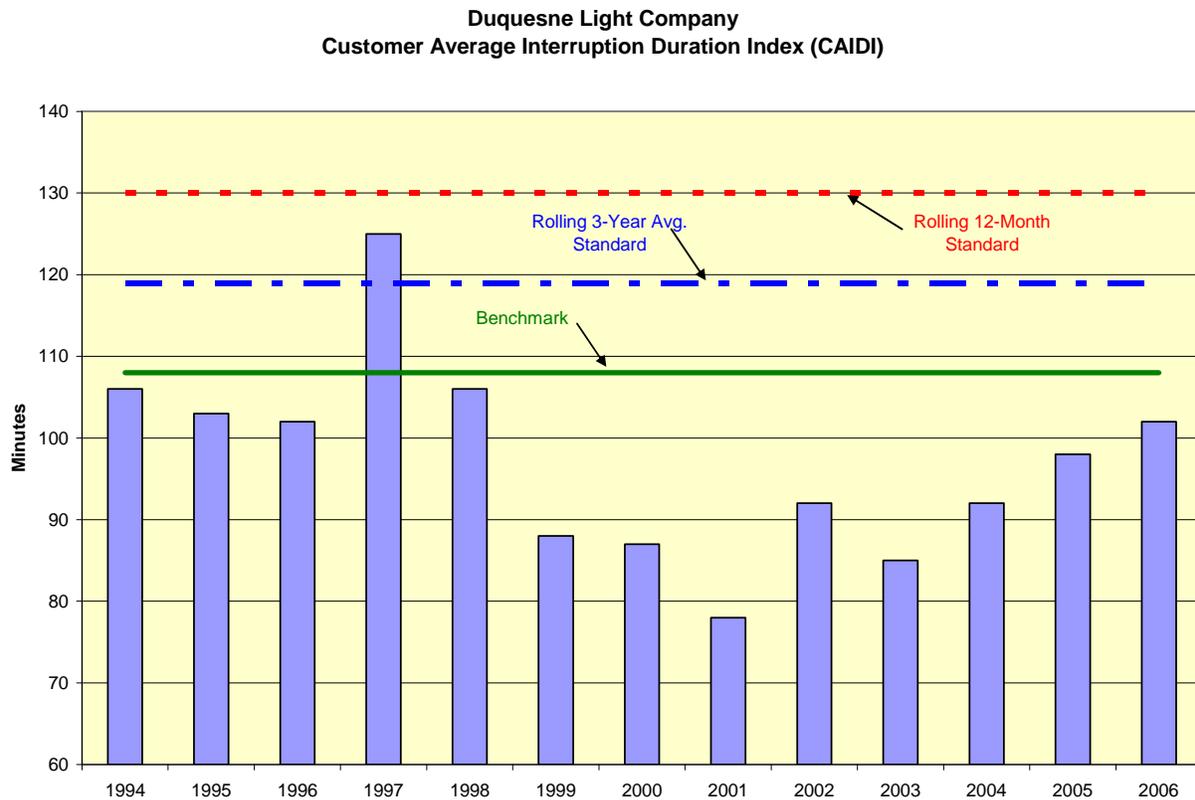
Duquesne states that its effective outage restoration process and significant distribution automation allows it to restore power quickly to large numbers of customers in outage situations.

Duquesne reported no major events for 2006. However, there were 14 storms in Duquesne’s service territory, which caused damage to overhead equipment. None of these were PUC reportable.

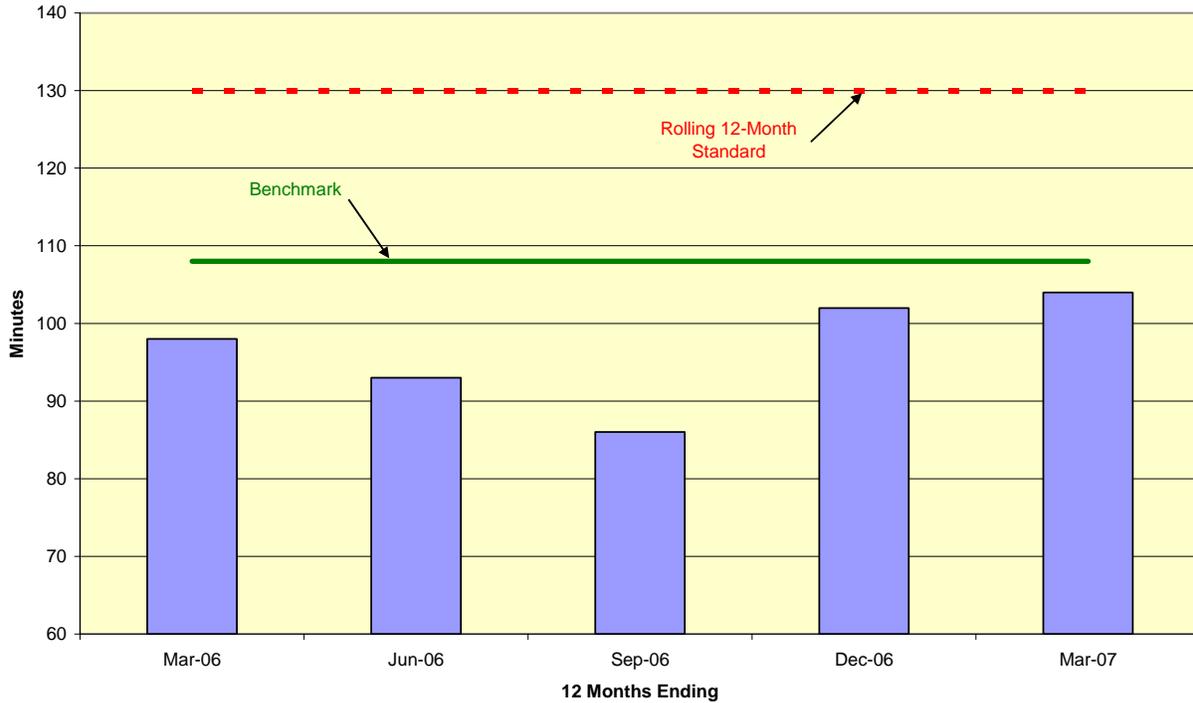
¹⁹ Duquesne’s system does not provide an actual count of customers interrupted. The data available is in regard to interrupted load. The unit used is KVA, or kilovoltampere, which is the basic unit of apparent power.

In 2006, Duquesne experienced a total of 5.5 million kilovoltamperes (KVA) interrupted with a total duration of 564.5 million KVA-minutes, which was 15.1 percent lower than that which was reported last year.

The following graphs depict trends in the duration of service interruptions for the Duquesne system from 1994 to 2006, and the first quarter of 2007, compared to the established benchmarks and standards.



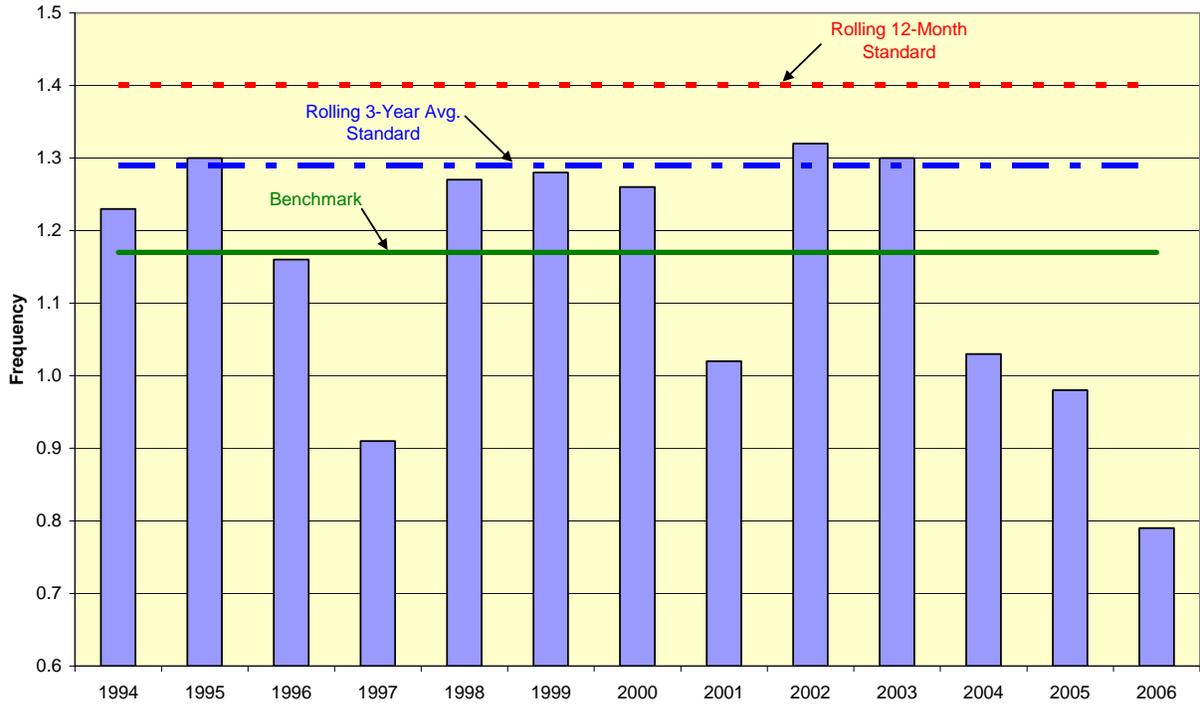
**Duquesne Light Company
Customer Average Interruption Duration Index (CAIDI)**



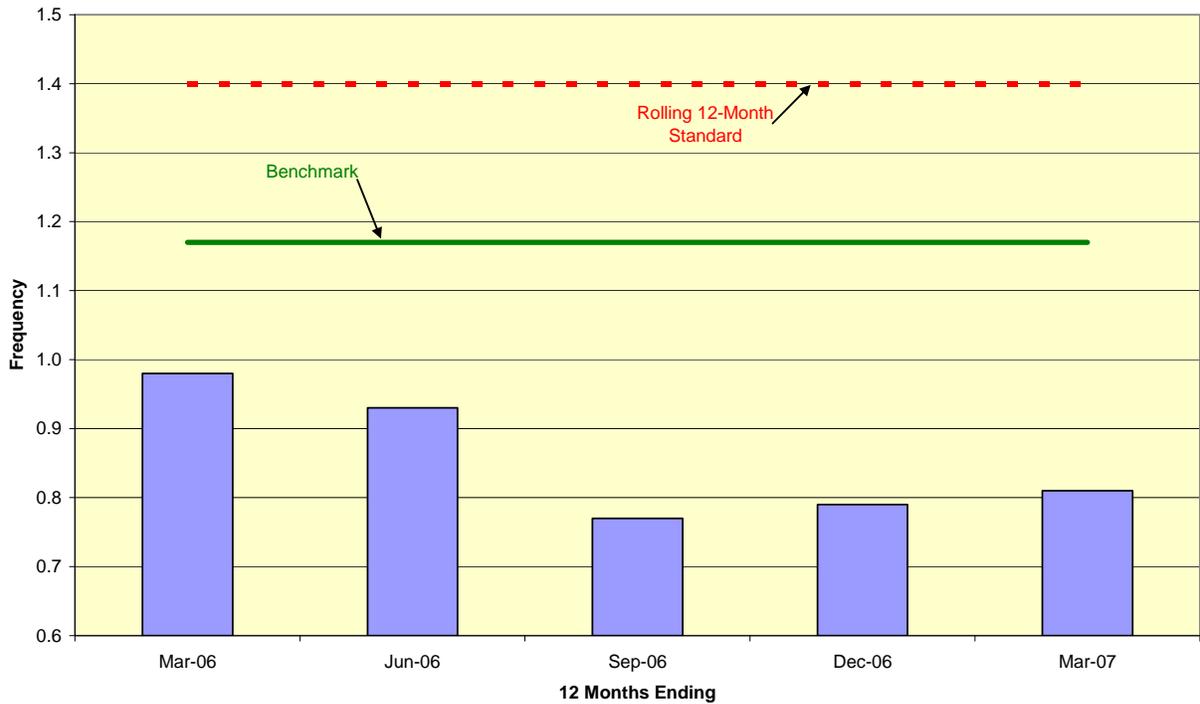
The next two graphs show trends in the frequency of service interruptions for the Duquesne service territory from 1994 to 2006, and the first quarter of 2007, compared to the established benchmarks and standards for SAIFI.

As can be seen, Duquesne’s reliability performance falls well within the parameters of acceptability for both CAIDI and SAIFI. CAIDI has remained consistently below 100 minutes over the past several years, except for 2006, where interruption duration was an acceptable 102 minutes. Interruption frequency dropped to 0.79 in 2006, the lowest since 1994, when the Commission began collecting reliability performance data.

**Duquesne Light Company
System Average Interruption Frequency Index (SAIFI)**

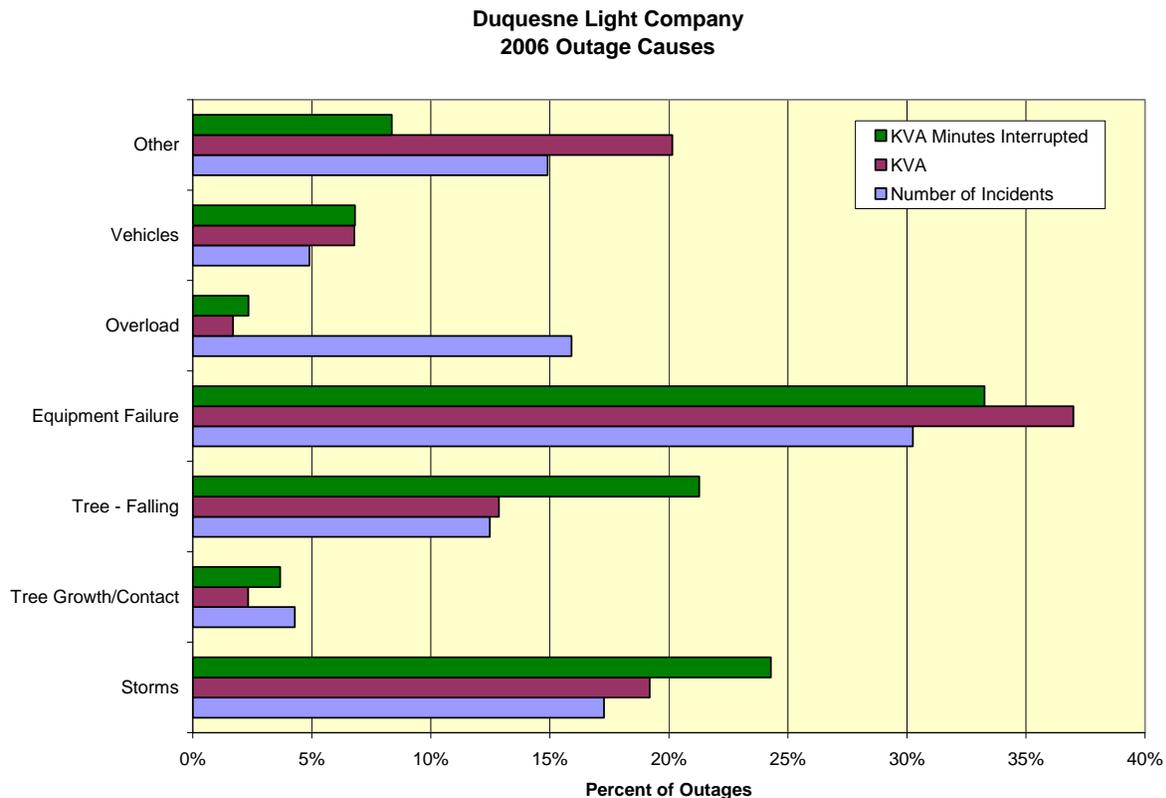


**Duquesne Light Company
System Average Interruption Frequency Index (SAIFI)**



The graph below shows the distribution of causes of service outages occurring during 2006 as a percentage of total outages. Equipment failure was responsible for 30.2 percent of the outages, 37.0 percent of interrupted load and 33.3 percent of interruption minutes. Storms were identified as causing 17.3 percent of the outages, 19.2 percent of interrupted load and 24.3 percent of interruption minutes.

Duquesne states that scheduled preventative and predictive maintenance activities continue to reduce the potential for future service interruptions. Component failure analysis is utilized to identify equipment types to target for preventative maintenance and/or capital replacement. Isolated problem areas with multiple outages are identified by tracking component lockouts. A circuit analysis methodology, based on component lockouts, will be utilized to identify worst performing circuits beginning in 2007.



Metropolitan Edison Company

Met-Ed's reliability performance summary was filed as a joint report submitted on behalf of the three Pennsylvania operating companies of FirstEnergy: Met-Ed, Penelec and Penn Power.

On May 26, 2004, FirstEnergy filed a Petition for the Amendment of Benchmarks.²⁰ On Feb. 17, 2006, the Commission entered an Order modifying the benchmarks and standards for the three FirstEnergy companies. Met-Ed's CAIDI benchmark was decreased from 127 minutes to 117 minutes; the SAIFI benchmark was increased from 1.06 interruptions to 1.15 interruptions; and the SAIDI benchmark remained at 135 minutes.

Met-Ed's CAIDI for 2006 was 121 minutes, compared to 122 minutes in 2005, and four minutes greater than the benchmark. SAIFI, on the other hand, was 1.73 interruptions, compared to last year's 1.70 and 25.4 percent over the standard. For the three-year average performance, Met-Ed was better than the CAIDI standard, but 30.4 percent worse than the SAIFI three-year standard.

The Joint Petition for Settlement in the investigation of FirstEnergy's reliability performance requires Met-Ed to achieve an established reliability benchmark for SAIDI by the end of 2007.²¹ The settlement requires Met-Ed to achieve at least a 5 percent improvement over the 2003 achieved SAIDI for the 12 months ending Dec. 31, 2007. In addition, the settlement requires that Met-Ed achieve SAIDIs for 2005 and 2006, that reflect values equal to or better than its achieved SAIDI for 2003. The resulting settlement SAIDI milestones are 140 for the calendar years 2005 and 2006 and 133 for the calendar year 2007.

By letter dated June 22, 2006, the PUC's prosecutory staff informed Met-Ed that it is in violation of the Settlement and requested a specific remediation plan be implemented. In response to the letter, Met-Ed agreed to have an independent consultant perform a reliability audit of its operations. The final audit report was submitted by the consultant on July 18, 2007. The company stated it has already begun implementation of some of the consultant's preliminary recommendations.

²⁰ Docket No. P-00042115.

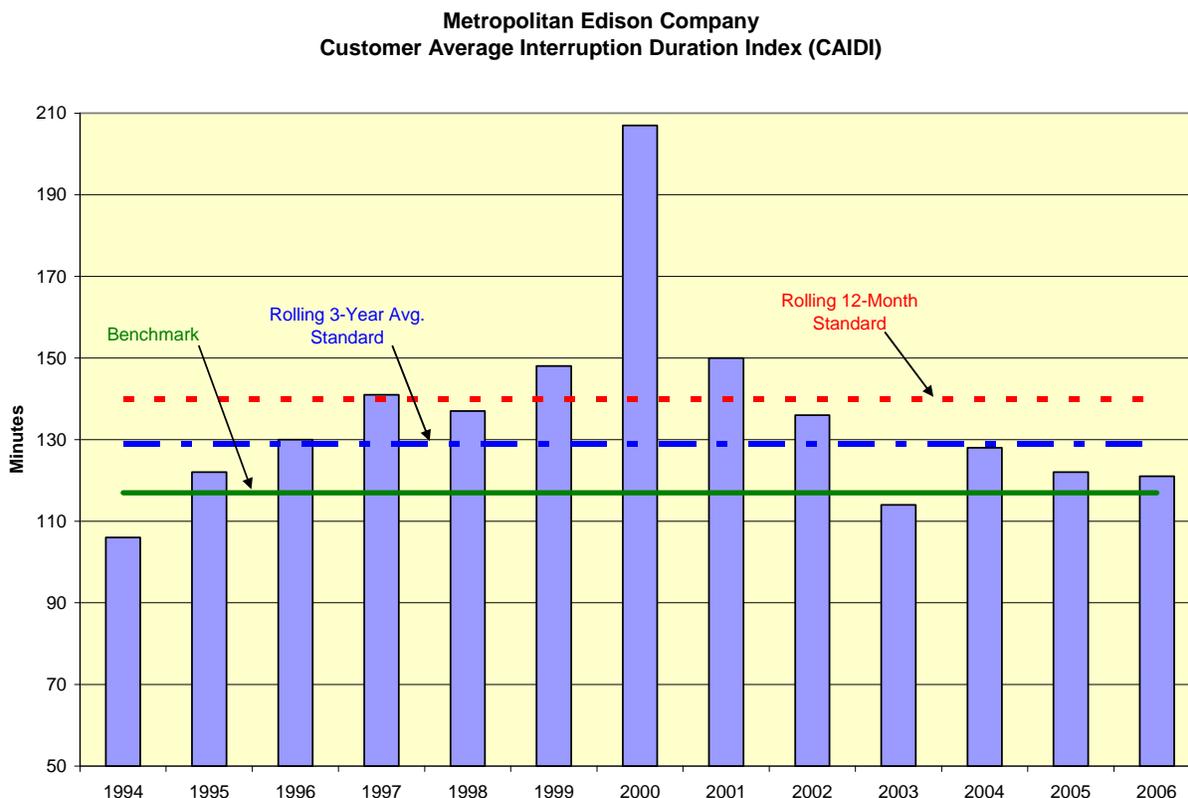
²¹ On Jan. 16, 2004, the Commission instituted an investigation of FirstEnergy's compliance with the Commission's regulations and orders relating to reliable electric service, and seeking recommendations for reliability improvements. On Nov. 4, 2004, the Commission approved a Joint Petition for Settlement which, among other things, sets forth goals for improving reliability performance and achieving milestone levels of reliability by the end of 2005, 2006 and 2007 for Met-Ed, Penelec and Penn Power. Docket No. I-00040102.

In 2006, Met-Ed's service area experienced four major events. The calculation of the reliability indices exclude outage data related to these events, which were approved by the Commission:

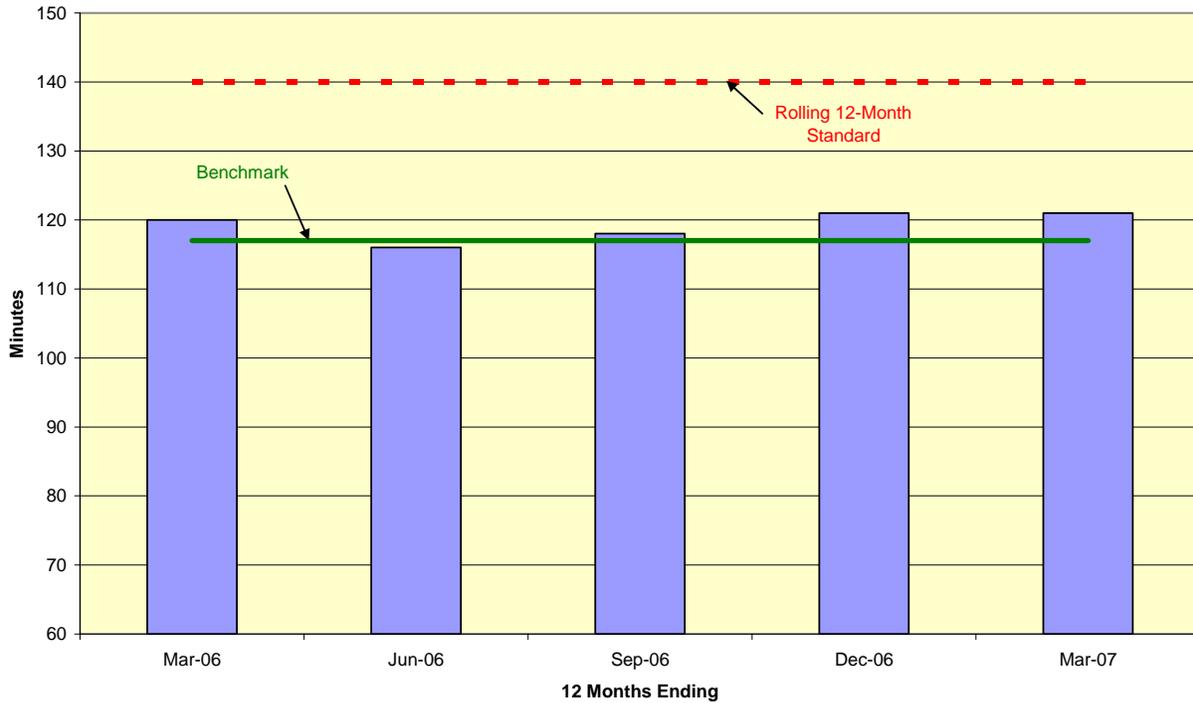
Jan. 14-19, 2006 - heavy rain with strong winds; 84,696 customers affected; 33,018,594 minutes excluded;
 June 25 to July 3, 2006 - storms, lightning, heavy rain and severe flooding; 18,211 customers affected; 3,993,615 minutes excluded;
 July 18-20, 2006 - lightning, heavy rain and strong winds; 77,239 customers affected; 13,484,600 minutes excluded; and
 Sept. 1-4, 2006 - heavy rain and gusting winds; 53,738 customers affected; 15,908,642 minutes excluded.

In 2006, Met-Ed experienced 923,225 customer interruptions with a total duration of 112 million customer minutes, or 1.9 percent higher than 2005.

The following graphs depict trends in the duration of service interruptions for the Met-Ed system from 1994 to 2006, and the first quarter of 2007, compared to the established benchmarks and standards.



Metropolitan Edison Company
Customer Average Interruption Duration Index (CAIDI)



CAIDI has remained relatively steady during 2006 at or near the benchmark.

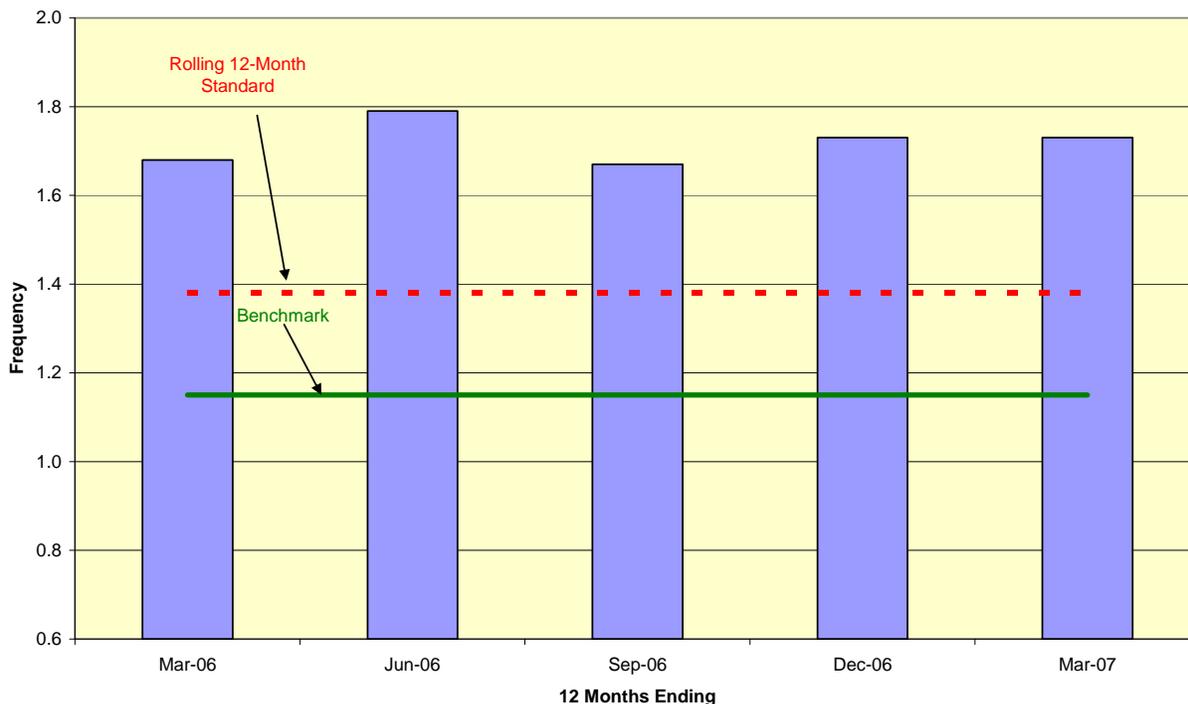
The next two graphs depict trends in the frequency of service interruptions from 1994 to 2006, and the first quarter of 2007, compared to the established benchmarks and standards.

**Metropolitan Edison Company
System Average Interruption Frequency Index (SAIFI)**



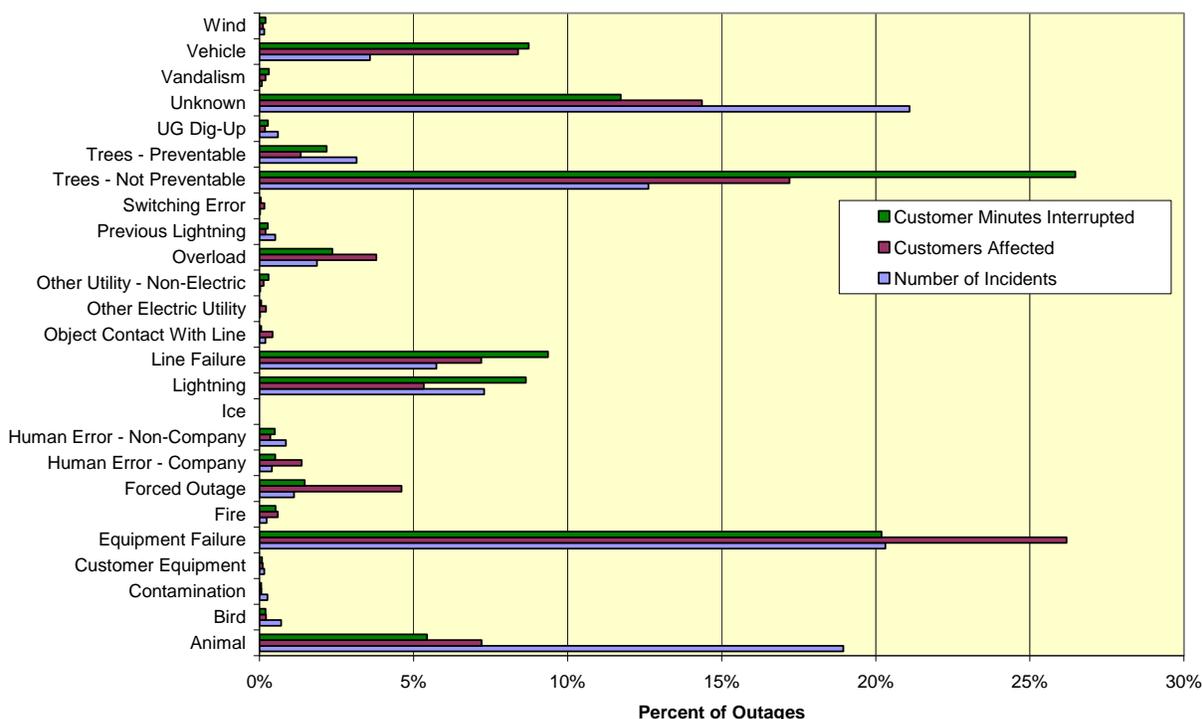
The frequency of service outages continues to exceed the rolling 12 month standard. SAIFI rose from an unacceptable level of 1.7 for the 12 months ending December 2005, to 1.73 for the 12-months ending December 2006. For the 12 months ending March 2007, SAIFI remained at 1.73.

**Metropolitan Edison Company
System Average Interruption Frequency Index (SAIFI)**



The following graph shows the distribution of causes of service outages occurring during 2006 as a percentage of total outages. Equipment failure was responsible for 20.3 percent of incidents, 26.2 percent of customers affected and 20.2 percent of interruption minutes. Trees were responsible for 12.6 percent of the incidents, 17.2 percent of customers affected and 26.5 percent of interruption minutes.

**Metropolitan Edison Company
2006 Outage Causes**



Pennsylvania Electric Company

Penelec’s reliability performance summary was filed as a joint report submitted on behalf of the three Pennsylvania operating companies of FirstEnergy: Met-Ed, Penelec and Penn Power.

On May 26, 2004, FirstEnergy filed a Petition for the Amendment of Benchmarks.²² On Feb. 17, 2006, the Commission entered an Order modifying the benchmarks and standards for the three FirstEnergy companies. Penelec’s CAIDI benchmark was increased from 115 minutes to 117 minutes; the SAIFI benchmark was increased from 1.15 interruptions to 1.26 interruptions; and the SAIDI benchmark increased from 132 minutes to 148 minutes.

Penelec’s overall reliability performance in 2006, was better than last year’s performance. CAIDI was 108 minutes, compared to 151 minutes in 2005, and 7.7 percent better than the benchmark. SAIFI was 1.47 service interruptions, compared to last year’s 1.87 and a rolling 12-month performance standard of 1.52. For the three-year average performance, Penelec was 3.1 percent above the CAIDI standard, and 22.5 percent above the SAIFI three-year standard.

²² Docket No. P-00042115.

The Joint Petition for Settlement in the investigation of FirstEnergy's reliability performance requires Penelec to achieve an established reliability benchmark for SAIDI by the end of 2007.²¹ The settlement requires Penelec to achieve at least a 25 percent improvement over the 2003 SAIDI for the 12 months ending Dec. 31, 2007. In addition, the settlement requires Penelec to achieve SAIDIs for 2005 and 2006, that reflect values equal to or better than its achieved SAIDI for 2003. The resulting settlement SAIDI milestones are 239 for the calendar years 2005 and 2006, and 179 for 2007.

By letter dated June 22, 2006, the PUC prosecutory staff informed Penelec that its 2005 calendar year performance was in violation of the settlement and requested that a specific remediation plan be implemented. Penelec did implement an accelerated system reliability improvement plan that brought the company into compliance with both the settlement, and Commission issued 12-month reliability benchmarks and standards by the end of the 2006 calendar year. Even though Penelec failed to achieve the standard in any of the three-year performance indices, no further enforcement action was taken against Penelec since the company demonstrated a substantial improvement in its 2006 performance.

In 2006, Penelec's service territory experienced one major event. The calculation of the reliability indices exclude outage data related to this event, which was approved by the Commission:

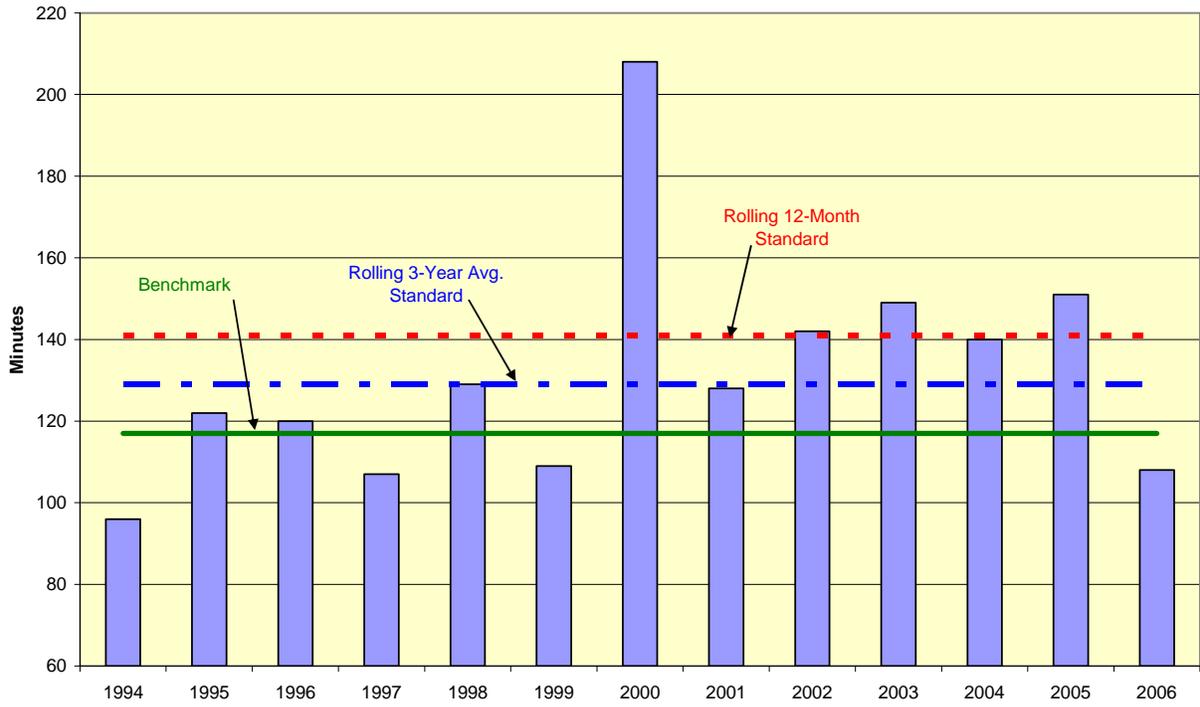
June 27-July 1, 2006 - storms, lightning, heavy rain and severe flooding; 7,595 customers affected; 3,658,072 minutes excluded.

In 2006, Penelec experienced 869,616 customer interruptions with a total duration of 93.9 million customer minutes, or 43.7 percent lower than 2005.

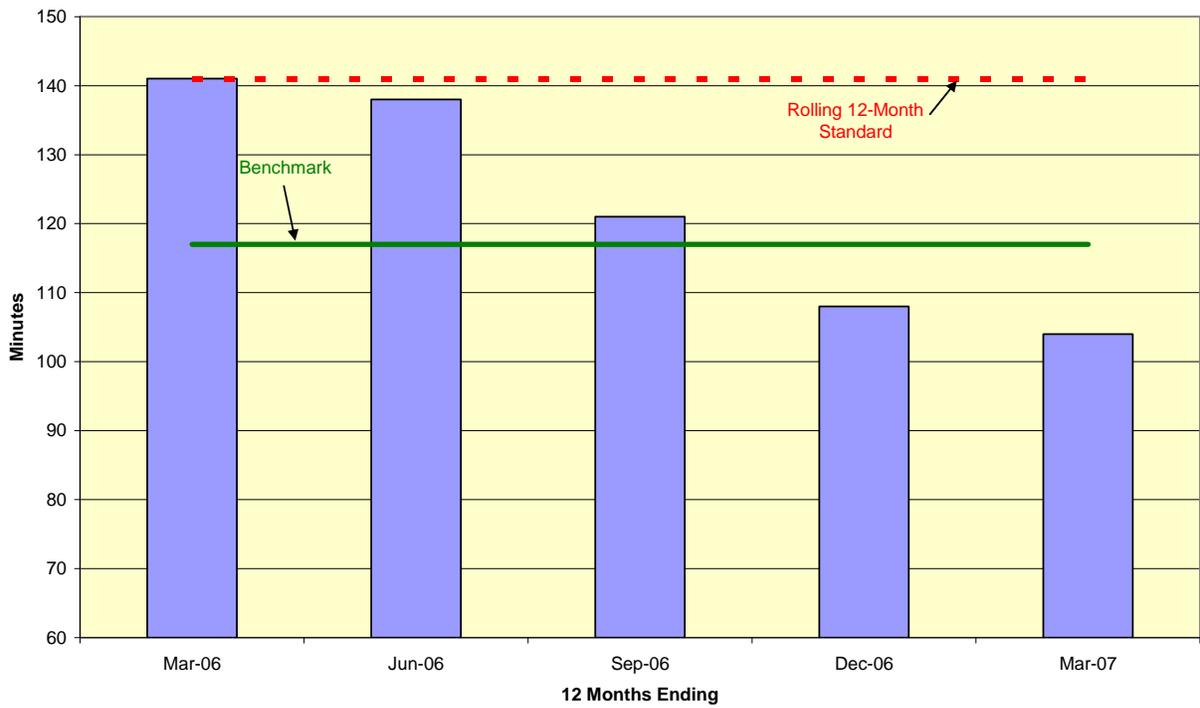
The following graphs depict trends in the duration of service interruptions for Penelec from 1994 to 2006, and the first quarter of 2007, compared to the established benchmarks and standards.

The annual CAIDI values for 2006 were below the benchmark for the first time since 1999. The rolling 12-month averages for the four quarters of 2006 continued to decline. For the 12 months ending March 2007, Penelec's CAIDI performance was 104 minutes.

**Pennsylvania Electric Company
Customer Average Interruption Duration Index (CAIDI)**



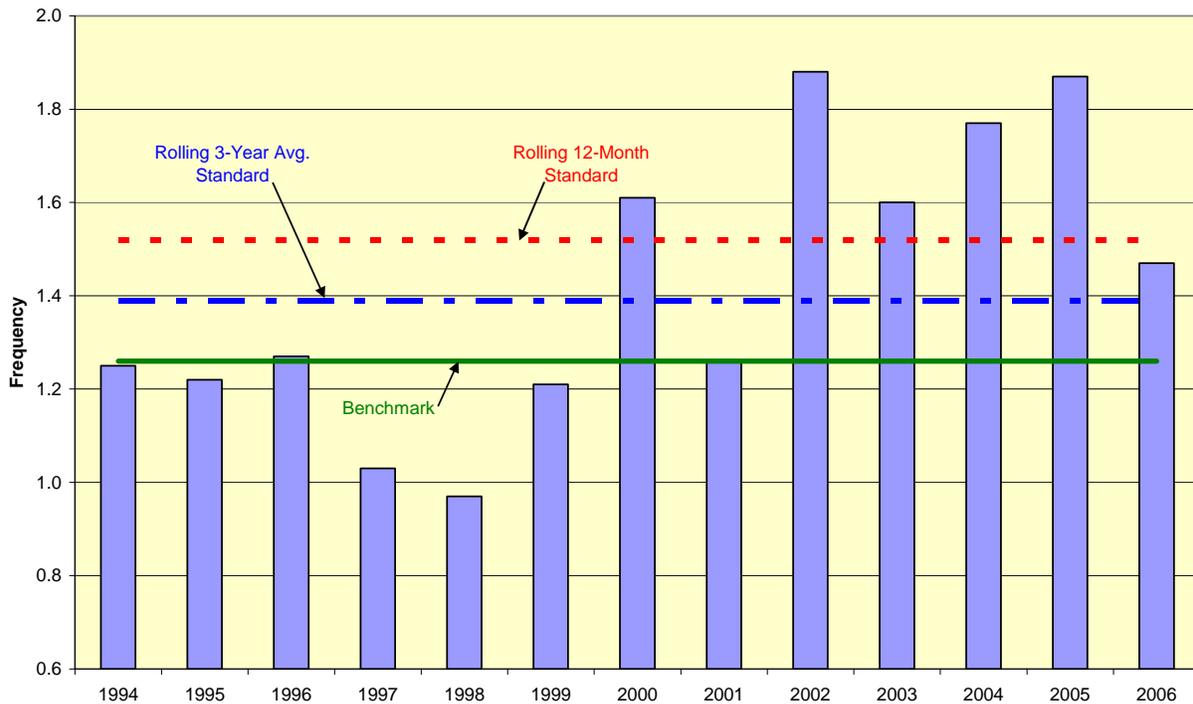
**Pennsylvania Electric Company
Customer Average Interruption Duration Index (CAIDI)**



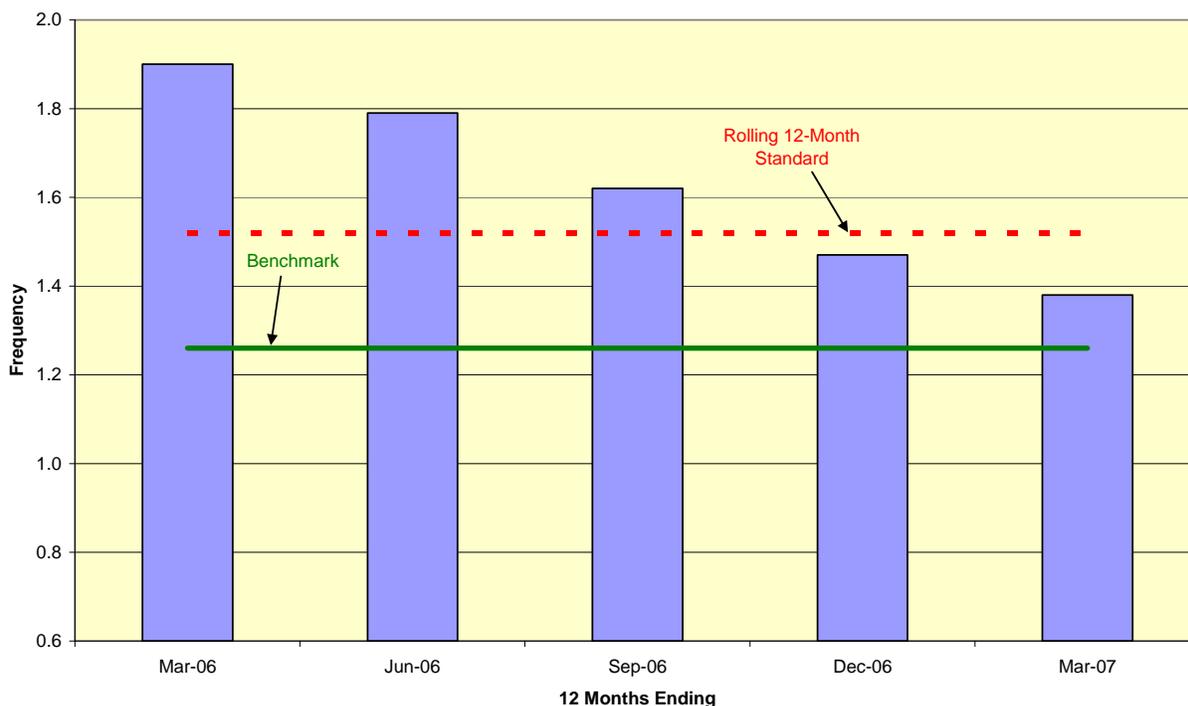
The next two graphs show trends in the frequency of service interruptions from 1994 to 2006, and the first quarter of 2007, compared to the established benchmarks and standards.

The annual SAIFI value for 2006 met the performance standard for the first time since 2001, but failed to meet the three-year average standard. The rolling 12-month averages for the first three quarters of 2006 exceeded the standard of 1.52 but have been trending toward better performance. The SAIFI values for the 12 months ending December 2006 and March 2007, were better than the standard by 3.3 percent and 9.2 percent, respectively.

**Pennsylvania Electric Company
System Average Interruption Frequency Index (SAIFI)**

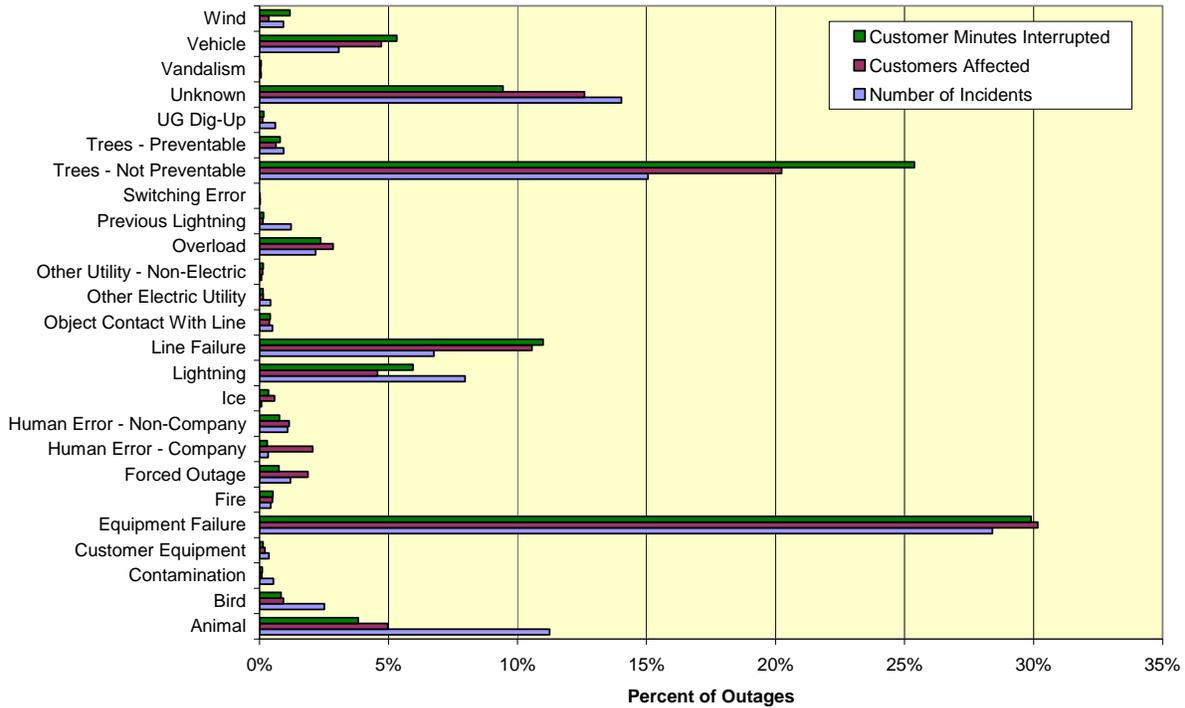


**Pennsylvania Electric Company
System Average Interruption Frequency Index (SAIFI)**



The following graph shows the distribution of causes of service outages occurring during 2006 as a percentage of total outages. Equipment failure was responsible for 28.4 percent of incidents, 30.2 percent of customers affected and 29.9 percent of interruption minutes. Non-preventable tree-related incidents accounted for 15.1 percent of total incidents, 20.2 percent of customers affected, and 25.4 percent of interruption minutes.

**Pennsylvania Electric Company
2006 Outage Causes**



Pennsylvania Power Company

Penn Power’s reliability performance summary was filed as a joint report submitted on behalf of the three Pennsylvania operating companies of FirstEnergy: Met-Ed, Penelec and Penn Power.

On May 26, 2004, FirstEnergy filed a Petition for the Amendment of Benchmarks.²³ On Feb. 17, 2006, the Commission entered an Order modifying the benchmarks and standards for the three FirstEnergy companies. Penn Power’s CAIDI benchmark was increased from 92 minutes to 101 minutes; the SAIFI benchmark was increased from 1.02 interruptions to 1.12 interruptions; and the SAIDI benchmark was increased from 94 minutes to 113 minutes.

Penn Power’s overall reliability performance in 2006, was better than last year’s performance; performance for all three indices were between the benchmarks and standards. CAIDI was 112 minutes, compared to 151 minutes in 2005, and nine minutes greater than the benchmark. SAIFI was 1.22

²³ Docket No. P-00042115.

interruptions, compared to last year's 1.56 and 9.0 percent below the standard. All of Penn Power's three-year averages, however, exceeded the three-year performance standards.

It should be noted that the Joint Petition for Settlement in the investigation of FirstEnergy's reliability performance requires Penn Power to achieve an established reliability benchmark for SAIDI by the end of 2007.²¹ The settlement requires Penn Power to achieve at least a 30 percent improvement over the 2003 achieved SAIDI for the 12 months ending Dec. 31, 2007. In addition, the settlement requires Penn Power to achieve SAIDIs for 2005 and 2006, that reflect values equal to or better than its achieved SAIDI for 2003. The resulting settlement SAIDI milestones are 192 for the calendar years 2005 and 2006 and 134 for 2007.

In a letter dated June 22, 2006, the PUC prosecutory staff informed Penn Power that its 2005 calendar year performance was in violation of the Settlement and requested that a specific remediation plan be implemented. Penn Power did implement an accelerated system reliability improvement plan that brought the company into compliance with both the settlement and Commission issued 12-month reliability benchmarks and standards by the end of the 2006. Even though Penn Power failed to achieve the standard in any of the three-year performance indices, no further enforcement action was taken against Penn Power since the company demonstrated a substantial improvement in its 2006 performance.

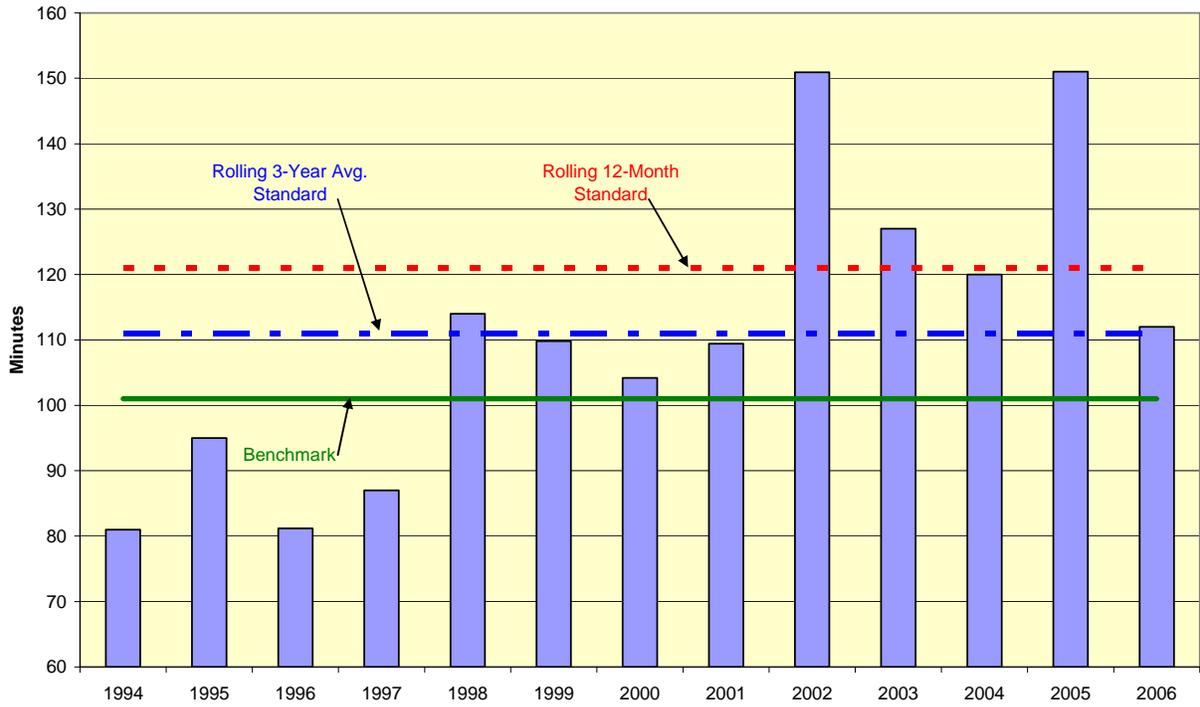
In 2006, Penn Power's customers experienced one major event. The outage data relating to this event has been excluded from the calculation of the reliability indices.

Dec. 1-3, 2006 - heavy rain and gusting winds; 20,554 customers affected; 4,087,789 minutes excluded.

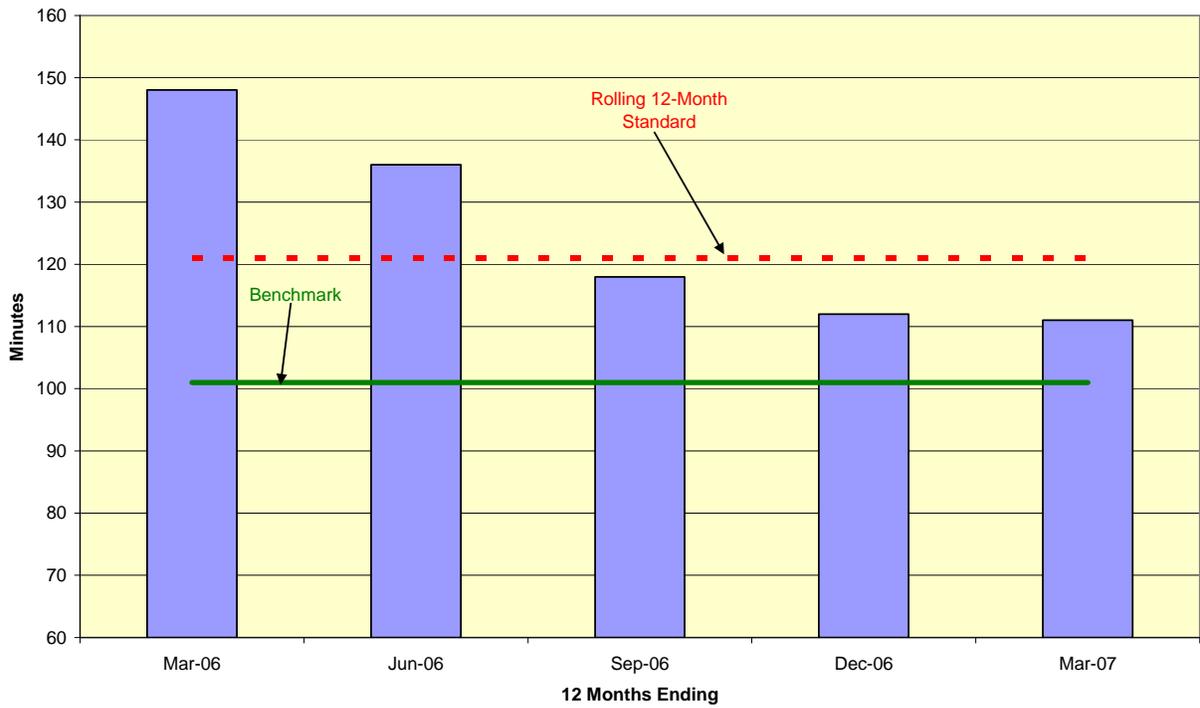
In 2006, Penn Power experienced 193,832 customer interruptions with a total duration of 21.7 million minutes, or 41.3 percent lower than 2005.

The following graphs depict trends in the duration of service interruptions for the Penn Power system from 1994 to 2006, and the first quarter of 2007, compared to the established benchmarks and standards.

**Pennsylvania Power Company
Customer Average Interruption Duration Index (CAIDI)**

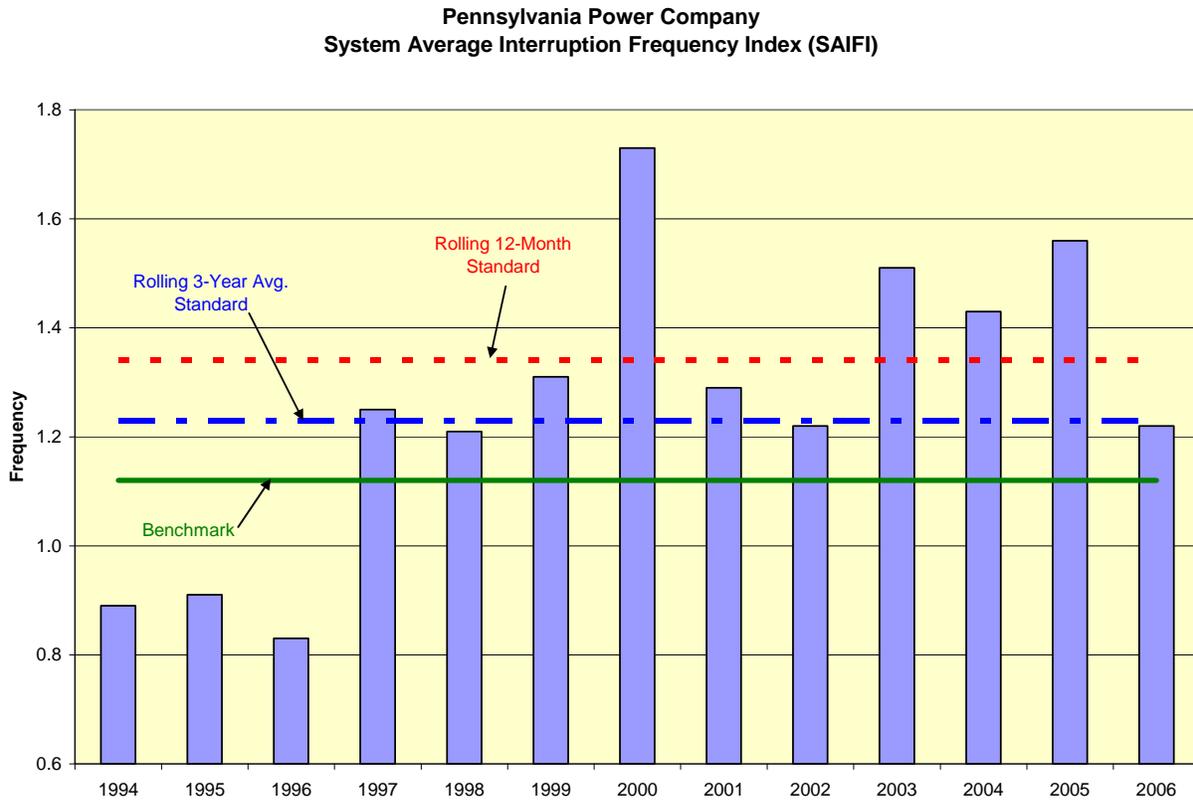


**Pennsylvania Power Company
Customer Average Interruption Duration Index (CAIDI)**

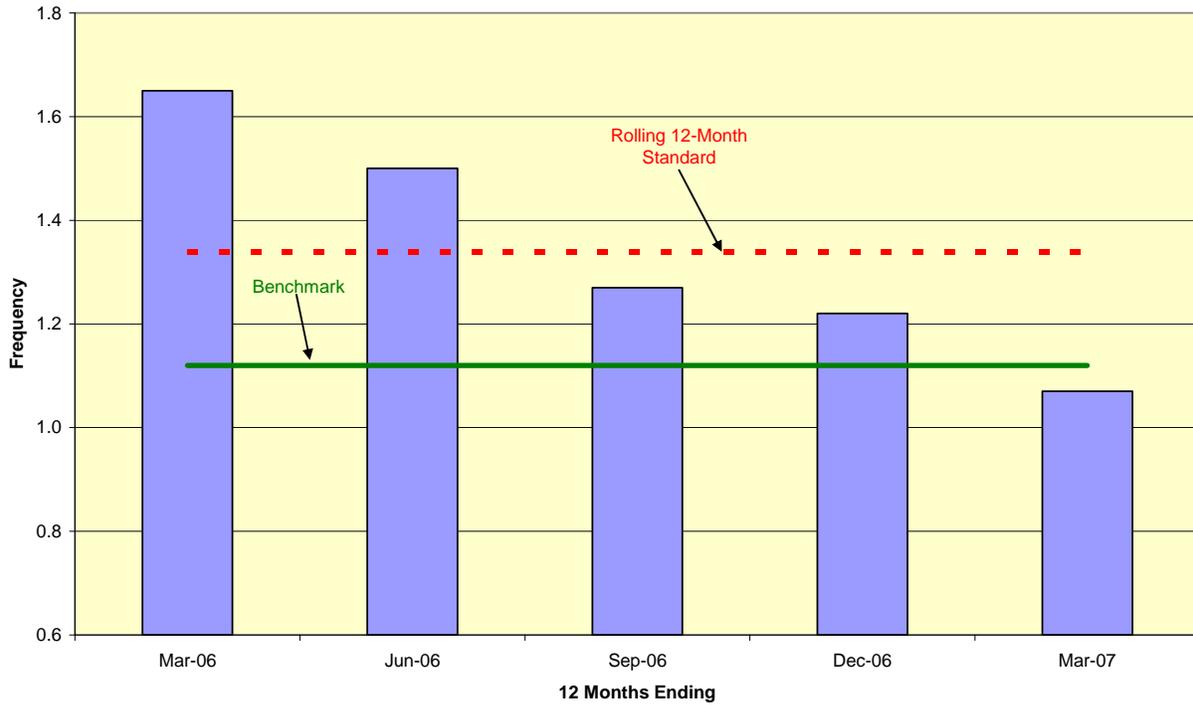


CAIDI has declined dramatically from the rolling 12 months ending March 2006, compared to March 2007. The quarterly data shows average outage durations meeting the standard for the past three quarters.

The next two graphs show trends in the frequency of service interruptions from 1994 to 2006, and the first quarter of 2007, compared to the established benchmarks and standards.



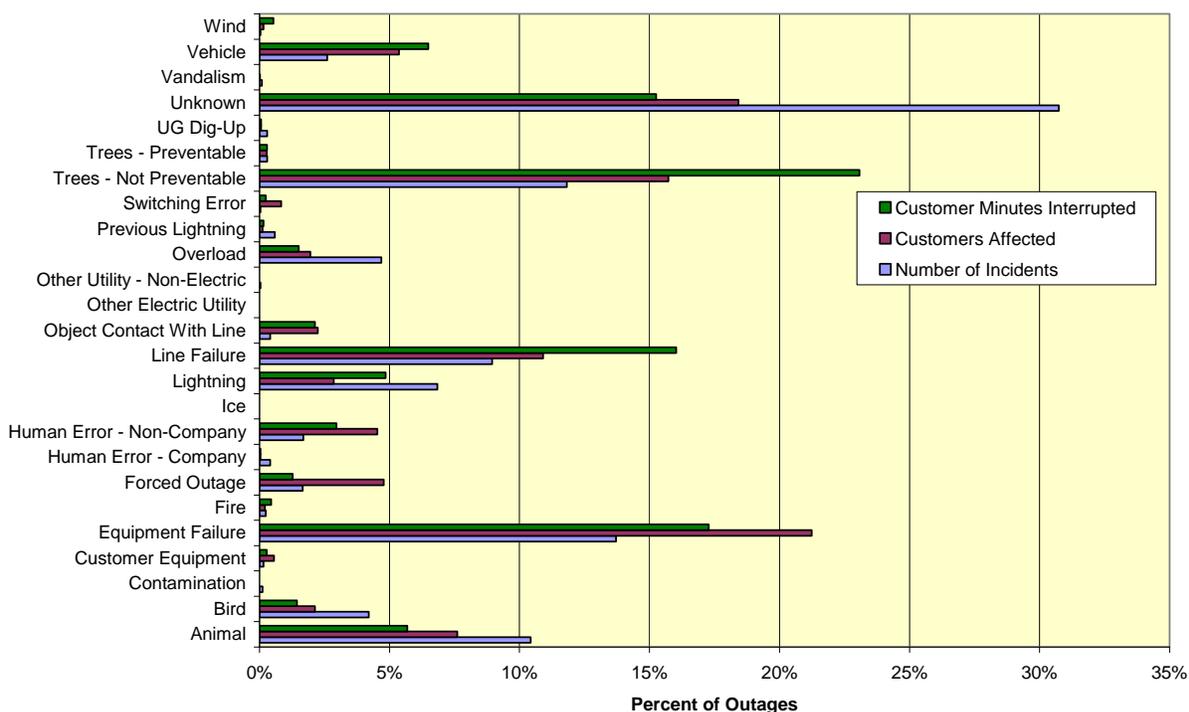
**Pennsylvania Power Company
System Average Interruption Frequency Index (SAIFI)**



SAIFI showed an improvement in 2006, at 1.22 compared to the performance standard of 1.34. For the 12 months ending March 2007, SAIFI was better than the benchmark of 1.12.

The next graph shows the distribution of causes of service outages occurring during 2006 as a percentage of total outages. Non-preventable tree-related outages represented 11.8 percent of the incidents, 15.7 percent of customers affected and 23.1 percent of interruption minutes. Equipment failure accounted for 13.7 percent of the incidents, 21.2 percent of customers affected and 17.3 percent of interruption minutes.

**Pennsylvania Power Company
2006 Outage Causes**



PECO Energy Company

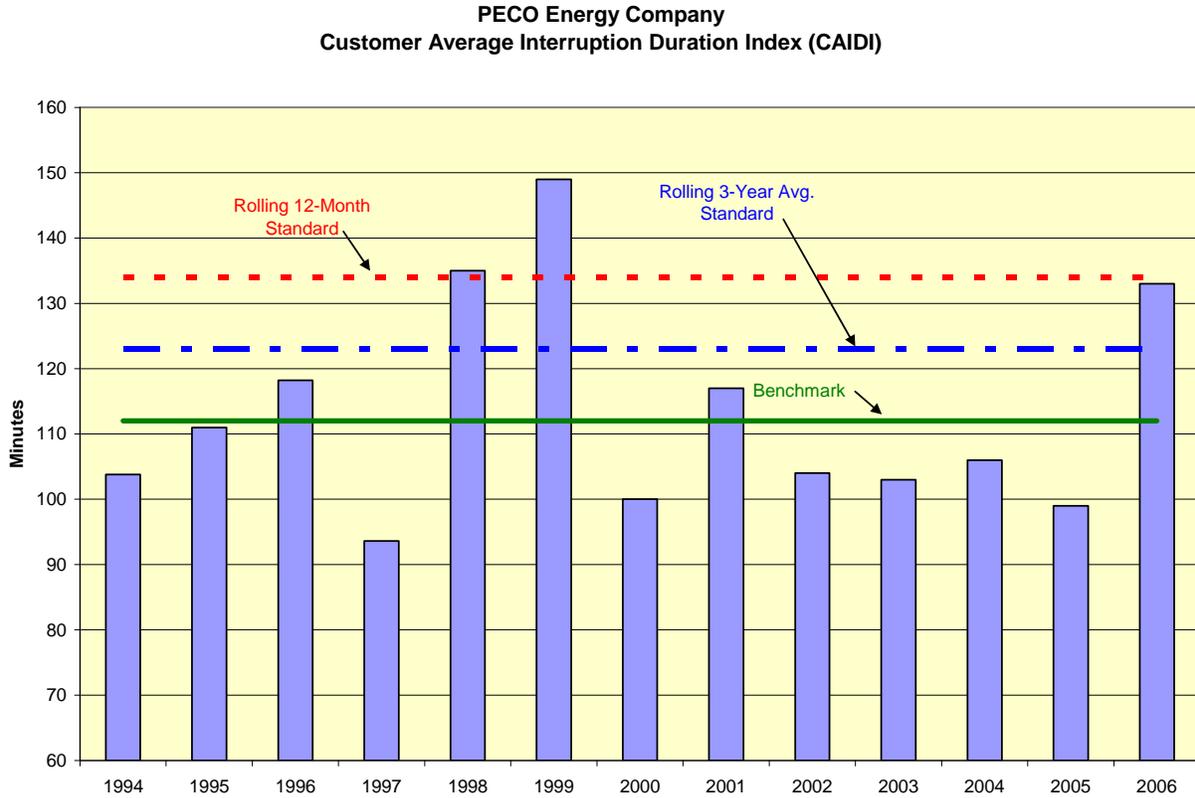
PECO’s overall reliability performance in 2006 was worse than that of the past several years, but still better than the standard. The SAIFI value for 2006 of 1.35 interruptions was 8.8 percent below the performance standard of 1.48. The CAIDI value of 133 minutes was an increase of 34.3 percent over the 2005 value, but below the 12-month standard by one minute. The three-year average for all performance indices met the three-year performance standards. The dramatic increase in PECO’s CAIDI, SAIFI and SAIDI during 2006 is primarily attributable to an unusual number of non-excludable storms. PECO met several times with staff and provided a system reliability improvement plan that PECO expects will better its reliability numbers even if the unusual level of storms continues.

One major event occurred in PECO’s service territory in 2006. The calculation of the reliability indices exclude outage data related to this event, which was approved by the Commission:

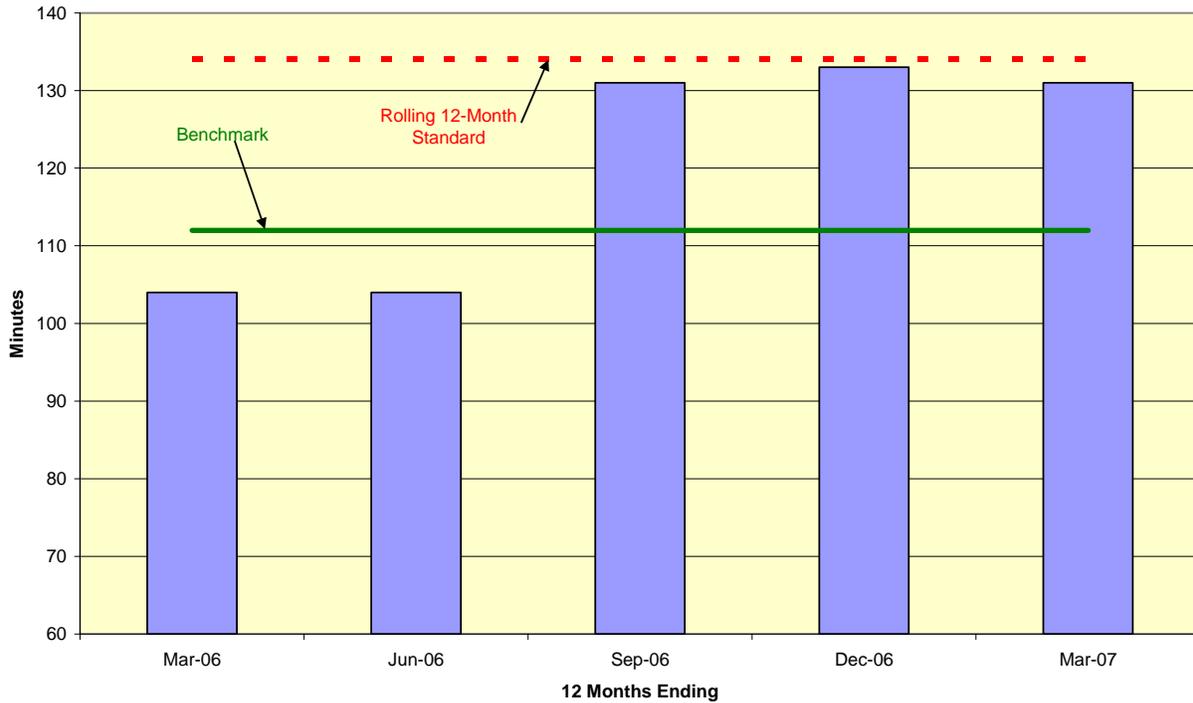
July 18-24, 2006 - winds in excess of 70 miles per hour and more than 6,500 lightning strikes; over 480,000 customers affected.

In 2006, PECO's customers experienced 2,206,270 service interruptions with a total duration of 293 million minutes, which was 79.8 percent greater than the 2005 outage minutes.

The following graphs depict trends in the duration of service interruptions for the PECO system from 1994 to 2006, and the first quarter of 2007, compared to the established benchmarks and standards.



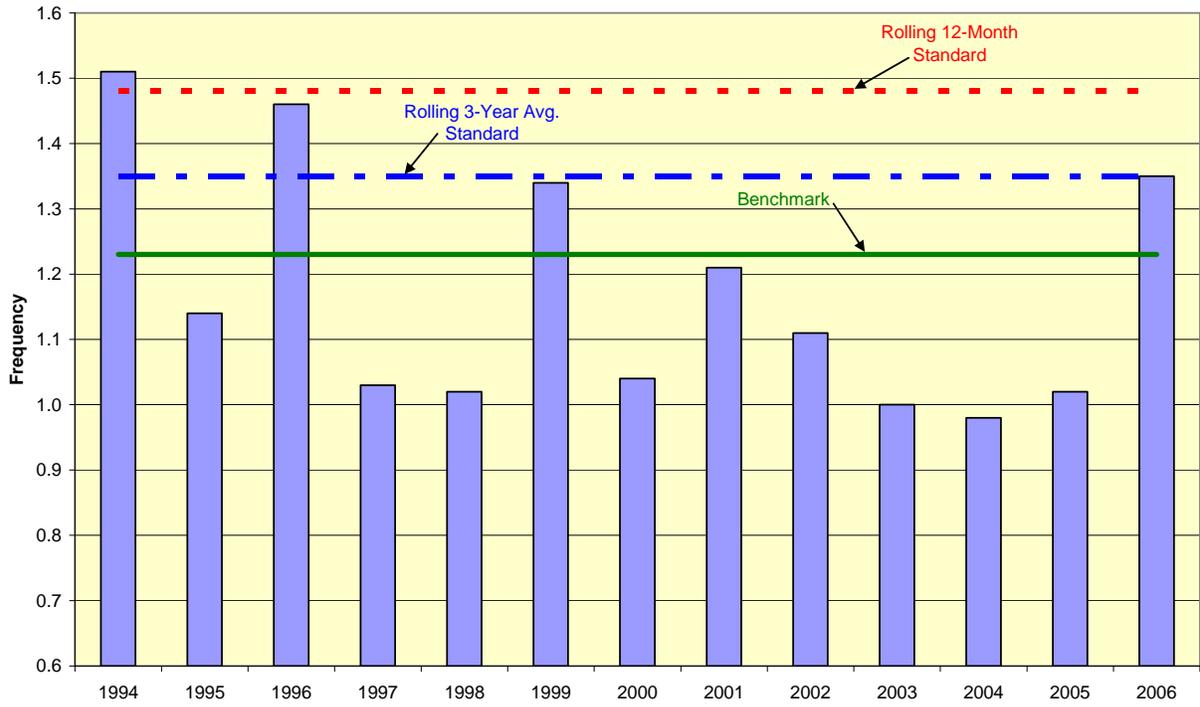
**PECO Energy Company
Customer Average Interruption Duration Index (CAIDI)**



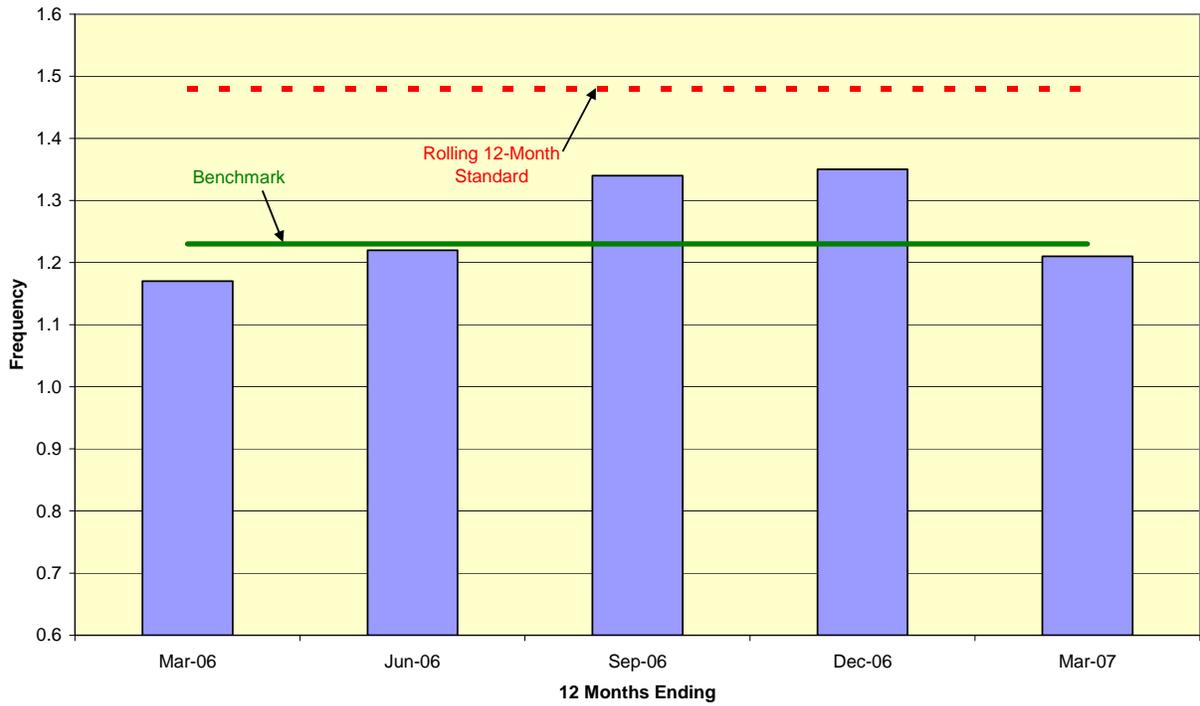
As seen here, for each of the rolling 12-month averages in 2006, CAIDI was better than the established standard, ranging from 104 to 133 minutes. The rolling 12-month standard is 134 minutes.

The next two graphs show trends in the frequency of service interruptions for the PECO system from 1994 to 2006, and the first quarter of 2007, compared to the established benchmarks and standards for SAIFI.

**PECO Energy Company
System Average Interruption Frequency Index (SAIFI)**

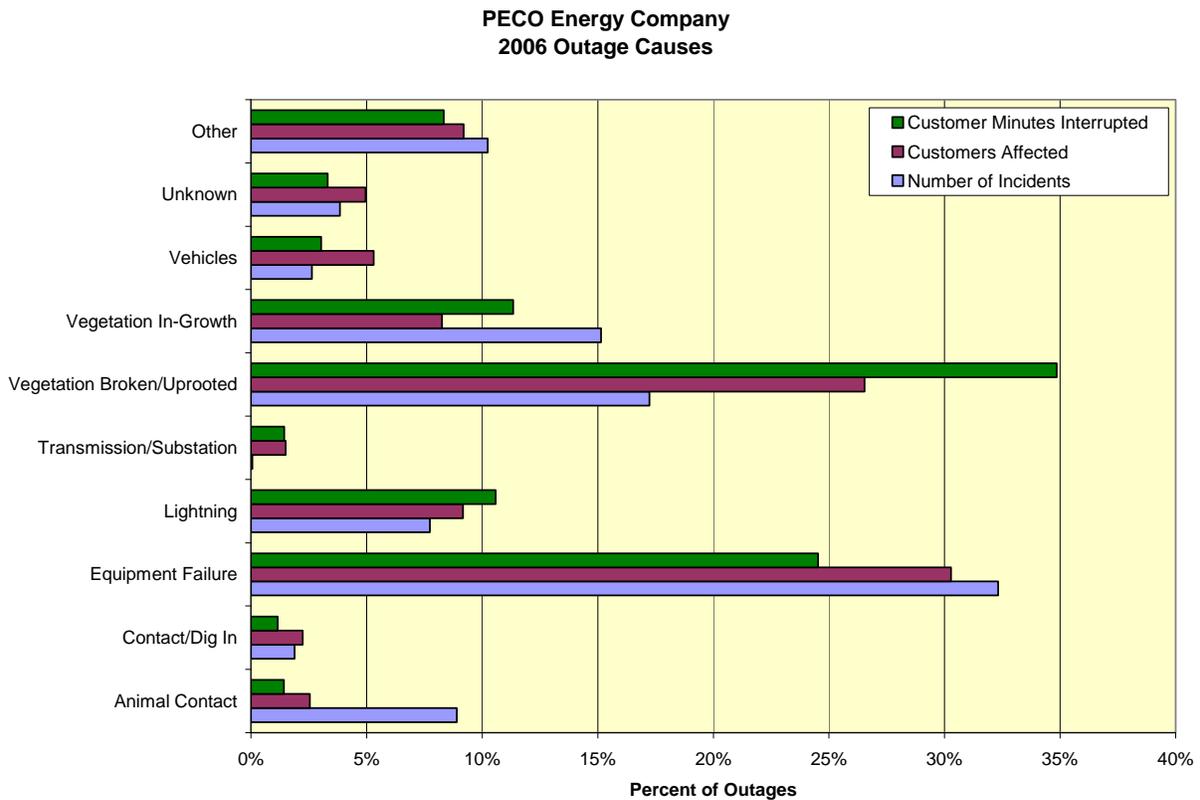


**PECO Energy Company
System Average Interruption Frequency Index (SAIFI)**



From 2002 to 2005, the annual values for SAIFI trended downward to around one interruption per customer, on average. The rolling 12-month averages for the four quarters of 2006, remained well below the standard, although the year-end average increased to 1.35. For the 12-month period ending March 2007, SAIFI was down to 1.21.

The graph below shows the distribution of causes of service outages occurring during 2006 as a percentage of total outages. Equipment failure was responsible for 32.3 percent of the incidents, 30.3 percent of customers affected and 24.5 percent of interruption minutes. Tree-related outages (32.4 percent of incidents) were caused by broken branches and trunks or uprooted trees and vegetation in-growth. Together, these outages resulted in 34.8 percent of the customers affected and 46.2 percent of interruption minutes. PECO's service territory experienced 12 storms in 2006 that were not major events.



PPL Electric Utilities Corporation

In 2006, PPL's reported reliability performance indices increased over the reported 2005 reliability performance indices. CAIDI met the standard, but SAIFI and SAIDI exceeded the 12-month standards. PPL also failed to achieve the three-year SAIFI standard. The company exceeded the three-year SAIFI standard by 2.7 percent. The increase in PPL's SAIFI and SAIDI during 2006, is primarily attributable to an unusual number of non-excludable storms. PPL met several times with staff and provided a system reliability improvement plan that PPL expects will better its reliability numbers even if the unusual level of storms continues.

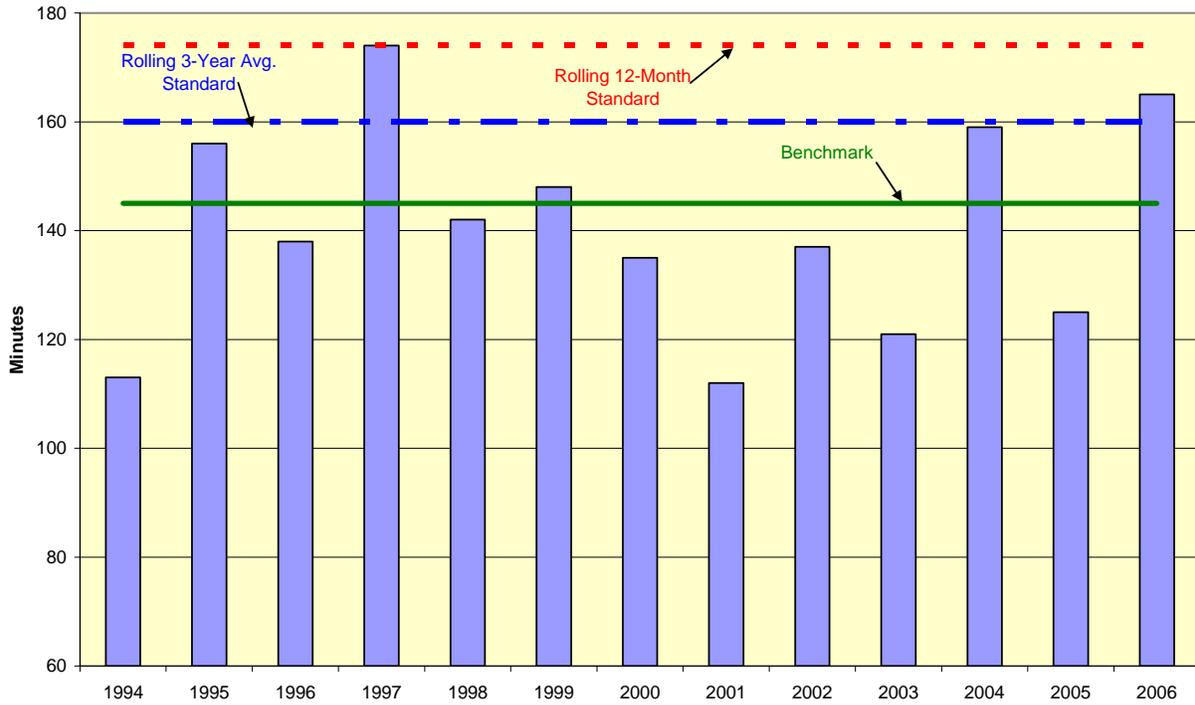
On April 23, 2007, PPL implemented its new GE Power-On Outage Management System (OMS). This implementation followed several months of parallel operation with its more than 30-year-old Customer Interruption Analysis (CIA) system. The change from CIA to OMS resulted in a less than 1 percent deviation from PPL's previously reported benchmarks and standards.

No major events occurred in PPL's service territory during 2006. There were, however, nine PUC-reportable storms and 19 storms that were not reportable, which contributed to PPL not meeting the standards for SAIFI and SAIDI.

PPL's customers experienced 1,722,363 service interruptions in 2006 with a total duration of 282.1 million minutes, or 73.5 percent higher than last year's figure.

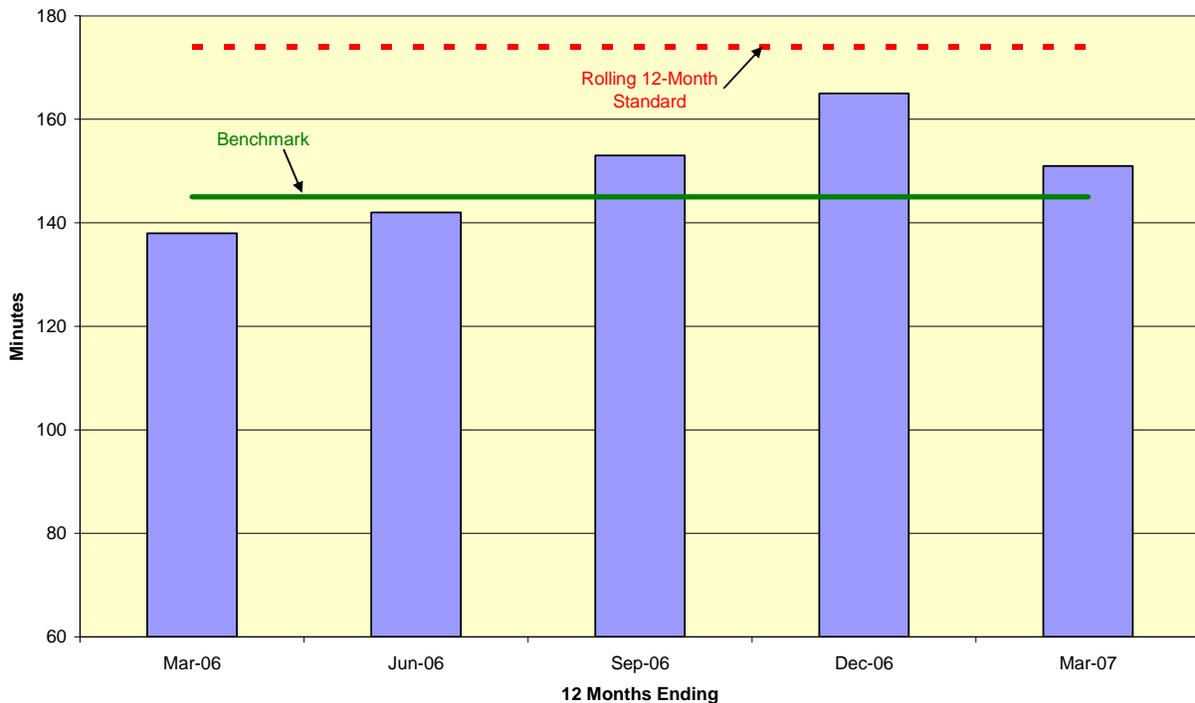
The following graphs depict trends in the duration of service interruptions for the PPL system from 1994 to 2006, and the first quarter of 2007, compared to the established benchmarks and standards.

**PPL Electric Utilities Corporation
Customer Average Interruption Duration Index (CAIDI)**

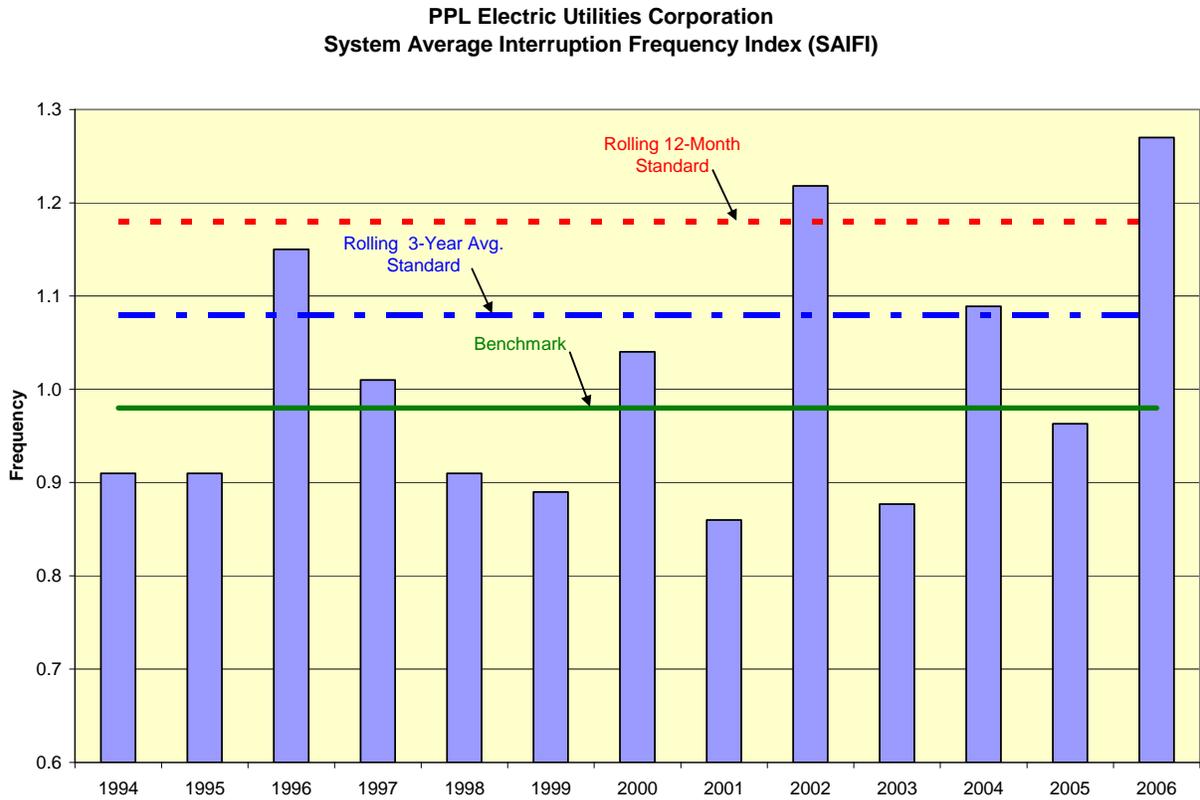


None of the historical CAIDI values have exceeded the performance standard.

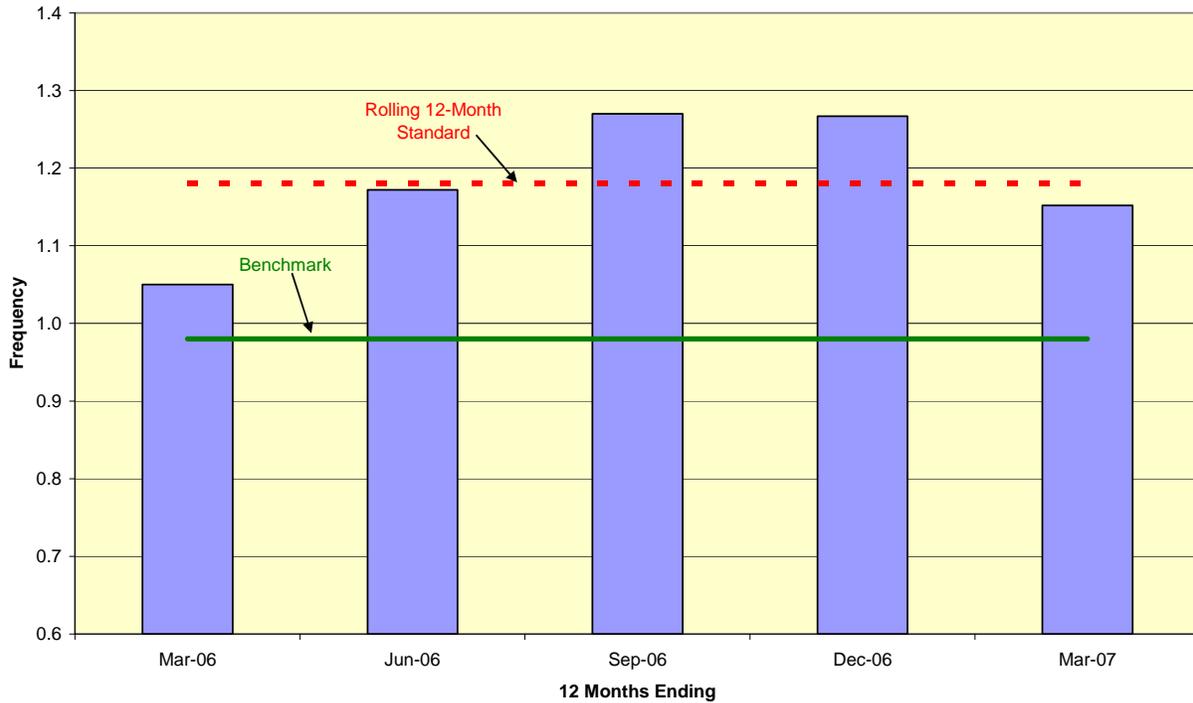
**PPL Electric Utilities Corporation
Customer Average Interruption Duration Index (CAIDI)**



The next two graphs show trends in the frequency of service interruptions for the PPL system from 1994 to 2006, and the first quarter of 2007, compared to the established benchmarks and standards for SAIFI.

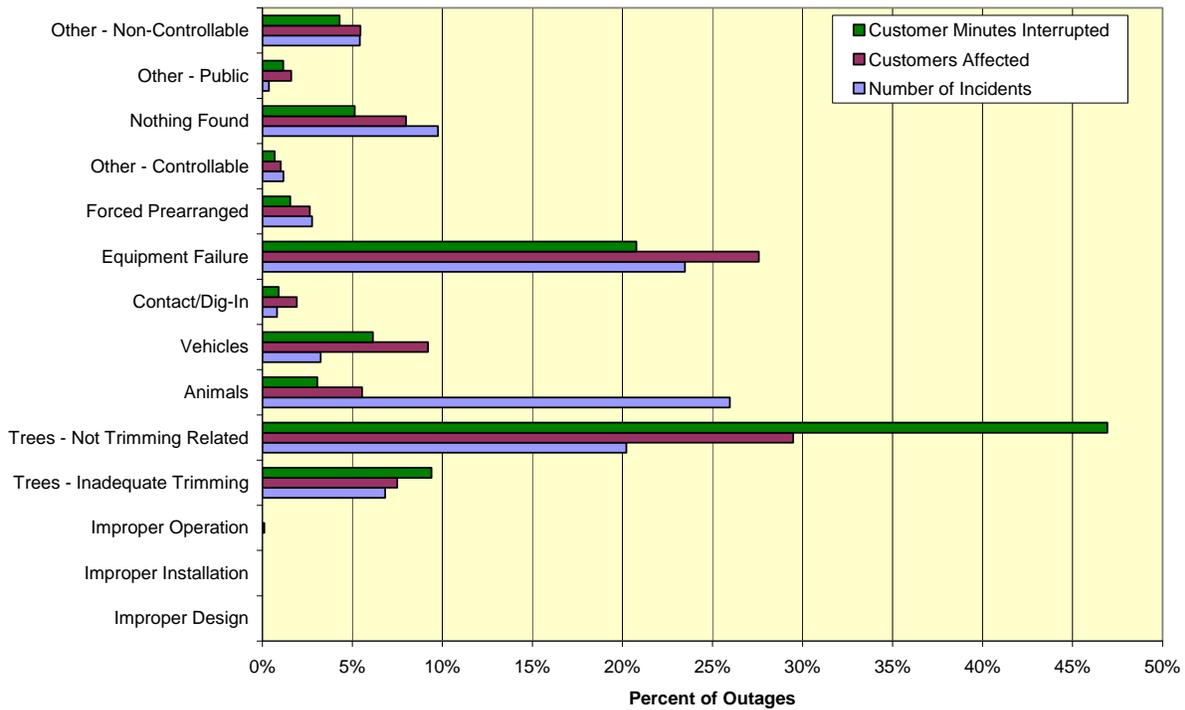


**PPL Electric Utilities Corporation
System Average Interruption Frequency Index (SAIFI)**



The graph below shows the distribution of causes of service outages occurring during 2006 as a percentage of total outages. Equipment failure represented 23.5 percent of the interruptions, 27.6 percent of customers affected and 20.8 percent of interruption minutes. Non-trimming tree-related outages were the second largest cause of customer outages (20.2 percent) and 46.9 percent of interruption minutes. Animal-related outages accounted for 26.0 percent of incidents, but affected only 5.5 percent of the customers with an outage duration of 3.1 percent of total minutes, since most of the trouble cases are associated with individual distribution transformers.

**PPL Electric Utilities Corporation
2006 Outage Causes**



PPL reports that 39 percent of trouble cases, 42 percent of customer interruptions and 49 percent of interruption minutes attributed to equipment failure are weather-related and are not considered to be indicators of equipment condition or performance.

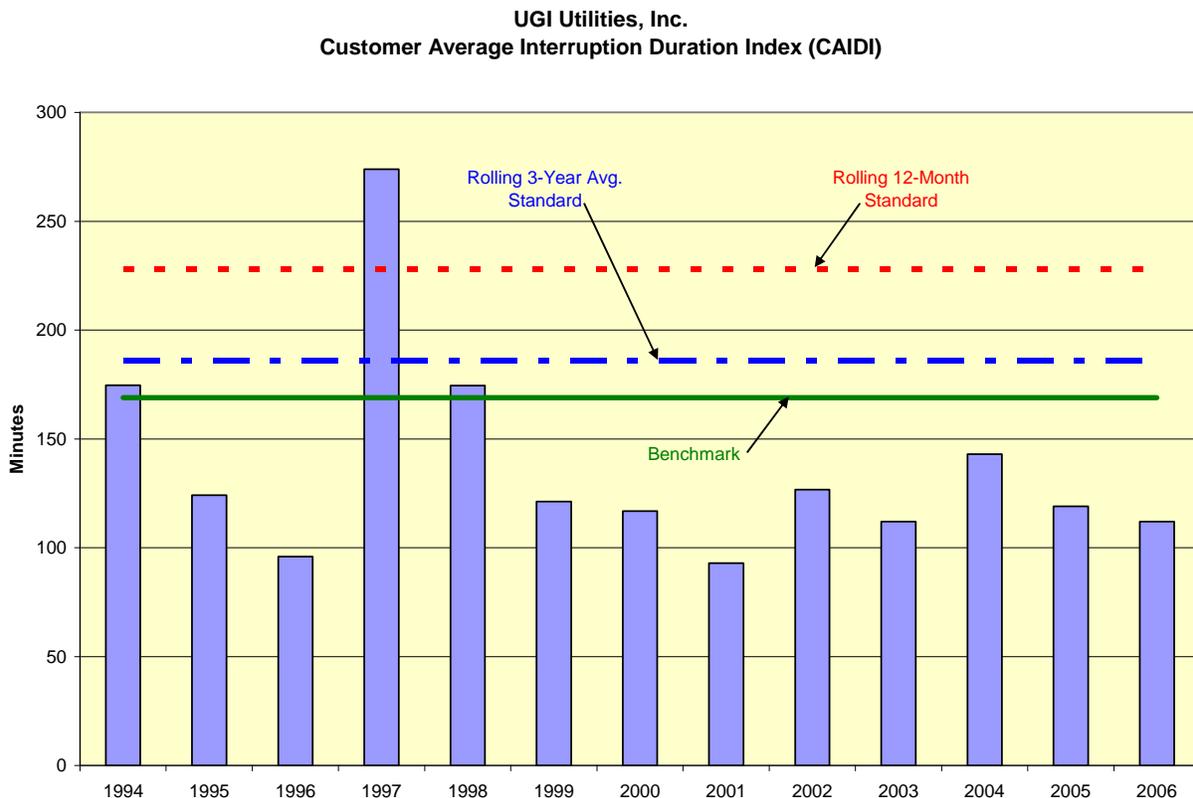
UGI Utilities Inc.

UGI's overall reliability performance during 2006 was better than the established benchmarks. The 2006 CAIDI of 112 minutes was seven minutes better than the 2005 CAIDI and 33.7 percent better than the benchmark of 169 minutes. The 2006 SAIFI of 0.79 interruptions was slightly higher than last year's SAIFI and 4.8 percent better than the benchmark. UGI's three-year averages were well below the three-year standards for each index. UGI points out that favorable weather conditions experienced during 2004 and 2005 have contributed significantly to these results. The slight increase in the 2006 SAIFI and SAIDI results were due to a return to more normal weather and problems associated with A.B. Chance distribution fuse cutouts.

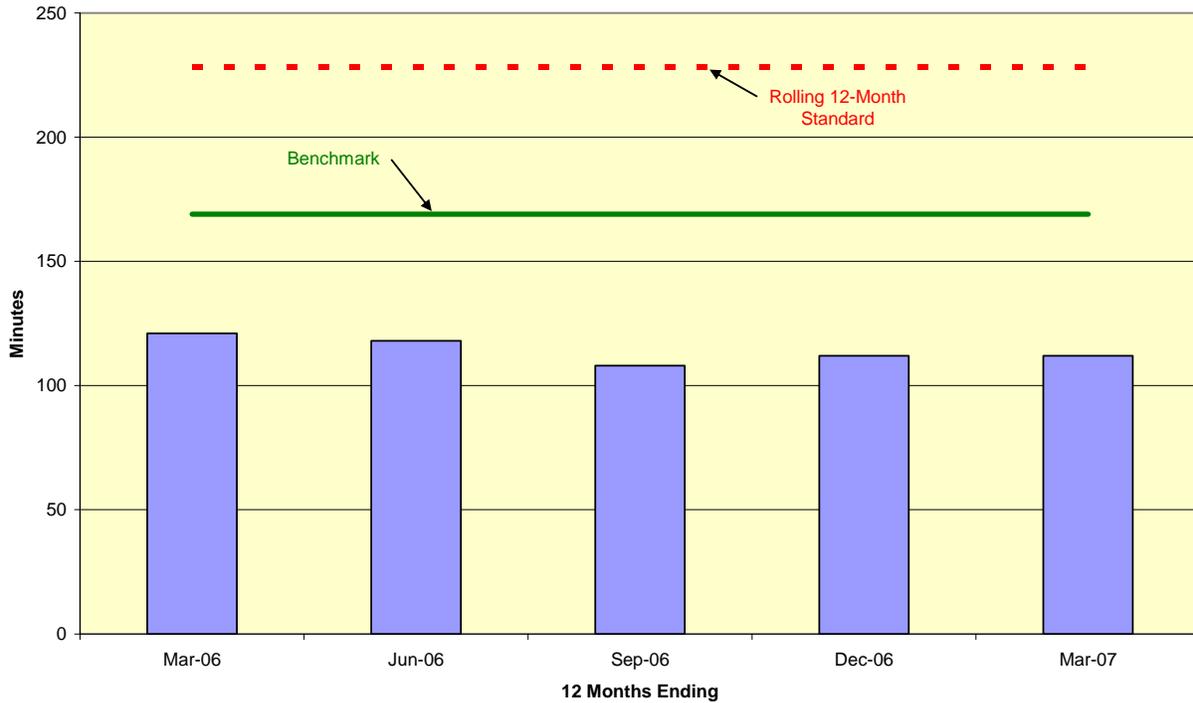
No major events have been reported for 2006.

In 2006, UGI's customers experienced 48,823 service interruptions with a total duration of 5.5 million minutes, which was about 16.3 percent higher than that which was reported last year.

The following graphs depict trends in the duration of service interruptions for the UGI system from 1994 to 2006, and the first quarter of 2007, compared to the established benchmarks and standards.



UGI Utilities, Inc.
Customer Average Interruption Duration Index (CAIDI)

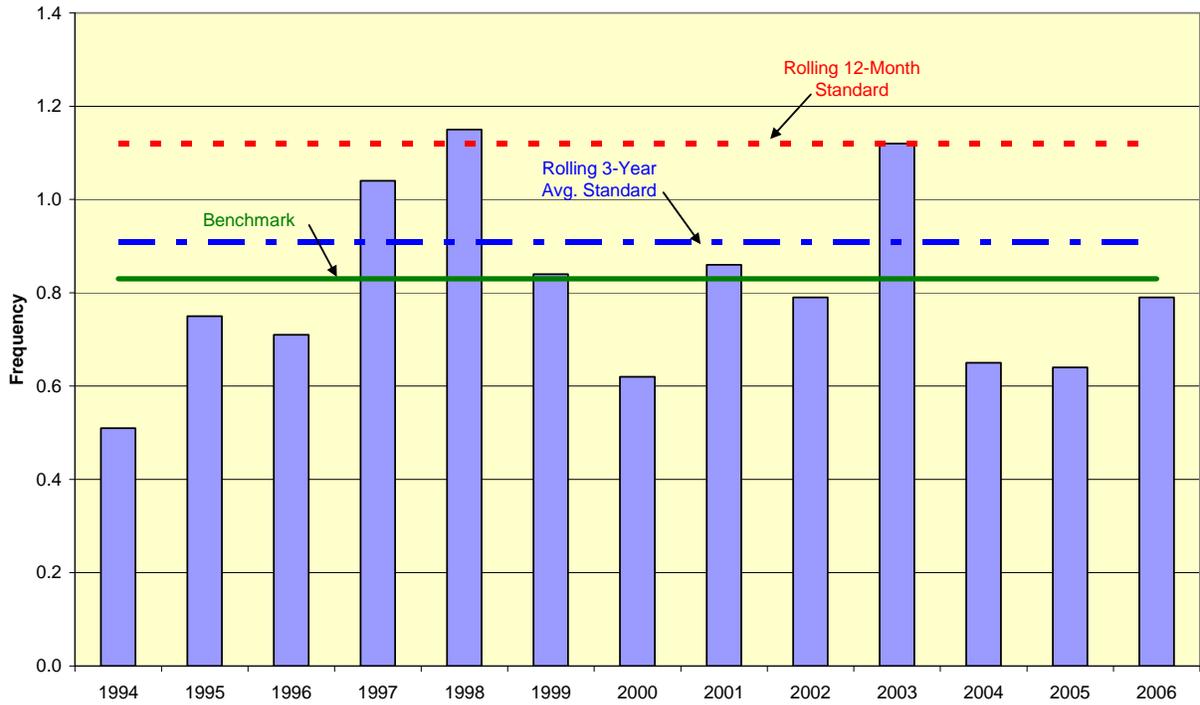


The next two graphs show trends in the frequency of service interruptions for the UGI system from 1994 to 2006, and for the four quarters of 2006 and the first quarter of 2007, compared to the established benchmarks and standards for SAIFI.

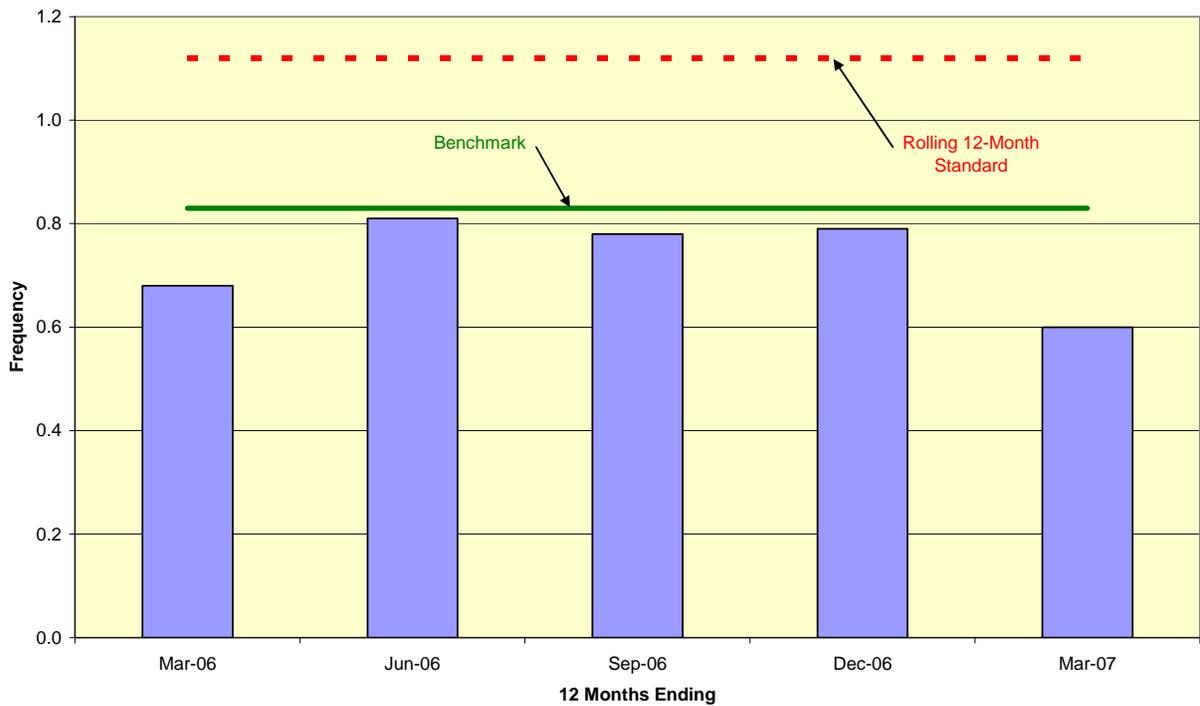
The final graph shows the distribution of causes of service outages occurring during 2006 as a percentage of total outages. Equipment failure caused 38.7 percent of the incidents, resulting in 28 percent of customers affected and 19.3 percent of interruption minutes. Tree-related outages represented 20.2 percent of incidents, 19.2 percent of customers affected and 27.3 percent of interruption minutes.

A large portion of equipment failures are attributed to a problem in a distribution-type fuse cutout, manufactured by A. B. Chance. UGI has implemented a replacement program to identify and replace these defective parts.

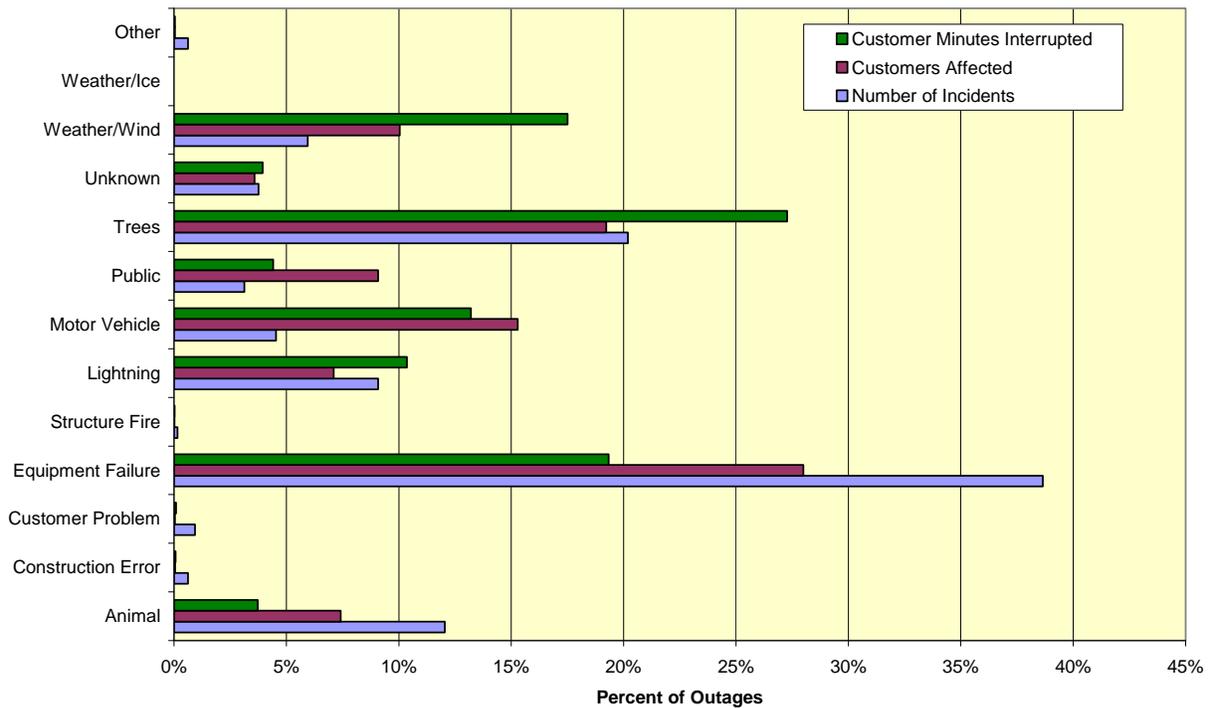
**UGI Utilities, Inc.
System Average Interruption Frequency Index (SAIFI)**



**UGI Utilities, Inc.
System Average Interruption Frequency Index (SAIFI)**



**UGI Utilities, Inc.
2006 Outage Causes**



Citizens' Electric Company

Citizens' has a relatively small operating area with an electric system consisting of one distribution substation and nine distribution feeder lines.

In 2006, Citizens' system reliability performance was better than the Commission's established benchmarks. Citizens' CAIDI of 68 minutes was 37 minutes below the benchmark of 105 minutes. The 2006 SAIFI was an average of 0.14 outages per customer, compared to the 12-month benchmark outage frequency 0.2. For the three-year average performance, Citizens' was better than the standard for all three indices.

Citizens' completed its deployment of an Automatic Meter Reading system across its service territory in February 2006. In addition to the meter reading functionality, this system will enable Citizens' to verify service outages and perform quicker assessments of overall system conditions during a major event. This system will also help Citizens' to more accurately model its distribution system to ensure the best possible overcurrent protection design, minimizing the number of customers affected by an outage.

The calculations for the 2006 reliability indices exclude outage data relating to two major events, which were approved by the Commission:

Jan. 26, 2006 - customer cut a large pine tree which fell onto a three-phase overhead primary line; 1,252 customers affected; 31 interruption minutes excluded; and

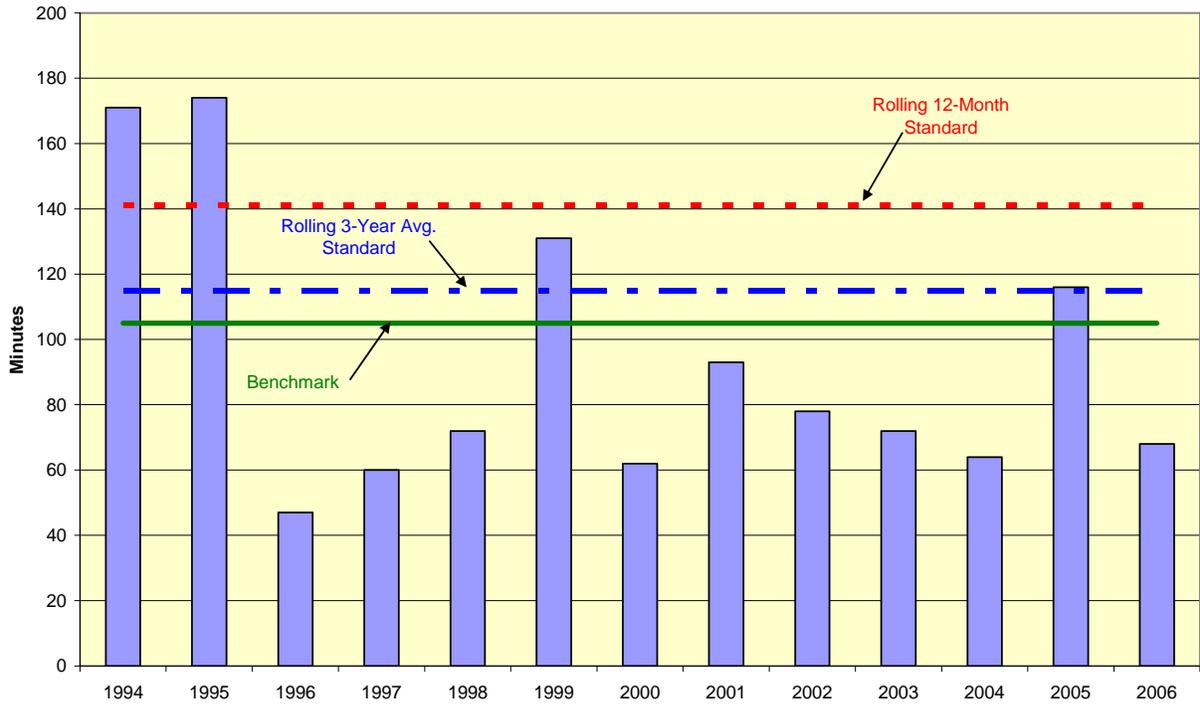
Feb. 17, 2006 - strong winds caused several off right-of-way trees to down power lines; 988 customers affected; 155 interruption minutes excluded.

On Aug. 11, 2005, Citizens' Petition for Appeal of Staff Determination Denying Request for Exclusion of Major Event was denied by the Commission, regarding the exclusion of a service outage occurring on April 25, 2004, and granted for the purpose of verifying the recalculation of Citizens' historic reliability benchmarks. Citizens' requested that, if it is the Commission's policy to deny major event exclusion status for distribution equipment failures, that it be permitted to recalculate its base year historic reliability benchmarks accordingly. Docket No. P-00042127. Citizens' has submitted additional information to determine the type of each event excluded from the recomputation. Upon Commission review of this information, a corrected level of historic reliability benchmarks will be established, if deemed appropriate.

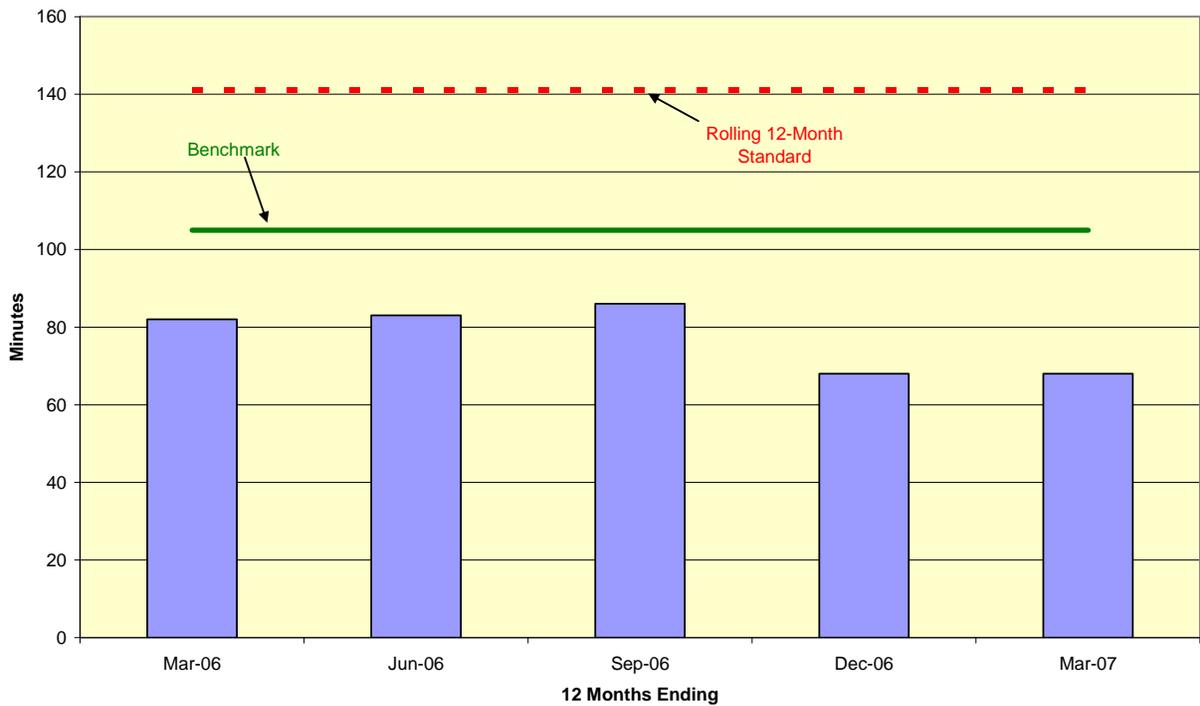
Citizens' experienced a total of 964 customer interruptions in 2006, with a total duration of 65,449 minutes, excluding major events, which was 15.1 percent lower than that which was reported last year.

The following graphs depict trends in the duration of service interruptions for the Citizens' system from 1994 to 2006, and the first quarter of 2007, compared to the established benchmarks and standards.

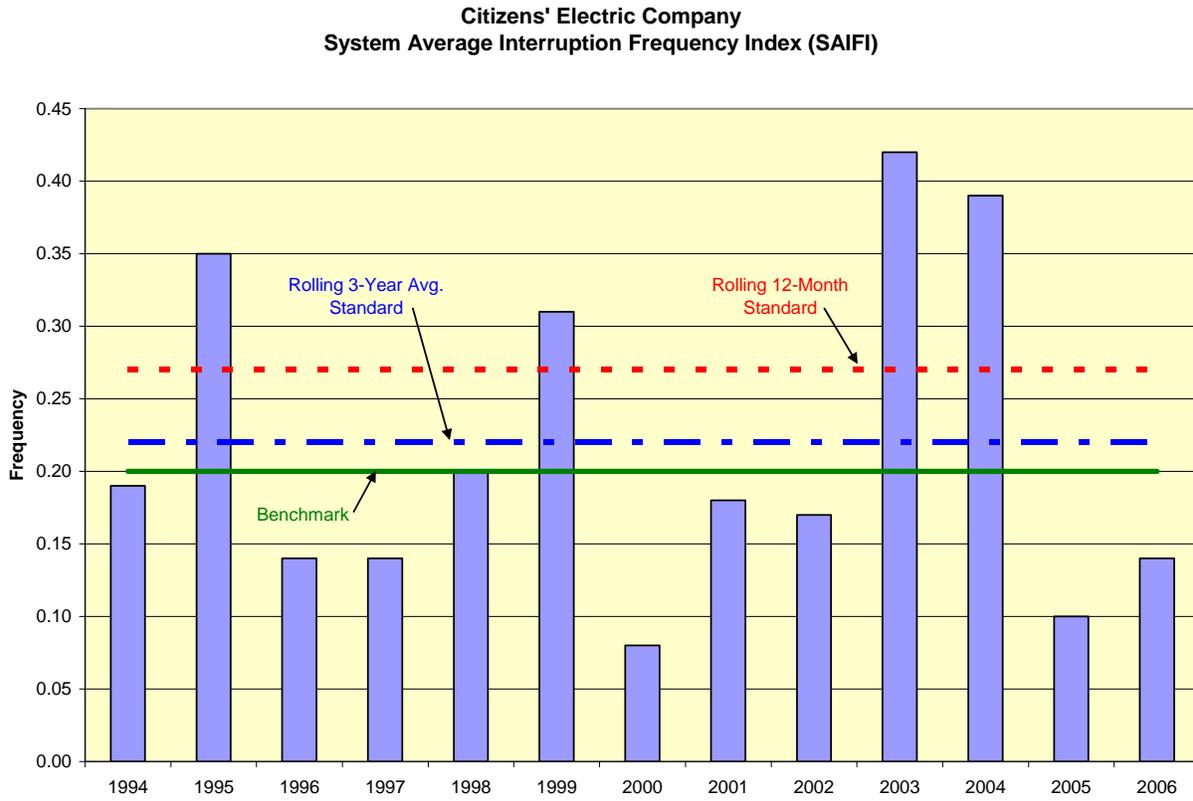
**Citizens' Electric Company
Customer Average Interruption Duration Index (CAIDI)**



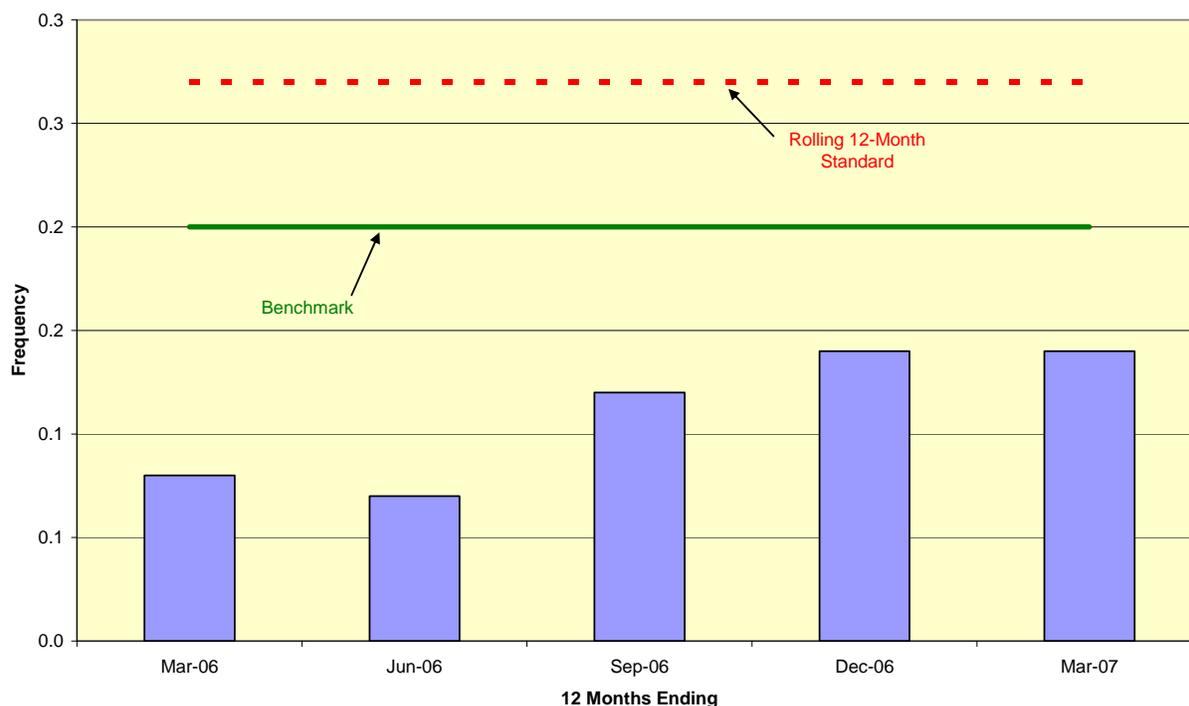
**Citizens' Electric Company
Customer Average Interruption Duration Index (CAIDI)**



The next two graphs show trends in the frequency of service interruptions for the Citizens' service territory from 1994 to 2006, and the first quarter of 2007, compared to the established benchmarks and standards for SAIFI.



**Citizens' Electric Company
System Average Interruption Frequency Index (SAIFI)**

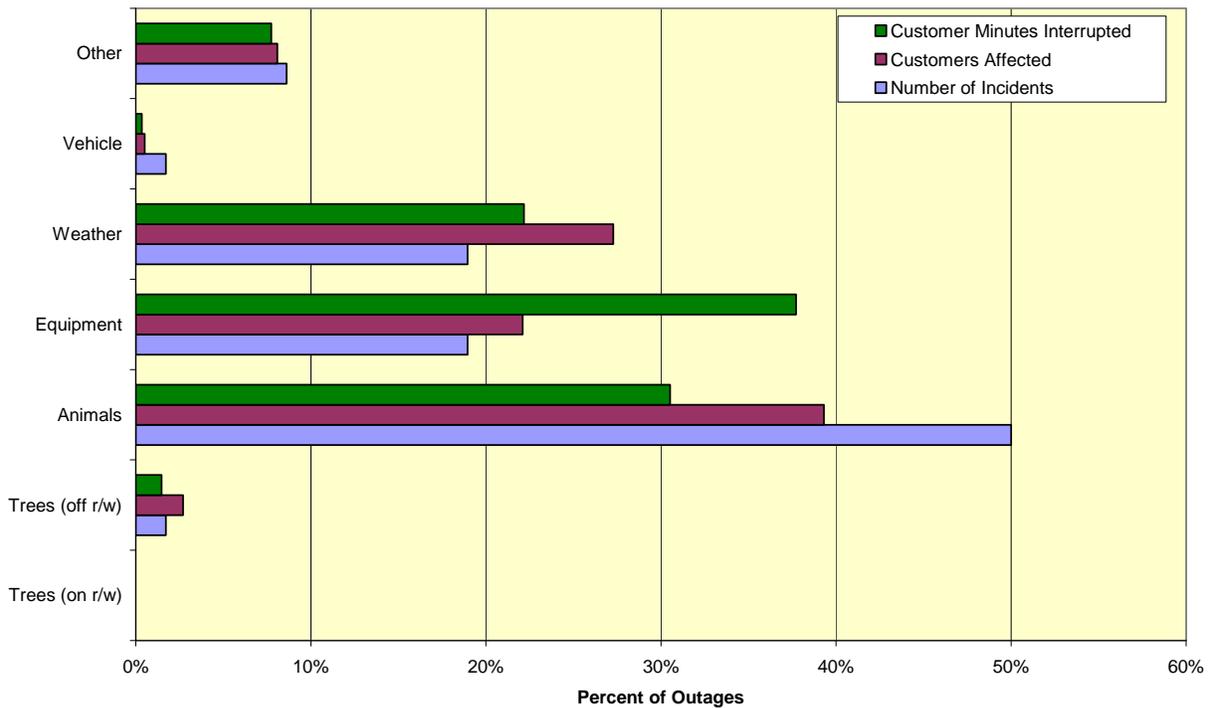


Although the outage frequency values shown on these graphs are much smaller than the SAIFI values of larger companies, valid comparisons are not made with other companies' reliability performance, but with the historical performance of Citizens'. Smaller systems tend to experience more variability in service outage data, which is captured in the development of historical benchmarks.

In 2003 and 2004, Citizens' SAIFI exceeded the performance standard. The rolling 12-month average SAIFI for 2005 and 2006 SAIFI averaged 0.14, well below the benchmark of 0.2.

The graph below shows the distribution of causes of service outages occurring during 2006, as a percentage of total outages. The most frequent outage cause was animal-related, representing 50 percent of the outages and 30.5 percent of customer minutes interrupted. Equipment failure outages affected 22.1 percent of customers and resulted in 37.7 percent of customer minutes interrupted. Weather-related incidents totaled 27.3 percent of customers affected and 22.2 percent of customer minutes interrupted.

**Citizens' Electric Company
2006 Outage Causes**



Pike County Light & Power Company

Pike County is the westernmost portion of Orange & Rockland's Northern Operating Division. This area is fed from two 34.5 kV radial circuits. Thus, sustained interruptions are usually smaller, affecting fewer customers, and will take a longer amount of time per customer to restore service.

On June 9, 2004, Pike County filed comments to the Commission's Order²⁴ of May 11, 2004, which were treated as a petition to amend its benchmarks.²⁵ Pike County submitted that the five years of data used to establish reliability benchmark values disadvantages Pike County since such data fails to account adequately for the small size of its service area, the configuration of the system and the potential for volatility in reliability index performance. A settlement agreement was reached by all of the parties to the proceeding. The matter was subsequently remanded to the Commission's Office of Administrative Law Judge for further development of the record regarding the recalculation of Pike County's reliability benchmarks.

²⁴ Docket No. M-00991220.

²⁵ Docket No. M-00991220F0002.

A related matter involved a review of the exclusion of certain major events from the calculation of the historical benchmarks. On Jan. 6, 2006, Pike County submitted additional information stating that seven non-storm incidents were improperly excluded in developing its historic reliability benchmarks.²⁶ Since it appeared that this additional information may have had an impact on the benchmark adjustment calculations contained in the settlement, the Commission provided a copy of Pike County's response to the parties in the benchmark proceeding and allowed a comment period concerning any adjustment to the calculations or positions regarding the settlement. None of the parties filed comments. On Jan. 11, 2006, a Recommended Decision approving the settlement was issued by the Commission. The Commission adopted this decision on Aug. 17, 2006. The settlement increased Pike's SAIFI benchmark from 0.39 to 0.61 and decreased Pike County's CAIDI benchmark from 178 to 174. The SAIDI benchmark increased from 69 to 106.

The 2006 overall reliability performance of Pike County was better than the 2005 performance. The SAIDI value decreased from 202 minutes in 2005 to 165 minutes in 2006. The outage frequency decreased from 1.85 in 2005 to 1.16 in 2006 or 41.5 percent above the SAIFI standard of 0.82. The CAIDI value of 142 minutes was 33 minutes higher than the previous year and 18.4 percent below the revised benchmark of 174 minutes. Staff has been in discussions with Pike County concerning their non-compliance with the rolling 12-month SAIFI standard.

The calculations for the 2006 reliability indices exclude outage data relating to one major event, which was approved by the Commission:

March 24, 2005 - storm; 848 customers affected; 1,067,666 interruption minutes excluded.

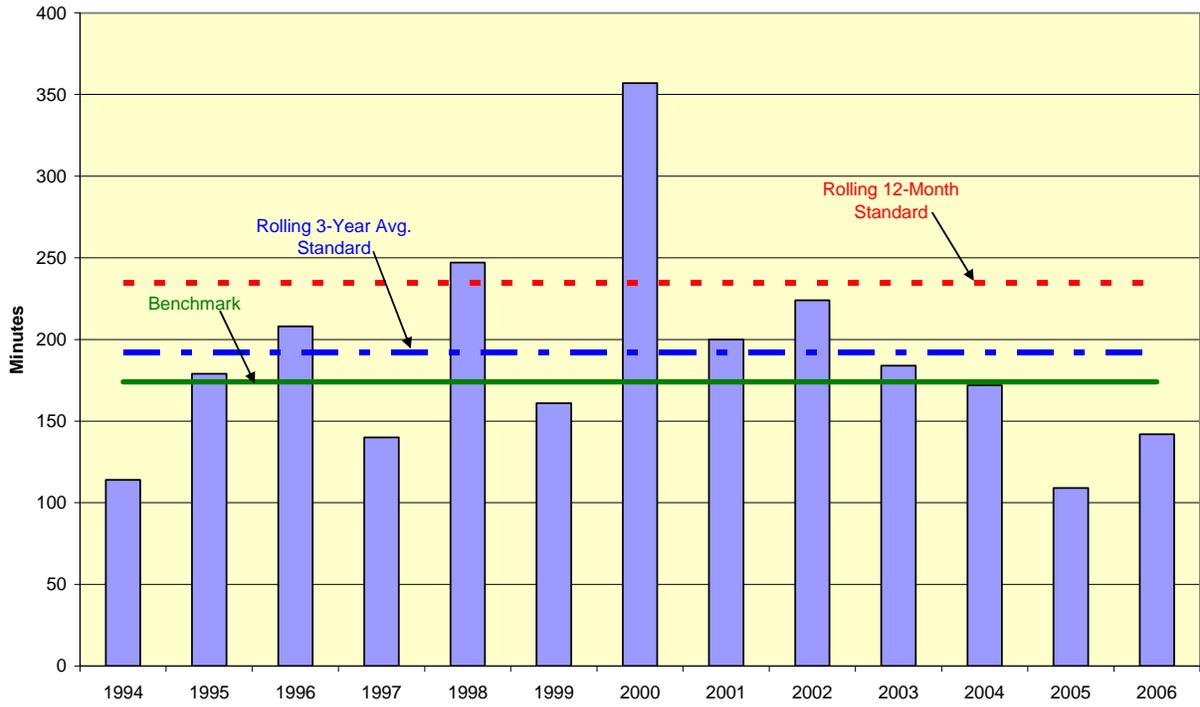
Another request for a major event exclusion, relating to the loss of supply from Met-Ed was denied, since the outage affected less than 10 percent of Pike County's customers. Pike County has appealed the denial.

In 2006, Pike County experienced 5,192 customer interruptions with a total duration of 736,869 minutes, which was about 16.8 percent lower than that which was reported last year.

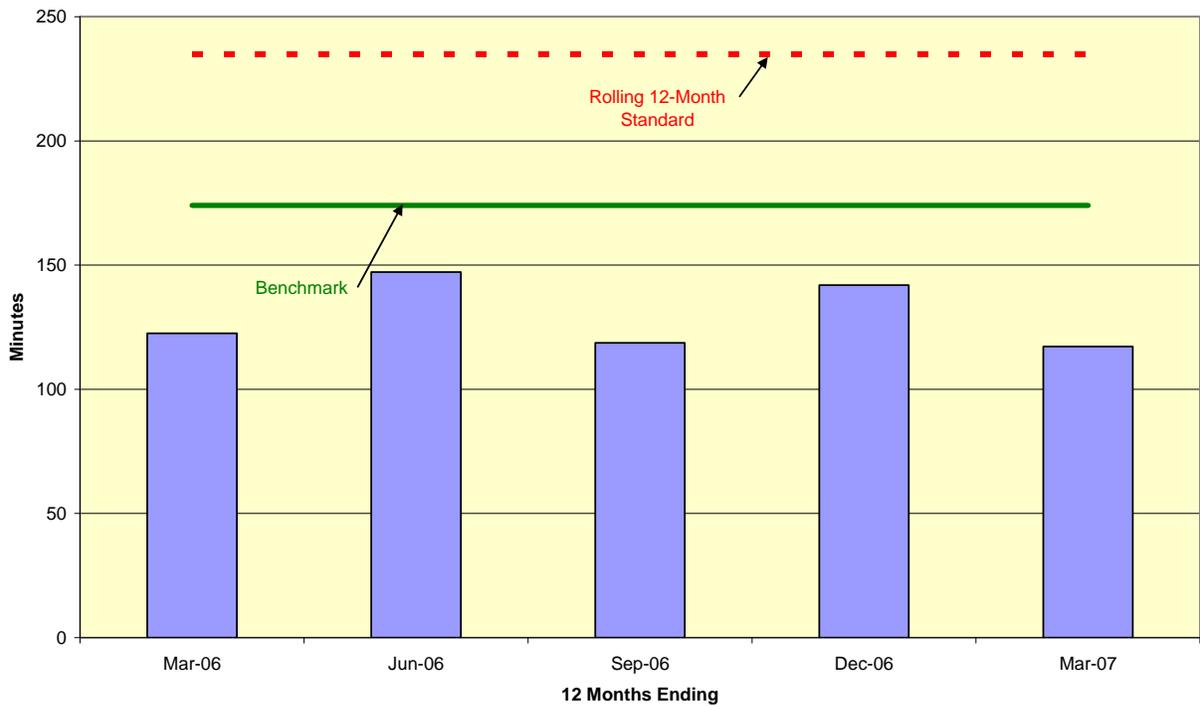
The following graphs depict trends in the duration of service interruptions for the Pike County system from 1994 to 2006, and the first quarter of 2007, compared to the established benchmarks and standards.

²⁶ Docket Nos. M-00991220F2005 and P-00052174.

**Pike County Light & Power Company
Customer Average Interruption Duration Index (CAIDI)**



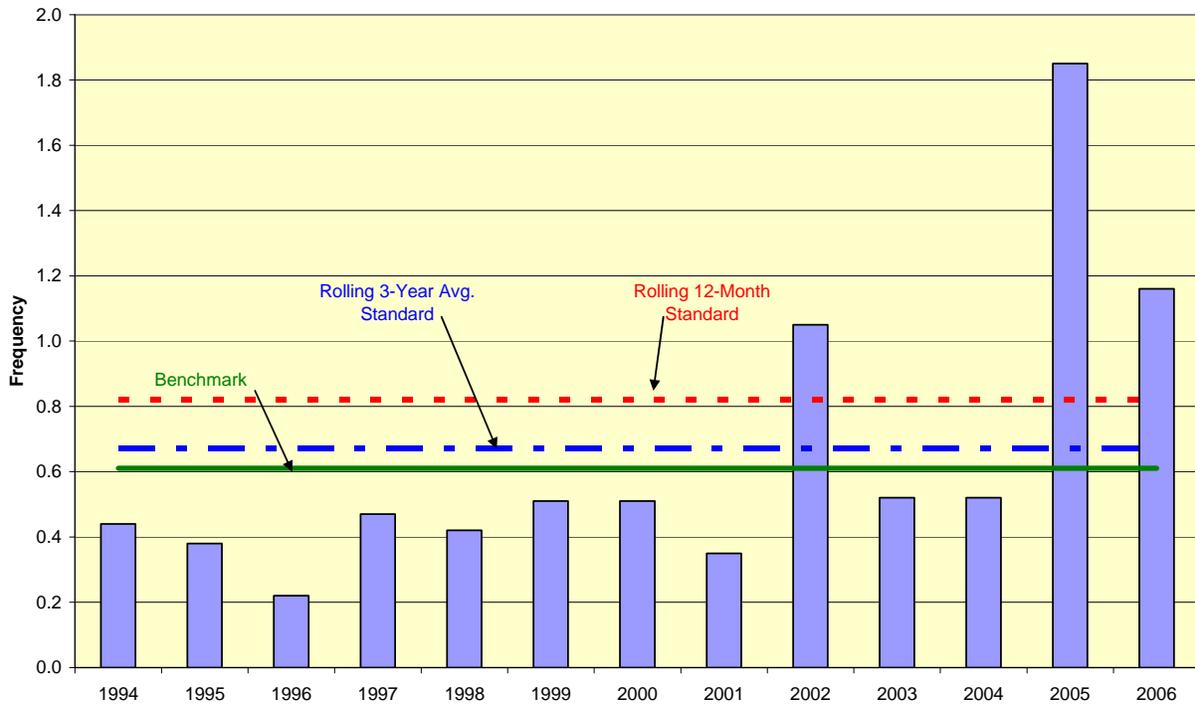
**Pike County Light & Power Company
Customer Average Interruption Duration Index (CAIDI)**



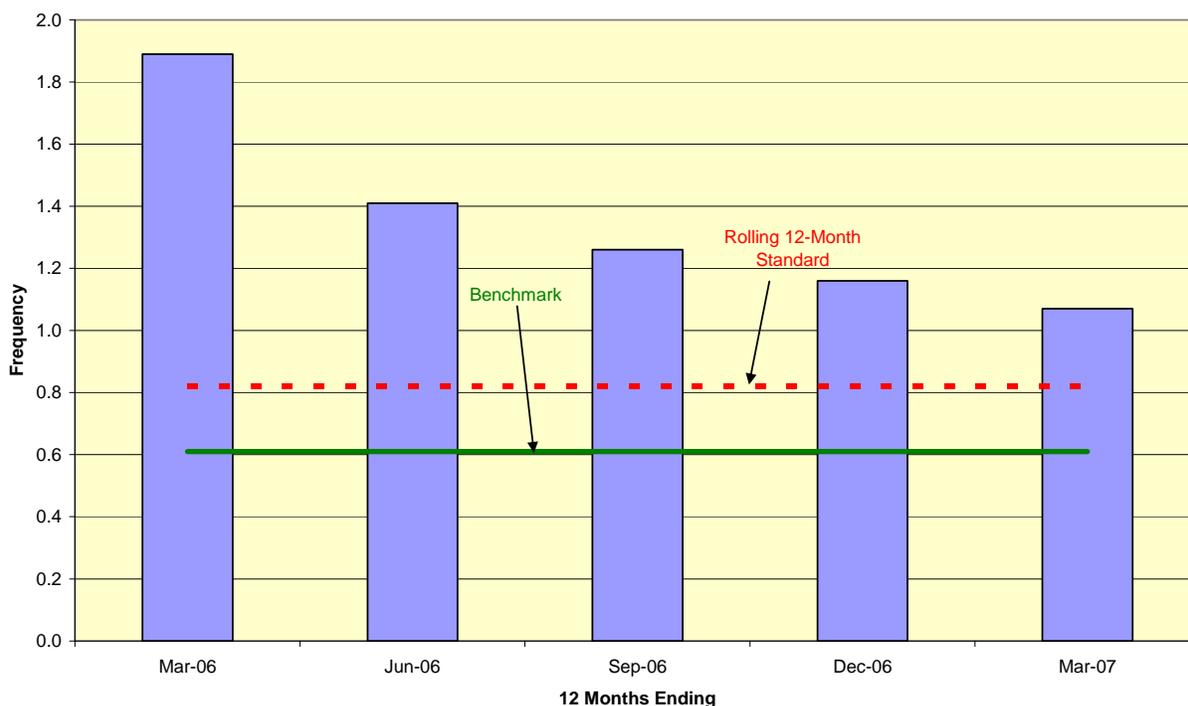
The annual CAIDI values have been below the benchmark for the past three years, and the three-year average was 26.6 percent better than the three-year average standard. Rolling 12-month averages for 2006, and the first quarter of 2007 were better than the benchmark.

The next two graphs depict trends in the frequency of service interruptions for the Pike County system from 1994 to 2006, and the first quarter of 2007, compared to the established benchmarks and standards for SAIFI.

**Pike County Light & Power Company
System Average Interruption Frequency Index (SAIFI)**



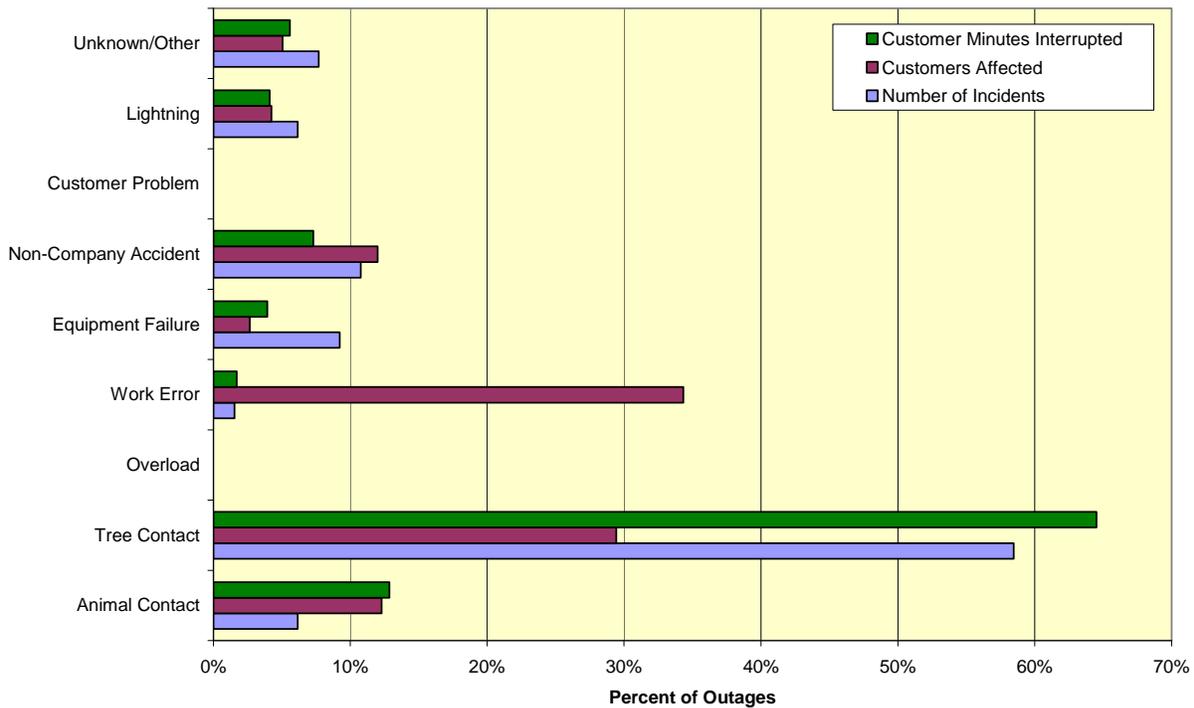
**Pike County Light & Power Company
System Average Interruption Frequency Index (SAIFI)**



For most years, SAIFI has been below the revised benchmark of 0.61. The SAIFI value for 2006 of 1.16 was much better than 2005, but still significantly exceeded the revised performance standard. The SAIFIs for the four quarters of 2006 and the first quarter of 2007 exceeded the performance standard; however, the numbers are trending downward.

The graph below shows the distribution of causes of service outages occurring during 2006 as a percentage of total outages. The major cause of service outages is tree contact with 38 interruptions (58.5 percent) affecting 1,514 customers (29.4 percent) for a total of 401,395 minutes (64.5 percent). Improvement efforts in this area include a four-year, cycle-based tree clearance program. A “cycle-buster” trimming program was also in effect to address key areas where recurring outages have occurred. Pike County has not identified which outages are related to trees on the right-of-way or off the right-of-way.

**Pike County Light & Power Company
2006 Outage Causes**



Wellsboro Electric Company

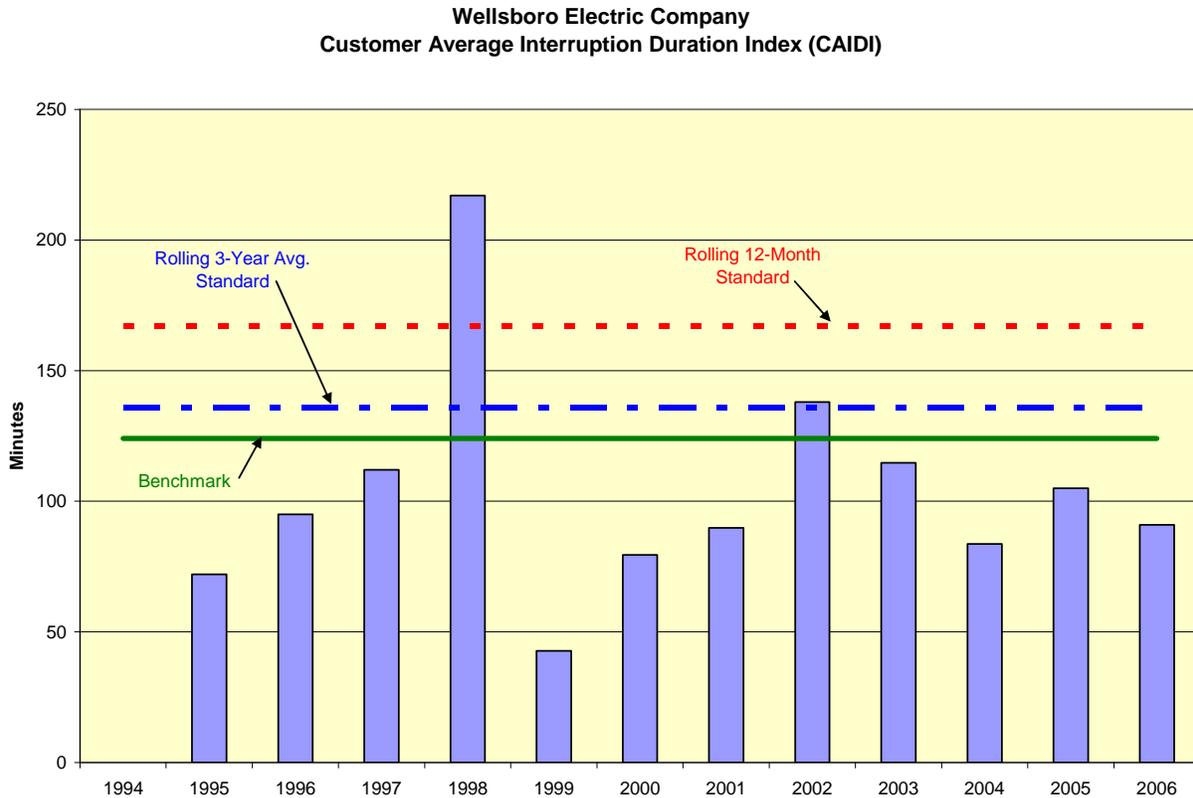
Wellsboro’s overall reliability performance in 2006 was fairly consistent with its performance in 2005. Wellsboro’s CAIDI of 91 minutes was lower than last year’s figure and 26.6 percent better than the benchmark of 124 minutes. SAIFI increased to 1.5, but was still better than the standard of 1.66. Wellsboro failed to achieve the three-year SAIFI standard because the 2004 SAIFI was 3.13. Since 2004, Wellsboro’s SAIFI has consistently been between the 12-month SAIFI benchmark and standard.

In 2006, Wellsboro experienced three major events. The calculations for the reliability indices exclude outage data related to these events, which were approved by the Commission.

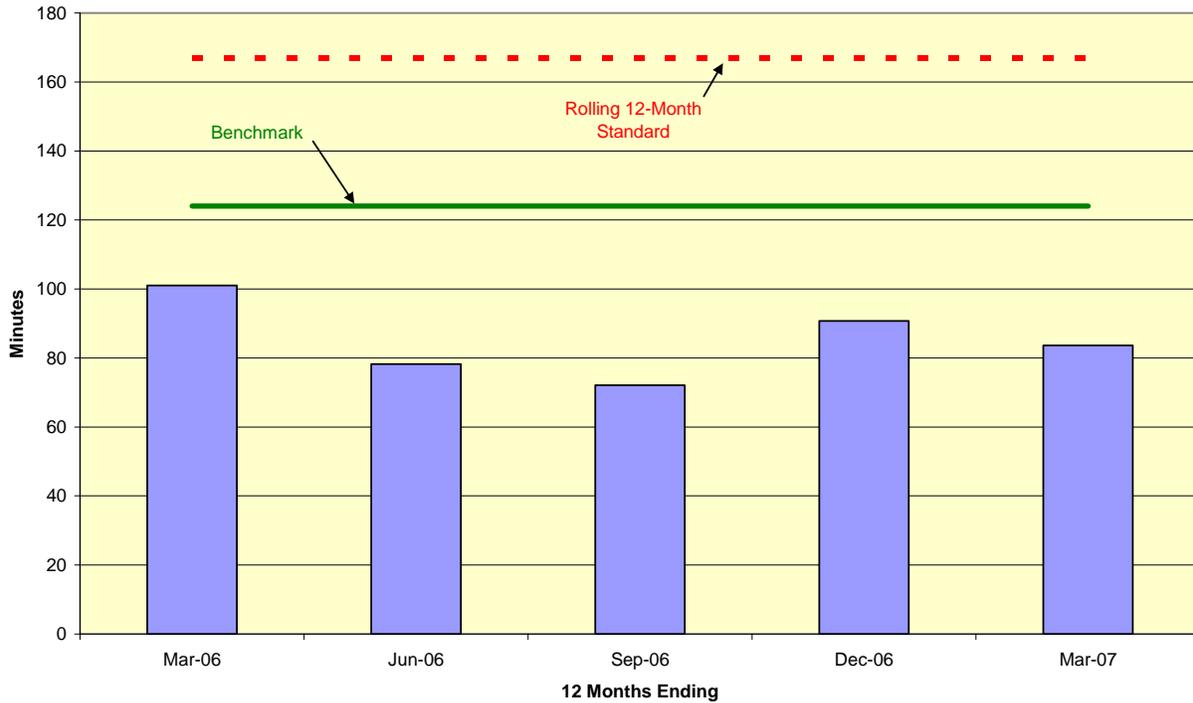
- May 28, 2006 - loss of power supply; 5,848 customers affected; 1,315,800 interruption minutes excluded;
- June 27, 2006 - weather-related off right-of-way tree; 1,346 customers affected; 337,846 interruption minutes excluded; and
- Aug. 4, 2006 - severe thunderstorm; 1,473 customers affected; 2,349,435 interruption minutes excluded.

In 2006, Wellsboro experienced 9,518 customer interruptions with a total duration of 748,578 customer minutes.

The following graphs depict trends in the duration of service interruptions for the Wellsboro system from 1994 to 2006, and the first quarter of 2007, compared to the established benchmarks and standards.



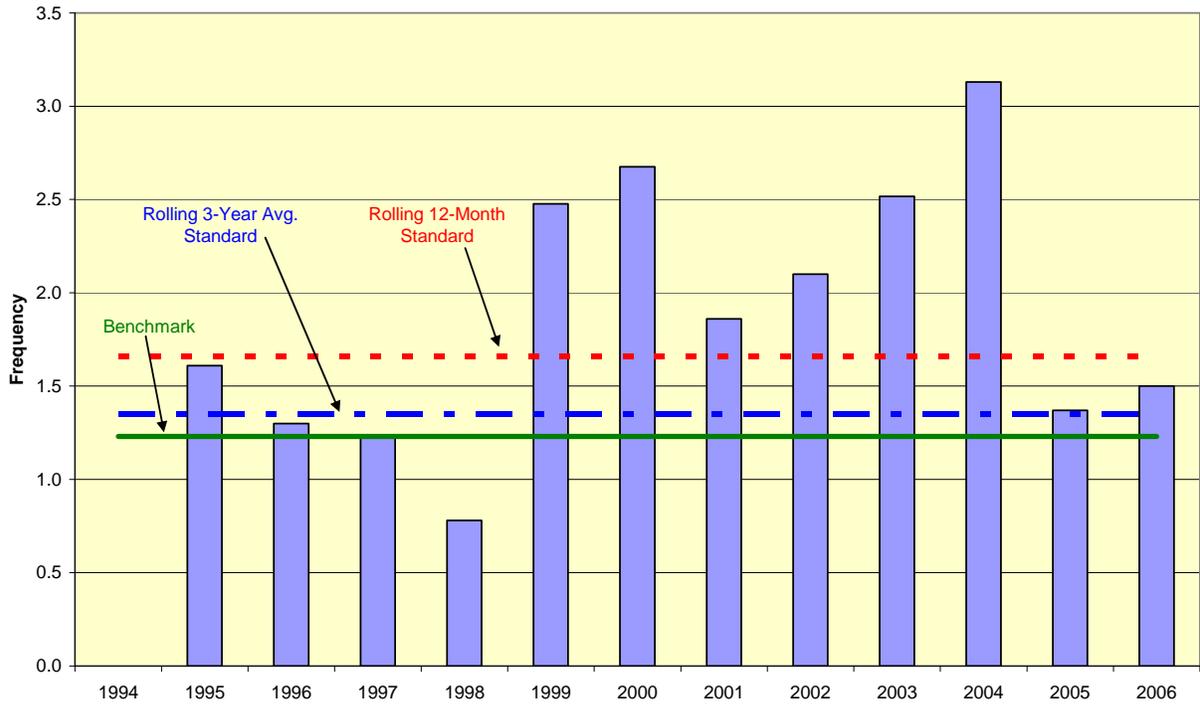
**Wellsboro Electric Company
Customer Average Interruption Duration Index (CAIDI)**



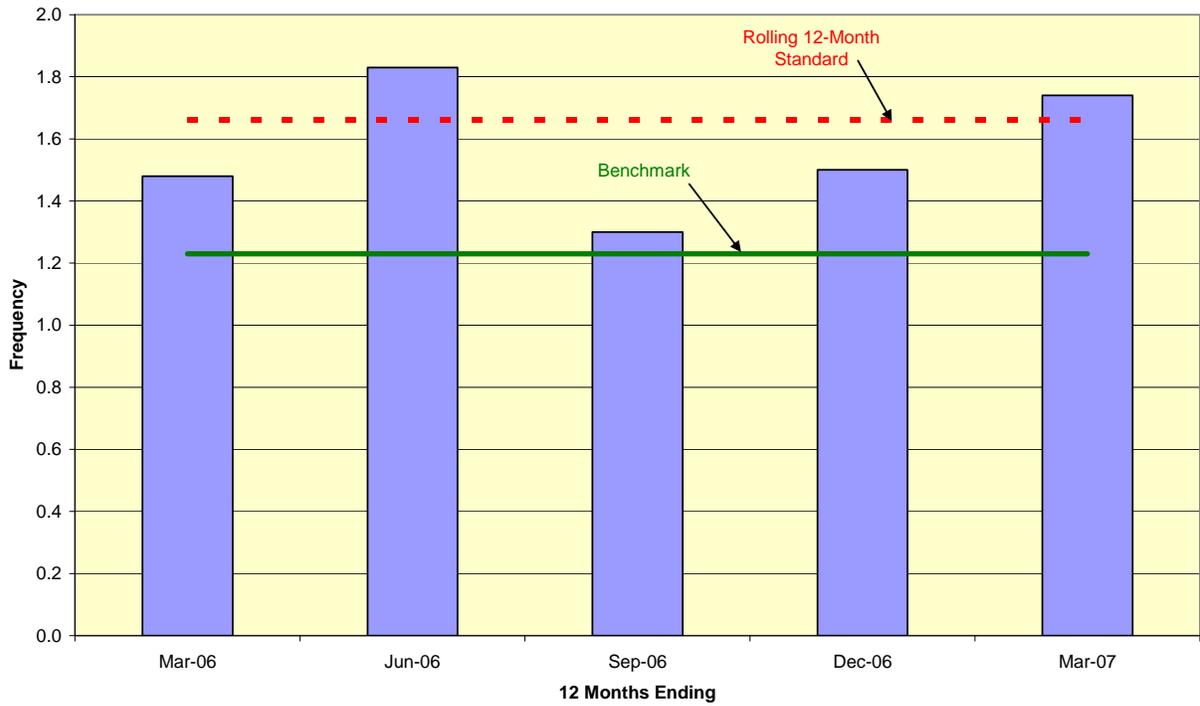
Wellsboro’s average interruption duration decreased from 105 minutes in 2005 to 91 minutes in 2006, or 26.6 percent better than the benchmark. For the 12 months ending March 2007, CAIDI was 84 minutes. The CAIDI three-year average was 31.4 percent (43 minutes) better than the standard of 136 minutes.

The next two graphs show trends in the frequency of service interruptions from 1994 to 2006, and the first quarter of 2007, compared to the established benchmarks and standards. SAIFI was 48.1 percent above (worse than) the three-year standard of 1.35. This was attributable to a SAIFI of 3.13 for 2004.

**Wellsboro Electric Company
System Average Interruption Frequency Index (SAIFI)**

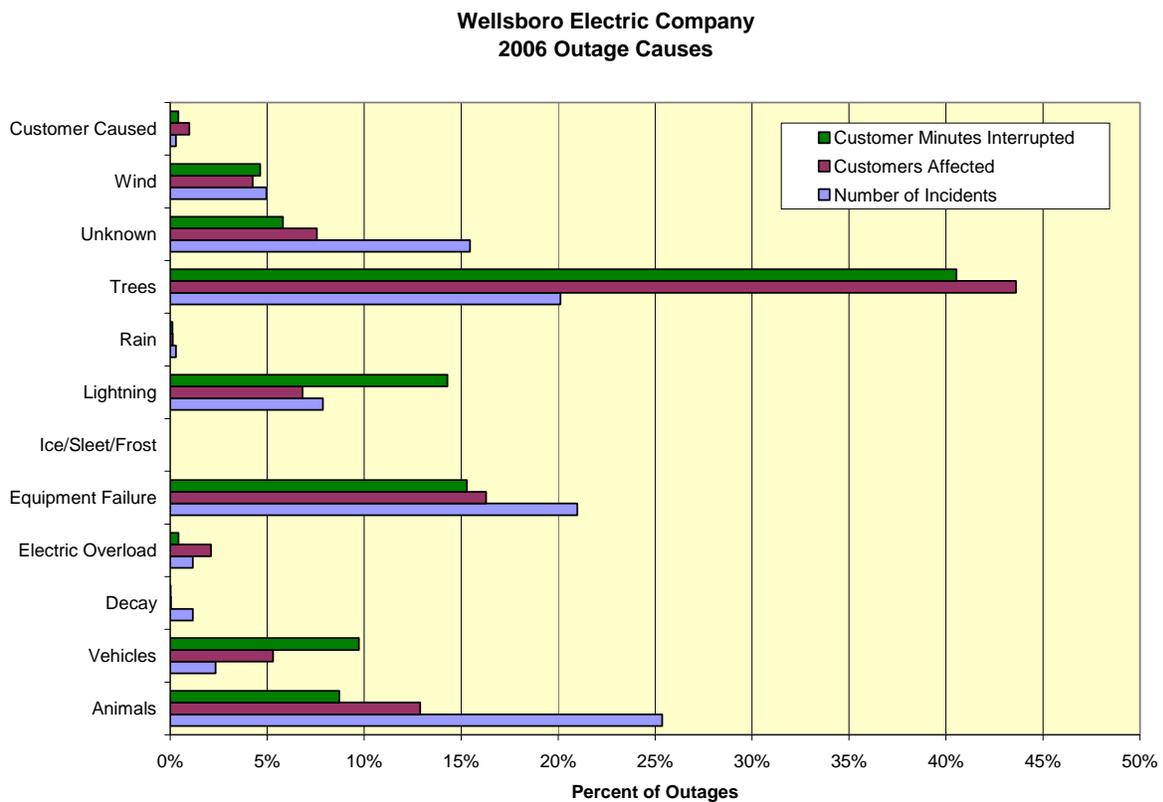


**Wellsboro Electric Company
System Average Interruption Frequency Index (SAIFI)**



Wellsboro’s Outage Management System tracks causes of outages and is used to identify circuits or individual customers that are experiencing multiple outages due to animal contact, trees, etc. This data assists Wellsboro in preventing future outages from occurring.

The graph below shows the distribution of causes of service outages occurring during 2006 as a percentage of total outages. Trees caused 20.1 percent of the outages, representing 43.6 percent of customers affected and 40.5 percent of interruption minutes. Equipment failure was responsible for 21 percent of incidents, 16.3 percent of customers affected and 15.3 percent of interruption minutes. Lightning was identified as being responsible for 7.9 percent of incidents, 6.8 percent of customers affected and 14.3 percent of interruption minutes.



Section 4 – Conclusion

Over the past few years, electric service reliability has been under increased scrutiny in Pennsylvania. The Electricity Generation Customer Choice and Competition Act mandates that the Commission ensure that levels of reliability that existed prior to the restructuring of the electric utility industry continue in the new competitive markets.

In response to this mandate, the Commission adopted reporting requirements designed to ensure the continuing safety, adequacy and reliability of the generation, transmission and distribution of electricity in the Commonwealth. The Commission also established reliability benchmarks and standards with which to measure the performance of each electric distribution company (EDC).

Given the uncertainty of weather and other events that can affect reliability performance, the Commission has stated that EDCs should set goals to achieve benchmark performance, or above the benchmark, to allow for those times when unforeseen circumstances push the indices above the benchmark. In recognition of these unforeseen circumstances, the Commission set the performance standard as the minimum level of EDC reliability performance. The standard is the level of performance beyond which the company must either justify its poor performance or provide information on the corrective measures it will take to improve performance. Performance that does not meet the standard for any reliability measure may be the threshold for triggering additional scrutiny and potential compliance enforcement actions.

In 2006, three of 11 EDCs failed to achieve compliance with the 12-month SAIFI performance standards for the average frequency of service outages per customer.

As mandated, enforcement of the three-year rolling average standard began with the utilities' filing of their 2006 annual reports. Three of the 11 EDCs failed to perform better than the three-year standard for average duration of service outages. For the average frequency of service outages per customer, six of the 11 EDCs failed to perform better than the three-year performance standard.

A variety of non-compliance enforcement actions were taken with EDCs that failed to meet any of the Commission's electric reliability performance standards. These enforcement actions ranged from meetings with the companies to discuss reliability improvement plans to formal reliability investigations.

Appendix A – Benchmarks and Standards

EDC	Reliability Indices	Benchmark	Rolling 12-Month Standard	Rolling 3-Yr Avg. Standard
Allegheny Power *	SAIFI	1.05	1.26	1.16
	CAIDI	170	204	187
	SAIDI	179	257	217
Duquesne Light	SAIFI	1.17	1.40	1.29
	CAIDI	108	130	119
	SAIDI	126	182	153
Met-Ed **	SAIFI	1.15	1.38	1.27
	CAIDI	117	140	129
	SAIDI	135	194	163
Penelec **	SAIFI	1.26	1.52	1.39
	CAIDI	117	141	129
	SAIDI	148	213	179
Penn Power **	SAIFI	1.12	1.34	1.23
	CAIDI	101	121	111
	SAIDI	113	162	136
PECO	SAIFI	1.23	1.48	1.35
	CAIDI	112	134	123
	SAIDI	138	198	167
PPL	SAIFI	0.98	1.18	1.08
	CAIDI	145	174	160
	SAIDI	142	205	172
UGI	SAIFI	0.83	1.12	0.91
	CAIDI	169	228	186
	SAIDI	140	256	170
Citizens	SAIFI	0.20	0.27	0.22
	CAIDI	105	141	115
	SAIDI	21	38	25
Pike County ***	SAIFI	0.61	0.82	0.67
	CAIDI	174	235	192
	SAIDI	106	194	129
Wellsboro	SAIFI	1.23	1.66	1.35
	CAIDI	124	167	136
	SAIDI	153	278	185

* Revised benchmarks and standards effective 7/20/06.

** Revised benchmarks and standards effective 2/17/06.

*** Revised benchmarks and standards effective 8/17/06.