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DEPARTMENT OF PUBLIC SERVICE



2005 GAS SAFETY
PERFORMANCE MEASURES REPORT
(CASE 06-G-0566)

Safety Section
Office of Gas & Water
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EXECUTIVE SUMMARY

This report examines the New York State natural gas local distribution companies' (LDCs) 2005 performance in three areas pertaining to safety: damage prevention, emergency response, and leak management.

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, and this is the third year that the Office of Gas and Water has collected data according to these processes. Overall, the data indicate that LDC performance has improved across the state.

The first measure, damage prevention, gauges the ability of LDCs to minimize damages to buried facilities caused by excavation activities. The damage measure is further broken down into four categories: damages due to (1) mismarks (inaccurate marking of LDC buried facilities); (2) company and company contractors; (3) third party excavator error; and (4) lack of notification of intent to excavate (no-calls).

Overall, damage prevention performance across the state improved approximately 1.4% during 2005. The number of one-call notices (tickets) received by the utilities increased by 7.3%, which is most likely attributable to a combination of improved compliance by excavators and an increase in construction activity. Staff attributes these positive results in part, to enhanced training of locating personnel, the Commission's enforcement process for non-compliance with its regulations protecting underground facilities, and public education efforts undertaken by both

the LDCs and the One-Call centers, including cooperative efforts with the Department of Public Service concerning the implementation of a damage prevention grant obtained from the United States Department of Transportation, Office of Pipeline Safety. Despite overall statewide improvement, several LDCs experienced increased damages within one or more of the four categories of damages described above, leading to statewide slippage in two categories, mismarks and excavator error.

The largest slippage was in the area of mismarks (failure to accurately mark the location of underground facilities), due primarily to a 50% drop in performance by National Grid, Inc. (NGrid). If NGrid had at least equaled its 2004 performance there would have been a slight improvement rather than a decline in statewide performance due to mismarks. In addition, total damages statewide would have improved by more than twice what was actually experienced. KeySpan Energy Delivery of Long Island (KED LI), National Fuel Gas Distribution Corporation and Orange and Rockland Utilities, Inc. (O&R) also experienced increased mismark damages and are, along with NGrid, among the highest statewide in this category. These LDCs need to focus attention on improving significantly in this performance measure and identifying the increased efforts in their corrective action plans.

Damages caused by mismarks is an area where LDCs have more control over their level of performance than they would relative to excavator error and no-calls damages. Staff expects that through training, quality control, vendor procurement practices and increased management attention, the LDC's should be able to achieve reductions in damages caused by mismarks.

NGrid's and KeySpan Energy Delivery of New York's (KED NY) performance also declined in the excavator error and no-call measures. KED LI declined in the excavator error measure, and despite a slight improvement in the no-call measure continues to have significant room for improvement. Although LDC performance in these two measures is dependent on the behavior of outside parties, improvements are achievable through outreach efforts such as excavator education and safety seminars.

Damages due to company and company contractors showed an improvement statewide during 2005. Although O&R improved in this area, it continues to experience a significantly higher rate of these types of damages than any other LDC. Similar to mismark damages, this is an area where LDCs have more control over their own performance. O&R needs to identify additional efforts and approaches to bring this safety measure in line with the other LDCs.

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. Response performance generally improved across the state in 2005. Staff attributes this progress to LDCs adopting more efficient work practices, utilization of new technologies such as global positioning satellites to quickly identify the most appropriate employee to respond to an emergency notification, 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.

All LDCs are meeting the 45-minute and 60-minute response goals, and most are meeting the 30-minute goal. Two LDCs, O&R and KED NY, have yet to attain the performance level of 75% within 30 minutes. O&R's performance has shown steady improvement since 2003. However, KED NY's 2005 performance continues to decline over the 3-year period examined. It continues to fall short of the 75%-within-30-minute goal and has the lowest level of achievement among the LDCs. KED NY's actions to improve in this area apparently have not been effective thus far, indicating that it should develop additional corrective approaches.

The third measure, leak management, examines LDCs' performance in effectively maintaining leak inventories and keeping potentially hazardous leaks to a minimum. The key measure looks at the year-end backlog of leaks requiring repair. The net result statewide for year-end 2005 is a 12.9% decrease in the number of leaks requiring repair compared to year-end 2004. Many LDCs attribute the decreased year-end backlog to completing mandatory leak surveys earlier in 2005, leaving more time to complete the repairs by the end of the year. According to the LDCs, this facilitates the management of leak repair activity heading into the winter months. 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 analysis of each performance measure identifies specific areas where certain LDCs have room for improvement. It is recommended that those LDCs perform a self-analysis in these areas and develop action plans to improve performance. In some cases, Staff suggests certain issues to examine, although the LDC 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. Those LDCs identified as having room for improvement within the various measures will be asked to respond within 45 days describing action plans to improve performance.

Table of Contents

COMPANY ACRONYMS	1
INTRODUCTION	2
PERFORMANCE AND ANALYSIS FOR 2005	3
Damage Prevention	3
2005 Damage Results and Analysis	7
Figure #1 - Damages per 1000 Tickets Statewide.....	7
Figure #2 - Facility Damages per 1000 Tickets.....	9
Figure #3 - Damages due to Mismarks.....	10
Figure #4 - Damages due to Company & Company Contractors.....	13
Figure #5 - Damages due to Excavator Error.....	16
Figure #6 - Damages due to No-Calls.....	18
Emergency Response	20
2005 Results and Analysis	21
Figure #7 - Response Times for 30-Minute Goal.....	21
Figure #8 - When 75% Goal was Met Beyond 30 Minutes.....	23
Leak Management	24
2005 Results and Analysis	26
Figure #9 - Leak Backlog 2003, 2004, and 2005.....	27
Figure #10 - Leak Management Performance.....	28
CONCLUSION	30
APPENDIX A	31
Reported Damage Data	31
APPENDIX B	32
Reported Emergency Response Data	32
APPENDIX C	33
Reported Leak Data	33
Backlog of Leaks Requiring Repair	34
Repaired Leaks Requiring Repair	34
Calculated Leak Management Metric	34

COMPANY ACRONYMS

Company	Acronym in Report
Central Hudson Gas & Electric Corporation	Central Hudson
Consolidated Edison Company of New York, Inc.	Con Edison
Corning Natural Gas Corporation	Corning
KeySpan Energy Delivery Long Island	KED LI
KeySpan Energy Delivery New York City	KED NY
National Fuel Gas Distribution Corporation	NFG
New York State Electric & Gas Corporation	NYSEG
National Grid, Inc.	NGrid
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 by Staff as a means of effectively improving gas delivery system safety by measuring local distribution companies' (LDCs) 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, and whether safety aspects are improving, remaining stable, or deteriorating.

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 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 2005

Throughout this report, all of the figures display performance results for 2003-2005 for each LDC with the grey columns in the bar graphs representing 2003 and 2004, and the color columns representing the 2005 performance results. Red numbers in tables represent failure to meet the target level for the measure or a decline in performance from the previous year.

Damage Prevention

Damage due to excavation activity is the leading cause of 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, 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 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 formula used to normalize each LDC's data is number of facility damages per 1000 one-call tickets.

The numbers of damages are categorized by:

- damages resulting from mismarks¹
- damages resulting from excavator error
- damages resulting from company and company contractors
- damages resulting from "no-calls"

Each one-call ticket received provides an LDC the opportunity to mark its facilities correctly. Hence, the 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. Damages due to excavator error per 1000 tickets tracks this category. Historically, this metric makes up the largest percentage of damages to LDCs' facilities.

Damages that are caused by the LDC themselves, or their direct contractors, are also included in the damage analysis as a separate category. LDC personnel should be trained 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 ideally be the smallest contributor to the total damages.

No-call damages 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

¹ A mismark is a failure to accurately mark the location of underground facilities.

have about the one-call notification systems. A high percentage of damages in this category indicates 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 2005, more than 99% of one-call tickets resulted in no damages to natural gas facilities. There were a total of 3297 damages to natural gas LDC facilities in 2005, 5.7% more than in 2004. However, due to an increase of 38,053 one-call tickets (7.3%) during 2005, the normalized performance results in a decrease in total damages per 1000 one-call tickets. The increase in one-call tickets is a sign that excavators may be gaining better awareness of the one-call system, and the possibility that more excavation work is being conducted, which would also represent more opportunities for damages. In spite of this, total performance still improved over 2004. While these are encouraging statistics, a single damage could lead to a catastrophic event, so it is important that LDCs strive to minimize damage to facilities.

Recent legislation by the Federal Communications Commission (FCC) has mandated the creation of a single three-digit telephone number that excavators can call to request the markout of underground facilities. The telephone number is 811 and is currently being activated across the nation and will simplify the one-call process. The single telephone number will relieve excavators from having to call a different phone number in varying geographic locations. It will also facilitate national

one-call education efforts and carry a message that is applicable no matter where excavators work in the country.

The Department was awarded a \$300,000 Damage Prevention Grant from the United States Department of Transportation, Office of Pipeline Safety in October 2003, for which implementation was completed in 2005. Working in cooperation with the one-call notification systems and the LDCs, activities included updating an excavator manual² that was developed under a previous grant; producing a Spanish translation of the excavator manual; training seminars focused on utility locating techniques; and demonstrations of new technologies for safe excavation techniques such as vacuum excavation.³ Grant funds have also been used for public outreach such as radio advertising and mass-mailings of educational material to excavators

Staff also participates in regional Damage Prevention Council (DPC) meetings, which are held regularly so that stakeholders (utility operators, locators, contractors, municipal officials) can meet informally to discuss damage prevention issues on a more localized level. Staff contributes to DPC efforts in local education activities and provides its perspective on the underground facilities damage prevention regulations. The gas LDCs are also very active on these DPCs.

² The handbook for excavators illustrates the damage prevention regulations, 16 NYCRR Part 753, in practical terms and describes various best practices to avoid damaging buried facilities.

³ This excavation method uses either air or water to loosen soil so that it can be removed by a large vacuum device. This method reduces the risk of damaging underground facilities.

2005 Damage Results and Analysis

The data for the damage prevention measure will first be addressed by taking a macro view across the state. The report will then examine individual metrics in an effort to carry out closer analyses of LDCs' strengths and weaknesses. Each category helps to identify areas in which LDCs excel or have room for improvement.

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 as previously mentioned.

Metric	2003	2004	2005
# Tickets	481,179	522,204	560,257
Mis-marks	1.14	1.05	1.11
Co. & Co. Contractor	0.27	0.31	0.22
Excavator Error	3.56	2.83	2.85
No-Calls	1.84	1.78	1.70
Total (per 1000)	6.81	5.97	5.88

Figure #1 - Damages per 1000 Tickets Statewide

The number of mismark damages per 1000 one-call tickets increased in 2005. NGrid was the largest driver of the statewide decline in performance. If NGrid had performed in 2005 at a level equal to its performance in 2004, the statewide performance would have been 1.02 rather than 1.11, or 8% better than was actually achieved, and total damages statewide would have improved approximately 3%. The performance of NGrid and the other LDCs that experienced declines in performance will be further examined under the Mismarks section.

Company & Company Contractor damages improved during 2005. This performance not only improved over 2004,

but LDCs also reached a performance level that is better than the performance during 2003. After experiencing a significant decline in performance in 2004, O&R improved during 2005. However, O&R's level of performance continues to position it as an outlier in this measure, and will be further examined in the Company and Company Contractor section of this report. Excluding O&R's company & company contractor damages, the statewide performance would have been 0.18 (versus 0.22) in 2005, or 18% better than actually achieved, which is a disproportionate share for a company of O&R's size. Staff expects to see general improvement in this area as LDCs develop greater experience and better controls over their direct contractors.

After the significant improvement from 2003 to 2004, performance in damages due to excavator error managed to stay approximately level during 2005. It is positive to see that excavator education efforts appear to have had a sustaining impact. However, two significant drivers for the resulting slight decline in statewide performance were KED LI and NGrid. If either of these LDCs' performance level in 2005 had remained the same as in 2004, the statewide performance for excavator error damages would have shown improvement instead of declining slightly. This is discussed further in the Excavator Error section of this report.

No-call damages continued to improve statewide during 2005, despite declines by Central Hudson and NGrid. This improvement is an encouraging sign, particularly when correlated with the increase in One-Call tickets, which indicates that more excavators are becoming aware of their obligation to utilize the one-call system and excavate carefully.

The following section provides an overview of the total damages per 1000 one-call tickets experience by each LDC.

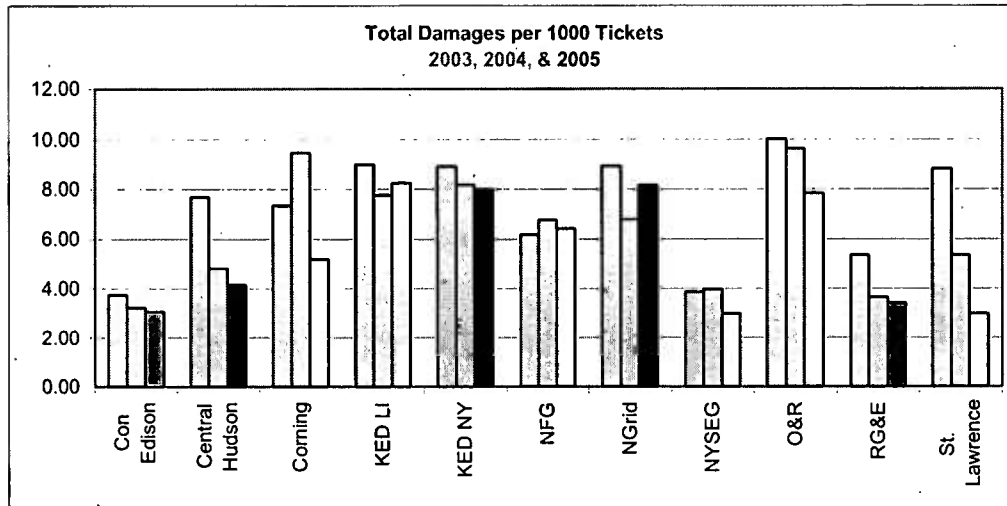


Figure #2 - Facility Damages per 1000 Tickets

In the Total Damages per 1000 Tickets measure, nine of the 11 LDCs improved total performance over 2004, as seen in Figure #2. Five of those LDCs experienced double-digit percentage improvements. Corning⁴ improved approximately 45%, St. Lawrence 44%, NYSEG 24%, O&R 19%, and Central Hudson 14%.

Of the two LDCs that experienced deteriorated performance compared to 2004, NGrid saw a significant deterioration, 20% more total damages per 1000 one-call tickets, while KED LI experienced 6.5% more. As the individual components of the total damages measure are discussed in the following sections of this report, the categories of damages with significant impacts on LDCs' performance will be identified.

⁴ Due to Corning's and St. Lawrence's relatively small size and lower number of one-call tickets received, a single damage in any category can magnify its impact on performance considerably more than other LDCs.

Con Edison, Central Hudson, KED NY, O&R, RGE, and St. Lawrence have all experienced declining total damage rates over the 3 year period. This is an indication that management has been focused on this issue within these LDCs.

All LDCs with the exception of NFG have improved performance since 2003. However, KED LI, KED NY, NFG, NGrid, and O&R continue to have significant room for improvement. Staff recommends these LDCs perform self-assessments to identify improvement opportunities, including an examination of why LDCs with similar size and/or operating franchise areas perform significantly better in the prevention of excavator damages.

The components that comprise the total damage measure are discussed in **Figures #3 - #6** in further detail, and specific areas where LDCs have room for improvement and are recommended to perform analyses are identified.

Mismarks

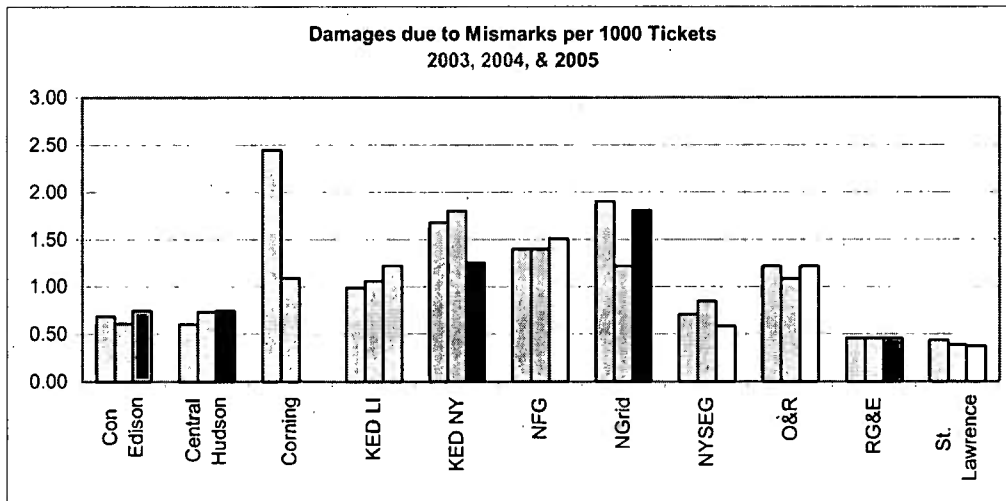


Figure #3 - Damages due to Mismarks

In the Mismarks measure, four of the 11 LDCs experienced improved performance, as depicted in **Figure #3**. Both KED NY and NYSEG improved performance approximately 30%, while Corning did not experience any mismatch damages. NGrid, however, experienced nearly 50% more mismatch damages per 1000 One-Call tickets compared to 2004.

As indicated earlier, NGrid's slip in performance in mismatch damages was a leading driver for the statewide decline in performance in this measure. If NGrid had at least equaled its 2004 performance there would have been a slight improvement rather than a decline in statewide performance due to mismarks, and total damages statewide would have improved by more than twice what was actually experienced.

Also noteworthy and a cause for concern are KED LI's and NFG's slip in performance in each year over the period. The lack of improvement calls into question the level of attention management is giving to this area of performance.

O&R experienced a decline in performance, after improving last year, back to near its 2003 level. Even though O&R attributes a significant portion of these damages to its early vintage plastic pipe⁵, it should develop additional approaches for improvement.

If KED LI, NFG, and O&R had maintained their 2004 level of performance, the statewide mismatch measure would have been 1.06 versus 1.11, or approximately 5% better. If NGrid is added to the calculation as maintaining its 2004

⁵ 48% of O&R's mismarks involved early vintage plastic pipe that lacks tracer wire and/or is not mapped properly. The company has a long term program to replace this pipe. This is discussed in further detail in the Company and Company Contractor section of this report.

level, the statewide mismark measure would have improved to 0.97, a 13% improvement over the actual 2005 performance, and the total statewide damage measure would have improved an additional 2% from 5.88 to 5.75.

Con Edison and Central Hudson experienced a slight increase in damages due to mismarks to above their 2004 levels, however their performance, along with NYSEG, RG&E, and St. Lawrence, remains among the best.

Staff recommends that all the LDCs that experienced a drop in performance in 2005 perform an analysis of their facility locating programs to identify the reasons for these declines and actions that will be taken to decrease these types of damages.

KED LI, NFG, NGrid, and O&R, have been discussed in detail above. These four LDC's, along with KED NY, show the most room for improvement in mismark damages and are the same LDC's identified as having the most room for improvement in total damages. This indicates that mismarks are a significant driver of their overall performance.

The utility marking function is performed by either LDC personnel or by contractors hired by the LDC's. Therefore, this is an area where LDCs have more control over their level of performance than they would relative to excavator error and no-calls damages. Staff expects that through training, quality control, vendor procurement practices and increased management attention, the LDC's should achieve reductions in damages caused by mismarks.

Company & Company Contractors

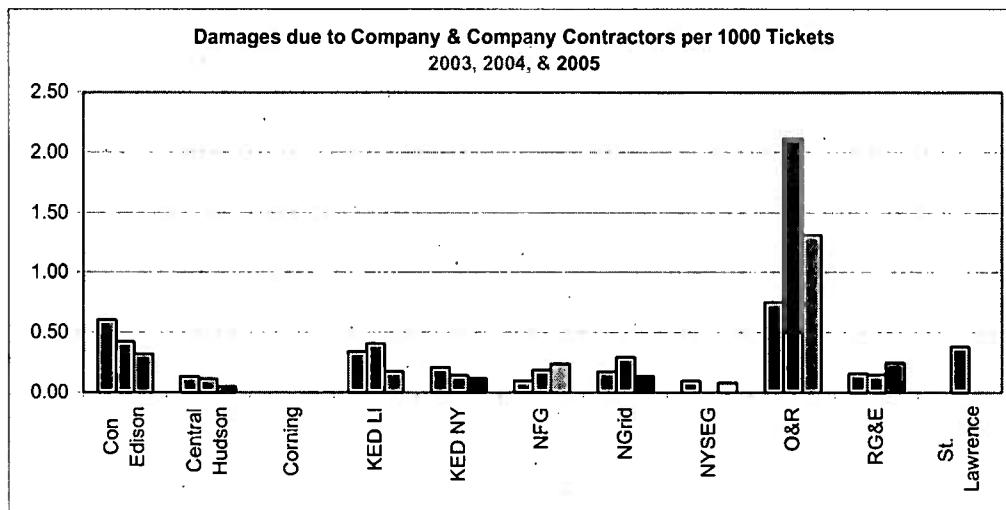


Figure #4 - Damages due to Company & Company Contractors

Performance in damages related to Company and Company Contractors is shown in **Figure #4**. Eight of the 11 LDCs experienced improvement in this metric during 2005. LDCs experiencing significant improvements were KED LI (59% fewer damages per 1000 One-Call tickets), NGrid (53% fewer), and Central Hudson (54% fewer). Central Hudson experienced a single damage in 2005, down from 2 in 2004.

Con Edison, Central Hudson, and KED NY have all experienced improvement in each year over the period, which indicates that company management has focused on reducing these types of damages. In addition, St. Lawrence did not experience any company or company contractor damages in 2005 after experiencing one in 2004. After slipping in 2004, KED LI and NGrid performed better than in 2003. And for the third year, Corning did not report experiencing any damages relating to company and contractor excavation activities.

Of the LDCs that experienced deteriorated performance in 2005, NYSEG experienced 5 of these damages when it did not have any in 2004, NFG experienced 26% more damages per 1000 one-call tickets, and RGE had 67% more damages per 1000 one-call tickets related to the excavation work of its own employees and contractors. NFG has experienced more of these damages per 1000 one-call tickets in each year, thus identifying a cause for concern. Staff recommends that NFG and RG&E perform self-assessments and address the reasons for the increase in damages caused by their own personnel and company contractors.

O&R experienced a drop in performance for this damage metric in 2004 compared to 2003, and implemented controls to mitigate these types of damages leading to an approximate 37% improvement in 2005. O&R continues to attribute a significant number of company and company contractor damages to its replacement program of early vintage plastic pipe for which tracer wire⁶ was not installed and maps do not adequately depict the location of the buried pipe. Based on data Staff received from O&R, company and company contractor damages resulting from its plastic pipe replacement program only represented 13.5% of its damages in this measure in 2004, and 32% in 2005. Excluding the damages associated with the plastic pipe replacement program would have improved O&R's performance to 1.83 and 0.89 for 2004 and 2005, respectively. However, all other LDCs performed better than 0.50 during the same

⁶ A tracer wire is a wire that is typically installed along plastic pipe that enables a company to impress a signal on it. The signal allows for the company to use a radio receiver device to detect the approximate location of the underground plastic pipe without excavating it. The installation of tracer wire was not a common practice for O&R when this plastic was installed.

period. Thus, although the damages related to O&R's plastic pipe replacement program have measurable impacts on its performance, there still appears to be considerable room elsewhere for improvement in this measure.

Although O&R improved in this area, it continues to experience a significantly higher rate of these types of damages than any other LDC. O&R needs to identify additional efforts and approaches to bring this safety measure in line with the other LDCs. Corrective actions should, at a minimum, include increased training of its contractors and crews, a review of its contractor procurement processes including contractor qualifications and performance requirements, and quality control of the work done by its contractors and crews.

Similar to the utility locating function and its relation to mismarks, this is an area where the LDC's have more control over their own destiny than they do with excavator error and no-call damages. Again, Staff expects that through training, quality control, vendor procurement practices and increased management attention, the LDC's should achieve reductions in these types of damages.

Excavator Error

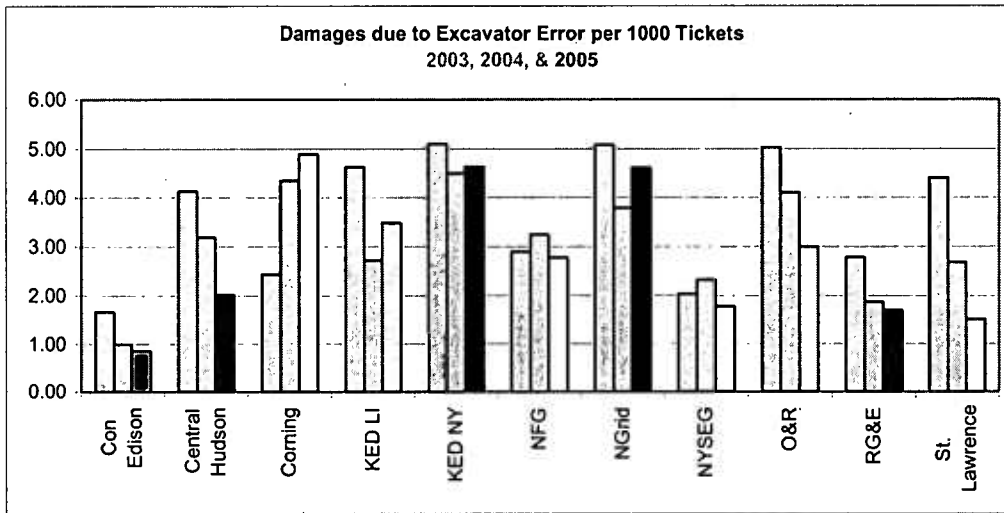


Figure #5 - Damages due to Excavator Error

In the Excavator Error measure, seven of the 11 LDCs improved performance as seen in **Figure #5**. Four LDCs improved by over 20% from 2004: St. Lawrence (44%), Central Hudson (37%), O&R (27%), and NYSEG (23%). Con Edison, Central Hudson, O&R, RG&E, and St. Lawrence have all experienced improvement in each year over the period. Staff recognizes LDC management for its effective excavator outreach and education efforts.

Excavator error damages are historically the largest component of total damages, partially because it entails the most effort to educate third-party contractors. To reduce no-call damages, for example, LDC's and One Call Centers can promote the toll-free number and the straightforward "Call Before You Dig" message. Most 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 with the additional requirements such as tolerance zones

and verifying locations 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. None-the-less, the performance results indicate the excavation community is increasingly aware of safe excavation practices to follow after the markouts have been performed.

Of the four LDCs that experienced deterioration in the excavator error damage performance measure, two experienced increases of over 20% for this metric; KED LI (29%) and NGrid (22%). As mentioned earlier, if either of these LDCs had performed in 2005 at least as well as in 2004, the statewide performance for excavator error damages would have improved rather than decline. If both LDCs had performed at their 2004 levels, the statewide performance would have improved to 2.61, versus a decline to 2.85, a swing of approximately 8.5%. Further, total damages across the state would have improved to 5.65 instead of 5.88, i.e. 4% better. Staff recommends these two LDCs evaluate why the increase in excavator error damages occurred, why LDCs in neighboring franchise areas and those with similar construction activity experience significantly fewer damages related to excavator error, and actions management will take to reverse this performance.

KED NY also experienced a drop in performance and incurred the highest level of excavator damages per 1000 one-call tickets among the larger LDCs. Staff recommends it perform a similar self-analysis as KED LI and NGrid as described above.

Corning is the only LDC to have experienced deteriorated performance each year over the period. This

is a cause for concern and Staff recommends it take steps to reverse this trend.

LDCs with significant room for improvement regarding excavator error damages are the same five LDCs identified under the total damage and mismark metrics: KED LI, KED NY, NFG, NGrid, and O&R. This indicates that this is another significant driver of their total damage performance.

No-Calls

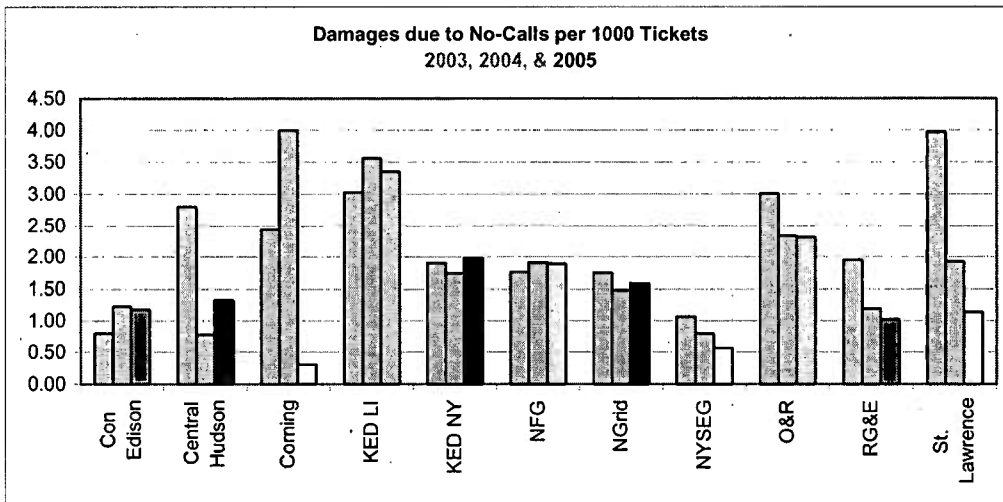


Figure #6 - Damages due to No-Calls

There were eight LDCs that improved performance in damages due to no-calls in 2005. Conring reported experiencing a single damage in 2005, down from 11 in 2004. Two other LDCs that experienced significant improvement in this metric were St. Lawrence and NYSEG.

Of the three LDCs that did not perform as well in 2005 versus 2004, KED NY and NGrid decreased approximately 14% and 7%, respectively. Central Hudson, however, experienced approximately 69% more no-call damages per 1000

tickets in 2005 than in 2004. Staff recommends it perform an analysis to identify the reasons why this occurred.

NYSEG, O&R, RG&E, and St. Lawrence have all experienced improvement in each year over the period. However, O&R, along with KED LI, have the most room for improvement. Staff recommends that these two LDCs perform an analysis to determine why LDCs with similar construction activity and overlapping franchise areas experience significantly less damages related to no-calls, and determine actions management will take to improve performance.

In an effort to further control instances of damages due to failure to notify the One-Call Center, KED LI, KED NY, NFG, NGrid, and O&R should continuously evaluate outreach efforts to determine their effectiveness and pursue those that seem to have the greatest impact on educating the excavating community.

In order to aid in the enforcement of 16 NYCRR Part 753, *Protection of Underground Facilities* (Code Rule 753), when excavators damage pipelines after failing to notify the One-Call system, LDCs can notify Staff of the damage shortly after it occurs. If LDCs report to Staff the details of the damage and pertinent information regarding the excavator, Staff will take enforcement actions where appropriate. Through enforcement actions, Staff can aid LDCs in reducing future damages by determining non-compliance, steering excavators to obtain training in the use of the one-call system and Code Rule 753 requirements, and the impact of word-of-mouth communications among the excavating community. The 811 three-digit dialing initiative could lead to improvements in the future.

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 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.⁷

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 dispatch to the time of arrival of qualified⁸ company personnel at the location.

When an LDC responds to a report of gas, or an otherwise unidentified odor, and an investigation determines that the problem is not attributed to natural gas, the event is nevertheless included in the reported data. These responses are included because LDCs must

⁷ The LDCs are expected to review the circumstances of each one and where possible work towards their elimination.

⁸ *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.

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 provides additional data showing when the desired response level is actually achieved.

2005 Results and Analysis

Figure #7 presents data for calendar years 2003, 2004, and 2005 arranged by LDC and percentage of responses falling within 30 minutes. Performances that did not meet the target are printed in red beneath the performance targets. All LDCs met the 45-minute and 60-minute target. The data for these performances metrics are located in Appendix B.

	30 Minute		
	2003	2004	2005
Central Hudson	81.0%	78.6%	78.9%
Corning	77.0%	83.5%	82.2%
Con Edison	71.9%	75.9%	76.4%
KED LI	67.9%	74.8%	75.3%
KED NY	67.6%	68.0%	65.9%
NFG	87.1%	87.4%	88.5%
NGrid	76.8%	80.8%	79.4%
NYSEG	80.4%	81.1%	81.5%
O&R	68.0%	71.7%	72.5%
RG&E	95.0%	95.1%	95.3%
St. Lawrence	72.4%	78.6%	81.1%

Figure #7 - Response Times for 30-Minute Goal

Eight of the 11 LDCs improved performance in the 30-minute measure, and there are nine LDCs now reaching the 30-minute goal, compared to eight in 2004, with KED LI being the latest to meet this goal. The two companies that continue to fall short of the 30 minute goal are KED NY and O&R. The latter, however, continues to improve its

performance and anticipates reaching the 30-minute goal for 2006.

Over the past three years, leak and odor calls statewide have decreased. There were 220,537 calls in 2003, 216,777 calls in 2004, and 205,277 in 2005, or a nearly 7.0% decrease over the period. While it is difficult to pinpoint an exact reason for this occurrence, it may be due in part to the reductions in leak backlogs and the continued efforts by LDCs to remove and replace its aging and leak-prone pipe.

After falling short of the 30-minute target in 2003, Con Edison exceeded the target in 2004, and further improved its response times in 2005. KED LI did not meet the 30-minute target in 2003 and 2004, but it has steadily improved its performance and was able to reach the target in 2005. St. Lawrence did not meet the 30-minute target in 2003, but has significantly improved its performance since then, responding to approximately 81% of leak and odor calls within 30 minutes during 2005. Another improvement was St. Lawrence's 45-minute performance improvement from 91.0% to 95.3%. St. Lawrence failed to reach the 90%-in-45-minutes goal in 2003 and has improved its performance over the past two years.

As can be seen in **Figure #7** above, KED NY experienced deteriorated performance and is now below its 2003 performance level. It has recently indicated to Staff, and also in response to the 2004 Gas Safety Performance Measure Report, that it is implementing a Dispatch Performance Measurement Tool, a best-practices methodology of identifying implicit characteristics among its best performing dispatchers. Once its better performers and best practices are identified, other

dispatchers will be coached in an effort to improve efficiency. This program was implemented in KED LI in late 2005 and will be implemented in KED NY in 2006. Staff recommends KED NY continue exploring additional approaches and implement efforts to improve its response to leak and odor calls, including looking at practices of other LDCs that have been able to show improvements in recent years. It should be noted that KED NY alone received approximately 26% of the leak and odor calls received by LDCs across the state during 2005.

Figure #8 provides KED NY's and O&R's performance beyond 30 minutes indicating when they actually met the 75% target.

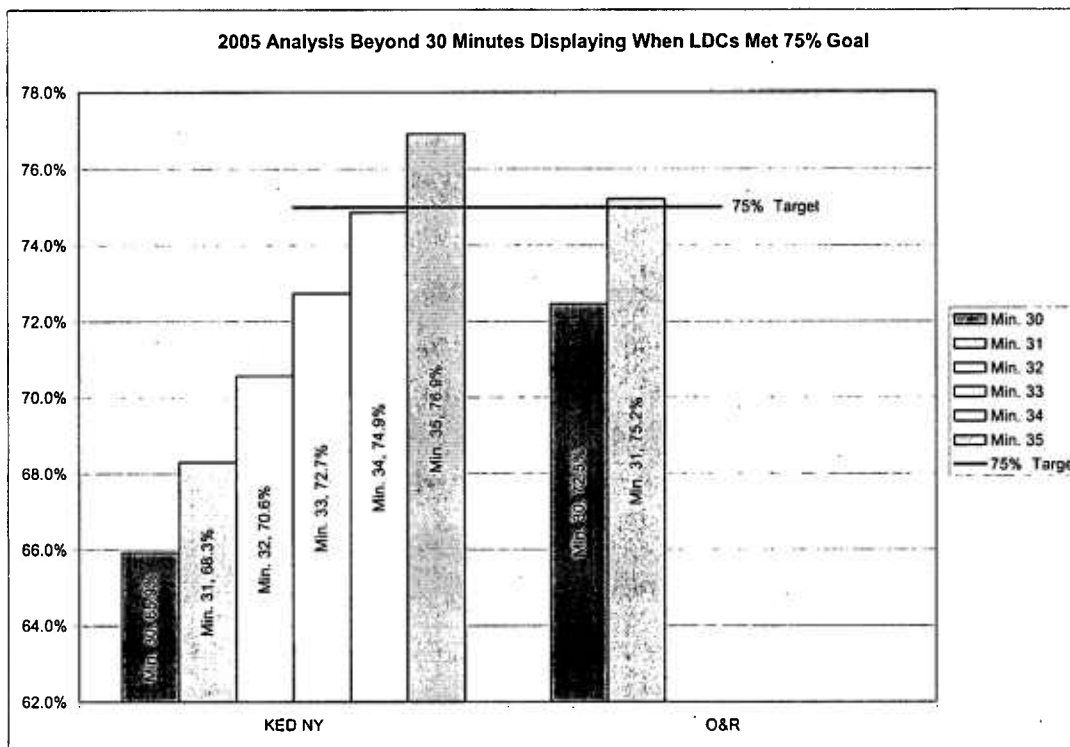


Figure #8 - When 75% Goal was Met Beyond 30 Minutes

O&R is meeting the target during the 31st minute, a minute earlier than in 2004. KED NY does not meet the target until the 35th minute. In 2004, KED NY met the 30-minute target in the 34th minute, or a minute earlier. While LDCs with similar operating areas have significantly improved performance in order to meet the 30-minute target, KED NY has actually experienced deteriorated performance. This level of performance has been pointed out to KED NY as needing attention in prior annual reports. KED NY's efforts to improve in this area apparently have not been effective thus far, indicating that it should develop additional approaches.

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 backlog⁹ of leaks at the end of the year. There are requirements in the natural gas safety regulations contained in 16 NYCRR Part 255 for classifying, monitoring and repairing different types of leaks. The regulations contain a scheme to classify these 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

⁹ A backlog 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; Type 2 - monitored at least every two months and repaired within one year; Type 3 - monitored annually, no mandated repair interval.

hazardous must be monitored and repaired according to the gas safety regulations, and any hazardous conditions must be eliminated immediately.

Unrepaired 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, 2005 (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, and divides that by the number of such repairs actually made during the year, thus displaying LDCs' diligence in reducing the safety risk from these more hazardous leaks. 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 bare or poorly coated steel pipe that is difficult to protect against corrosion and cast iron. Incentive programs to reduce safety risks by replacing deteriorating and leak-prone infrastructure and/or reducing leak backlogs have been incorporated into past and current rate agreements for LDCs.

Staff is focused on evaluating overall system integrity and management of leaks in view of public safety. 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.

2005 Results and Analysis

Figure #9 displays the backlog of leaks requiring repair (Types 1, 2A, and 2) on December 31st of 2003, 2004, and 2005. The total year-end backlog of leaks requiring repair across the state decreased to 743 from 853 in 2004 (-12.9%).

The statewide year-end backlog of leaks requiring repair continues to trend downward. Since 2003, it has declined by 411, or nearly 36%. This is an indication 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.

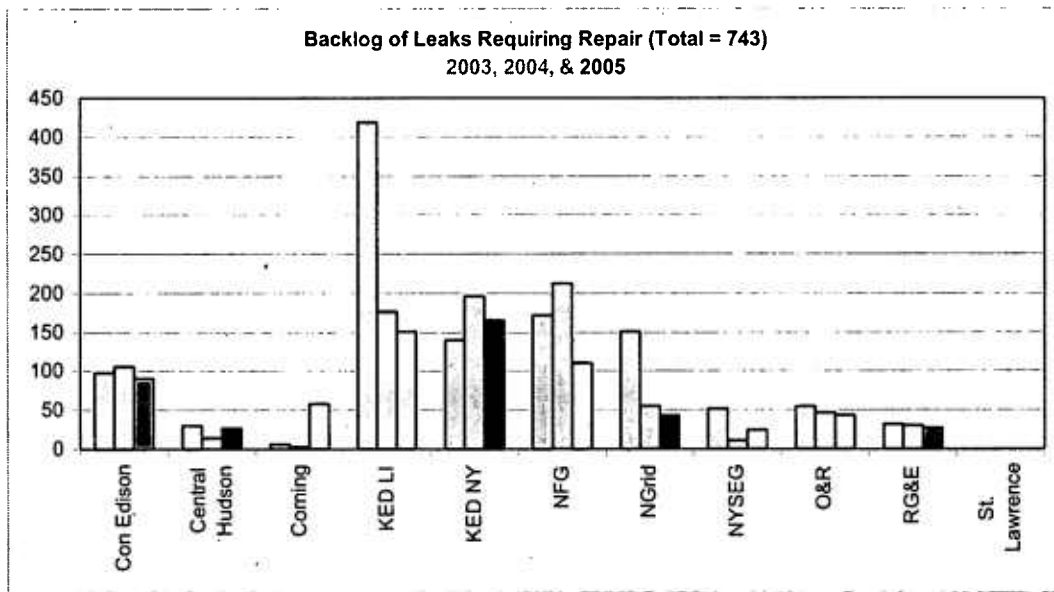


Figure #9 - Leak Backlog 2003, 2004, and 2005

As indicated in **Figure #9**, those with significant decreases in year-end backlogs are NFG with a reduction of nearly 48% and NGrid with approximately 23%. NGrid completed 2005 with less than one-third of the backlog in had 2003. Also, KED LI, O&R, and RG&E have continued the trend of reducing year-end backlogs. The numbers indicate that these LDCs are focusing efforts on reducing their year-end backlogs to a minimum.

Conring experienced a significant increase of its leak backlog in 2005, from two in 2004 to 58 at the end of 2005. The company attributes the dramatic increase to aging bare steel pipe which is apparently showing an increased rate of leakage. Conring both discovered and repaired significantly more leaks in 2005 compared to previous years. In an effort to address the apparent increased instances of leaks, it has committed to performing a leak survey on the two-thirds of its system during 2006 that it did not survey during 2005. Conring is

also implementing a rigorous main and service replacement program to replace its aging infrastructure.

As can be seen in **Figure #10** below, Corning's significantly increased 2005 backlog caused its performance in the leaks management metric¹⁰ to deteriorate from 0.02 in 2004, to 0.42 in 2005.

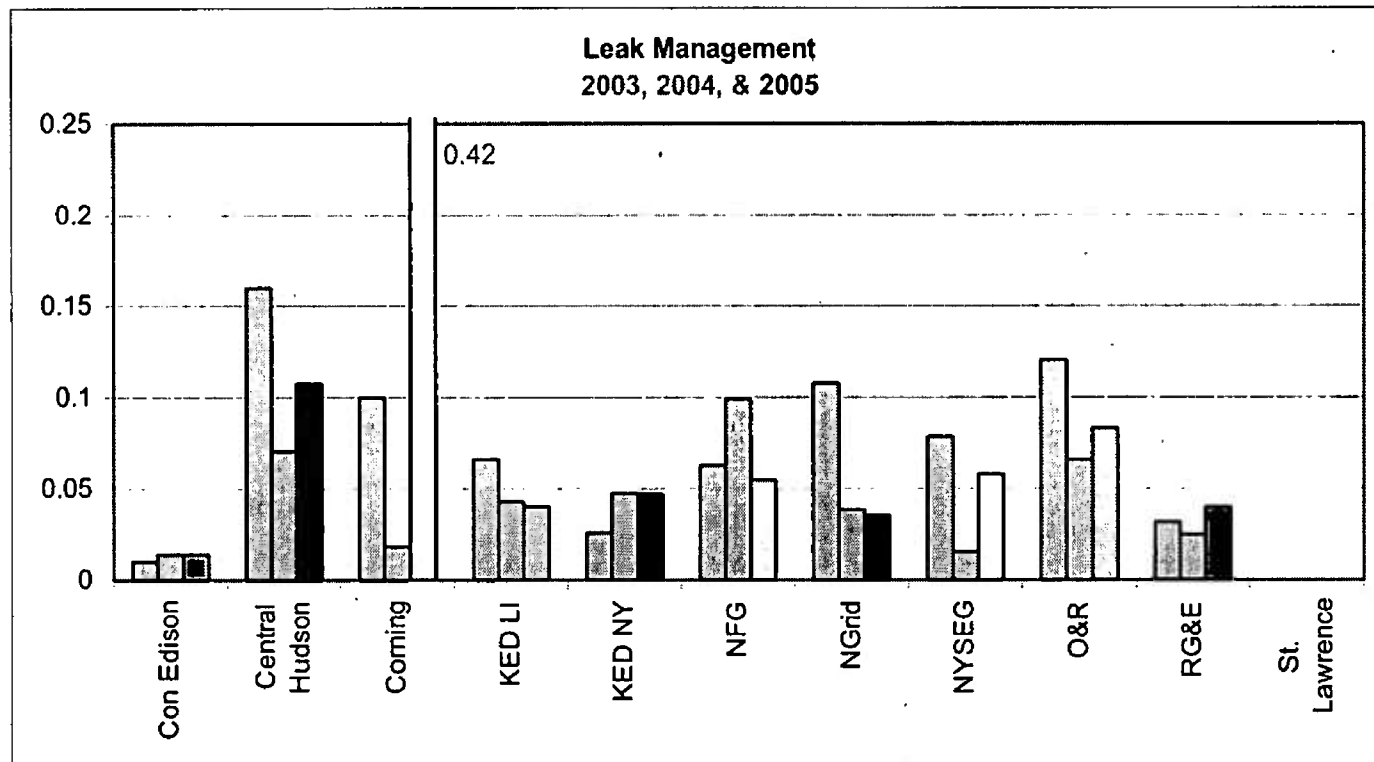


Figure #10 - Leak Management Performance

Figure #10 also indicates that Central Hudson, NYSEG, O&R, and RGE experienced a noticeable drop in performance for 2005. Numerical data supporting the figures are located in Appendix C. Several LDCs have reduced their backlogs to a point where a nominal increase or decrease, combined with yearly fluctuations in the amount of leaks discovered and the level and timing of repairs, may lead to significant swings in the calculation depicted in **Figure #10**.

¹⁰ Backlog of leaks requiring repair as of 12/31 divided by leaks repaired during the year.

Central Hudson experienced an increase of its year-end backlog while repairing approximately 27% more leaks in 2005 than in 2004. However, the company also discovered significantly more leaks during 2005 than in prior years. Staff recommends that Central Hudson perform an assessment in this area to determine the probable reasons for this phenomenon.

NYSEG also experienced an increase in its backlog, but discovered approximately 37% fewer leaks and repaired approximately 39% fewer leaks in 2005 than it did during 2004. Conversely, O&R and RG&E, experienced minor reductions in year-end backlogs. But, like NYSEG, their 2005 performance depicted in **Figure #10** is attributable to repairing fewer leaks, approximately 26% and 44% for O&R and RG&E, respectively, in 2005 compared to 2004. Each also reported having discovered significantly fewer leaks during the year when compared to 2004; O&R with approximately 23% less, and RG&E with approximately 40% less. Still, NYSEG, O&R and RGE have backlogs that remain among the lowest statewide (**Figure #9**). Nevertheless, these LDCs should evaluate their 2005 performance and determine the reasons for this occurrence.

CONCLUSION

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). LDCs must continue to focus on these areas to maintain an adequate level of safety and to further reduce safety risks. Natural gas is a safe and reliable energy product, if handled and transported properly.

Staff will continue to evaluate LDCs' performance in the measures contained in this report and will expect those LDCs, mentioned as having improvement opportunities, to provide the Safety Section of the Office of Gas and Water with specific details on how they plan to improve. Staff will continue to meet with LDCs on a regular basis and monitor LDC performance. Performance trends will be discussed with LDCs at those meetings and also analyzed in additional performance measure reports.

Appendix A

Reported Damage Data

2005 LDC Reported Totals	# One Call Tickets			Damages due to Mismarks			No-Call Damages			Co. & Co. Contractor Damages			Excavator Error Damages			Total Damages		
	2003	2004	2005	2003	2004	2005	2003	2004	2005	2003	2004	2005	2003	2004	2005	2003	2004	2005
Con Edison	77576	87340	94083	53	53	70	62	107	110	47	37	30	129	88	81	291	285	291
Central Hudson	14979	17869	18854	9	13	14	42	14	25	2	2	1	62	57	38	115	86	78
Conring	2045	2750	3273	5	3	0	5	11	1	0	0	0	5	12	16	15	26	17
KED LI	70718	83137	80402	70	88	98	214	296	270	24	34	14	328	226	281	636	644	663
KED NY	56132	63335	66184	94	114	83	107	110	131	12	9	8	286	285	307	499	518	529
NFG	71772	68887	76142	100	96	115	127	132	144	7	13	18	208	224	212	442	465	489
NGrid	73613	77667	87517	140	94	158	129	115	139	13	23	12	374	294	404	656	526	713
NYSEG	51252	48590	60046	36	41	35	54	39	34	5	0	5	104	113	107	199	193	181
O&R	17274	17512	18995	21	19	23	52	41	44	13	37	25	87	72	57	173	169	149
RG&E	43550	52513	52108	20	24	24	85	62	53	7	8	13	121	98	89	233	192	179
St. Lawrence	2268	2604	2653	1	1	1	9	5	3	0	1	0	10	7	4	20	14	8

2005 LDC Computed Performance	# One Call Tickets			Damages due to Mismarks per 1000 Tickets			No-Call Damages per 1000 Tickets			Co. & Co. Contractor Damages per 1000 Tickets			Excavator Error Damages per 1000 Tickets			Total Damages per 1000 Tickets		
	2003	2004	2005	2003	2004	2005	2003	2004	2005	2003	2004	2005	2003	2004	2005	2003	2004	2005
Con Edison	77576	87340	94083	0.68	0.61	0.74	0.80	1.23	1.17	0.61	0.42	0.32	1.66	1.01	0.86	3.75	3.26	3.09
Central Hudson	14979	17869	18854	0.60	0.73	0.74	2.80	0.78	1.33	0.13	0.11	0.05	4.14	3.19	2.02	7.68	4.81	4.14
Conring	2045	2750	3273	2.44	1.09	0.00	2.44	4.00	0.31	0.00	0.00	0.00	2.44	4.36	4.89	7.33	9.45	5.19
KED LI	70718	83137	80402	0.99	1.06	1.22	3.03	3.56	3.36	0.34	0.41	0.17	4.64	2.72	3.49	8.99	7.75	8.25
KED NY	56132	63335	66184	1.67	1.80	1.25	1.91	1.74	1.98	0.21	0.14	0.12	5.10	4.50	4.64	8.89	8.18	7.99
NFG	71772	68887	76142	1.39	1.39	1.51	1.77	1.92	1.89	0.10	0.19	0.24	2.90	3.25	2.78	6.16	6.75	6.42
NGrid	73613	77667	87517	1.90	1.21	1.81	1.75	1.48	1.59	0.18	0.30	0.14	5.08	3.79	4.62	8.91	6.77	8.15
NYSEG	51252	48590	60046	0.70	0.84	0.58	1.05	0.80	0.57	0.10	0.00	0.08	2.03	2.33	1.78	3.88	3.97	3.01
O&R	17274	17512	18995	1.22	1.08	1.21	3.01	2.34	2.32	0.75	2.11	1.32	5.04	4.11	3.00	10.02	9.65	7.84
RG&E	43550	52513	52108	0.46	0.46	0.46	1.95	1.18	1.02	0.16	0.15	0.25	2.78	1.87	1.71	5.35	3.66	3.44
St. Lawrence	2268	2604	2653	0.44	0.38	0.38	3.97	1.92	1.13	0	0.38	0.00	4.41	2.69	1.51	8.82	5.38	3.02

Appendix B

Reported Emergency Response Data

	45 Minute			60 Minute		
	2003	2004	2005	2003	2004	2005
Central Hudson	99.2%	98.8%	98.8%	99.9%	99.9%	99.9%
Corning	93.0%	96.1%	93.9%	98.0%	99.6%	96.8%
Con Edison	96.3%	97.3%	97.1%	99.9%	99.9%	99.9%
KED LI	93.1%	96.0%	96.2%	99.9%	99.9%	100.0%
KED NY	92.2%	92.4%	90.6%	98.1%	98.4%	97.9%
NFG	96.1%	96.3%	96.8%	98.9%	98.9%	99.0%
NGrid	92.1%	94.1%	93.6%	97.2%	98.0%	98.0%
NYSEG	96.2%	96.0%	96.0%	99.4%	99.4%	99.2%
O&R	94.2%	95.8%	95.1%	99.7%	99.7%	99.5%
RG&E	99.3%	99.5%	99.4%	100.0%	100.0%	99.8%
St. Lawrence	89.0%	91.0%	95.3%	98.2%	98.5%	99.2%

Appendix C

Reported Leak Data

2005 Total Leak Repairs on Mains by Type								
	Unprot. Bare	Unprot. Coated	Prot. Bare	Prot. Coated	Plastic	Cast/Wrt. Iron	Copper	Other
Con Edison	2639	71	0	84	23	2688	0	0
Central Hudson	0	80	0	40	8	80	0	0
Corning	105	1	13	2	0	0	0	1
KED LI	1349	250	46	82	78	332	0	0
KED NY	138	0	0	35	4	3203	0	0
NFG	2232	0	0	122	118	277	0	25
NGrid	115	84	0	0	20	431	0	1
NYSEG	193	0	0	106	23	4	0	0
O&R	256	0	0	19	68	34	0	0
RG&E	161	20	0	196	9	105	0	0
St. Lawrence	0	0	0	1	3	0	0	0

2005 Total Leak Repairs on Services by Type								
	Unprot. Bare	Unprot. Coated	Prot. Bare	Prot. Coated	Plastic	Cast/Wrt. Iron	Copper	Other
Con Edison	2361	124	0	348	55	0	251	0
Central Hudson	0	110	0	69	31	0	0	0
Corning	69	6	0	3	0	0	0	2
KED LI	1559	540	59	167	213	0	31	0
KED NY	370	0	0	155	89	0	395	0
NFG	720	0	0	107	204	0	0	44
NGrid	418	284	0	0	72	30	16	2
NYSEG	142	0	0	92	47	0	0	78
O&R	257	0	0	9	62	0	0	0
RG&E	114	26	0	151	59	0	13	0
St. Lawrence	0	0	0	3	3	0	0	0

Backlog of Leaks Requiring Repair

LDC	Leak Backlog - Type 1, 2, and 2a		
	2003	2004	2005
Con Edison	98	106	91
Central Hudson	30	14	27
Corning	6	2	58
KED LI	419	177	151
KED NY	139	197	166
NFG	172	213	111
NGrid	151	56	43
NYSEG	52	11	25
O&R	55	47	44
RG&E	32	30	27
St. Lawrence	0	0	0

Repaired Leaks Requiring Repair

LDC	Leaks Repaired - Type 1, 2, and 2a		
	2003	2004	2005
Con Edison	7769	7498	6445
Central Hudson	184	199	252
Corning	58	109	138
KED LI	6327	4127	3730
KED NY	5359	4174	3553
NFG	2741	2157	2032
NGrid	1407	1446	1212
NYSEG	665	713	432
O&R	456	716	528
RG&E	1022	1210	677
St. Lawrence	5	3	4

Calculated Leak Management Metric

LDC	LM Performance		
	2003	2004	2005
Con Edison	0.01	0.01	0.01
Central Hudson	0.16	0.07	0.11
Corning	0.10	0.02	0.42
KED LI	0.07	0.04	0.04
KED NY	0.03	0.05	0.05
NFG	0.06	0.10	0.05
NGrid	0.11	0.04	0.04
NYSEG	0.08	0.02	0.06
O&R	0.12	0.07	0.08
RG&E	0.03	0.02	0.04
St. Lawrence	0.00	0.00	0.00