

STATE OF NEW YORK  
DEPARTMENT OF PUBLIC SERVICE



2011 GAS SAFETY  
PERFORMANCE MEASURES REPORT  
(CASE 12-G-0222)

Safety Section  
Office of Electric, Gas & Water  
May 31, 2012

## **EXECUTIVE SUMMARY**

This report examines the results of New York State natural gas local distribution companies' (LDCs) performance in three specific safety areas (Damage Prevention, Emergency Response, and Leak Management) for 2011. Historic data back to 2003 is also provided in the Appendices to show trends and context.

The performance measures are the result of collaborative efforts between Staff and the LDCs to improve identification and tracking of areas that are critical to gas safety. The data used in the report were gathered and submitted by the LDCs using processes developed from these collaborative efforts. Overall, the data indicate that LDC performance has substantially improved across the state over the nine year period. There has been a nearly 67% improvement in Total Damage prevention performance, the 30-minute emergency response time has improved from 76.8% in 2003 to 82.4% in 2011, and the year-end leak backlog of potentially hazardous leaks has decreased 87%, from 1,154 to 146. As LDCs continue their outreach efforts, adopt better practices in responding to leak and odor calls, and work to replace leak-prone infrastructure, Staff expects further improvements will occur.

Staff recommends those LDCs identified as having improvement opportunities conduct a self-evaluation, and respond within 45 days with specific details on how they plan to improve performance. A more detailed discussion of the 2011 results for each performance measure follows.

## Damage Prevention

The first measure, Damage Prevention, gauges the ability of LDCs to minimize damage to buried facilities caused by excavation activities. The damage measure is further broken down into four categories: damages due to (1) Mismarks (inaccurate marking by the LDC of its buried facilities); (2) Company and Company Contractor error; (3) Third Party Excavator Error; and (4) No-calls (lack of notification of intent to excavate).

Overall, Damage Prevention performance across the state improved 6.5% during 2011. After rising steadily for several years in the mid 2000's, the rate of increase in the number of requests to locate underground gas facilities (tickets) received by the LDCs has slowed over the past four years. The slowing of the rate of growth in tickets is most likely attributable to the relatively stagnate level of construction activity due to the slowing of the economy.

All four categories composing the Total Damage measure show continued improvement during 2011. The greatest improvement in 2011 came in damages due to Mismarks (9.1%), followed by damages due to No-calls (6.3%), damages due to Third Party Excavator Error (5.5%), and damages due to Company and Company Contractor error (3.5%). Staff attributes these positive results, in part, to continuing public education efforts undertaken by both the LDCs and the One-Call Centers, the 811 three-digit dialing initiative, and the Commission's enforcement process for non-compliance with its regulations intended to protect underground facilities. Despite overall statewide improvement, eight of the LDCs experienced increased damage rates within one or more of the four categories of damages

described above; four of which experienced increased damage rates for the second consecutive year in at least one of the four categories.

### Emergency Response

The second measure, Emergency Response, gauges the ability of LDCs to respond promptly to reports of gas leaks or emergencies by examining the percentage of calls that fall within various response times. This performance measure contains three specific response goals: respond to 75% of emergency calls within 30 minutes, 90% within 45 minutes, and 95% with 60 minutes. General improvement has occurred over the past nine years, and statewide performance during 2011 marked the best performance level since data has been collected, and four years in a row that all eleven LDCs met the three response targets. Staff attributes this sustained performance to LDCs adopting more efficient work practices, fewer numbers of leak and odor calls, utilization of new technologies such as global positioning systems (GPS) to quickly identify the most appropriate employee to respond to a gas leak or odor call, continued public awareness initiatives on the properties of natural gas, and placement of existing or additional personnel in certain geographical areas during the times of day that have historically had high volumes of emergency notifications.

### Leak Management

The third measure, Leak Management, examines LDCs' performance in effectively maintaining leak inventories and keeping potentially hazardous leaks to a minimum. The measure focuses on the year-end backlog of

leaks requiring repair. The end of the calendar year is regarded as the beginning of the frost season, when there is a greater chance of gas migration into buildings because the gas cannot vent as readily through the ground to the atmosphere due to the blanket of frost. The statewide year-end 2011 backlog was 22% less than year-end 2010. Compared to 2003, the first year of performance measures reporting, it is 87% less. All LDCs have demonstrated sustained improvement over the past several years.

### Next Steps

The analysis of each performance measure in this report identifies specific areas where certain LDCs have room for improvement. Staff recommends that those LDCs develop action plans to improve performance. In some cases, Staff suggests certain issues to examine, although the LDCs need not limit themselves to Staff's suggestions and are free to explore additional areas.

This report will be transmitted to an executive level operating officer of each LDC. For those LDCs identified as having improvement opportunities, Staff recommends that those companies conduct a self-evaluation, and provide the Safety Section of the Office of Electric, Gas and Water within 45 days specific details on how they plan to improve performance.

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**COMPANY ACRONYMS**

<b>Company</b>	<b>Acronym in Report</b>
Central Hudson Gas & Electric Corporation	Central Hudson
Consolidated Edison Company of New York, Inc.	Con Edison
Corning Natural Gas Corporation	Corning
KeySpan Gas East Corporation d/b/a National Grid	NGrid LI
The Brooklyn Union Gas Company d/b/a National Grid NY	NGrid NY
National Fuel Gas Distribution Corporation	NFG
New York State Electric & Gas Corporation	NYSEG
Niagara Mohawk Power Corporation d/b/a National Grid	NGrid Upstate
Orange & Rockland Utilities, Inc.	O&R
Rochester Gas & Electric Corporation	RG&E
St. Lawrence Gas Company, Inc.	St. Lawrence

## INTRODUCTION

Gas safety performance measures were developed as a means of effectively improving local distribution companies' (LDCs) gas delivery system safety performance in areas identified as presenting the highest risks. Performance measures are tools that Staff and the LDCs can utilize to monitor the safe operation and maintenance of distribution systems. They indicate how companies are performing from year to year as well as trends over time.

In developing the performance measures, Staff first identified areas in LDCs' systems or operations that carry the greatest potential for harm to the public if performance is sub-standard. Staff then evaluated methods for capturing and tracking appropriate data so it could be used as a practical management tool. This process led to the identification of three performance measures:

**Damage Prevention:** This measure examines damages to the LDCs' buried facilities resulting from excavator activities, which is the leading cause of incidents involving buried gas pipelines.

**Emergency Response Time:** This measure examines the amount of time that it takes an LDC to reach the scene of a reported gas leak or odor.

**Leak Management:** This measure examines LDC performance in effectively maintaining leak inventory levels and keeping potentially hazardous leaks to a minimum.

## **PERFORMANCE AND ANALYSIS FOR 2011**

Throughout this report, all of the figures display performance results for 2007-2011 for each LDC with the grey columns in the bar graphs representing 2007-2010, and the color columns representing 2011 results.<sup>1</sup> The blue horizontal line represents the 2011 statewide performance level.

Red numbers in tables represent failure to meet the target level for the measure or a decline in performance from the previous year. When no bar is shown in the graph for a particular company and year, there were no incidents for that measure.

### **Damage Prevention**

Damage due to excavation activity is one of the leading causes of natural gas pipeline failures and accidents, both statewide and nationwide.

The damage-prevention procedures are designed to work as follows: (1) excavators provide notice of their intent to excavate to a One-call system,<sup>2</sup> which transmits an excavation notice (one-call ticket or ticket) to the member operators potentially affected by that excavation; (2) member operators clearly and accurately mark the location of their buried facilities in or near the excavation site; and (3) excavators work carefully around the marked facilities in order to avoid damaging them. Damages to underground facilities can be categorized by identifying

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<sup>1</sup> Data going back to the year 2003 is contained in the Appendices.

<sup>2</sup> New York has two One-call systems, one for New York City and Long Island, and another for the remainder of the State.

where in this three-step process the root cause of an incident lies.

Evaluating the number of damages in relation to the volume of construction and excavation activity in an LDC's operating territory provides a useful basis for assessing performance in this area. The data used in the analyses are contained in Appendix A. The method used to normalize each LDC's data is the number of facility damages per 1000 one-call tickets.

The numbers of damages are categorized by damages resulting from:

- Mismarks
- Excavator Error
- Company and Company Contractor Error
- "No-calls"

Each one-call ticket received provides an LDC the opportunity to mark its facilities correctly. Hence, the Mismatch measure specifically addresses this by examining damages caused by Mismarks per 1000 tickets.

Once a One-call ticket is requested and the facilities are marked correctly, it provides an excavator the opportunity to work carefully and avoid damages. Damage due to Third Party Excavator Error per 1000 tickets tracks this category. Third Party Excavator Error damages are historically the largest component of Total Damages, partially because it entails the most effort to educate third-party contractors. Most professional excavators are well aware of the existence of the One-call centers and the requirement to notify it of planned excavation work. Many excavators are not as well versed in the additional requirements such as tolerance zones and verifying

locations of underground facilities with hand-dug test holes, maintaining the marks, maintaining clearances with powered equipment, etc. Educating excavators on how to avoid damages once markouts have been requested requires more in-depth training and outreach.

Damages that are caused by LDC personnel, or by LDC direct contractors, are also included in the damage analysis as a separate category. These personnel should have the training and experience to work carefully near their own facilities. LDCs should also have better control over outside contractors they hire to perform work for them than they do over third-party contractors. Thus, this category should be the smallest contributor to the Total Damages. The current measure tracks damages caused by all utility operations within a particular LDC. That is, for a combination LDC, damages to gas facilities caused by electric crews or electric company contractors are included.

Damages due to No-calls are simply instances where no ticket was generated because the excavator did not provide notice of intent to excavate. This metric provides an indication of the general level of awareness excavators have about the One-call notification systems. A high percentage of damages in this category indicate that efforts are needed to make excavators aware of the dangers of working around buried facilities and the importance of using the One-call notification systems.

It is important to note that the damage prevention measures evaluate actual damages to LDCs' underground facilities. Based on the data reported in 2011, 99.79% of One-call tickets in LDC gas areas had no associated damages to natural gas facilities. This is

consistent with the findings reported in the Common Ground Alliance's (CGA)<sup>3</sup> report 2010 Damage Information Reporting Tool (DIRT) which states, "...data suggests that when a call is made prior to excavation, damage occurs less than 1% of the time."

There were a total of 1,571 damages to natural gas LDC facilities in 2011, 6.1% less than in 2010. When these damages are normalized with the slight increase of 5,974 One-call tickets (0.9%) during 2011, the result is a significant improvement(6.5%) in Total Damages per 1000 One-call tickets. While these are encouraging statistics, a single damage could lead to a catastrophic event, so it is important that LDCs and excavators strive to minimize damage to facilities.

The Department enforces the Commission's damage prevention regulations - 16 NYCRR Part 753 - Protection of Underground Facilities. Over the past five years approximately 2000 citations have been issued leading to over \$700,000 in fines collected.

**Figure #1** below displays the collective statewide performance regarding the damage prevention measures. Note the significant increase in the number of tickets over the period. Also take note of the significant improvement in the Total Damages measure.

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<sup>3</sup> The Common Ground Alliance is a national association of stakeholders involved in damage prevention that identifies and disseminates best practices, conducts public awareness programs, and collects and analyzes data regarding damages to underground utility facilities.

Metric	2007	2008	2009	2010	2011
# Tickets	636,338	722,903	719,475	728,620	735,041
Mismarks	0.73	0.53	0.54	0.50	0.45
Co. & Co. Contractor	0.16	0.13	0.11	0.10	0.10
Excavator Error	1.84	1.40	1.27	1.18	1.12
No-Calls	1.05	0.74	0.54	0.50	0.47
Total (per 1000)	3.78	2.80	2.46	2.29	2.14

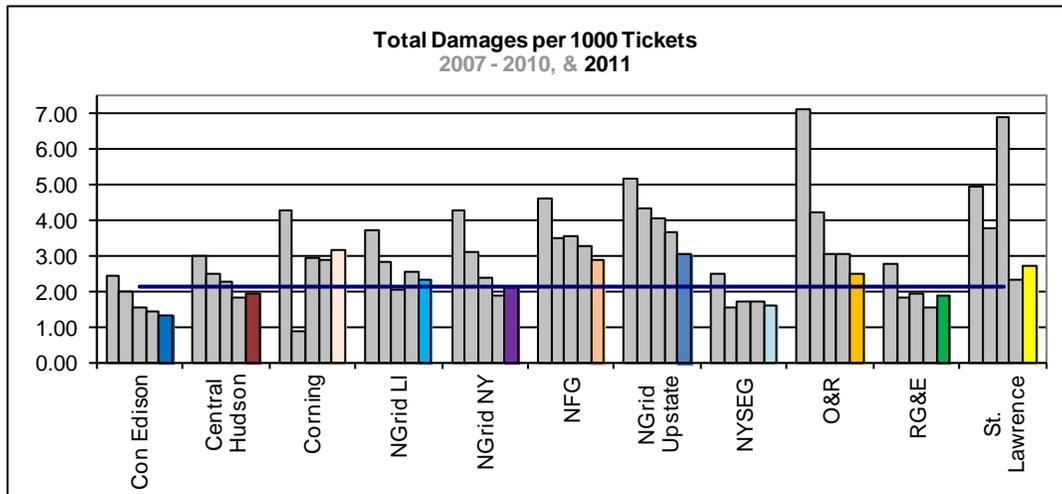
**Figure #1** - Damages per 1000 Tickets Statewide

All four metrics composing the Total Damage measure improved or remained constant during 2011.<sup>4</sup> The greatest improvement in 2011 came in damages due to damages due to Mismarks (9.1%), followed damages due to No-calls (6.3%), and then damages due to Third Party Excavator Error (5.5%), and Company and Company Contractor error (3.5%). It is encouraging to see that LDCs have collectively maintained, and continue to improve, performance over the past several years. The total number of tickets increased slightly during 2011. The 2010 and 2011 data shows a decline in the rate of growth compared to 2007 and 2008 when the Commission substantially increased its enforcement activity as discussed on page 12. However, all LDCs experienced an increase in tickets except Central Hudson and RG&E. Each LDC's actual number of tickets received, and individual annual performance in each area of damage prevention is located in Appendix A.

LDC performance in Total Damages and Third Party Excavator Error damages is displayed in **Figure #2** and **Figure #3** below.

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<sup>4</sup> The Total Damage performance may not equal the sum of the four metrics due to rounding.

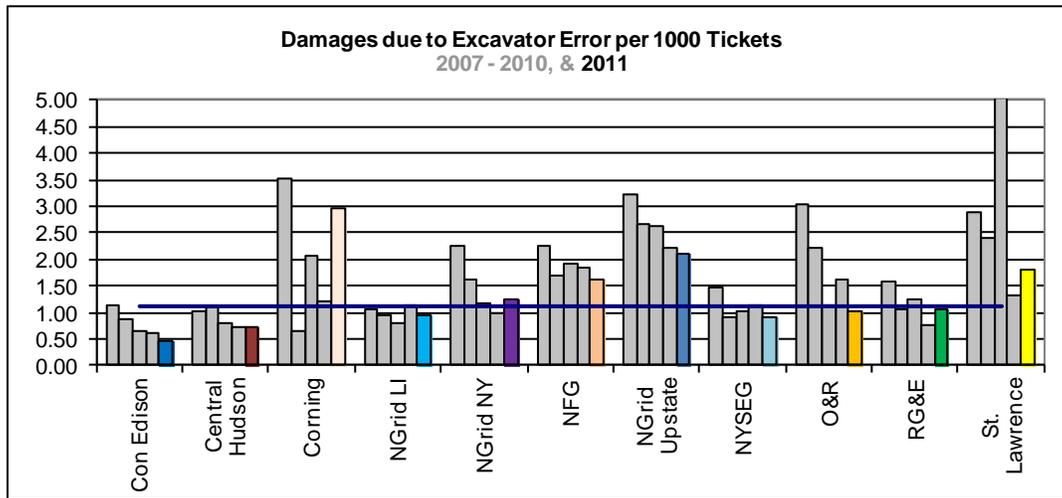


**Figure #2** - Total Damages per 1000 Tickets Statewide

As seen in **Figure #2**, most LDCs improved across the state during 2011. Con Edison and O&R experienced their best performance since data has been collected. Even with improvement in 2011, NFG and NGrid Upstate remain outliers in the Total Damage performance measure. NGrid Upstate was identified in the 2010 report as a significant outlier in Total Damage prevention, and even though it improved during 2011, it completed the year with a level of 43% worse than the statewide level. NFG performed at a level 35% worse than statewide during 2011. RG&E's performance deteriorated 23% during 2011 as it experienced more damages (17.4%) and fewer tickets (1.9%), but remained better than the statewide performance level. Corning experienced a difficult year and experienced a level a level of damages not reached since 2007. Note that due to Corning's and St. Lawrence's relatively small size and lower number of One-call tickets received, a single damage in any metric can magnify its impact on performance considerably more than for other LDCs. This is clear by

St. Lawrence's performance where it experienced notable deterioration in 2011, with a total of nine damages compared to the seven damages experienced in 2010.

LDC performance in damages due to Third Party Excavator Error is displayed in **Figure #3** below:



**Figure #3** - Excavator Error Damages per 1000 Tickets Statewide

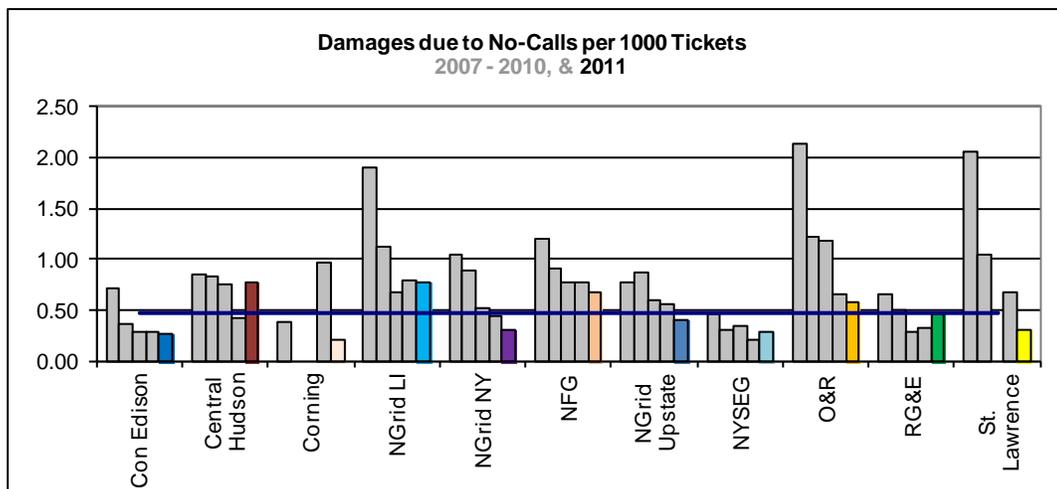
After experiencing significant improvement since 2006, the statewide improvement in damages due to Third Party Excavator Error (**Figure #3**) further improved 5.5% during 2011. After experiencing the greatest decrease in performance in 2010, the greatest improvement in performance was made by O&R, which experienced its best performance in this category since data collection began. In addition to O&R, Con Edison and Central Hudson also achieved their best performance levels yet.

Corning, NGrid NY, RG&E, and St. Lawrence experienced deterioration during 2011. Leading the increased rate of damages due to Third Party Excavator Error were Corning (145%), followed by RG&E (40%). It is worth noting that Corning's deteriorated performance in this area was the

sole reason its Total Damage performance fell to worse than the statewide level. RG&E closely tracked its performance through 2011 and implemented a significant public outreach campaign during the fourth quarter in an effort to reduce third party damages to its facilities. St. Lawrence experienced six of these damages in 2011 when it had four in 2010.

NFG and NGrid Upstate continue to remain outliers in this category and their performance is significantly worse than the statewide level. These two LDCs have been identified in several reports as needing improvement in this area. NFG and NGrid Upstate need to reduce these types of damages and make incremental efforts to reach out to the excavating community.

It is recommended that Corning, NFG, and NGrid Upstate perform an analysis of their damage prevention program and outreach efforts to identify methods to further educate the excavating community.



**Figure #4** - No-call Damages per 1000 Tickets Statewide

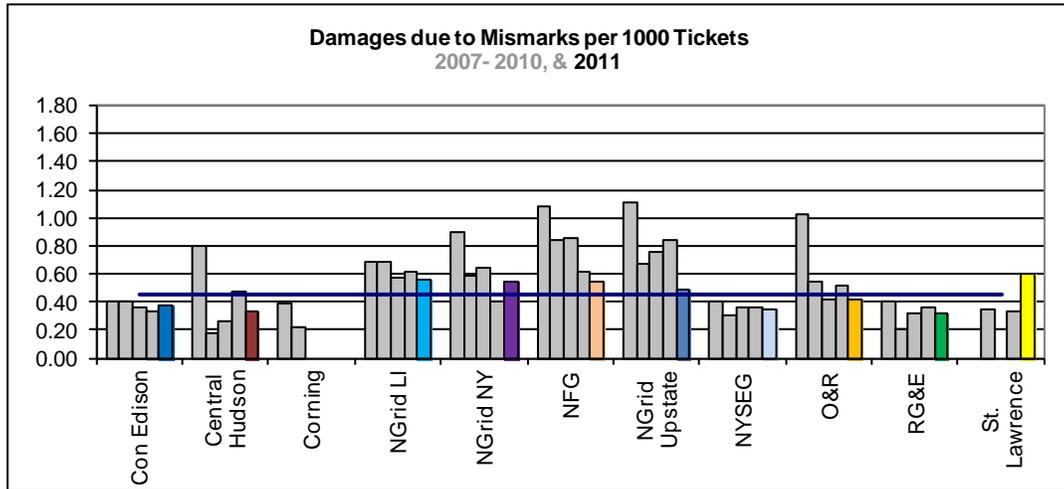
After experiencing significant improvement since 2006, the statewide improvement in damages due to No-calls

(**Figure #4**) further improved 6.3% during 2011. Top performers include Corning (78%), St. Lawrence (55%) and NGrid Upstate (23%). While Central Hudson improved in 2009 and 2010 it is the greatest outlier in the 2011 report. Behind Central Hudson are NGrid LI and NFG whose performance continues to be worse than the statewide level. NYSEG and RG&E also experienced deteriorations in performance (47% and 43%, respectively) but maintain performance better than the statewide level. Although Con Edison has made small improvements in this category, 2011 is the seventh consecutive year of improvement. It is recommended that Central Hudson, NGrid LI, and NFG perform an analysis of their damage prevention programs, targeting damages due to No-calls, and to identify efforts to further improve in this area.

The continued improvement statewide for No-call damages is a positive sign. It indicates that more excavators are becoming aware of their obligation to utilize the One-call system. Likely key contributors to the improvement shown by LDC's are; the three digit 811 dialing program, enforcement action for violations of part 753, and outreach and training efforts made by LDCs and One-call centers.

Outreach programs for LDCs include active participation along with Staff in damage prevention programs such as local Damage Prevention Councils and the Common Ground Alliance. One-call centers and Damage Prevention Councils have combined efforts to reach out to the excavator community by hosting free seminars and having a presence at large public events such as the New York State Fair.

In order to aid in the enforcement of 16 NYCRR Part 753, Staff requested LDCs to forward information about contractors who damaged underground facilities without having markout requests. Staff evaluates the details of each damage and pertinent information regarding the excavator, and takes enforcement actions where appropriate. This enforcement effort is a deterrent of non-compliance. Where appropriate, enforcement cases are resolved by a "Consent Order" agreement where the financial penalty is reduced if the excavator attends free Dig Safely training provided by One-call centers.

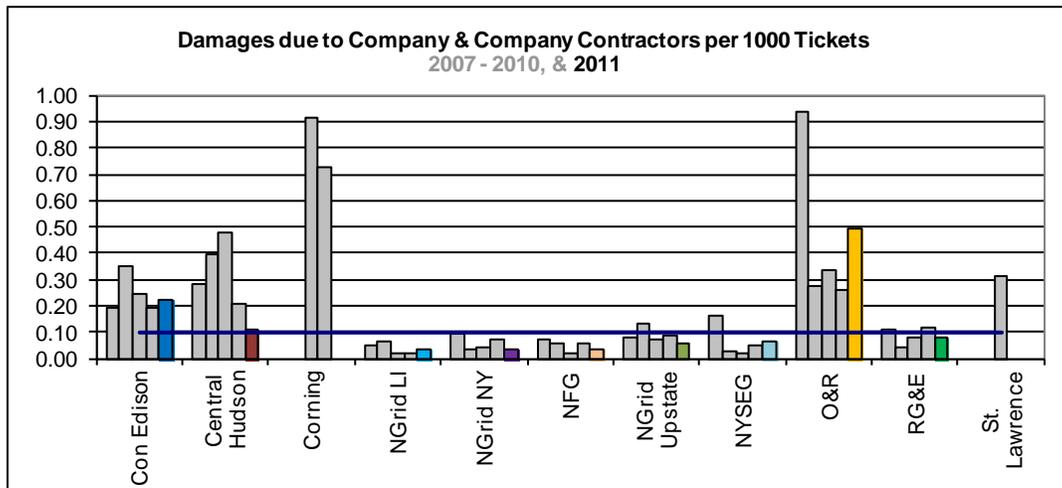


**Figure #5** - Mismark Damages per 1000 Tickets Statewide

LDC performance in damages due to Mismarks is displayed in **Figure #5** above. Three of the eleven LDCs, Con Edison, NGrid NY, and St. Lawrence, experienced deteriorated performance from 2010 levels. The statewide level improved 9.1%. St. Lawrence experienced two of these damages in 2011, when it had one in 2010. Con Edison and NGrid NY also experienced deteriorated performance of 13% and 35%, respectively. Even with these slides in

performance during 2011, Con Edison continues to perform better than the statewide level, while NGrid NY's performance resulted in a poorer performance than the statewide level. It is recommended that NGrid NY review the reasons for this occurrence and develop and complete appropriate changes to reverse this trend. In addition, both NGrid LI and NFG remain poor performers in relative to the statewide level.

Leading the statewide-level improvement in 2011 is one of last year's poorest performers, NGrid Upstate, which experienced a 43% improvement. Central Hudson was identified in the 2010 report as having the greatest slide in its 2010 performance, and experienced a 28% improvement in 2011. Staff expects to see general improvement in this area as LDCs continually adopt best practices to locate their facilities and develop better controls over their locating contractors. NGrid LI, NGrid NY, and NFG are recommended to evaluate their locating programs and adopt methods that could further improve markout accuracy.



**Figure #6** - *Company & Company Contractor Damages per 1000 Tickets Statewide*

Company & Company Contractor error damages demonstrated a statewide improvement of 3.5% during 2011<sup>5</sup>. See **Figure #6** above for individual LDC performance. As LDCs have increased the proactive replacement of leak-prone pipe in recent years, the increased excavation activity around their own facilities has resulted in the need for better excavation practices, and the adoption of greater controls.

Central Hudson has been identified for several years as a poor performer in damages due to Company & Company Contractor error. It improved its performance during 2011 to a level it has not experienced since 2005. Con Edison was identified as needing improvement in the 2009 and 2010 reports and continues to demonstrate the need for incremental improvement efforts after its 2011 performance. O&R's performance deteriorated significantly

<sup>5</sup> Staff updated Orange & Rockland's self reported Company & Company Contractor damages from two to 12 upon discovering that it was improperly accounting for these damages.

during 2011 to nearly five-times the statewide level, and must make efforts to improve safe excavation practices around it facilities.

Note in **Figure #6** that in the past five years, St. Lawrence only experienced one of these types of damages, which occurred in 2009. Corning has experienced these damages in the past (four in 2009 and three in 2010) and was recommended to examine its excavation practices to determine methods to prevent future occurrences. In 2011 Corning returned to no damages of this type.

It is recommended that Con Edison and O&R continue their efforts in identifying problem areas and adopt incremental best practices when excavating around its own facilities.

### Emergency Response

16 NYCRR §255.825(d) requires that LDCs provide a monthly report to Staff that includes a breakdown of the total number of gas leak and emergency calls received during the month and responded to in intervals of 15 minutes during normal business hours, weekdays outside business hours, and weekends and holidays. The report also indicates the percentage of calls responded to within 30, 45, and 60 minutes. The following have been established as acceptable overall response time standards: 75% within 30 minutes, 90% within 45 minutes, and 95% within 60 minutes. Each company has a very small number of instances of response times exceeding 60 minutes.<sup>6</sup>

The intent of the reporting requirement and the performance measure is to evaluate company responses to gas leak, odor, and emergency calls that are generated by the public and other authorities (e.g. police, fire, and municipal employees). For the purposes of reporting, the response time is measured from the time the call is sent to the company dispatcher to the time of arrival of qualified<sup>7</sup> company personnel at the location.

When an LDC responds to an odor call, and an investigation determines that the problem is not attributed to natural gas, the event is nevertheless included in the

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<sup>6</sup> The LDCs are expected to review the circumstances of each instance exceeding 60 minutes and where possible work towards their elimination.

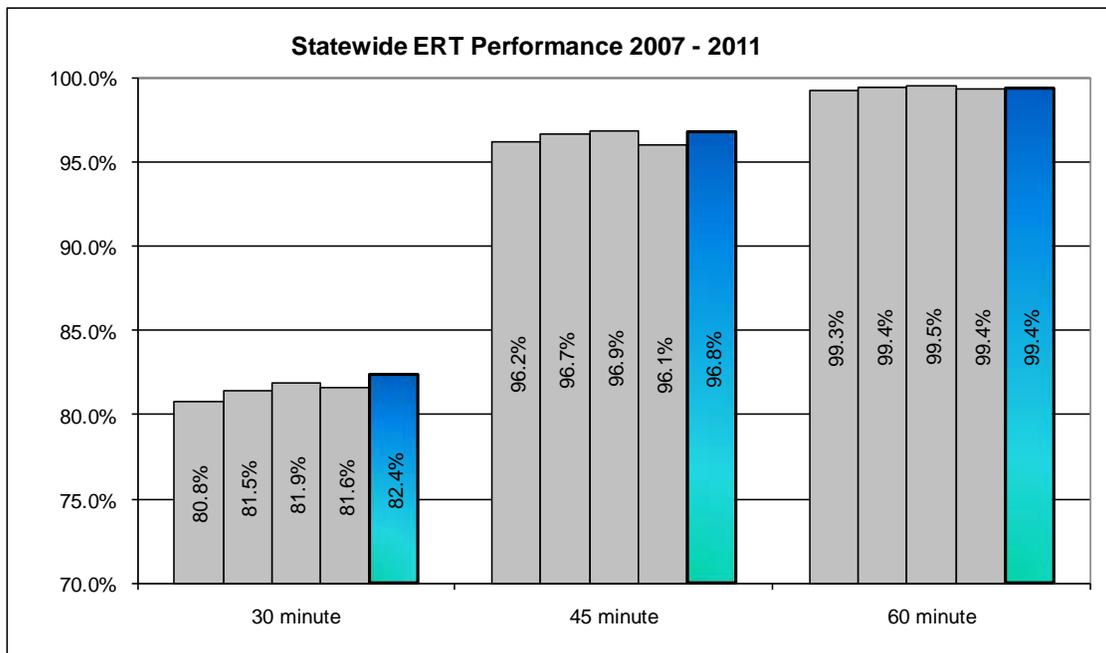
<sup>7</sup> *Qualified personnel* is defined as company representatives who are properly trained and equipped to investigate gas leak and odor reports in accordance with accepted company procedures and 16 NYCRR §255.604 - Operator Qualification.

reported data. This is because LDCs must respond as if it is an actual gas emergency until proven otherwise.

Any LDC that does not meet one of the target response levels at 30, 45, or 60 minutes also must provide additional data showing when the target response level is actually achieved.

### 2011 Results and Analysis

**Figure #7** displays the collective annual statewide Emergency Response Time (ERT) performance for each goal since 2007, with 2011 performance presented in color and is the fourth consecutive year that all of the LDCs met the 30-minute goal. Since 2007, performance has improved with a 1.6% increase in meeting the 30-minute goal, making 2011 the best statewide performance since data has been collected.



**Figure #7** - Statewide ERT Performance for All Goals

**Figure #8** presents data for calendar years 2007 through 2011 arranged by LDC and percentage of responses achieved within 30 minutes. Performances that did not meet the goal are shown in red.

	30 Minute				
	2007	2008	2009	2010	2011
Central Hudson	84.1%	82.5%	81.6%	80.0%	78.3%
Corning	74.7%	79.3%	81.0%	83.1%	83.8%
Con Edison	80.3%	80.8%	80.8%	81.8%	83.5%
NGrid LI	75.8%	76.5%	76.5%	76.0%	77.3%
NGrid NY	74.3%	77.0%	77.2%	78.2%	77.1%
NFG	91.4%	88.7%	89.8%	90.9%	91.8%
NGrid Upstate	82.0%	82.3%	84.0%	82.9%	82.5%
NYSEG	78.9%	79.9%	81.9%	80.2%	82.3%
O&R	80.3%	80.7%	81.0%	82.8%	83.4%
RG&E	92.4%	92.3%	92.4%	90.8%	90.3%
St. Lawrence	78.9%	80.2%	82.7%	77.9%	75.5%

**Figure #8** - *Response Times for 30-Minute Goal*

All LDCs reached the 30-minute goal for the fourth consecutive year. However, five of the eleven LDCs experienced slightly slower response times when compared to their 2010 performance level. NGrid NY failed to meet the target until 2008 and experienced improvement through 2010. However, its thirty minute response time in 2011 deteriorated back to 2008-2009 levels. Con Edison and O&R each reached their highest performance level in the 30-minute target for the second consecutive year. In addition, Corning, NGrid LI, NFG, and NYSEG have reached their best performance since data has been collected.

All LDCs met the 45-minute and 60-minute goals. The data for the 45-minute and 60-minute targets are provided in Appendix B.

Over the nine years of the collected data, leak and odor calls statewide have decreased from 227,905 in 2003, to 163,799 in 2011, or a 28.1% decrease over the

period. Although there has been a notable decline in the number of calls over the period, the past three years have been relatively flat. Part of the decline and leveling off of calls may be attributed to the reduction of leak backlogs, which will be discussed further under the Leak Management section.

It is encouraging to see that all LDCs have made efforts over the years to reach the statewide goals jointly established for this measure. Staff expects all LDCs to continue to evaluate and monitor their performance and identify areas where best practices can be implemented. Another area LDCs should continue to monitor and strive to improve is response times that exceed 60 minutes. Statewide, approximately 0.64% of calls fell into this category during 2011. Performance in this area is relatively the same as 2010. The best performance since data has been collected was attained in 2009 (0.47%).

### **Leak Management**

The intent of evaluating LDCs' leak management programs is to gauge performance in reducing the number of leaks that occur, eliminating potentially hazardous leaks that are found, and reducing the backlog of potentially hazardous leaks at the end of the year. The natural gas safety regulations contained in 16 NYCRR Part 255 include requirements for classifying leaks according to the relative hazard, considering factors such as whether gas migration is detected near buildings, in manholes, vaults or catch basins, or under paved versus unpaved areas, etc. All leaks classified as potentially hazardous must be monitored and repaired according to the gas safety regulations, and any hazardous conditions must be eliminated immediately.

Unrepaired potentially hazardous leaks are an increased safety risk in LDCs' systems. The risk is further increased when there is frost in the ground due to the increased chance of gas migration into buildings, because the gas cannot vent through the ground to the atmosphere as readily due to the blanket of frost. Although a leak backlog on any particular day is a snapshot in time, the end of a calendar year is significant since it is typically the beginning of the frost season. Thus, all data analyses are presented as of December 31, for each year (data as reported by the LDCs used in analyses are contained in Appendix C). The leak management measure looks at the year-end backlog of leaks requiring repair. This measure does not substitute for, and is not a reflection upon any LDCs' compliance with the gas safety regulations.

The data reported by the LDCs includes leaks found, and leaks repaired on mains and services categorized by:

- Leaks discovered by type of leak
- Leaks repaired on mains by type and pipe material
- Leaks repaired on services by type and pipe material
- Backlog of leaks by type

Analysis of leakage data can also provide an indication of the pipe material's susceptibility to leakage. As one means of continuously improving leak management programs, Staff encourages the identification and removal of leak-prone pipe, such as cast iron and bare or poorly coated steel pipe that is difficult to protect against corrosion. Incentive programs to replace deteriorating and leak-prone infrastructure and/or reducing

leak backlogs have been incorporated into past and current rate agreements for LDCs. The long-term goal is to eliminate pipeline infrastructure that, due to its vulnerability to leaks, presents greater safety risks to the public. As the aging pipe infrastructure is replaced by more modern materials, general leak concerns should decrease over time. During 2012 the LDCs across the state collectively plan to remove over 300 miles of leak-prone main.

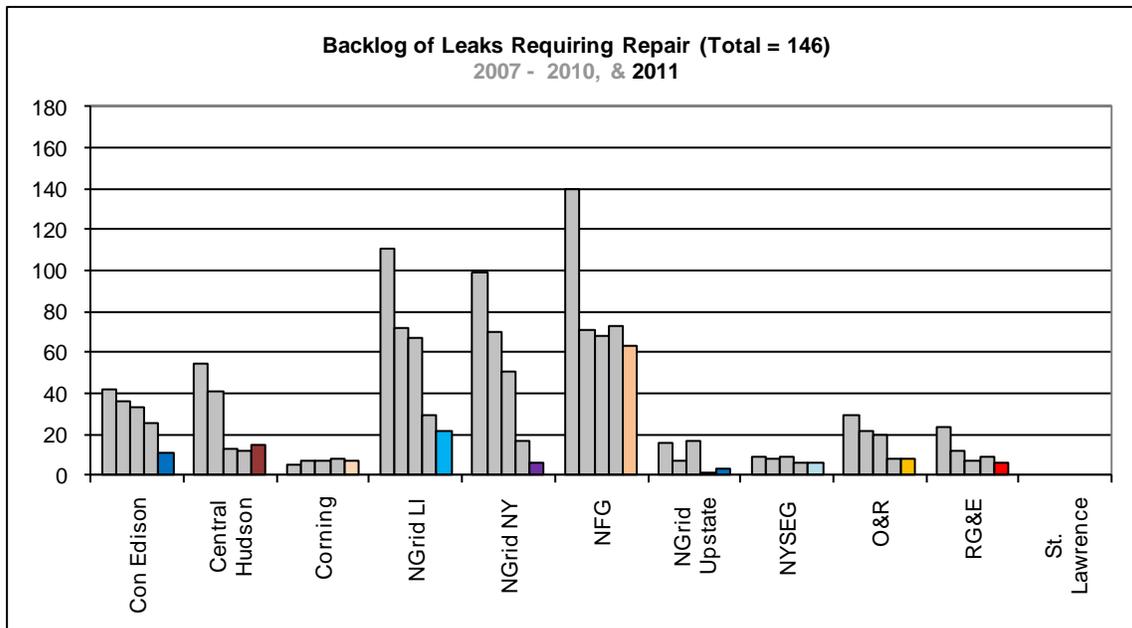
### 2011 Results and Analysis

The statewide year-end backlog of leaks requiring repair has declined from 1154 in 2003 to 146 in 2011, an 87% drop. This demonstrates that LDCs are paying more attention to managing leak surveys and completing them earlier in the year to allow for time to repair discovered leaks before heading into the frost season. Of note are the improvements since 2003 of NGrid Upstate (98%), NGrid NY (96%), NGrid LI (95%), and Con Edison (89%).

**Figure #9** displays the backlog of leaks requiring repair (Types 1, 2A, and 2)<sup>8</sup> on December 31<sup>st</sup> of 2007 through 2011. The total year-end backlog of leaks requiring repair across the state decreased from 188 in 2010 to 146 in 2011 (22.3%). Numerical leak data is contained in Appendix D.

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<sup>8</sup>A backlog of leaks requiring repair is defined as active leaks in the system, consisting of Type 1 - requires immediate effort to protect life and property, continuous action to eliminate the hazard, and repairs on a day-after-day basis or the condition kept under daily surveillance until corrected; Type 2A - monitored every two weeks and repaired within six months; and Type 2 - monitored at least every two months and repaired within one year.



**Figure #9** - Leak Backlog 2007 - 2011

As indicated in **Figure #9**, those with significant improvements in year-end backlogs during 2011 are Con Edison (56%) and, NGrid NY (65%). NGrid LI and O&R also continued their trend of reducing their year-end backlogs by lowering the number of unrepaired leaks in each of the past six or more years. St. Lawrence continues to maintain its year-end backlog at zero.

Central Hudson experienced an increase in its leak backlog at the end of 2011 for the first time since 2006. It was identified in three consecutive reports (2006, 2007, and 2008) as needing to improve its management of repairable leaks, and maintained its improved level through 2010. Although Central Hudson's performance deteriorated slightly in 2011 it has managed to keep its backlog of leaks below 20.

NGrid Upstate experienced an increase in its 2009 backlog over its 2008 backlog, which was its lowest ever. It was noted in the 2009 report that its performance would

be monitored to determine if it can successfully maintain its improved performance level achieved over the years. For 2010, it managed to finish the year with a single potentially hazardous leak in its backlog. In 2011, NGrid upstate's backlog increased slightly from one to three leaks. Although increases in leak backlogs are undesirable, aside from St. Lawrence, NGrid Upstate is maintaining a year-end backlog lower than any other company.

Both NGrid LI and NFG have been identified as outliers in years past. NGrid LI has made notable improvements since 2007. However, NFG continues to be a significant outlier and has apparently not taken the initiative to drive down these potentially hazardous leaks prior to the onset of the frost season. It is recommended NFG respond to this report outlining efforts it will make to lower its year-end leak backlog.

## CONCLUSION

Natural gas is a safe and reliable energy product, if handled and transported properly. Safety performance measures are an important management tool that provides Staff and LDCs the ability to evaluate trends in key areas of gas safety (damage prevention, emergency response time, and leak management). The LDCs must continue to focus on these areas to maintain an adequate level of safety and to further reduce safety risks in distributing natural gas to consumers.

Over the past nine years LDCs have collectively worked to improve performance in the key areas of safety identified in this report. There has been a 67% improvement in total damage performance, the 30-minute emergency response time has improved from 76.8% in 2003 to 82.4% in 2011, and the year-end leak backlog of potentially hazardous leaks has decreased 87%, from 1,154 to 146. As LDCs continue their outreach efforts, adopt better practices in responding to leak and odor calls, and work to replace aging leak-prone infrastructure, Staff expects further improvement will occur.

Staff will continue to evaluate LDCs' performance via the measures contained in this report and will send letters to those LDCs, mentioned as having improvement opportunities, requesting that those LDCs to provide the Safety Section of the Office of Electric, Gas and Water with specific details on how they plan to improve. It is recommended that those LDCs evaluate their current and past practices, as well as reach out to other LDCs that experience higher performance levels to determine what incremental, and if necessary, entirely new approaches to pursue in order to realize improvement. It is further

encouraged that those LDCs that were able to make significant improvements respond to this report and share best practices which enabled them to obtain such improvement. Staff will continue to meet with LDCs on a regular basis and monitor LDC performance. Performance trends are discussed with LDCs at those meetings and will be analyzed in future performance measure reports.

## Recommendations

For each of the measures listed below, it is recommended that the LDCs identified self-assess their performance. Staff will send letters to these LDCs which were identified as poor performers within this report. They should take into consideration the analyses and recommendations in this report, and respond with improved action plans outlining incremental efforts on how they will work to improve performance in the future.

- Mismatch damages - NGrid LI, NGrid NY, and NFG
- No-call damages - Central Hudson, NGrid LI and, NFG
- Company & Company Contractor damages - Con Edison and O&R
- Excavator Error damages - Corning, NFG, and NGrid Upstate
- Leak Management - NFG

## Appendix A

### Reported & Computed LDC Damage Performance

2011 LDC Reported Totals	# One Call Tickets									
	2003	2004	2005	2006	2007	2008	2009	2010	2011	
Con Edison	77,576	87,340	94,083	99,375	118,380	132,175	140,170	158,596	159,355	
Central Hudson	14,979	17,869	18,854	21,024	21,171	22,931	18,670	19,568	18,206	
Coning	2,045	2,750	3,273	3,093	2,558	4,644	4,380	4,143	4,735	
NGrid LI	70,718	83,137	80,402	94,156	105,488	119,216	149,860	132,813	134,852	
NGrid NY	56,132	63,335	66,184	65,838	75,164	87,895	94,117	94,573	95,974	
NFG	71,772	68,887	76,142	80,690	86,281	105,292	91,786	88,512	89,292	
NGrid Upstate	73,613	77,667	87,517	91,286	85,985	84,857	85,165	82,850	83,091	
NYSEG	51,252	48,590	60,046	66,178	61,629	67,772	56,134	60,469	61,757	
O&R	17,274	17,512	18,995	22,559	22,395	25,389	23,690	23,225	24,315	
RG&E	43,550	52,513	52,108	51,712	54,854	69,836	52,313	61,332	60,168	
St. Lawrence	2,268	2,604	2,653	2,692	2,433	2,896	3,190	2,986	3,296	

2011 LDC Reported Totals	Damages due to Mismarks									
	2003	2004	2005	2006	2007	2008	2009	2010	2011	
Con Edison	53	53	70	57	47	53	51	53	60	
Central Hudson	9	13	14	21	17	4	5	9	6	
Coning	5	3	0	1	1	1	0	0	0	
NGrid LI	70	88	98	80	73	81	85	82	75	
NGrid NY	94	114	83	81	67	52	60	38	52	
NFG	100	96	115	88	93	88	79	54	48	
NGrid Upstate	140	94	158	156	95	57	64	70	40	
NYSEG	36	41	35	17	25	21	20	22	21	
O&R	21	19	23	13	23	14	10	12	10	
RG&E	20	24	24	15	22	14	17	22	19	
St. Lawrence	1	1	1	2	0	1	0	1	2	

2011 LDC Computed Performance	Damages due to Mismarks (per 1000 Tickets)									
	2003	2004	2005	2006	2007	2008	2009	2010	2011	
Con Edison	0.68	0.61	0.74	0.57	0.40	0.40	0.36	0.33	0.38	
Central Hudson	0.60	0.73	0.74	1.00	0.80	0.17	0.27	0.46	0.33	
Coning	2.44	1.09	0.00	0.32	0.39	0.22	0.00	0.00	0.00	
NGrid LI	0.99	1.06	1.22	0.85	0.69	0.68	0.57	0.62	0.56	
NGrid NY	1.67	1.80	1.25	1.23	0.89	0.59	0.64	0.40	0.54	
NFG	1.39	1.39	1.51	1.09	1.08	0.84	0.86	0.61	0.54	
NGrid Upstate	1.90	1.21	1.81	1.71	1.10	0.67	0.75	0.84	0.48	
NYSEG	0.70	0.84	0.58	0.26	0.41	0.31	0.36	0.36	0.34	
O&R	1.22	1.08	1.21	0.58	1.03	0.55	0.42	0.52	0.41	
RG&E	0.46	0.46	0.46	0.29	0.40	0.20	0.32	0.36	0.32	
St. Lawrence	0.44	0.38	0.38	0.74	0.00	0.35	0.00	0.33	0.61	

2011 LDC Reported Totals	No-Call Damages								
	2003	2004	2005	2006	2007	2008	2009	2010	2011
Con Edison	62	107	110	85	84	47	41	44	42
Central Hudson	42	14	25	11	18	19	14	8	14
Coming	5	11	1	0	1	0	0	4	1
NGrid LI	214	296	270	295	201	133	100	105	103
NGrid NY	107	110	131	96	78	78	49	42	30
NFG	127	132	144	95	104	96	71	69	60
NGrid Upstate	129	115	139	93	67	74	51	46	33
NYSEG	54	39	34	27	28	20	19	12	18
O&R	52	41	44	39	48	31	28	15	14
RG&E	85	62	53	52	36	35	15	20	28
St. Lawrence	9	5	3	2	5	3	0	2	1

Co. & Co. Contractor Damages								
2003	2004	2005	2006	2007	2008	2009	2010	2011
47	37	30	24	34	46	34	31	35
2	2	1	5	6	9	9	4	2
0	0	0	0	0	0	4	3	0
24	34	14	15	5	8	3	3	5
12	9	8	4	7	3	4	7	3
7	13	18	11	6	6	2	5	3
13	23	12	10	7	11	6	7	5
5	0	5	5	10	2	1	3	4
13	37	25	18	21	7	8	6	12
7	8	13	7	6	3	4	7	5
0	1	0	0	0	0	1	0	0

2011 LDC Computed Performance	No-Call Damages (per 1000 Tickets)								
	2003	2004	2005	2006	2007	2008	2009	2010	2011
Con Edison	0.80	1.23	1.17	0.86	0.71	0.36	0.29	0.28	0.26
Central Hudson	2.80	0.78	1.33	0.52	0.85	0.83	0.75	0.41	0.77
Coming	2.44	4.00	0.31	0.00	0.39	0.00	0.00	0.97	0.21
NGrid LI	3.03	3.56	3.36	3.13	1.91	1.12	0.67	0.79	0.76
NGrid NY	1.91	1.74	1.98	1.46	1.04	0.89	0.52	0.44	0.31
NFG	1.77	1.92	1.89	1.18	1.21	0.91	0.77	0.78	0.67
NGrid Upstate	1.75	1.48	1.59	1.02	0.78	0.87	0.60	0.56	0.40
NYSEG	1.05	0.80	0.57	0.41	0.45	0.30	0.34	0.20	0.29
O&R	3.01	2.34	2.32	1.73	2.14	1.22	1.18	0.65	0.58
RG&E	1.95	1.18	1.02	1.01	0.66	0.50	0.29	0.33	0.47
St. Lawrence	3.97	1.92	1.13	0.74	2.06	1.04	0.00	0.67	0.30

Co. & Co. Contractor Damages (per 1000 Tickets)								
2003	2004	2005	2006	2007	2008	2009	2010	2011
0.61	0.42	0.32	0.24	0.29	0.35	0.24	0.20	0.22
0.13	0.11	0.05	0.24	0.28	0.39	0.48	0.20	0.11
0.00	0.00	0.00	0.00	0.00	0.00	0.91	0.72	0.00
0.34	0.41	0.17	0.16	0.05	0.07	0.02	0.02	0.04
0.21	0.14	0.12	0.06	0.09	0.03	0.04	0.07	0.03
0.10	0.19	0.24	0.14	0.07	0.06	0.02	0.06	0.03
0.18	0.30	0.14	0.11	0.08	0.13	0.07	0.08	0.06
0.10	0.00	0.08	0.08	0.16	0.03	0.02	0.05	0.06
0.75	2.11	1.32	0.80	0.94	0.28	0.34	0.26	0.49
0.16	0.15	0.25	0.14	0.11	0.04	0.08	0.11	0.08
0	0.38	0.00	0.00	0.00	0.00	0.31	0.00	0.00

2011 LDC Reported Totals	Excavator Error Damages								
	2003	2004	2005	2006	2007	2008	2009	2010	2011
Con Edison	129	88	81	70	133	118	92	97	73
Central Hudson	62	57	38	30	22	25	15	14	13
Conning	5	12	16	15	9	3	9	5	14
NGrid LI	204	125	126	86	112	115	119	150	130
NGrid NY	272	273	295	207	170	143	110	93	120
NFG	208	224	212	208	196	179	176	162	145
NGrid Upstate	374	294	404	283	276	225	224	183	174
NYSEG	104	113	107	67	90	63	57	68	57
O&R	87	72	57	59	68	56	27	38	25
RG&E	121	98	89	66	87	75	66	46	63
St. Lawrence	10	7	4	4	7	7	21	4	6

Total Damages								
2003	2004	2005	2006	2007	2008	2009	2010	2011
291	285	291	236	287	264	218	225	210
115	86	78	67	63	57	43	35	35
15	26	17	16	11	4	13	12	15
512	543	508	476	391	337	307	340	313
485	506	517	388	322	276	223	180	205
442	465	489	402	399	369	328	290	256
656	526	713	542	445	367	345	306	252
199	193	181	116	153	106	97	105	100
173	169	149	129	160	108	73	71	61
233	192	179	140	151	127	102	95	115
20	14	8	8	12	11	22	7	9

2011 LDC Computed Performance	Excavator Error Damages (per 1000 Tickets)								
	2003	2004	2005	2006	2007	2008	2009	2010	2011
Con Edison	1.66	1.01	0.86	0.70	1.12	0.89	0.66	0.61	0.46
Central Hudson	4.14	3.19	2.02	1.43	1.04	1.09	0.80	0.72	0.71
Conning	2.44	4.36	4.89	4.85	3.52	0.65	2.05	1.21	2.96
NGrid LI	2.88	1.50	1.57	0.91	1.06	0.96	0.79	1.13	0.96
NGrid NY	4.85	4.31	4.46	3.14	2.26	1.63	1.17	0.98	1.25
NFG	2.90	3.25	2.78	2.58	2.27	1.70	1.92	1.83	1.62
NGrid Upstate	5.08	3.79	4.62	3.10	3.21	2.65	2.63	2.21	2.09
NYSEG	2.03	2.33	1.78	1.01	1.46	0.93	1.02	1.12	0.92
O&R	5.04	4.11	3.00	2.62	3.04	2.21	1.14	1.64	1.03
RG&E	2.78	1.87	1.71	1.28	1.59	1.07	1.26	0.75	1.05
St. Lawrence	4.41	2.69	1.51	1.49	2.88	2.42	6.58	1.34	1.82

Total Damages (per 1000 Tickets)								
2003	2004	2005	2006	2007	2008	2009	2010	2011
3.75	3.26	3.09	2.37	2.42	2.00	1.56	1.42	1.32
7.68	4.81	4.14	3.19	2.98	2.49	2.30	1.79	1.92
7.33	9.45	5.19	5.17	4.30	0.86	2.97	2.90	3.17
7.24	6.53	6.32	5.06	3.71	2.83	2.05	2.56	2.32
8.64	7.99	7.81	5.89	4.28	3.14	2.37	1.90	2.14
6.16	6.75	6.42	4.98	4.62	3.50	3.57	3.28	2.87
8.91	6.77	8.15	5.94	5.18	4.32	4.05	3.69	3.03
3.88	3.97	3.01	1.75	2.48	1.56	1.73	1.74	1.62
10.02	9.65	7.84	5.72	7.14	4.25	3.08	3.06	2.51
5.35	3.66	3.44	2.71	2.75	1.82	1.95	1.55	1.91
8.82	5.38	3.02	2.97	4.93	3.80	6.90	2.34	2.73

## Individual LDC Damage Performance

Con Edison	2003	2004	2005	2006	2007	2008	2009	2010	2011	2011 Statewide
Tickets	77,576	87,340	94,083	99,375	118,380	132,175	140,170	158,596	159,355	735,041
Damages/1000 tickets Due to:										
Mismarks	0.68	0.61	0.74	0.57	0.40	0.40	0.36	0.33	0.38	0.45
No-Calls	0.80	1.23	1.17	0.86	0.71	0.36	0.29	0.28	0.26	0.47
Co. & Co. Contractor	0.61	0.42	0.32	0.24	0.29	0.35	0.24	0.20	0.22	0.10
Excavator Error	1.66	1.01	0.86	0.70	1.12	0.89	0.66	0.61	0.46	1.12
Total	3.75	3.26	3.09	2.37	2.42	2.00	1.56	1.42	1.32	2.14

Central Hudson	2003	2004	2005	2006	2007	2008	2009	2010	2011	2011 Statewide
Tickets	14,979	17,869	18,854	21,024	21,171	22,931	18,670	19,121	18,206	735,041
Damages/1000 tickets Due to:										
Mismarks	0.60	0.73	0.74	1.00	0.80	0.17	0.27	0.47	0.33	0.45
No-Calls	2.80	0.78	1.33	0.52	0.85	0.83	0.75	0.42	0.77	0.47
Co. & Co. Contractor	0.13	0.11	0.05	0.24	0.28	0.39	0.48	0.21	0.11	0.10
Excavator Error	4.14	3.19	2.02	1.43	1.04	1.09	0.80	0.73	0.71	1.12
Total	7.68	4.81	4.14	3.19	2.98	2.49	2.30	1.83	1.92	2.14

Corning	2003	2004	2005	2006	2007	2008	2009	2010	2011	2011 Statewide
Tickets	2,045	2,750	3,273	3,093	2,558	4,644	4,380	4,143	4,735	735,041
Damages/1000 tickets Due to:										
Mismarks	2.44	1.09	0.00	0.32	0.39	0.22	0.00	0.00	0.00	0.45
No-Calls	2.44	4.00	0.31	0.00	0.39	0.00	0.00	0.97	0.21	0.47
Co. & Co. Contractor	0.00	0.00	0.00	0.00	0.00	0.00	0.91	0.72	0.00	0.10
Excavator Error	2.44	4.36	4.89	4.85	3.52	0.65	2.05	1.21	2.96	1.12
Total	7.33	9.45	5.19	5.17	4.30	0.86	2.97	2.90	3.17	2.14

NGrid LI	2003	2004	2005	2006	2007	2008	2009	2010	2011	2011 Statewide
Tickets	70,718	83,137	80,402	94,156	105,488	119,216	149,860	132,813	134,852	735,041
Damages/1000 tickets Due to:										
Mismarks	0.99	1.06	1.22	0.85	0.69	0.68	0.57	0.62	0.56	0.45
No-Calls	3.03	3.56	3.36	3.13	1.91	1.12	0.67	0.79	0.76	0.47
Co. & Co. Contractor	0.34	0.41	0.17	0.16	0.05	0.07	0.02	0.02	0.04	0.10
Excavator Error	2.88	1.50	1.57	0.91	1.06	0.96	0.79	1.13	0.96	1.12
Total	7.24	6.53	6.32	5.06	3.71	2.83	2.05	2.56	2.32	2.14

NGrid NY	2003	2004	2005	2006	2007	2008	2009	2010	2011	2011 Statewide
Tickets	56,132	63,335	66,184	65,838	75,164	87,895	94,117	94,573	95,974	735,041
Damages/1000 tickets Due to:										
Mismarks	1.67	1.80	1.25	1.23	0.89	0.59	0.64	0.40	0.54	0.45
No-Calls	1.91	1.74	1.98	1.46	1.04	0.89	0.52	0.44	0.31	0.47
Co. & Co. Contractor	0.21	0.14	0.12	0.06	0.09	0.03	0.04	0.07	0.03	0.10
Excavator Error	4.85	4.31	4.46	3.14	2.26	1.63	1.17	0.98	1.25	1.12
Total	8.64	7.99	7.81	5.89	4.28	3.14	2.37	1.90	2.14	2.14

NFG	2003	2004	2005	2006	2007	2008	2009	2010	2011	2011 Statewide
Tickets	71,772	68,887	76,142	80,690	86,281	105,292	91,786	88,512	89,292	735,041
Damages/1000 tickets Due to:										
Mismarks	1.39	1.39	1.51	1.09	1.08	0.84	0.86	0.61	0.54	0.45
No-Calls	1.77	1.92	1.89	1.18	1.21	0.91	0.77	0.78	0.67	0.47
Co. & Co. Contractor	0.10	0.19	0.24	0.14	0.07	0.06	0.02	0.06	0.03	0.10
Excavator Error	2.90	3.25	2.78	2.58	2.27	1.70	1.92	1.83	1.62	1.12
Total	6.16	6.75	6.42	4.98	4.62	3.50	3.57	3.28	2.87	2.14

NGrid Upstate	2003	2004	2005	2006	2007	2008	2009	2010	2011	2011 Statewide
Tickets	73,613	77,667	87,517	91,286	85,985	84,857	85,165	82,850	83,091	735,041
Damages/1000 tickets Due to:										
Mismarks	1.90	1.21	1.81	1.71	1.10	0.67	0.75	0.84	0.48	0.45
No-Calls	1.75	1.48	1.59	1.02	0.78	0.87	0.60	0.56	0.40	0.47
Co. & Co. Contractor	0.18	0.30	0.14	0.11	0.08	0.13	0.07	0.08	0.06	0.10
Excavator Error	5.08	3.79	4.62	3.10	3.21	2.65	2.63	2.21	2.09	1.12
Total	8.91	6.77	8.15	5.94	5.18	4.32	4.05	3.69	3.03	2.14

<b>NYSEG</b>	2003	2004	2005	2006	2007	2008	2009	2010	2011	<b>2011 Statewide</b>
Tickets	51,252	48,590	60,046	66,178	61,629	67,772	56,134	60,469	61,757	735,041
Damages/1000 tickets Due to:										
Mismarks	0.70	0.84	0.58	0.26	0.41	0.31	0.36	0.36	0.34	0.45
No-Calls	1.05	0.80	0.57	0.41	0.45	0.30	0.34	0.20	0.29	0.47
Co. & Co. Contractor	0.10	0.00	0.08	0.08	0.16	0.03	0.02	0.05	0.06	0.10
Excavator Error	2.03	2.33	1.78	1.01	1.46	0.93	1.02	1.12	0.92	1.12
Total	3.88	3.97	3.01	1.75	2.48	1.56	1.73	1.74	1.62	2.14

<b>O&amp;R</b>	2003	2004	2005	2006	2007	2008	2009	2010	2011	<b>2011 Statewide</b>
Tickets	17,274	17,512	18,995	22,559	22,395	25,389	23,690	23,225	24,315	735,041
Damages/1000 tickets Due to:										
Mismarks	1.22	1.08	1.21	0.58	1.03	0.55	0.42	0.52	0.41	0.45
No-Calls	3.01	2.34	2.32	1.73	2.14	1.22	1.18	0.65	0.58	0.47
Co. & Co. Contractor	0.75	2.11	1.32	0.80	0.94	0.28	0.34	0.26	0.49	0.10
Excavator Error	5.04	4.11	3.00	2.62	3.04	2.21	1.14	1.64	1.03	1.12
Total	10.02	9.65	7.84	5.72	7.14	4.25	3.08	3.06	2.51	2.14

<b>RG&amp;E</b>	2003	2004	2005	2006	2007	2008	2009	2010	2011	<b>2011 Statewide</b>
Tickets	43,550	52,513	52,108	51,712	54,854	69,836	52,313	61,332	60,168	735,041
Damages/1000 tickets Due to:										
Mismarks	0.46	0.46	0.46	0.29	0.40	0.20	0.32	0.36	0.32	0.45
No-Calls	1.95	1.18	1.02	1.01	0.66	0.50	0.29	0.33	0.47	0.47
Co. & Co. Contractor	0.16	0.15	0.25	0.14	0.11	0.04	0.08	0.11	0.08	0.10
Excavator Error	2.78	1.87	1.71	1.28	1.59	1.07	1.26	0.75	1.05	1.12
Total	5.35	3.66	3.44	2.71	2.75	1.82	1.95	1.55	1.91	2.14

<b>St. Lawrence</b>	2003	2004	2005	2006	2007	2008	2009	2010	2011	<b>2011 Statewide</b>
Tickets	2,268	2,604	2,653	2,692	2,433	2,896	3,190	2,986	3,296	735,041
Damages/1000 tickets Due to:										
Mismarks	0.44	0.38	0.38	0.74	0.00	0.35	0.00	0.33	0.61	0.45
No-Calls	3.97	1.92	1.13	0.74	2.06	1.04	0.00	0.67	0.30	0.47
Co. & Co. Contractor	0.00	0.38	0.00	0.00	0.00	0.00	0.31	0.00	0.00	0.10
Excavator Error	4.41	2.69	1.51	1.49	2.88	2.42	6.58	1.34	1.82	1.12
Total	8.82	5.38	3.02	2.97	4.93	3.80	6.90	2.34	2.73	2.14

## Appendix B

### Reported Emergency Response Data

	45 Minute								
	2003	2004	2005	2006	2007	2008	2009	2010	2011
Central Hudson	99.2%	98.8%	98.8%	98.7%	99.0%	99.0%	99.1%	98.9%	98.6%
Coning	93.0%	96.1%	93.9%	95.8%	89.2%	96.1%	97.1%	96.6%	96.3%
Con Edison	96.3%	97.3%	97.1%	97.6%	97.4%	97.8%	97.9%	97.9%	98.5%
NGrid LI	93.1%	96.0%	96.2%	96.1%	95.5%	95.6%	95.7%	95.2%	96.0%
NGrid NY	92.2%	92.4%	90.6%	91.8%	95.1%	96.6%	96.6%	96.3%	96.1%
NFG	96.1%	96.3%	96.8%	97.0%	97.2%	96.3%	97.1%	97.4%	97.7%
NGrid Upstate	92.1%	94.1%	93.6%	95.1%	94.8%	95.5%	95.9%	95.1%	95.0%
NYSEG	96.2%	96.0%	96.0%	94.5%	95.0%	95.7%	96.1%	95.3%	95.1%
O&R	94.2%	95.8%	95.1%	96.7%	97.1%	97.5%	97.8%	98.1%	97.8%
RG&E	99.3%	99.5%	99.4%	98.9%	98.9%	98.8%	98.9%	98.3%	98.6%
St. Lawrence	89.0%	91.0%	95.3%	95.5%	95.4%	96.3%	96.1%	95.2%	95.5%

	60 Minute								
	2003	2004	2005	2006	2007	2008	2009	2010	2011
Central Hudson	99.9%	99.9%	99.9%	99.8%	99.9%	99.9%	99.97%	99.9%	99.8%
Coning	98.0%	99.6%	96.8%	99.2%	97.1%	98.7%	98.7%	99.6%	99.0%
Con Edison	99.9%	99.9%	99.9%	99.9%	99.7%	99.9%	99.97%	99.9%	99.9%
NGrid LI	99.9%	99.9%	99.9%	99.9%	99.8%	99.6%	99.7%	99.6%	99.7%
NGrid NY	98.1%	98.4%	97.9%	97.8%	99.3%	99.7%	99.6%	99.2%	99.3%
NFG	98.9%	98.9%	99.0%	99.0%	99.1%	98.8%	99.2%	99.2%	99.4%
NGrid Upstate	97.2%	98.0%	98.0%	98.6%	98.2%	98.7%	98.8%	98.5%	98.4%
NYSEG	99.4%	99.4%	99.2%	98.8%	99.1%	99.3%	99.3%	99.0%	98.2%
O&R	99.7%	99.7%	99.5%	99.9%	99.9%	99.9%	99.9%	99.97%	99.88%
RG&E	99.9%	99.9%	99.8%	99.8%	99.9%	99.8%	99.8%	99.8%	99.8%
St. Lawrence	98.2%	98.5%	99.2%	99.2%	98.9%	99.6%	99.6%	99.5%	99.8%

# Calls	2003	2004	2005	2006	2007	2008	2009	2010	2011
Central Hudson	4,587	4,724	4,999	4,075	4,442	3,752	3,485	3,578	4,086
Coning	716	722	1,487	1,036	1,432	1,279	1,102	941	1,314
Con Edison	31,749	33,527	30,478	28,356	29,880	26,003	25,834	27,389	29,148
NGrid LI	30,593	28,459	27,922	25,034	23,486	21,605	20,966	20,944	21,051
NGrid NY	64,431	59,046	53,200	49,034	47,688	43,253	42,036	40,590	39,702
NFG	33,288	30,207	29,543	25,743	27,740	26,558	26,016	25,542	24,012
NGrid Upstate	28,602	27,507	25,206	22,682	23,465	21,681	20,601	19,768	20,025
NYSEG	10,210	9,487	9,999	8,995	9,828	8,395	7,923	6,835	8,287
O&R	8,231	8,260	8,033	7,656	7,820	6,982	6,249	7,667	6,720
RG&E	14,882	14,248	13,917	12,123	12,185	11,475	9,261	9,244	9,013
St. Lawrence	616	590	493	396	436	481	490	420	441

<b>Total:</b>	227,905	216,777	205,277	185,130	188,402	171,464	163,963	162,918	163,799
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### Appendix C

#### Reported Leak Data

2011 Total Leak Repairs on Mains by Material								
	Unprot. Bare	Unprot. Coated	Prot. Bare	Prot. Coated	Plastic	Cast/Wrt. Iron	Copper	Other
Con Edison	2,014	71	0	1	31	2,058	0	0
Central Hudson	33	0	0	44	6	100	0	0
Conring	139	4	0	1	1	0	0	0
NGrid LI	771	170	15	32	72	172	0	0
NGrid NY	104	0	0	35	11	2,420	0	0
NFG	1,840	0	0	65	110	195	0	12
NGrid Upstate	37	59	0	109	37	471	0	0
NYSEG	205	0	0	48	42	6	0	4
O&R	250	0	0	11	60	31	0	0
RG&E	149	0	0	221	27	61	0	0
St. Lawrence	0	0	0	5	0	0	0	0

2011 Total Leak Repairs on Services by Material								
	Unprot. Bare	Unprot. Coated	Prot. Bare	Prot. Coated	Plastic	Cast/Wrt. Iron	Copper	Other
Con Edison	2,108	162	0	0	502	0	99	0
Central Hudson	42	0	0	48	22	0	0	0
Conring	111	2	0	0	2	0	0	0
NGrid LI	975	236	23	70	239	0	18	0
NGrid NY	253	0	0	139	118	0	208	0
NFG	508	0	0	81	106	0	0	36
NGrid Upstate	269	112	0	154	217	13	20	0
NYSEG	242	0	0	30	199	0	0	8
O&R	291	0	0	13	112	1	0	0
RG&E	69	0	0	108	52	1	11	0
St. Lawrence	0	0	0	0	3	0	0	0

## Appendix D

### Backlog of Leaks Requiring Repair

LDC	Leak Backlog - Type 1, 2, and 2a								
	2003	2004	2005	2006	2007	2008	2009	2010	2011
Con Edison	98	106	91	61	42	36	33	25	11
Central Hudson	30	14	27	63	54	41	13	12	15
Conring	6	2	58	105	5	7	7	8	7
NGrid LI	419	177	151	143	111	72	67	29	21
NGrid NY	139	197	166	158	99	70	51	17	6
NFG	172	213	111	77	140	71	68	73	63
NGrid Upstate	151	56	43	48	16	7	17	1	3
NYSEG	52	11	25	31	9	8	9	6	6
O&R	55	47	44	34	29	21	20	8	8
RG&E	32	30	27	29	23	12	7	9	6
St. Lawrence	0	0	0	0	0	0	0	0	0
Total:	1,154	853	743	749	528	345	292	188	146

### Repaired Leaks Requiring Repair

LDC	Leaks Repaired - Type 1, 2, and 2a								
	2003	2004	2005	2006	2007	2008	2009	2010	2011
Con Edison	7,769	7,498	6,445	6,312	7,509	5,800	6,592	5,993	6,032
Central Hudson	184	199	252	295	243	306	175	141	201
Conring	58	109	138	219	319	127	105	108	129
NGrid LI	6,327	4,127	3,730	3,359	2,651	2,282	2,325	2,170	2,509
NGrid NY	5,359	4,174	3,553	3,120	3,307	2,460	2,351	2,378	3,114
NFG	2,741	2,157	2,032	2,042	2,375	1,949	1,464	1,340	1,589
NGrid Upstate	1,407	1,446	1,212	1,067	1,264	1,033	1,316	1,354	1,164
NYSEG	665	713	432	385	148	242	207	266	477
O&R	456	716	528	499	374	362	339	480	520
RG&E	1,022	1,210	677	451	521	387	330	430	322
St. Lawrence	5	3	4	1	5	0	5	4	7