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STATE OF NEW YORK

DEPARTMENT OF PUBLIC SERVICE

2010 ELECTRIC RELIABILITY PERFORMANCE REPORT

Electric Distribution Systems

Office of Electric, Gas, and Water

June 2011

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EXECUTIVE SUMMARY

This report presents Department of Public Service Staff's (Staff) assessment of electric reliability performance in New York State for 2010. As a means of monitoring the levels of service, utilities are required to submit detailed monthly interruption data to the Public Service Commission (Commission). Staff primarily relies on two metrics commonly used in the industry to measure reliability performance: the System Average Interruption Frequency Index (SAIFI or frequency) and the Customer Average Interruption Duration Index (CAIDI or duration).[1] Frequency is influenced by factors such as system design, capital investment, maintenance, and weather.[2] Decisions made by utilities today on capital expenditures and maintenance policies, however, can take several years before being fully reflected in the frequency measure. Duration, on the other hand, is affected by work force levels, management of the workforce, and geography. By compiling the interruption data provided by the individual utilities, the average frequency and duration of interruptions can be reviewed to assess the overall reliability of electric service in New York State. Recent data is also compared with historic performances to identify positive or negative trends. Finally, Staff reviews several other specific metrics that vary by utility to gauge electric reliability.

The statewide interruption frequency for 2010, excluding major storms, has been nearly identical for the past three years, and better than the five year average. Central Hudson Gas and Electric Corporation (Central Hudson) and Niagara Mohawk Power Corporation d/b/a National Grid's (National Grid) improved when compared with 2009. While the performances of the remaining four of the major electric companies were not as good as 2009 levels, they still performed satisfactorily and met the criteria in the performance mechanisms to which they were subject. For these companies, calendar year 2009 was also one of their best performing years in recent history.

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[1] SAIFI is the average number of times that a customer is interrupted during a year. CAIDI is the average interruption duration time for those customers that experience an interruption during the year.

[2] To help achieve a balance between service interruptions under a utility's control, such as equipment failures, and those which a utility's control is more limited, such as an ice storm, we review reliability data both including and excluding severe weather events.

For the most part, duration performances were acceptable. Although, the statewide duration in 2010 was slightly worse than 2009, it was better than the five year average. In 2010, New York State Electric and Gas (NYSEG)'s and Rochester Gas and Electric (RG&E)'s duration was its best performance in the past five years.

Calendar year 2010 was historically one of the worst with respect to major storm effects. Three significant storms in the Hudson Valley and Downstate contributed to the entire State having the fifth-most hours of customer electric service interruption (including major storms) in the past twenty years.

With respect to individual utility performance in 2010, Consolidated Edison Company of New York's (Con Edison) generally performed satisfactorily. Due to concerns regarding the accuracy of the number of customers that were affected by an interruption in a network, we are now measuring network performance using two alternate measures: the number of interruptions per 1000 customers[3] and the average interruption duration. In 2010, Con Edison's network interruption performance was better than its 2009 performance, however, the Company's network interruption duration was worse in 2010 when compared to its 2009 performance. With regard to its radial system, Con Edison's radial system interruption frequency was nearly the same as its five year average. The radial system interruption duration performance declined compared to prior years, but was better than the five year average.

While NYSEG and RG&E had worse frequency performances in 2010 as compared with 2009, they are still much better than the Companies' respective performance targets. Outages associated with tree contacts and equipment failures continue to be a concern relative to NYSEG. In 2010, the companies have resumed investing in and maintaining their systems at more appropriate levels after low spending levels in 2009. As previously stated, the companies achieved their best duration performances of the past five years in 2010.

[3] An interruption is the loss of service for five minutes or more, for one or more customers. For example, a blown fuse that affects twelve customers is one interruption.

National Grid continues to perform well. The Company's recent infrastructure improvement and reliability focused programs are having a positive impact. Central Hudson's performance was better or consistent with its five year averages. Because of continuing tree issues, Central Hudson implemented a more rigorous tree trimming specification several years ago. Staff will perform field reviews of electric lines that are at or near the end of the first four-year trimming cycle. Orange and Rockland Utilities, Inc. (Orange and Rockland) performed satisfactorily with regard to interruption frequency, but not with respect to interruption duration. The Company has lacked consistency in its performances and Staff will be working with the Company to help reduce this variability.

All investor-owned electric utilities have reliability performance mechanisms (RPMs) in place as part of their rate plans. The RPMs are designed such that companies are subject to negative revenue adjustments for failing to meet electric reliability targets. In 2010, Con Edison achieved the network outage duration metric and the remote monitoring system metric in its RPM only if the exclusions it is asserting are accepted by the Commission. Failure to achieve the performance levels set forth in these metrics may result in negative revenue adjustments of $5 million and $10 million, respectively. Con Edison is seeking exclusion of storm related outages and extraordinary circumstances in its Long Island City network, as permitted under certain circumstances in its RPM. If the exclusion is allowed, this would result in the Company meeting all RPM targets.[4] Orange and Rockland failed to achieve its interruption duration target in 2010, which would result in a negative revenue adjustment of $800,000. On March 16, 2011, Orange and Rockland filed a request for exemption for outages experienced during a storm on July 19, 2010. The request, if granted, improves the duration performance such that the Company would meet its target and not be subject to any negative revenue adjustments.[5] All of the other companies met their RPM targets.

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[4] Con Edison filed a request for exemption on March 31, 2010 which has yet to be presented to the Commission for final action.

[5] Orange and Rockland's request for exemption has yet to be presented to the Commission for final action.

Overall, we are generally pleased with the steady electric reliability performance across the State. There are, however, individual concerns that are being addressed through various Staff efforts. This report will be transmitted to an executive level operating officer of each electric utility with a letter from the Director of the Office of Electric, Gas, and Water.

INTRODUCTION

This report provides an overview of the electric reliability performance in New York State. As a means of monitoring the levels of service reliability, the Commission's Rules and Regulations require utilities delivering electricity in New York State to collect and submit information to the Commission regarding electric service interruptions on a monthly basis.[6] The utilities provide interruption data that enables Staff to calculate two primary performance metrics: the System Average Interruption Frequency Index (SAIFI or frequency) and the Customer Average Interruption Duration Index (CAIDI or duration). The information is grouped into 10 categories that delineate the nature of the cause of interruption (cause code).[7] Analysis of the cause code data enables the utilities and Staff to identify areas where increased capital investment or maintenance is needed. As an example, if a circuit were shown to be prone to lightning-caused interruptions, arrestors could be installed on that circuit to try to minimize the effect of future lightning strikes. In general, most of a utility's interruptions are a result of major storms, tree contacts, equipment failures, and accidents.[8] Staff maintains the interruption information in a database that dates back to 1989, which enables it to observe trends.

The Commission also adopted electric service standards addressing the reliability of electric service. The standards contain minimum acceptable performance levels for both the frequency and duration of service interruptions for each major electric utility's operating divisions. The utilities are required to submit a formal reliability report by March 31 of each year containing detailed assessments of performance, including outage trends in a utility's various geographic regions, reliability improvement projects, and analyses of worst-performing feeders. There are no revenue adjustments for failure

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[6] 16 NYCRR Part 97, Notification of Interruption of Service requires utilities to keep detailed back-up data for six years.

[7] 16 NYCRR Part 97, Notification of Interruption of Service specifies and defines the following ten cause codes that reflect the nature of the interruptions: major storms, tree contacts, overloads, operating errors, equipment failures, accidents, prearranged interruptions, customers equipment, lightning, and unknown. There are an additional seven cause codes used exclusively for Con Edison's underground network system.

[8] The accident cause code covers events not entirely within in the utilities' control including vehicular accidents, sabotage, and animal contacts. Lightning is reported under a separate cause code.

to meet a minimum level under the service standards; utilities are, however, required to include a corrective action plan as part of the annual report. The service standards were last revised in 2004.

In addition, utility performance is compared with utilities' RPMs established as part of the utilities' rate orders. RPMs are designed such that companies are subjected to negative revenue adjustments for failing to meet electric reliability targets. The RPMs typically include targets for frequency and duration; some RPMs have additional measures to address specific concerns within an individual company.

2010 RELIABILITY PERFORMANCE

The following sections provide a summary discussion of the reliability performance statewide and for each of the major utilities.[9] Interruption data is presented in two ways in this report – with major storms excluded and with major storms included. A major storm is defined by the Commission's regulations as any storm which causes service interruptions of at least 10 percent of customers in an operating area, and/or interruptions with duration of 24 hours or more. Major storm interruptions are excluded from the data used in calculating performance levels for service standards and reliability performance mechanisms. The purpose of this policy is to achieve a balance between service interruptions under a utility's control, such as equipment failures and line maintenance, and those over which a utility's control is more limited, such as severe ice storm or a heavy wet snowstorm. Reliability performance data inclusive of major storms reflects the actual customer experience during a year.

Each year, Staff prepares an Interruption Report summarizing the monthly interruption data submitted by utilities. The 2010 Interruption Report contains detailed interruption data for each utility and statewide statistics for the past five years. The Interruption Report for 2010 is attached as an Appendix. Individual company discussions identify issues or actions within each company that influenced performance levels for 2010 and indicate company-specific trends where applicable.

Revenue adjustments for inadequate performance are implemented through individual RPMs which have been established in the utilities' rate orders.[10] Con Edison and Orange and Rockland failed to achieve targets in their reliability performance mechanisms for 2010. Con Edison failed to achieve the average interruption duration target for its network system and also failed its Remote Monitoring System target, resulting in a negative rate adjustment of $15 million. Orange and Rockland failed to achieve its interruption duration target, which results in a negative revenue adjustment of $800,000. The rate adjustments are preliminary assessments because both companies are

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[9] Although LIPA is not regulated by the Commission, it supplies interruption data that is used to calculate statewide performance in this report.

[10] Revenue adjustments for inferior performances are implemented through individual Reliability Performance Mechanisms established in rate orders.

requesting exemptions, which are permitted under certain circumstances, and with which the companies would meet their targets and avoid any negative revenue adjustments.[11]

STATEWIDE

For many years, Staff has been combining individual utility performance statistics into overall statewide statistics. By doing so Staff is able to evaluate the level of reliability provided statewide and identify statewide trends. Because Con Edison's system includes many large, highly concentrated distribution networks that are generally less prone to interruptions than overhead systems, its interruption frequency is extremely low (i.e., better) as compared with other utilities. This, combined with the fact that it serves the largest number of customers in the state, typically results in a skewing of the performance measures. As a result, Staff examines and presents aggregated data both including and excluding Con Edison's data.

Statewide, as may be seen in Figure 1, the frequency of interruptions excluding major storms was 0.57 in 2010; this is generally equivalent to the previous two years' performances and better than the five-year average. National Grid and Central Hudson had fewer customers affected by power outages in 2010 when major storms are excluded, while NYSEG, Con Edison, RG&E, and O&R had more customers affected. The frequency performance in 2010 for utilities other than Con Edison is 0.89, which is substantially the same as their frequency performance of 0.88 in 2008 and .090 in 2009, and better than the five-year average of 0.94.

[11] The requests have not been presented to the Commission for final action.

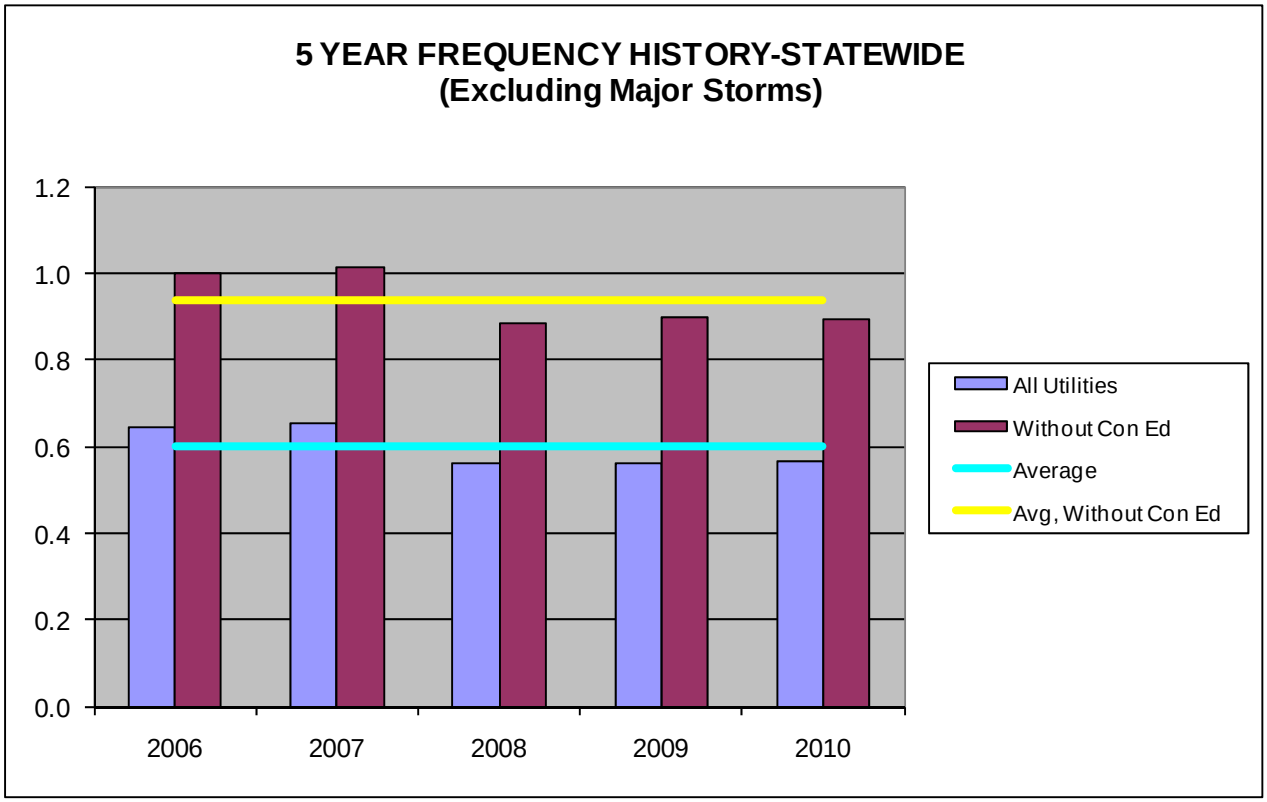


Figure 1: Statewide Frequency Performance

Figure 2 shows the historical statewide interruption duration index, excluding major storms. The 2010 overall statewide interruption duration index of 1.89 is slightly worse than 2009's 1.83, but is still consistent with the history of the past four years. When examining the chart, it should be kept in mind that Con Edison's Long Island City network outages in 2006 are still in the five year average. The statewide interruption duration index, excluding Con Edison, was 1.82 hours in 2010, which is the second best of the past five years.

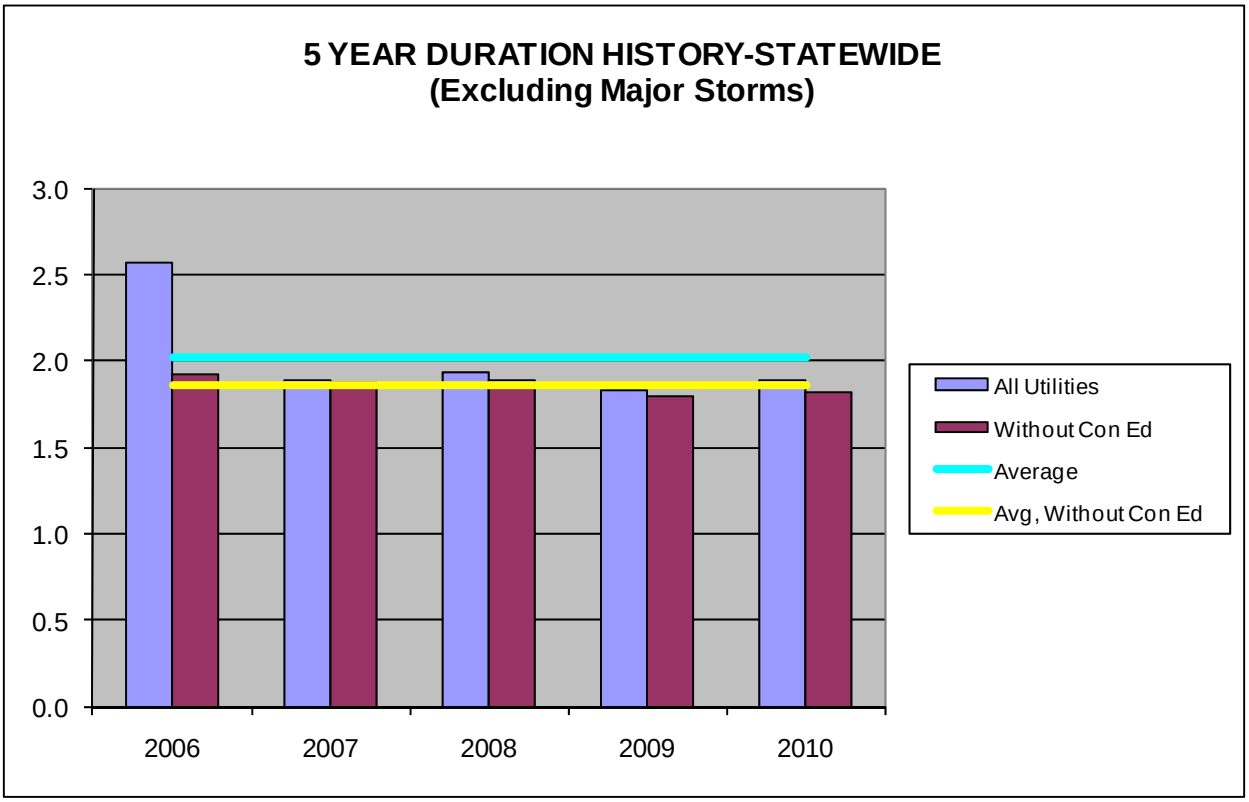


Figure 2: Statewide Duration Performance

While the overall number of major storms in 2010 was not atypical, three significant storms occurred in the Hudson Valley and Downstate. The three storms, summarized below, contributed to 2010 having the fifth-most hours of customer electric service interruption (including major storms) in the past twenty years (Figures 3 and 4, below). Because of the extended restoration times associated with these storms, the Commission requires the companies to file storm reports detailing restoration activities. [12] These reports were reviewed during the course of the year and determined that, in general, the utilities responded well.

- On February 23rd and 25th, heavy wet snow hit the Hudson Valley causing 300,000 customers to lose power. Central Hudson, Con Edison, NYSEG, and O&R were affected with overall restoration time exceeding a week. For Central Hudson, it was the worst storm in Company history since 1991, causing twice as much hours of customer interruption as Hurricane Floyd in 1999.

[12] 16 NYCRR Part 97, Part 105.4, requires utilities to file storm reports for outages lasting longer than three days.

- A March nor'easter swept the downstate area on March 3rd and affected 475,000 customers. Companies primarily affected were Con Edison, O&R, and LIPA. For Con Edison, it was the largest storm with respect to customer hours of interruption in Company history, with more than three times the amount experienced in Tropical Storm Ernesto in 2006.

- On September 16th, Tornados/Macrobursts hit downstate and affected Con Edison, O&R and LIPA, causing Con Edison 31,000 customers, mostly in Staten Island, Brooklyn and Queens, to lose power, some for extended times. The storms, while narrow in this geography, were notable in the magnitude of their destructiveness.

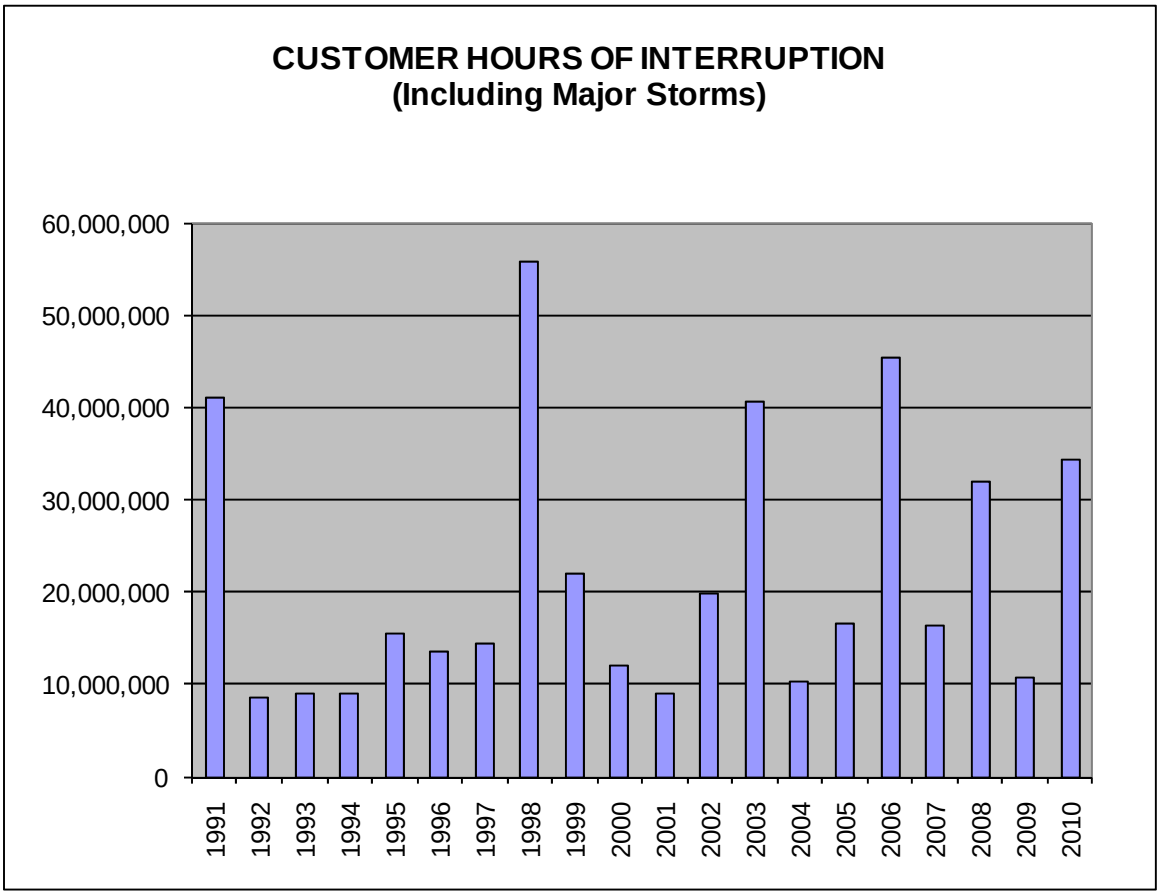


Figure 3: Customer Hours of Interruption (Including Major Storms)

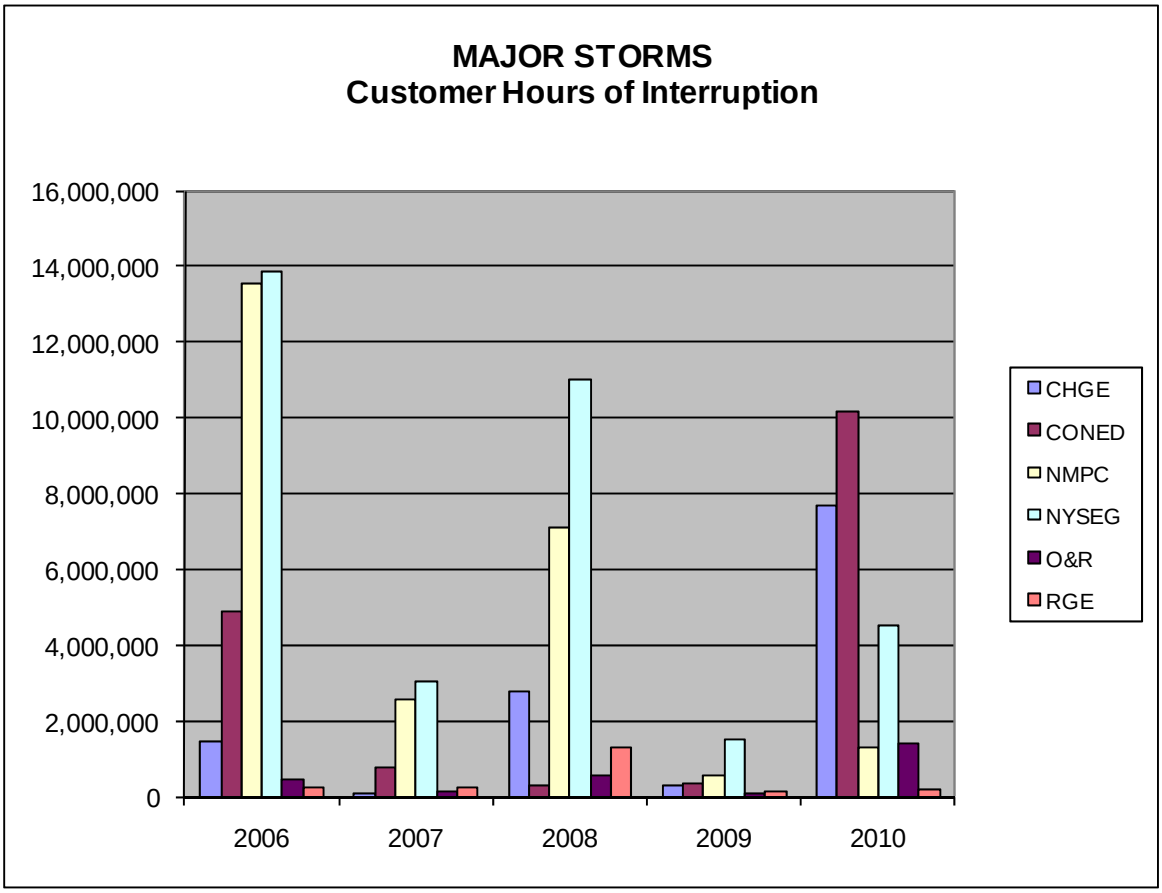


Figure 4: Major Storm Customer Hours

CON EDISON

Table 1: Con Edison's Historic Performance Excluding Major Storms

Metric	2006	2007	2008	2009	2010	5-Year Average
Network Systems[13]						
Frequency				3.63	3.09	---
Duration				4.63	5.89	---
Radial System						
Frequency (SAIFI)	**0.54**	0.38	0.42	0.32	0.41	0.42
Duration (CAIDI)	**2.66**	**2.07**	1.83	1.74	1.95	2.05

Note: Data presented in red represents a failure to meet the RPM target for a given year.

[13] The duration and frequency metrics to measure network performance were replaced for 2009 with other measures.

Con Edison serves approximately 3.3 million customers in New York City and Westchester County. Electricity is supplied to 2.4 million customers using network systems. The remaining 900,000 customers are supplied by radial systems.

To minimize the frequency of customer outages, Con Edison's networks are designed with redundant supply paths. Individual service lines to customer premises, however, lack any supplemental supply. Given these design characteristics and underground settings, the majority of interruptions (78%) are associated with the service portion of the network system, as shown in Figure 5. Equipment failures (8%) are the next highest causes for interruptions in 2010 followed by Mains (7%).

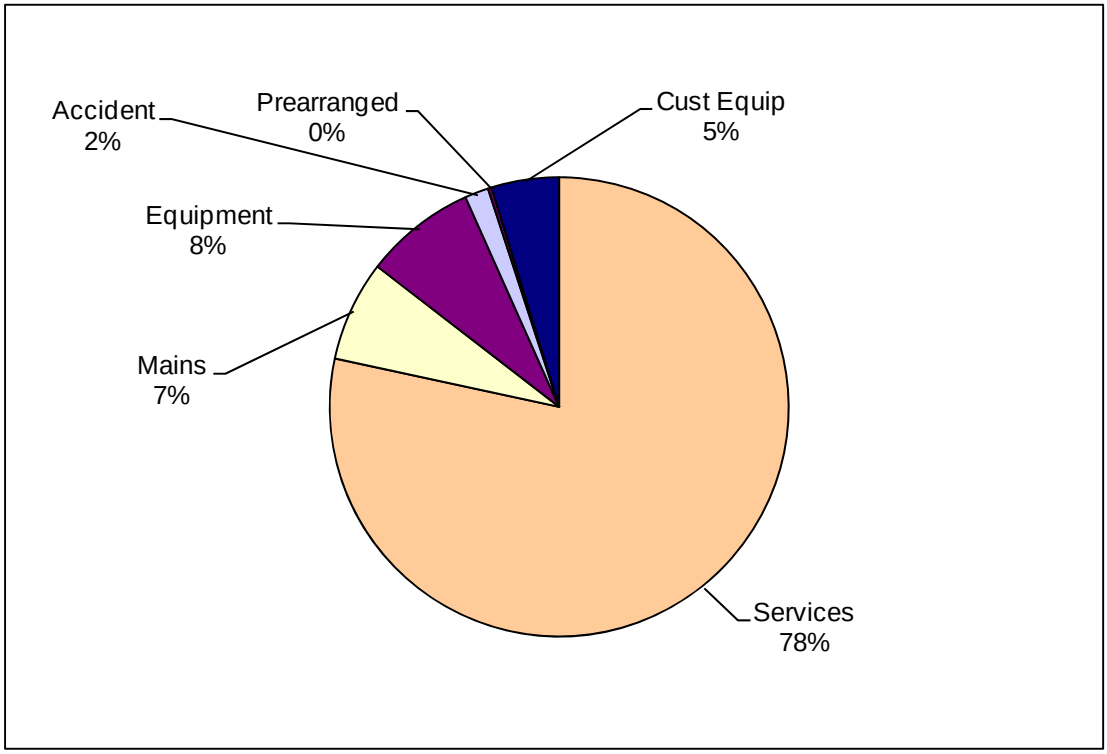


Figure 5: Con Edison's 2010 Network Interruptions by Cause

Due to concerns regarding the accuracy of the number of customers affected by an interruption in a network, we are now measuring network performance using two measures: the number of interruptions per 1000 customers and the average interruption duration. By using measures that are not based on the number of customers affected, we are able to monitor and trend network reliability performances without questioning the validity of the measures. In 2010, Con Edison's network interruptions

metric was better than its 2009 performance. The Company also achieved its RPM network interruption target for the past two years. With regard to duration, Con Edison performed worse in 2010 when compared to its 2009 performance. The Company did not meet its RPM target for average interruption duration in 2010. Con Edison is seeking exclusion of storm related outages from its interruption performance levels. It also failed to achieve the remote monitoring system metric in its RPM, but is seeking an exclusion due to extraordinary circumstances with regard to the Remote Monitoring System (RMS) criteria for its Long Island City network. If these exclusions are granted, the Company would meet the targets and not incur any negative revenue adjustment. [14]

On its radial system, Con Edison's frequency in 2010 of 0.41 was worse than 2009's performances and nearly equal to its five year average. The Company met its RPM frequency target of 0.495 for 2010. Equipment failures are responsible for 75% of the interruptions on the radial system, followed by trees and accidents at 9% and 8%, respectively, as shown in Figure 6.

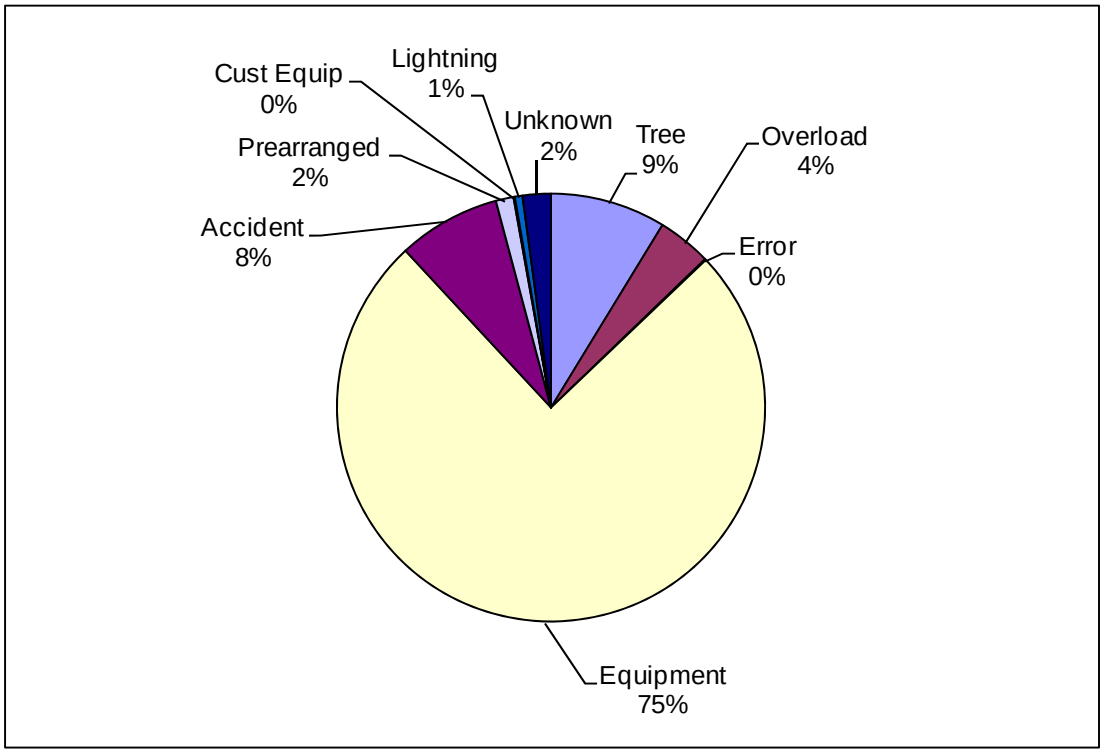


Figure 6: Con Edison's 2010 Radial Interruptions by Cause

[14] Con Edison filed a request for exemption on March 31, 2010 which has yet to be presented to the Commission for final action.

With respect to duration, Con Edison's radial performance in 2010 was worse than the previous two years. While the Company passed its RPM target of 2.04, duration performance is something we and the Company are monitoring closely. In response to a self-assessment recommended by Staff, Con Edison developed and implemented duration improvement strategies for both its radial and network system. To improve crewing efficiency and reduce outage duration, the Company has increased use of first responder staffing, increased the ability to mobile dispatch work to crews, and improve training resources. Con Edison stated that enhancements have been made to the process utilized for its outage management system to flag large outage jobs, and it now employs an automatic call out process for additional crews. The Company also continues to improve the reliability of its system by installing switches and other rapid restoration technologies. Given the focus and efforts Con Edison has put into place regarding duration, we believe 2010's performance is acceptable.

NATIONAL GRID

Table 2: National Grid's Historic Performance Excluding Major Storms

Metric	2006	2007	2008	2009	2010	5-Year Average
Frequency (SAIFI)	**1.01**	**0.96**	0.75	0.88	0.80	0.88
Duration (CAIDI)	2.05	2.01	1.96	1.91	1.98	1.98

Note: Data presented in red represents a failure to meet the RPM target for a given year.

National Grid serves approximately 1.59 million customers across upstate New York. The Company's 25,000 square mile territory includes metropolitan areas, such as the cities of Buffalo, Albany, and Syracuse, as well as many rural areas in northern New York and the Adirondacks.

In 2010, National Grid achieved both its reliability targets, comprising three consecutive years of positive performance. The Company's frequency level of 0.80 in 2010 improved as compared with 0.88 in 2009, and is well below its frequency target level of 0.93. The duration performance for 2010 was worse than 2009, but equal to its historic five-year average, and better than its duration target of 2.07 for five consecutive

years. National Grid also provided consistent service on a region by region basis. In 2010, the Company's Northeast division failed to achieve its duration expectation and the Capital Region barely missed its frequency expectation. As previously discussed, the divisional expectations are defined by our Electric Service Standards.

Historically, equipment failures were National Grid's leading cause of interruptions. Aged equipment, leading to poor frequency performances in mid 2000 necessitated the Company's significant investment in capital improvement projects aimed at improving reliability. As a result of the upgrades and modifications to its distribution system, the percentage of interruptions caused by equipment failures is now less than tree related electric service interruptions for 2010 (see Figure 7, below). It should be noted, however, that tree-related outages were worse in 2009 and 2010 when compared to historic interruption rates. Analysis of the data indicates that the increase in tree related interruptions is attributable to increased broken limb conditions. Interruptions caused by re-growth and danger trees, however, were both lower in 2010 than in 2009. As a result, National Grid is not recommending changes to its five year trimming cycle or hazard tree removal program. To help reduce it tree-related outages, National Grid is doing additional off-cycle trimming and trimming on worst performing circuits in 2011.

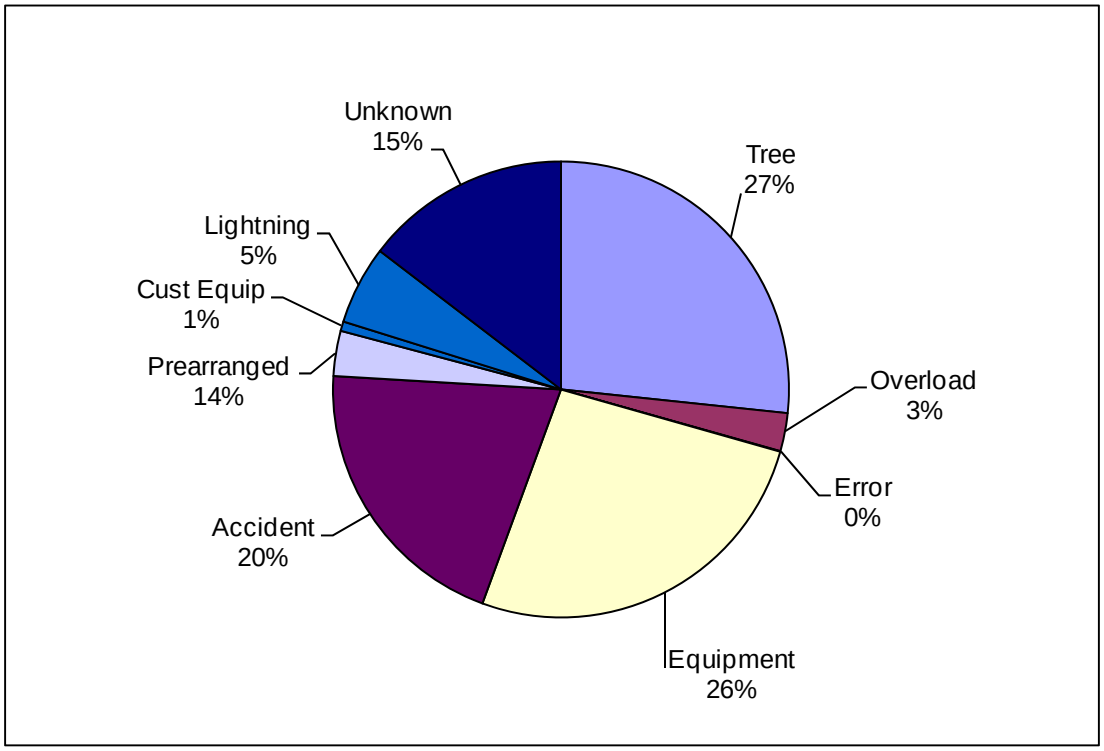


Figure 7: National Grid's 2010 Interruptions by Cause

In addition to improved performance on equipment failures, National Grid has decreased the number of customers affected when a failure occurs (see Table 3). The average number of customers affected by an interruption has been reduced from over 100 customers per interruption to approximately 90 customers per interruption in each of the last three years. National Grid credits the reduction to its effort to sectionalize lines via recloser and side tap fuse installations. National Grid's Line Recloser Program installs 100 additional reclosers per year and is expected to continue to limit the number of customers affected by a single interruption.

Table 3: National Grid's Historic Customers Affected per Interruption

	2006	2007	2008	2009	2010
Average number of customers affected per interruption	118	104	92	87	92

National Grid now uses a system that establishes repair work orders in direct response to inspection findings. Based on its success in repairing deteriorated items under its inspection and maintenance, National Grid will be discontinuing focused programs, such as the Pole Replacement Program and Feeder Hardening Program in 2011. While these programs were helpful in reducing National Grid's frequency performance over the past years, it is appropriate for the Company to consolidate its efforts in the interest of prioritizing and scheduling efficiencies. We expect that National Grid will continue to address reliability concerns on worst performing feeders, either through engineering reliability reviews or alternate methods, and maintain at least the current level of performance in future years.

NEW YORK STATE ELECTRIC AND GAS

Table 4: NYSEG's Historic Performance Excluding Major Storms

Metric	2006	2007	2008	2009	2010	5-Year Average
Frequency (SAIFI)	1.12	1.20	1.11	1.08	1.14	1.13
Duration (CAIDI)	2.01	2.22	2.08	2.00	1.98	2.06

Approximately 858,269 customers are served by NYSEG. The Company is primarily located in the Binghamton and Finger Lakes regions, but does have localized service regions, including areas near Plattsburgh, Brewster, Mechanicville, and Lancaster.

NYSEG's frequency performance of 1.14 was worse when compared with 2009's performance of 1.08, but nearly the same as the five year average. The 2010 duration performance of 1.98 was the best in the past five years. Overall, NYSEG's performance is satisfactory and the Company was able to meet its RPM reliability targets of 1.20 for frequency and 2.08 for duration.

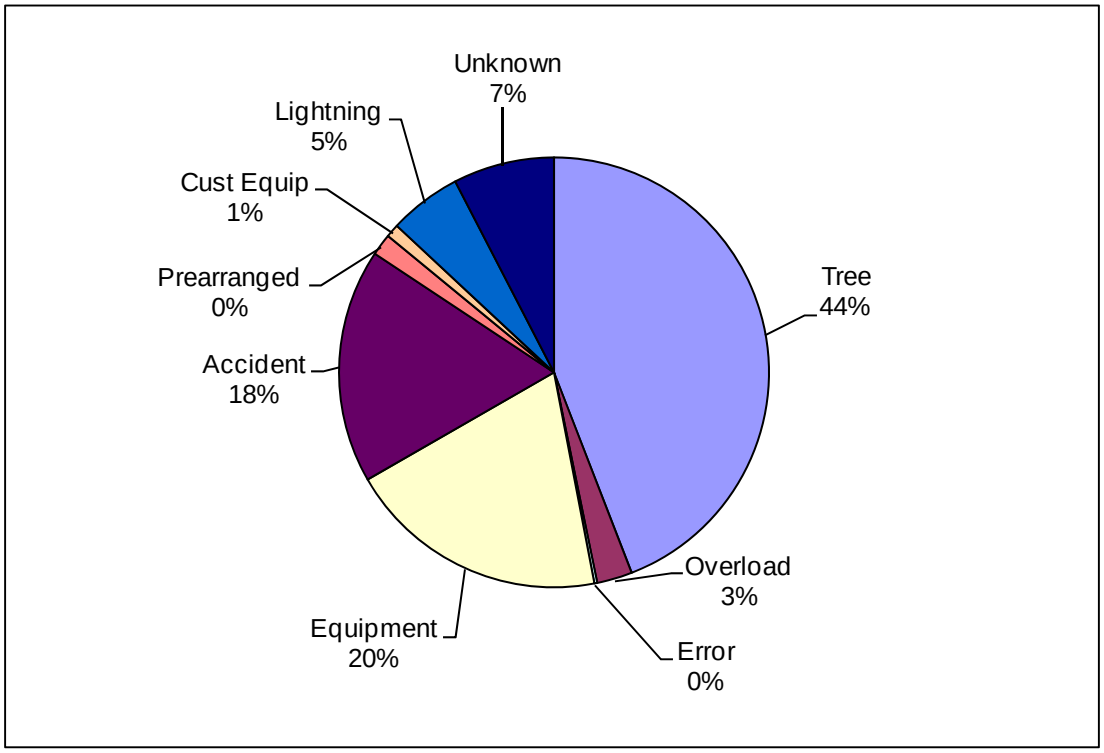


Figure 8: NYSEG's 2010 Interruptions by Cause

As shown in Figure 8, tree contacts (44%), equipment failures (20%), and accidents (18%) remain the predominant causes of interruption throughout NYSEG's twelve operating divisions in 2010. NYSEG has one of the worst frequency rates which is caused primarily by customers affected by tree interruptions. As a result, NYSEG needs to continue to focus on improving its distribution vegetation management program and reducing tree related outages. The Commission approved increased funding for distribution vegetation management activities as part of its last 2010 rate case agreement to help move NYSEG towards full cycle trimming activities. Therefore, Staff expects NYSEG to address the issue of tree trimming more aggressively and undertake measures to identify and perform trimming in areas where tree related outages are more frequent.

Equipment failures are NYSEG's second major cause for interruption. For the past two years, it accounted for 20% of the total number of interruptions. NYSEG has been addressing equipment failures under its Transmission and Distribution Infrastructure Replacement Program (TDIRP) program. The TDIRP program replaces electrical T&D equipment based on the condition, age, and failure characteristics of the specific item based on the Company's experience and knowledge. Funding for the

TDIRP program was reduced significantly in 2009 to approximately $6.0 million from historical levels of approximately $23 million annually.[15] In 2010, NYSEG began to invest in its system at close to or higher than historic levels. The most recent rate case supported $25 million in expenditures for the TDIRP efforts annually, to bring the Company back up to pre 2009 spending levels. The reinvestment into this program is expected to help reduce outages related to equipment failures and improve the system reliability on a going forward and proactive basis. Staff will continue to monitor the Company's performance on these issues.

ROCHESTER GAS AND ELECTRIC

Table 5: RG&E's Historic Performance Excluding Major Storms

Metric	2006	2007	2008	2009	2010	5-Year Average
Frequency (SAIFI)	0.79	0.83	0.78	0.59	0.71	0.74
Duration (CAIDI)	1.78	1.73	1.85	1.80	1.71	1.77

RG&E serves approximately 358,109 customers. Although the Company is comprised of four service areas, its Rochester division accounts for approximately 80% of its customer base. As a result, its overall reliability statistics mirror that of the Rochester division.

With regard to service reliability, RG&E continues to be one of the better utilities in the state by continually performing better than its RPM targets of 0.90 for frequency and 1.90 for duration, as established in its rate orders. As shown in Table 5, RG&E's performance for frequency and duration is fairly consistent with its five year average. The Company's frequency performance of 0.71 in 2010 was an increase from 0.59 in 2009; however, the 2009 performance was the best in the past five years. RG&E's duration performance of 1.71 in 2010 was better than in 2009 and better than the five-year average.

[15] In 2009, the Company reduced all expenditures to essential needs only while stating financial issues within the Company as the reasoning behind the reduced spending.

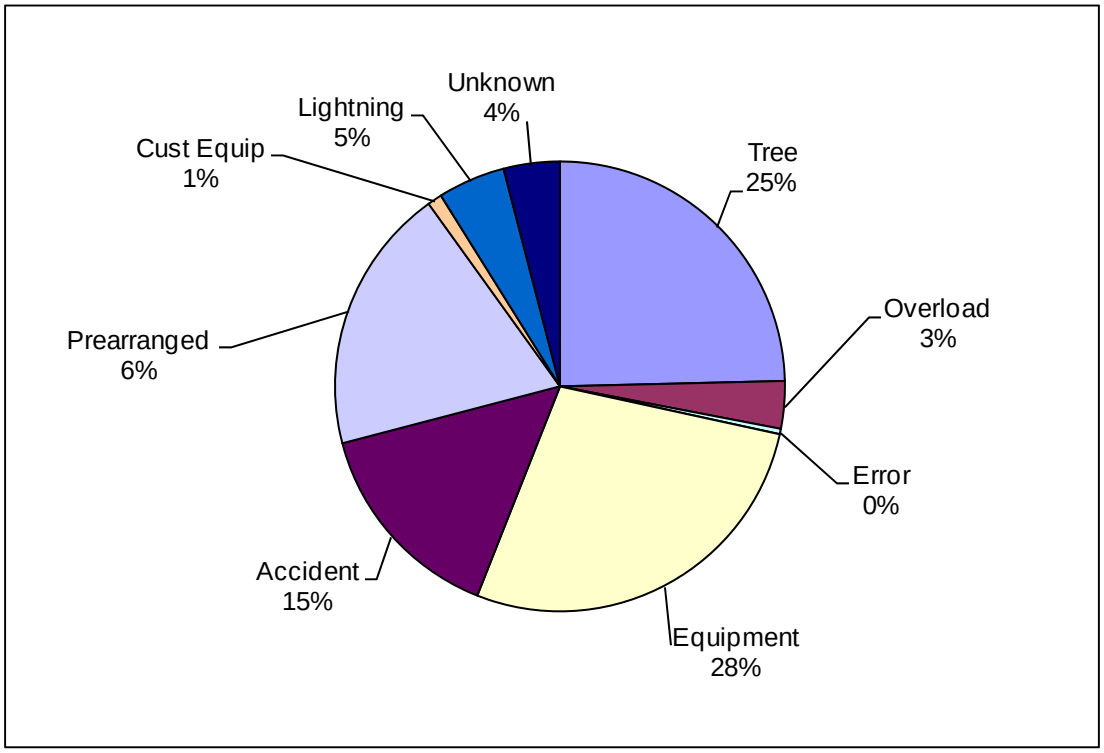


Figure 9: RG&E's 2010 Interruptions by Cause

Figure 9 shows that the two major contributors to interruptions in 2010 continue to be equipment failures (28%) and tree contacts (25%). Similar to NYSEG, funding for RG&E's Transmission and Distribution Infrastructure Replacement Program (TDIRP) was reduced due to Company financial issues in 2009 and the beginning of 2010. In the last rate case, the Commission supported expenditures for the TDIRP efforts, in the amount of $15 million annually, to bring the Company back up to pre 2009 spending levels. Likewise, the Commission also supported increased expenditures for vegetation management, in the amount of $6.6 million annually, allowing the Company to implement a full system vegetation management (tree trimming) cycle program. Staff believes that these two programs and associated expenditures will help reduce outages and improve the system reliability going forward on proactive basis.

CENTRAL HUDSON GAS AND ELECTRIC

Table 6: Central Hudson's Historic Performance Excluding Major Storms

Metric	2006	2007	2008	2009	2010	5-Year Average
Frequency (SAIFI)	**1.59**	1.42	1.27	1.37	1.27	1.38
Duration (CAIDI)	**2.58**	2.43	2.47	2.22	2.42	2.43

Note: Data presented in red represents a failure to meet the RPM target for a given year.

Central Hudson serves approximately 298,000 customers in the Mid-Hudson Valley region. The Company's territory is mainly suburban and rural. Central Hudson does serve some urban regions, such as the cities of Poughkeepsie and Newburgh.

Central Hudson's frequency performance of 1.27 in 2010 was better than 2009 and ties its five-year best. The Company's duration performance of 2.42 in 2010, on the other hand, was slightly better than average. Figure 10 shows that 38% of customer interruptions were due to tree related issues, followed by accidents which comprised 25%. In 2010, the Company achieved its RPM targets of 1.45 for frequency and 2.50 for duration.

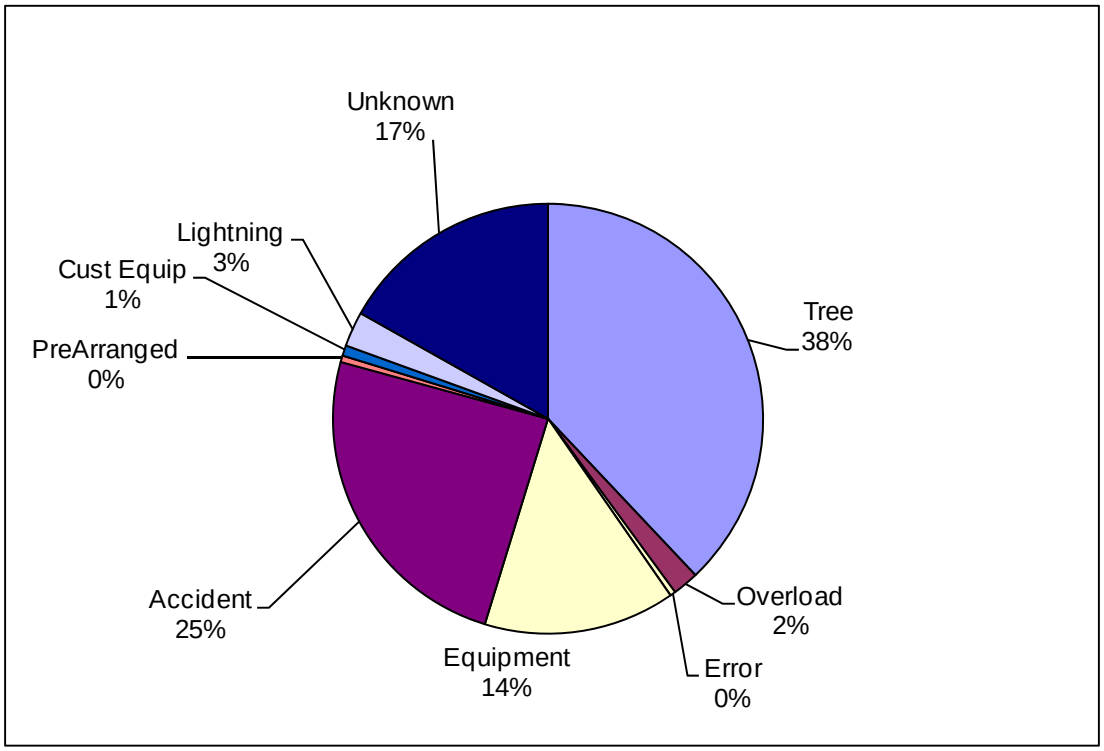


Figure 10: Central Hudson's 2010 Interruptions by Cause

As is the case with most overhead distribution utilities, trees are a primary cause of outages (Figure 10, above). The Company as a whole suffers more tree interruptions per customer served than any other major New York electric utility. Since 2007 Central Hudson has done vegetation line clearance in accordance with a new, improved specification. Using greater level of detail available to it, the Company reports a trend of decreasing interruptions resulting from trees falling inside its trimming zone. Staff will follow-up this summer with the Company and perform field reviews of electric lines that are at or near the end of the four-year trimming cycle.

The Unknown and Accident categories historically make up large portions of electric interruptions for all New York utilities, and this is the case for Central Hudson as well. Staff will be looking more closely with the Company at these classifications of outages to see if the Company's performance can be improved.

Equipment failures cause a large number of electric interruptions as is the case with most electric utility companies. Central Hudson is continuing several programs to decrease the number of these interruptions, including programs for substation breaker replacement, porcelain cutout replacement, 14kV paper and lead cable replacement, automatic load transfer switch installation, and aging recloser replacement (including remote communication). In addition, the Company has a program to upgrade individual circuits.

ORANGE AND ROCKLAND

Table 7: O&R's Historic Performance Excluding Major Storms

Metric	2006	2007	2008	2009	2010	5-Year Average
Frequency (SAIFI)	1.23	1.03	1.19	0.96	1.21	1.13
Duration (CAIDI)	1.51	1.60	**1.83**	1.66	**1.79**	1.68

Note: Data presented in red represents a failure to meet the RPM target for a given year.

Orange and Rockland serves approximately 218,000 customers in three New York counties along the New Jersey and Pennsylvania border. In 2010, the

Company met its reliability performance mechanism target of 1.36 for frequency with a frequency of 1.21; however, it failed to achieve the duration target of 1.70 with a 1.79 performance.[16] As the table above shows, the 2010 frequency and duration performance levels were both much worse than last years and continue ORU's sporadic performance trend from year to year. The 2010 results were worse than the 5 year averages and are similar to those in 2008 when the Company again failed to achieve its duration target. Staff will continue to work with the Company to help reduce the variability in performances.

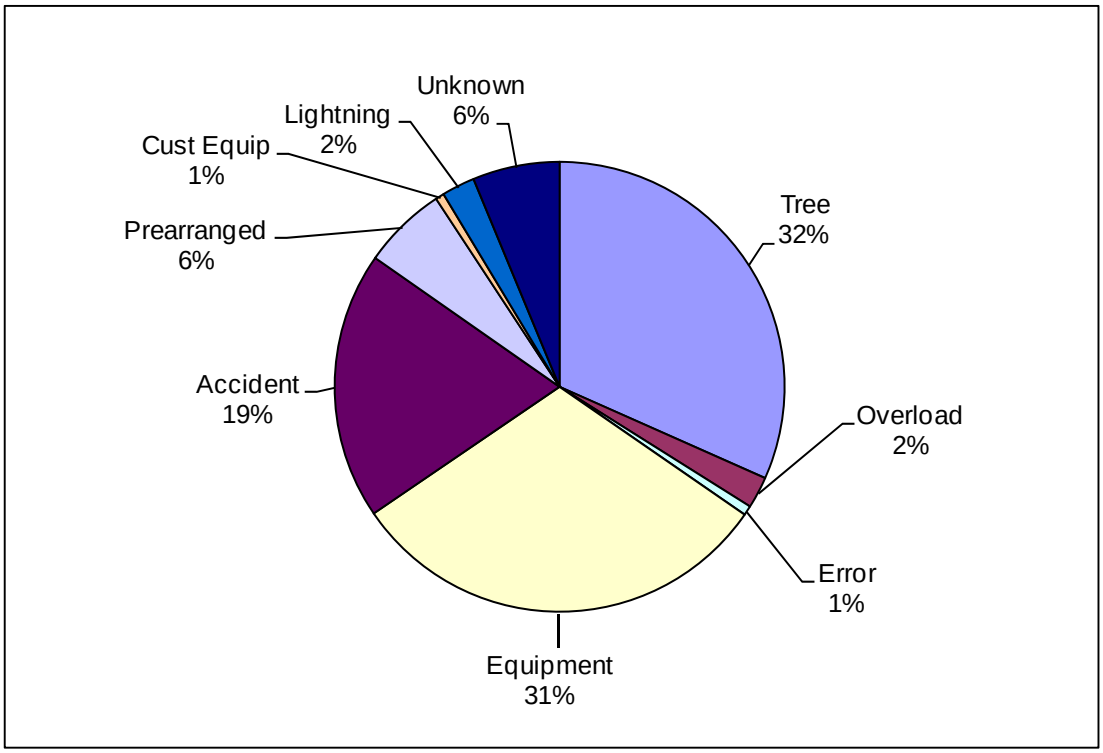


Figure 11: Orange and Rockland's 2010 Interruptions by Cause

As shown in Figure 11, tree contacts (32%) and equipment failures (31%) caused the majority of interruptions in 2010. Orange and Rockland is addressing reliability issues resulting from equipment failures through capital improvement programs such as the Distribution Automation Program, the Underground Cable

[16] The Company has filed a petition to the Commission for exemption from the RPM revenue adjustment, related to a storm that affected its Eastern Division on July 19, 2010. This petition has not been acted on by the Commission.

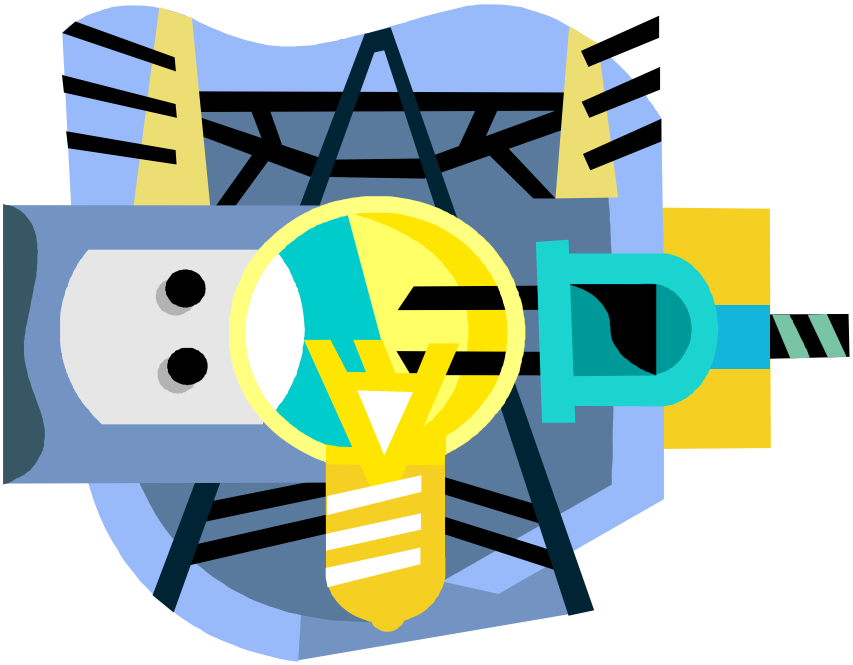
Maintenance and Rebuild Program, and a number of service reliability improvement projects directed by the circuit priority-rating methodology.

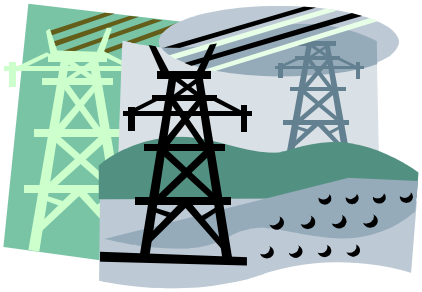
The Company continues to address concerns regarding tree-related outages through increased efforts on its line clearance programs. In addition to the four-year cycle based tree trimming program, the Company has continued to identify and perform supplemental trimming to address areas with recurring tree related outages. These programs are expected to reduce the impact of tree contacts on the Company's electrical system through the coming years.

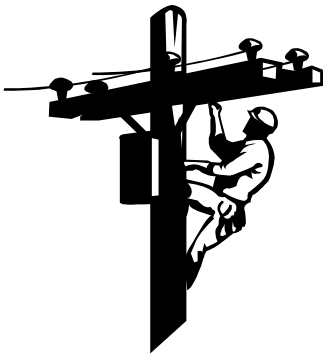
APPENDIX

2010 INTERRUPTON REPORT

The 2010 Interruption Report







Office of Electricity, Gas, and Water

June 2011

June 2011

ATTACHMENT
Definitions and Explanations of Terms Used in the 2010
Statewide Electric Service Interruption Report

Interruption is the loss of service for five minutes or more.

Customer hours is the time a customer is without electric service.

Customers affected is the number of customers without electric service.

Customers served is the number of customers as of the last day of the **current year.** For example, for the calendar year of **2010**, customers served is the number of customers as of 12/31/2010. For indices using customers served, the **previous** year is used.

Frequency (**SAIFI)** measures the average number of interruptions experienced by customers served by the utility. It is the customers affected divided by the customers served at the end of the **previous** year, i.e., 12/31/2009.

Duration (CAIDI) measures the average time that an affected customer is out of electric service. It is the customer hours divided by the customers affected.

Availability (SAIDI) is the average amount of time a customer is out-of-service during a year. It is the customer hours divided by the number of customers served at the end of the **previous** year, i.e., 12/31/2009. Mathematically, it also is **SAIFI** multiplied by **CAIDI**.

Interruptions Per 1000 Customers Served is the number of interruptions divided by the number of customers served at the end of the **previous** year, i.e., 12/31/2009, divided by 1,000.

Major Storm is defined as any storm which causes service interruptions of at least ten percent of customers in an operating area, or if the interruptions last for 24 hours or more.

Operating Area is a geographical subdivision of each electric utility's franchise territory. These areas are also called regions, divisions, or districts.

Most of the data is presented two ways, with major storms included and major storms excluded. Major storms tend to distort a utility's performance trend. Tables and graphs that exclude major storms illustrate interruptions that are more under the utility's control. It portrays a utility's system facilities under normal conditions, although this can be misleading because interruptions during "normal" bad weather are included and it is difficult to analyze from year to year.

The first two tables show frequency and duration indices for the last five years for each utility and Statewide with and without Con Edison data. Con Edison has by far the lowest frequency numbers and tends to distort the Statewide data. Much of Con Edison's distribution system consists of a secondary network. In a secondary network, a customer is fed from multiple supplies, making the probability of an interruption relatively rare.

COMPARISON OF SERVICE RELIABILITY INDICES
(EXCLUDING MAJOR STORMS)

	2006	2007	2008	2009	2010	5 YR AVG
CHGE						
FREQUENCY	1.59	1.42	1.27	1.37	1.27	1.38
DURATION	2.58	2.43	2.47	2.22	2.42	2.43
CONED						
FREQUENCY	0.16	0.16	0.13	0.10	0.13	0.13
DURATION	8.23	1.97	2.27	2.27	2.57	3.46
LIPA *						
FREQUENCY	0.75	0.90	0.77	0.74	0.73	0.78
DURATION	1.37	1.20	1.36	1.17	1.11	1.24
NAT GRID						
FREQUENCY	1.01	0.96	0.75	0.88	0.80	0.88
DURATION	2.05	2.01	1.96	1.91	1.98	1.98
NYSEG						
FREQUENCY	1.12	1.20	1.11	1.08	1.14	1.13
DURATION	2.01	2.22	2.08	2.00	1.98	2.06
O&R						
FREQUENCY	1.23	1.03	1.19	1.03	1.21	1.14
DURATION	1.51	1.60	1.83	1.67	1.79	1.68
RG&E						
FREQUENCY	0.79	0.83	0.78	0.59	0.71	0.74
DURATION	1.78	1.73	1.85	1.80	1.71	1.77
STATEWIDE (WITHOUT CONED)						
FREQUENCY	1.00	1.02	0.88	0.90	0.89	0.94
DURATION	1.92	1.88	1.89	1.79	1.82	1.86
STATEWIDE (WITH CONED)						
FREQUENCY	0.65	0.65	0.56	0.56	0.57	0.60
DURATION	2.57	1.89	1.93	1.83	1.89	2.02

* LIPA is not regulated by the NYS PSC.
** For those indices that use Customers Served, Customers Served is the December value from the previous year.

COMPARISON OF SERVICE RELIABILITY INDICES
(INCLUDING MAJOR STORMS)

	2006	2007	2008	2009	2010	5 YR AVG
CHGE						
FREQUENCY	2.20	1.51	2.15	1.63	2.62	2.02
DURATION	4.12	2.51	5.76	2.48	10.94	5.16
CONED						
FREQUENCY	0.23	0.18	0.14	0.11	0.23	0.18
DURATION	12.31	3.12	2.71	3.06	15.05	7.25
LIPA *						
FREQUENCY	1.18	1.04	1.09	0.81	1.04	1.03
DURATION	1.99	1.37	1.65	1.25	1.84	1.62
NAT GRID						
FREQUENCY	1.48	1.31	1.37	1.01	0.98	1.23
DURATION	7.18	2.70	4.32	2.01	2.46	3.74
NYSEG						
FREQUENCY	1.79	1.71	2.14	1.47	1.84	1.79
DURATION	10.32	3.62	7.07	2.68	4.09	5.55
O&R						
FREQUENCY	1.81	1.17	1.64	1.15	1.79	1.51
DURATION	2.15	1.92	2.94	1.89	4.76	2.73
RG&E						
FREQUENCY	0.98	1.16	1.36	0.74	0.79	1.01
DURATION	2.14	1.80	3.77	2.03	2.18	2.38
STATEWIDE (WITHOUT CONED)						
FREQUENCY	1.49	1.31	1.51	1.07	1.29	1.34
DURATION	6.02	2.56	4.62	2.09	4.09	3.87
STATEWIDE (WITH CONED)						
FREQUENCY	0.96	0.83	0.93	0.67	0.84	0.85
DURATION	6.65	2.61	4.50	2.16	5.35	4.25

* LIPA is not regulated by the NYS PSC.
** For those indices that use Customers Served, Customers Served is the December value from the previous year.

STATEWIDE (WITHOUT CON ED)

Excluding Major Storms

	2006	2007	2008	2009	2010	5 YR AVG
Number of Interruptions	55,211	55,425	53,758	55,995	54,310	54,940
Number of Customer-Hours	8,439,916	8,439,464	7,399,179	7,116,848	7,197,156	7,718,512
Number of Customers Affected	4,400,072	4,495,428	3,910,426	3,976,492	3,962,829	4,149,049
Number of Customers Served	4,428,946	4,433,994	4,425,772	4,437,856	4,446,105	4,434,535
Average Duration Per Customer Affected (CAIDI)	1.92	1.88	1.89	1.79	1.82	1.86
Average Duration Per Customers Served	1.91	1.91	1.67	1.61	1.62	1.74
Interruptions Per 1000 Customers Served	12.52	12.51	12.12	12.65	12.24	12.41
Number of Customers Affected Per Customer Served (SAIFI)	1.00	1.02	0.88	0.90	0.89	0.94

STATEWIDE (WITH CON ED)

Excluding Major Storms

	2006	2007	2008	2009	2010	5 YR AVG
Number of Interruptions	65,752	66,746	65,403	70,930	68,221	67,410
Number of Customer-Hours	12,603,322	9,429,452	8,326,562	7,891,155	8,284,480	9,306,994
Number of Customers Affected	4,905,844	4,996,967	4,319,550	4,316,932	4,385,672	4,584,993
Number of Customers Served	7,647,367	7,678,791	7,697,498	7,729,599	7,766,918	7,704,035
Average Duration Per Customer Affected (CAIDI)	2.57	1.89	1.93	1.83	1.89	2.02
Average Duration Per Customers Served	1.66	1.23	1.08	1.03	1.07	1.21
Interruptions Per 1000 Customers Served	8.66	8.73	8.52	9.21	8.83	8.79
Number of Customers Affected Per Customer Served (SAIFI)	0.65	0.65	0.56	0.56	0.57	0.60

* LIPA is not regulated by the NYS PSC.

** For those indices that use Customers Served, Customers Served is the December

STATEWIDE (WITHOUT CON ED)

Including Major Storms

	2006	2007	2008	2009	2010	5 YR AVG
Number of Interruptions	70,872	61,753	73,150	61,841	72,135	67,950
Number of Customer-Hours	39,413,242	14,848,512	30,962,269	9,923,723	23,466,391	23,722,827
Number of Customers Affected	6,548,910	5,808,516	6,705,414	4,752,148	5,741,806	5,911,359
Number of Customers Served	4,428,946	4,433,994	4,425,772	4,437,856	4,446,105	4,434,535
Average Duration Per Customer Affected (CAIDI)	6.02	2.56	4.62	2.09	4.09	3.87
Average Duration Per Customers Served	8.94	3.35	6.98	2.24	5.29	5.36
Interruptions Per 1000 Customers Served	16.08	13.94	16.50	13.97	16.25	15.35
Number of Customers Affected Per Customer Served (SAIFI)	1.49	1.31	1.51	1.07	1.29	1.34

STATEWIDE (WITH CON ED)

Including Major Storms

	2006	2007	2008	2009	2010	5 YR AVG
Number of Interruptions	86,734	74,261	85,548	77,181	91,471	83,039
Number of Customer-Hours	48,437,221	16,630,252	32,188,186	11,046,399	34,693,862	28,599,184
Number of Customers Affected	7,282,114	6,379,276	7,158,329	5,118,841	6,487,588	6,485,230
Number of Customers Served	7,647,367	7,678,791	7,697,498	7,729,599	7,766,918	7,704,035
Average Duration Per Customer Affected (CAIDI)	6.65	2.61	4.50	2.16	5.35	4.25
Average Duration Per Customers Served	6.38	2.17	4.19	1.44	4.49	3.73
Interruptions Per 1000 Customers Served	11.42	9.71	11.14	10.03	11.83	10.83
Number of Customers Affected Per Customer Served (SAIFI)	0.96	0.83	0.93	0.67	0.84	0.85

* LIPA is not regulated by the NYS PSC.

** For those indices that use Customers Served, Customers Served is the December

CENTRAL HUDSON
Excluding Major Storms

	2006	2007	2008	2009	2010	5 YR AVG
Number of Interruptions	7,538	6,386	6,857	6,705	7,762	7,050
Number of Customer-Hours	1,201,109	1,021,859	933,993	910,250	922,392	997,921
Number of Customers Affected	464,765	420,769	377,564	410,516	380,489	410,821
Number of Customers Served	295,368	298,386	300,621	299,557	299,971	298,781
Average Duration Per Customer Affected (CAIDI)	2.58	2.43	2.47	2.22	2.42	2.43
Average Duration Per Customers Served	4.10	3.46	3.13	3.03	3.08	3.36
Interruptions Per 1000 Customers Served	25.74	21.62	22.98	22.30	25.91	23.71
Number of Customers Affected Per Customer Served (SAIFI)	1.59	1.42	1.27	1.37	1.27	1.38

CENTRAL HUDSON
Including Major Storms

	2006	2007	2008	2009	2010	5 YR AVG
Number of Interruptions	10,066	6,681	9,887	7,609	11,994	9,247
Number of Customer-Hours	2,649,690	1,117,802	3,705,277	1,211,827	8,597,567	3,456,433
Number of Customers Affected	643,778	444,813	642,949	488,732	785,806	601,216
Number of Customers Served	295,368	298,386	300,621	299,557	299,971	298,781
Average Duration Per Customer Affected (CAIDI)	4.12	2.51	5.76	2.48	10.94	5.16
Average Duration Per Customers Served	9.05	3.78	12.42	4.03	28.70	11.60
Interruptions Per 1000 Customers Served	34.38	22.62	33.13	25.31	40.04	31.10
Number of Customers Affected Per Customer Served (SAIFI)	2.20	1.51	2.15	1.63	2.62	2.02

* Customers Served is the number of customers served at the end of the current year.
** For those indices that use Customers Served, Customers Served is the December value from the previous year.

CON ED (SYSTEM)
Excluding Major Storms

	2006	2007	2008	2009	2010	5 YR AVG
Number of Interruptions	10,541	11,321	11,645	14,935	13,911	12,471
Number of Customer-Hours	4,163,407	989,988	927,383	774,307	1,087,325	1,588,482
Number of Customers Affected	505,772	501,539	409,124	340,440	422,843	435,944
Number of Customers Served	3,218,421	3,244,797	3,271,726	3,291,743	3,320,813	3,269,500
Average Duration Per Customer Affected (CAIDI)	8.23	1.97	2.27	2.27	2.57	3.46
Average Duration Per Customers Served	1.31	0.31	0.29	0.24	0.33	0.49
Interruptions Per 1000 Customers Served	3.31	3.52	3.59	4.56	4.23	3.84
Number of Customers Affected Per Customer Served (SAIFI)	0.16	0.16	0.13	0.10	0.13	0.13

CON ED (SYSTEM)
Including Major Storms

	2006	2007	2008	2009	2010	5 YR AVG
Number of Interruptions	15,862	12,508	12,398	15,340	19,336	15,089
Number of Customer-Hours	9,023,979	1,781,740	1,225,917	1,122,677	11,227,471	4,876,357
Number of Customers Affected	733,204	570,760	452,915	366,693	745,782	573,871
Number of Customers Served	3,218,421	3,244,797	3,271,726	3,291,743	3,320,813	3,269,500
Average Duration Per Customer Affected (CAIDI)	12.31	3.12	2.71	3.06	15.05	7.25
Average Duration Per Customers Served	2.83	0.55	0.38	0.34	3.41	1.50
Interruptions Per 1000 Customers Served	4.98	3.89	3.82	4.69	5.87	4.65
Number of Customers Affected Per Customer Served (SAIFI)	0.23	0.18	0.14	0.11	0.23	0.18

* Customers Served is the number of customers served at the end of the current year.
** For those indices that use Customers Served, Customers Served is the December value from the previous year.

CON ED (NETWORK)

	2006	2007	2008	2009	2010	5 YR AVG
Number of Interruptions	4,274	5,571	5,485	8,650	7,434	6,283
Number of Customer-Hours	2,947,306	316,477	252,964	273,705	370,405	832,171
Number of Customers Affected	48,467	176,430	40,301	52,994	54,555	74,549
Number of Customers Served	2,363,897	2,361,145	2,385,760	2,403,818	2,439,565	2,390,837
Average Duration Per Customer Affected (CAIDI)	60.81	1.79	6.28	5.16	6.79	16.17
Average Duration Per Customers Served	1.26	0.13	0.11	0.11	0.15	0.35
Interruptions Per 1000 Customers Served	1.83	2.36	2.32	3.63	3.09	2.64
Number of Customers Affected Per Customer Served (SAIFI)	0.021	0.075	0.017	0.022	0.023	0.031

* Customers Served is the number of customers served at the end of the current year.
** For those indices that use Customers Served, Customers Served is the December value from the previous year.

CON ED (RADIAL)
Excluding Major Storms

	2006	2007	2008	2009	2010	5 YR AVG
Number of Interruptions	6,267	5,750	6,160	6,285	6,477	6,188
Number of Customer-Hours	1,216,101	673,511	674,419	500,602	716,920	756,310
Number of Customers Affected	457,305	325,109	368,823	287,446	368,288	361,394
Number of Customers Served	854,524	883,652	885,966	887,925	881,248	878,663
Average Duration Per Customer Affected (CAIDI)	2.66	2.07	1.83	1.74	1.95	2.05
Average Duration Per Customers Served	1.43	0.79	0.76	0.57	0.81	0.87
Interruptions Per 1000 Customers Served	7.39	6.73	6.97	7.09	7.29	7.10
Number of Customers Affected Per Customer Served (SAIFI)	0.54	0.38	0.42	0.32	0.41	0.42

CON ED (RADIAL)
Including Major Storms

	2006	2007	2008	2009	2010	5 YR AVG
Number of Interruptions	11,588	6,937	6,913	6,690	11,902	8,806
Number of Customer-Hours	6,076,673	1,465,264	972,954	848,971	10,857,066	4,044,185
Number of Customers Affected	684,737	394,330	412,614	313,699	691,227	499,321
Number of Customers Served	854,524	883,652	885,966	887,925	881,248	878,663
Average Duration Per Customer Affected (CAIDI)	8.87	3.72	2.36	2.71	15.71	6.67
Average Duration Per Customers Served	7.17	1.71	1.10	0.96	12.23	4.63
Interruptions Per 1000 Customers Served	13.67	8.12	7.82	7.55	13.40	10.11
Number of Customers Affected Per Customer Served (SAIFI)	0.81	0.46	0.47	0.35	0.78	0.57

* Customers Served is the number of customers served at the end of the current year.
** For those indices that use Customers Served, Customers Served is the December value from the previous year.

LIPA

Excluding Major Storms

	2006	2007	2008	2009	2010	5 YR AVG
Number of Interruptions	18,634	18,736	18,135	17,795	17,180	18,096
Number of Customer-Hours	1,129,275	1,190,411	1,166,613	958,679	905,031	1,070,002
Number of Customers Affected	823,396	995,077	856,405	821,723	811,969	861,714
Number of Customers Served	1,103,162	1,108,540	1,110,853	1,114,716	1,117,281	1,110,910
Average Duration Per Customer Affected (CAIDI)	1.37	1.20	1.36	1.17	1.11	1.24
Average Duration Per Customers Served	1.03	1.08	1.05	0.86	0.81	0.97
Interruptions Per 1000 Customers Served	16.99	16.98	16.36	16.02	15.41	16.35
Number of Customers Affected Per Customer Served (SAIFI)	0.75	0.90	0.77	0.74	0.73	0.78

LIPA

Including Major Storms

	2006	2007	2008	2009	2010	5 YR AVG
Number of Interruptions	24,905	20,077	20,471	19,003	22,867	21,465
Number of Customer-Hours	2,564,134	1,564,559	1,998,270	1,121,723	2,125,507	1,874,839
Number of Customers Affected	1,289,698	1,142,365	1,208,292	894,595	1,153,884	1,137,767
Number of Customers Served	1,103,162	1,108,540	1,110,853	1,114,716	1,117,281	1,110,910
Average Duration Per Customer Affected (CAIDI)	1.99	1.37	1.65	1.25	1.84	1.62
Average Duration Per Customers Served	2.34	1.42	1.80	1.01	1.91	1.70
Interruptions Per 1000 Customers Served	22.71	18.20	18.47	17.11	20.51	19.40
Number of Customers Affected Per Customer Served (SAIFI)	1.18	1.04	1.09	0.81	1.04	1.03

* LIPA is not regulated by the NYS PSC.
* Customers Served is the number of customers served at the end of the current year.
** For those indices that use Customers Served, Customers Served is the December value from the previous year.

NATIONAL GRID
Excluding Major Storms

	2006	2007	2008	2009	2010	5 YR AVG
Number of Interruptions	13,665	14,606	12,939	15,915	13,822	14,189
Number of Customer-Hours	3,289,340	3,045,363	2,334,754	2,645,775	2,529,126	2,768,872
Number of Customers Affected	1,607,461	1,518,634	1,188,585	1,387,131	1,277,727	1,395,908
Number of Customers Served	1,589,949	1,594,179	1,583,311	1,589,810	1,593,830	1,590,216
Average Duration Per Customer Affected (CAIDI)	2.05	2.01	1.96	1.91	1.98	1.98
Average Duration Per Customers Served	2.07	1.92	1.46	1.67	1.59	1.74
Interruptions Per 1000 Customers Served	8.62	9.19	8.12	10.05	8.69	8.93
Number of Customers Affected Per Customer Served (SAIFI)	1.01	0.96	0.75	0.88	0.80	0.88

NATIONAL GRID
Including Major Storms

	2006	2007	2008	2009	2010	5 YR AVG
Number of Interruptions	16,279	16,222	18,301	17,060	15,571	16,687
Number of Customer-Hours	16,813,162	5,605,931	9,410,833	3,214,148	3,824,438	7,773,703
Number of Customers Affected	2,341,235	2,075,480	2,177,786	1,599,090	1,553,727	1,949,464
Number of Customers Served	1,589,949	1,594,179	1,583,311	1,589,810	1,593,830	1,590,216
Average Duration Per Customer Affected (CAIDI)	7.18	2.70	4.32	2.01	2.46	3.74
Average Duration Per Customers Served	10.61	3.53	5.90	2.03	2.41	4.89
Interruptions Per 1000 Customers Served	10.27	10.20	11.48	10.77	9.79	10.50
Number of Customers Affected Per Customer Served (SAIFI)	1.48	1.31	1.37	1.01	0.98	1.23

* Customers Served is the number of customers served at the end of the current year.
** For those indices that use Customers Served, Customers Served is the December value from the previous year.

NYSEG
Excluding Major Storms

	2006	2007	2008	2009	2010	5 YR AVG
Number of Interruptions	9,682	10,317	10,027	9,643	9,777	9,889
Number of Customer-Hours	1,913,315	2,299,142	1,980,213	1,848,599	1,934,747	1,995,203
Number of Customers Affected	953,941	1,034,113	953,105	922,448	975,375	967,796
Number of Customers Served	859,440	859,963	857,517	858,712	856,474	858,421
Average Duration Per Customer Affected (CAIDI)	2.01	2.22	2.08	2.00	1.98	2.06
Average Duration Per Customers Served	2.24	2.68	2.30	2.16	2.25	2.32
Interruptions Per 1000 Customers Served	11.33	12.00	11.66	11.25	11.39	11.52
Number of Customers Affected Per Customer Served (SAIFI)	1.12	1.20	1.11	1.08	1.14	1.13

NYSEG
Including Major Storms

	2006	2007	2008	2009	2010	5 YR AVG
Number of Interruptions	12,835	12,928	17,008	11,948	14,976	13,939
Number of Customer-Hours	15,787,602	5,314,914	12,974,501	3,369,824	6,445,599	8,778,488
Number of Customers Affected	1,529,247	1,469,825	1,836,251	1,257,464	1,576,105	1,533,778
Number of Customers Served	859,440	859,963	857,517	858,712	856,474	858,421
Average Duration Per Customer Affected (CAIDI)	10.32	3.62	7.07	2.68	4.09	5.55
Average Duration Per Customers Served	18.48	6.18	15.09	3.93	7.51	10.24
Interruptions Per 1000 Customers Served	15.02	15.04	19.78	13.93	17.44	16.24
Number of Customers Affected Per Customer Served (SAIFI)	1.79	1.71	2.14	1.47	1.84	1.79

* Customers Served is the number of customers served at the end of the current year.
** For those indices that use Customers Served, Customers Served is the December value from the previous year.

O&R
Excluding Major Storms

	2006	2007	2008	2009	2010	5 YR AVG
Number of Interruptions	2,688	2,596	2,993	2,987	2,897	2,832
Number of Customer-Hours	397,977	356,514	470,431	375,064	472,939	414,585
Number of Customers Affected	264,121	222,895	256,943	223,976	263,752	246,337
Number of Customers Served	216,268	215,694	217,373	217,884	218,393	217,122
Average Duration Per Customer Affected (CAIDI)	1.51	1.60	1.83	1.67	1.79	1.68
Average Duration Per Customers Served	1.85	1.65	2.18	1.73	2.17	1.92
Interruptions Per 1000 Customers Served	12.53	12.00	13.88	13.74	13.30	13.09
Number of Customers Affected Per Customer Served (SAIFI)	1.23	1.03	1.19	1.03	1.21	1.14

O&R
Including Major Storms

	2006	2007	2008	2009	2010	5 YR AVG
Number of Interruptions	3,546	2,738	3,655	3,111	3,646	3,339
Number of Customer-Hours	836,046	483,938	1,043,235	471,941	1,857,491	938,530
Number of Customers Affected	388,164	252,650	354,315	249,064	389,937	326,826
Number of Customers Served	216,268	215,694	217,373	217,884	218,393	217,122
Average Duration Per Customer Affected (CAIDI)	2.15	1.92	2.94	1.89	4.76	2.73
Average Duration Per Customers Served	3.90	2.24	4.84	2.17	8.53	4.33
Interruptions Per 1000 Customers Served	16.53	12.66	16.95	14.31	16.73	15.44
Number of Customers Affected Per Customer Served (SAIFI)	1.81	1.17	1.64	1.15	1.79	1.51

* Customers Served is the number of customers served at the end of the current year.
** For those indices that use Customers Served, Customers Served is the December value from the previous year.

RG&E
Excluding Major Storms

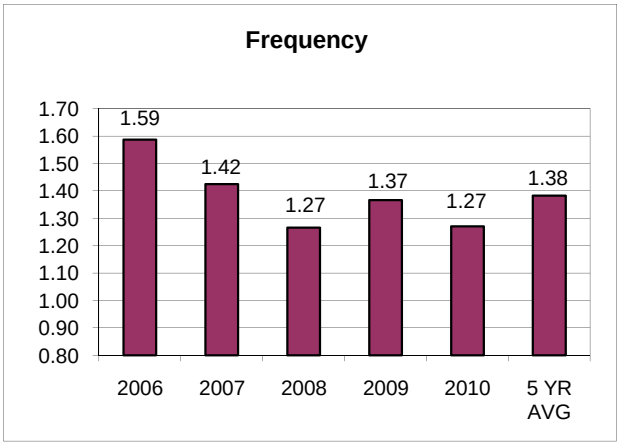
	2006	2007	2008	2009	2010	5 YR AVG
Number of Interruptions	3,004	2,784	2,807	2,950	2,872	2,883
Number of Customer-Hours	508,899	526,175	513,175	378,481	432,921	471,930
Number of Customers Affected	286,388	303,940	277,824	210,698	253,517	266,473
Number of Customers Served	364,759	357,232	356,097	357,177	360,156	359,084
Average Duration Per Customer Affected (CAIDI)	1.78	1.73	1.85	1.80	1.71	1.77
Average Duration Per Customers Served	1.40	1.44	1.44	1.06	1.21	1.31
Interruptions Per 1000 Customers Served	8.24	7.63	7.86	8.28	8.04	8.01
Number of Customers Affected Per Customer Served (SAIFI)	0.79	0.83	0.78	0.59	0.71	0.74

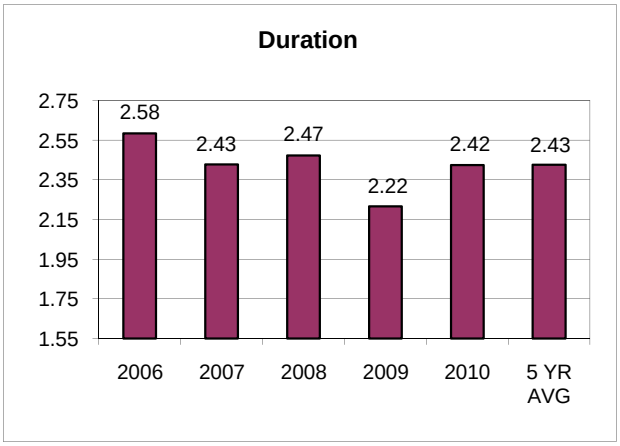
RG&E
Including Major Storms

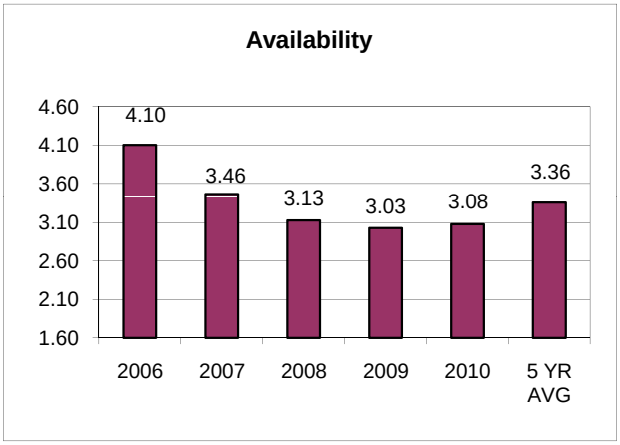
	2006	2007	2008	2009	2010	5 YR AVG
Number of Interruptions	3,241	3,107	3,828	3,110	3,081	3,273
Number of Customer-Hours	762,609	761,368	1,830,153	534,259	615,789	900,835
Number of Customers Affected	356,788	423,383	485,821	263,203	282,347	362,308
Number of Customers Served	364,759	357,232	356,097	357,177	360,156	359,084
Average Duration Per Customer Affected (CAIDI)	2.14	1.80	3.77	2.03	2.18	2.38
Average Duration Per Customers Served	2.09	2.09	5.12	1.50	1.72	2.51
Interruptions Per 1000 Customers Served	8.89	8.52	10.72	8.73	8.63	9.10
Number of Customers Affected Per Customer Served (SAIFI)	0.98	1.16	1.36	0.74	0.79	1.01

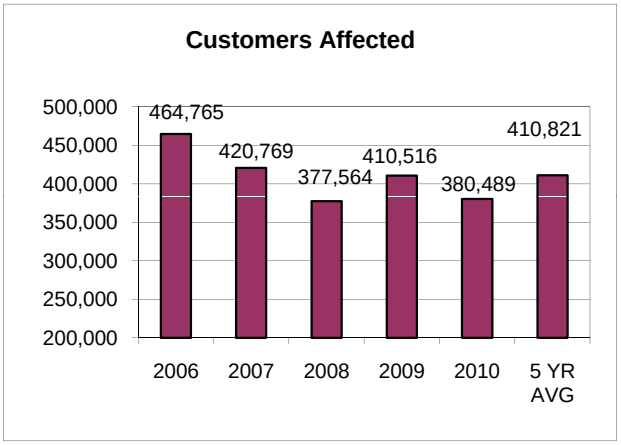
* Customers Served is the number of customers served at the end of the current year.
** For those indices that use Customers Served, Customers Served is the December value from the previous year.

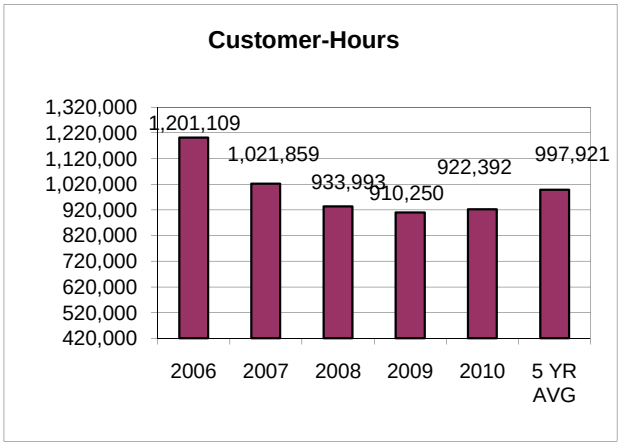
Central Hudson Gas and Electric
(Excluding Major Storms)

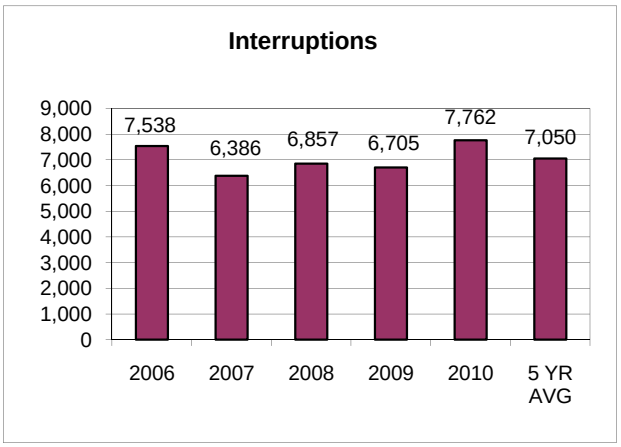




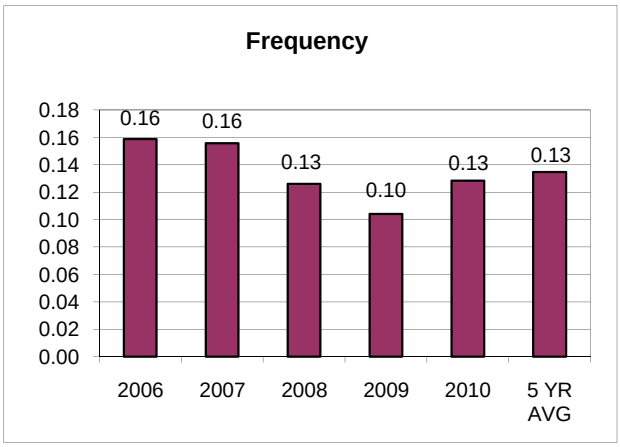


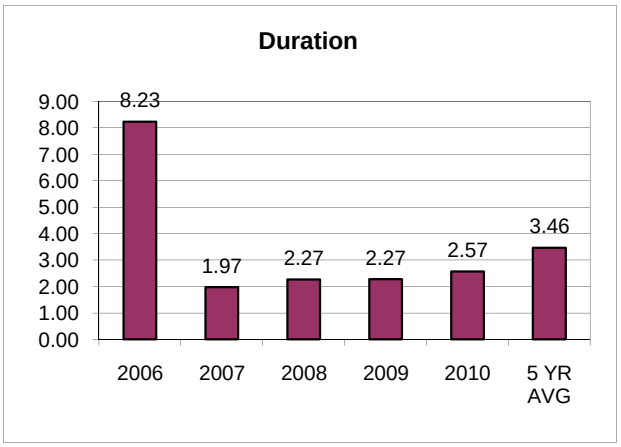


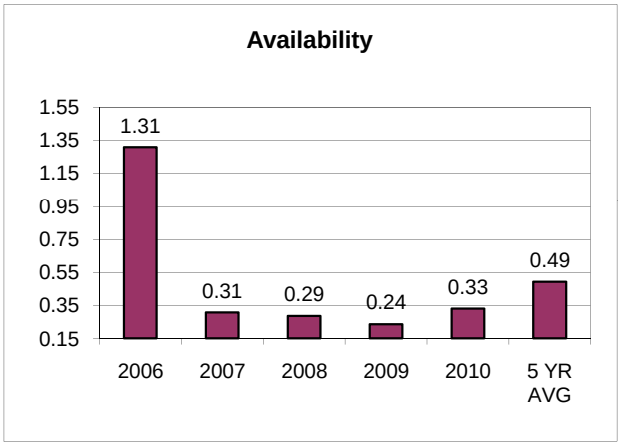


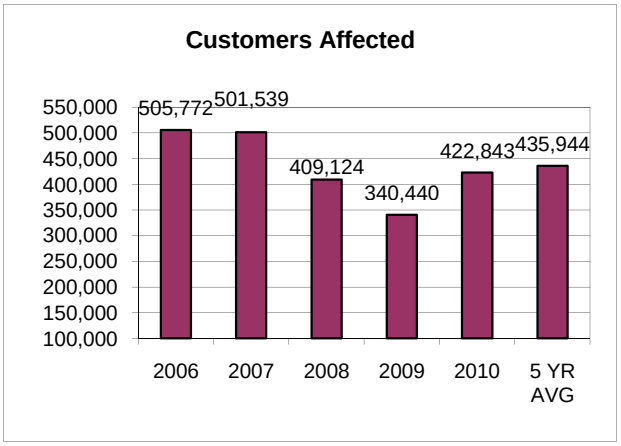


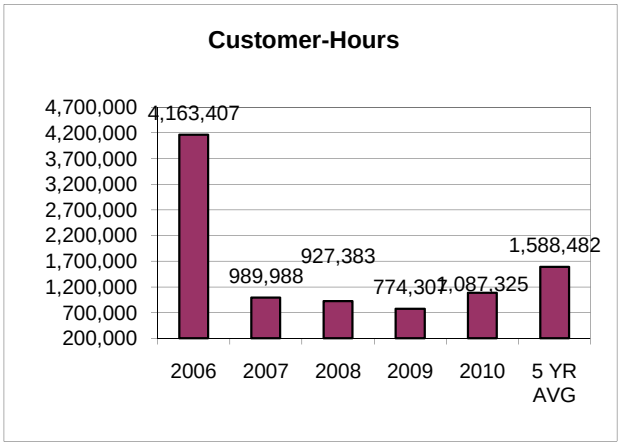
Consolidated Edison - System
(Excluding Major Storms)

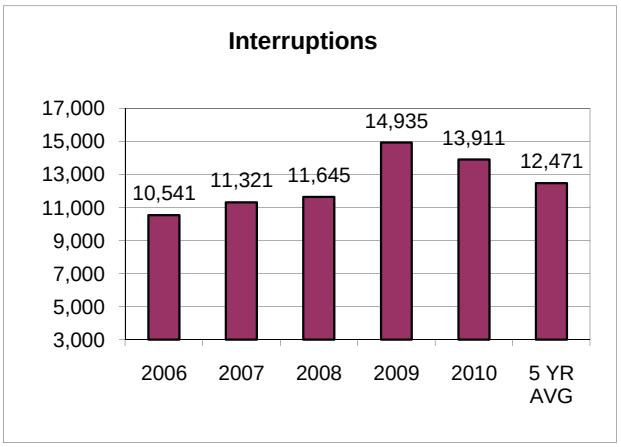




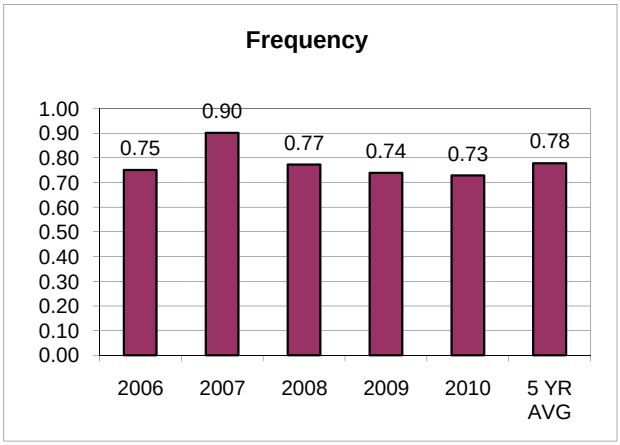


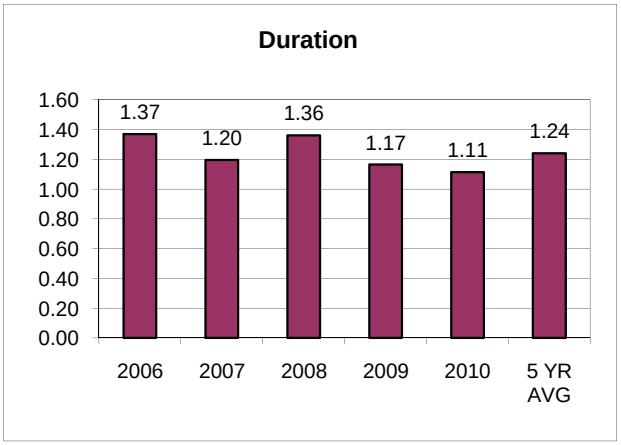


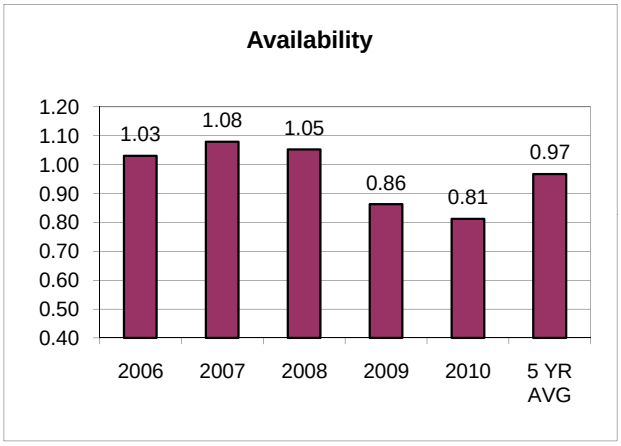


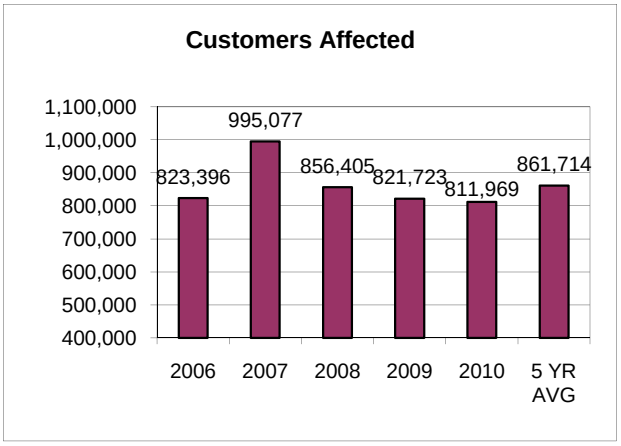


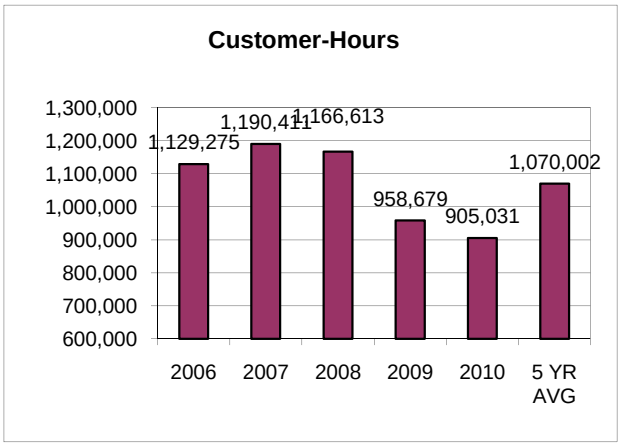
Long Island Power Authority
(Excluding Major Storms)

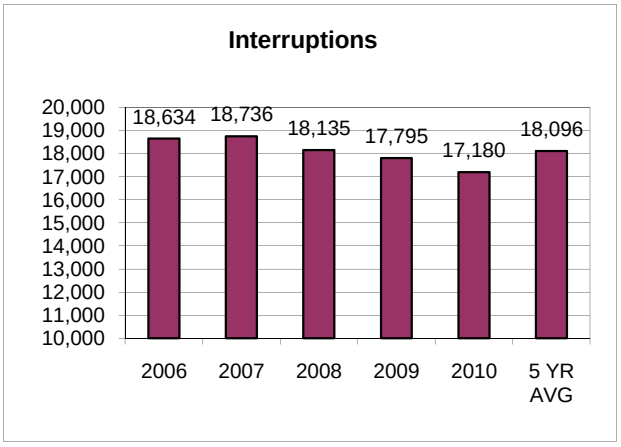






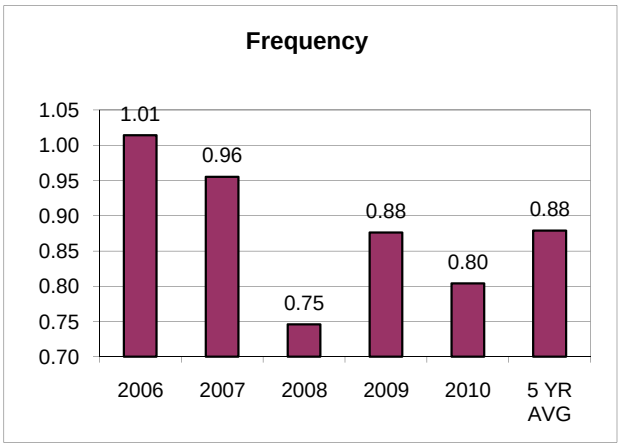


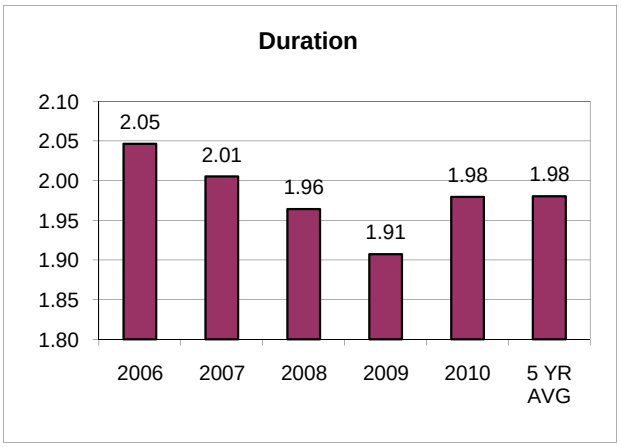


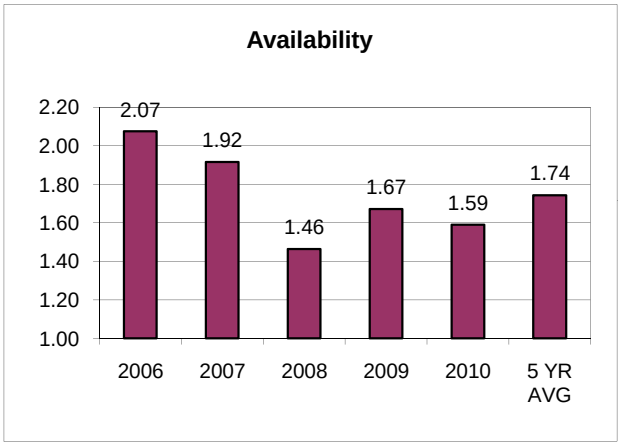


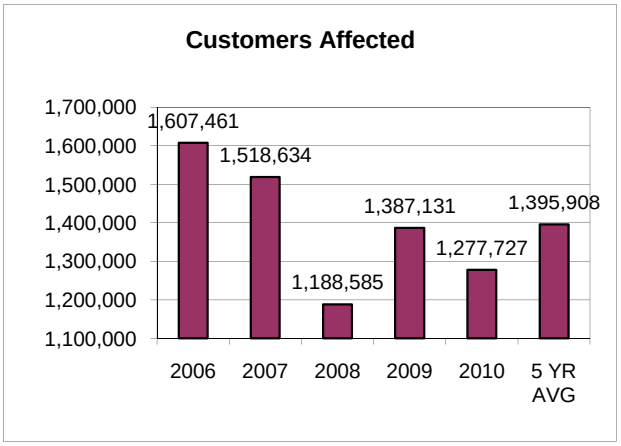
* LIPA is not regulated by the NYS PSC.

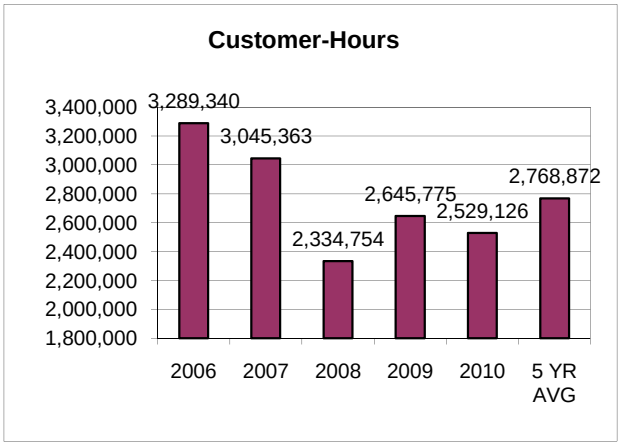
National Grid
(Excluding Major Storms)

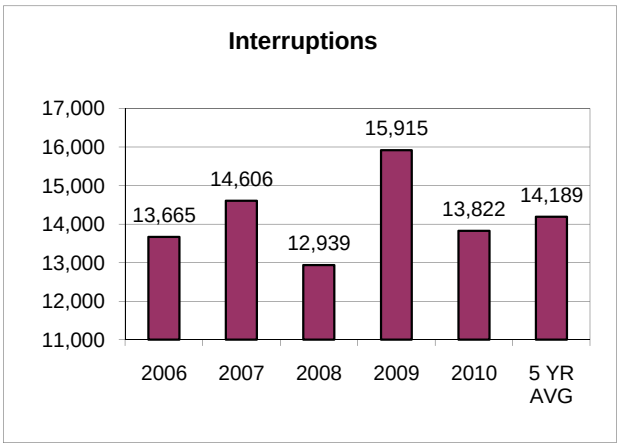




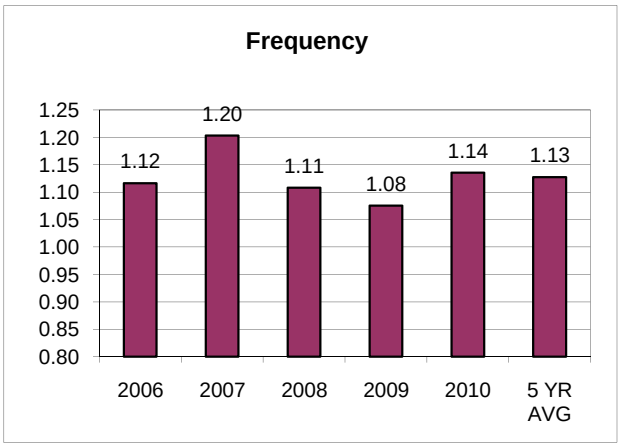


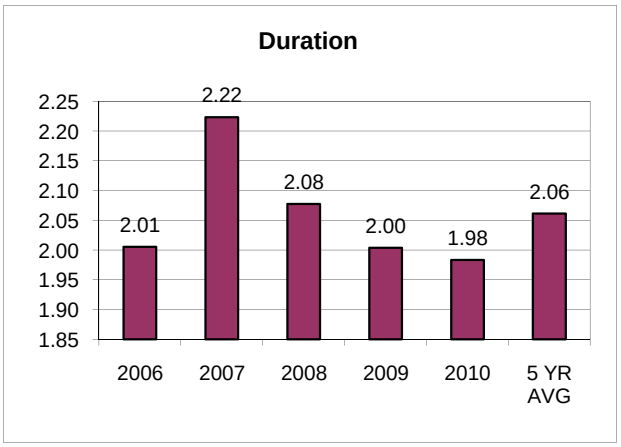


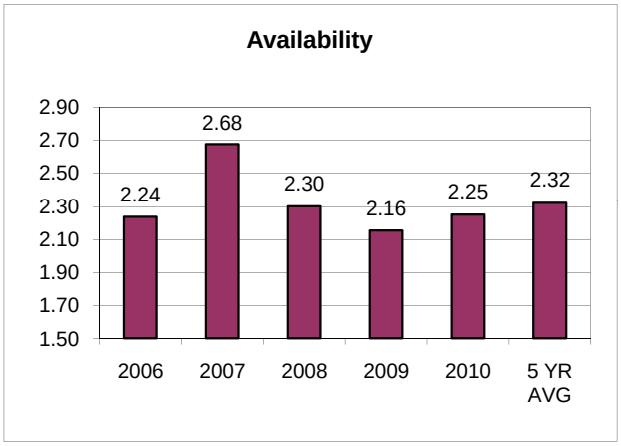


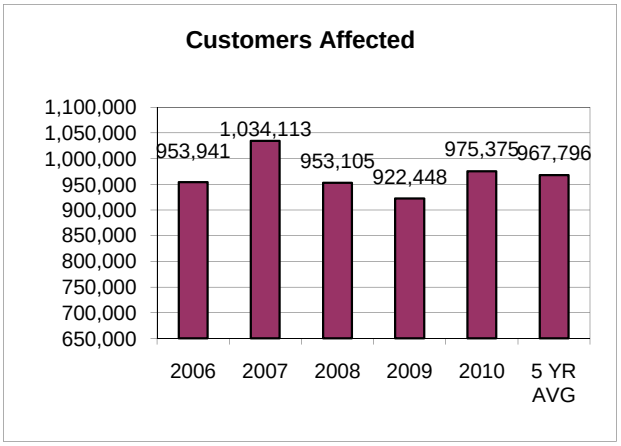


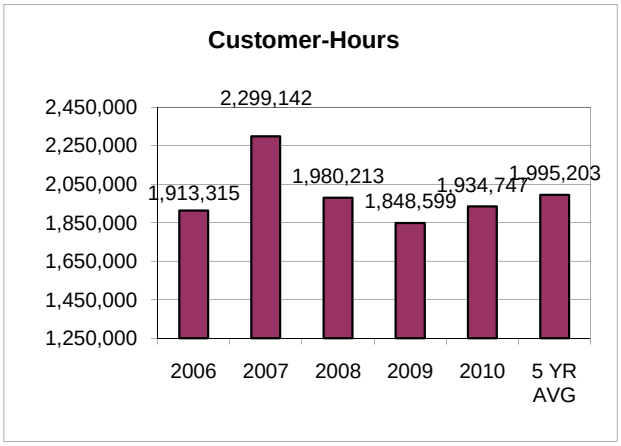
New York State Electric and Gas
(Excluding Major Storms)

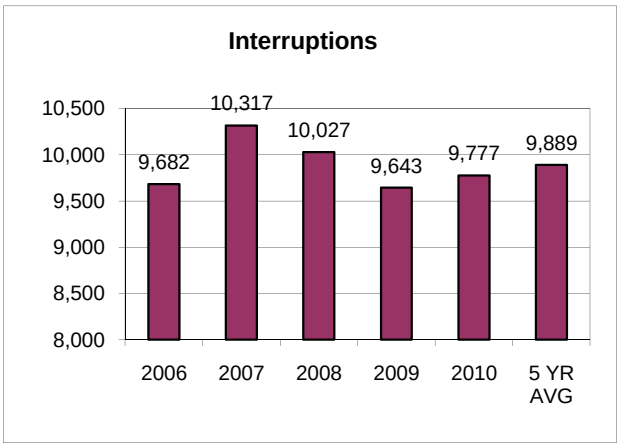




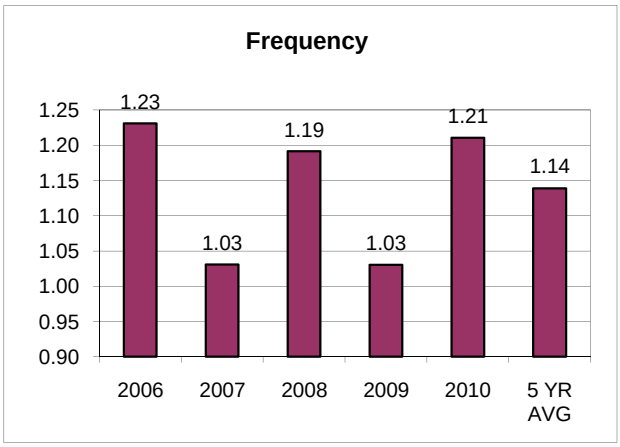


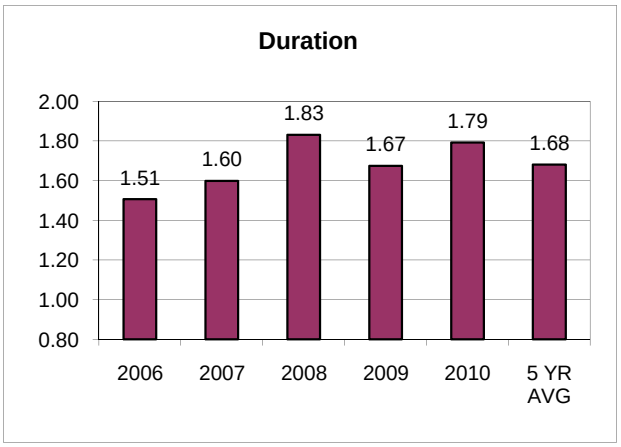


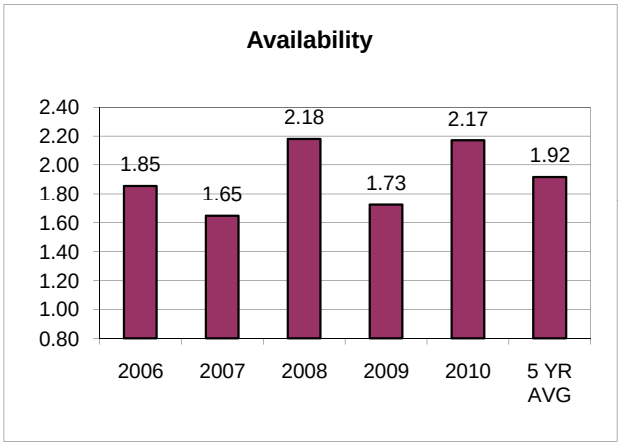


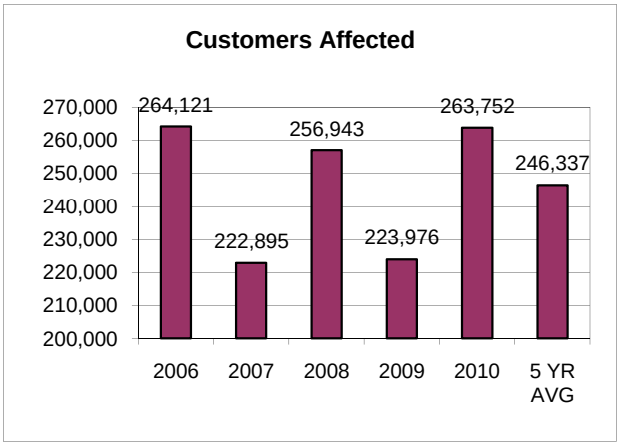


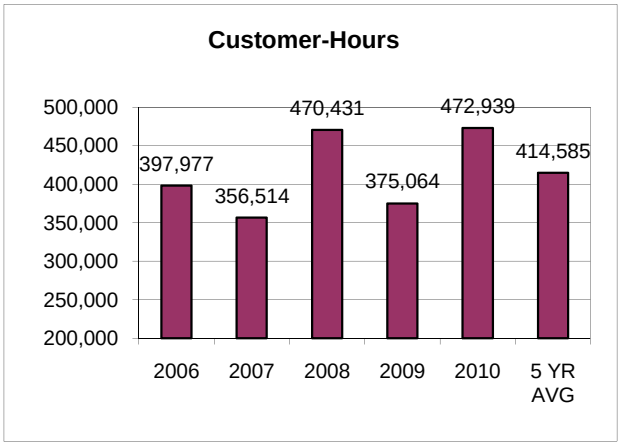
Orange and Rockland Utilities
(Excluding Major Storms)

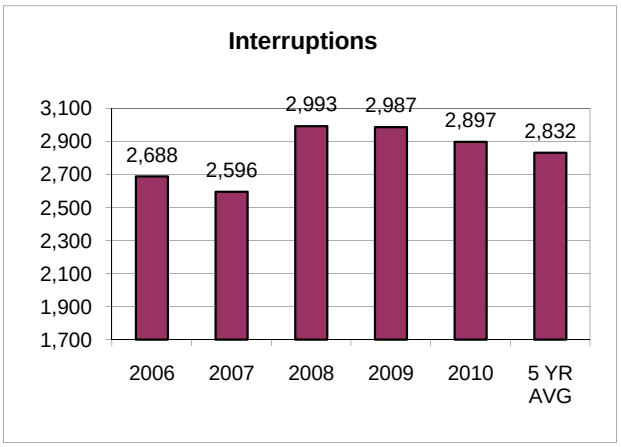












Rochester Gas and Electric
(Excluding Major Storms)