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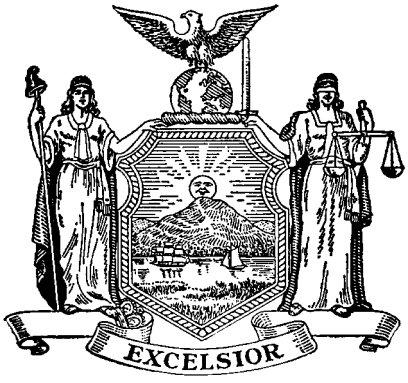
STATE OF NEW YORK
DEPARTMENT OF PUBLIC SERVICE



GAS SAFETY
PERFORMANCE MEASURES REPORT
(CASE 04-G-0457)

Safety Section
Office of Gas & Water
July 1, 2004

EXECUTIVE SUMMARY

This report examines the New York State natural gas Local Distribution Companies' (LDCs) performance in three areas pertaining to safety: Damage Prevention, Emergency Response, and Leak Management. This report is intended to serve as a management tool by allowing for analysis of trends and serving as an early warning system if companies' performances are deteriorating or appear to have room for improvement.

These performance measures are the result of a collaborative effort between Staff and the LDCs to identify areas critical to gas safety, develop meaningful metrics by which to measure performance in these areas, and develop consistent data collection and reporting methods. The data in the report were gathered and submitted by the LDCs using processes derived from these collaborative efforts. The LDCs were cooperative and responsive in this effort and displayed a willingness to identify ways to improve the safety of service provided to their customers.

The first measure, *damage prevention*, analyzes LDCs ability to keep to a minimum damages to buried facilities by excavation activities. The measure is further broken down into four categories: damages due to (1) mismarks (inaccurate marking of LDC buried facilities); (2) excavator error; (3) company forces (including company contractors); and (4) lack of notification of intent to excavate. Overall, the results showed that St. Lawrence and Orange & Rockland have the most room for improvement while Con Edison and NYSEG were the best performers. Even with its overall good performance, Con Edison has room for significant improvement in the area of damages caused by company forces. Within each of the four categories discussed above, individual LDCs with room for improvement are identified.

The second measure, *emergency response*, monitors LDCs ability to respond promptly to reports of gas leaks or emergencies. The measure looks at the percentage of calls responded to within various timeframes. For this performance measure specific goals are set, which are that the LDC's respond to 75% of emergency calls within 30 minutes, 90% within 45 minutes, and 95% with 60 minutes. Con Edison, KeySpan Long Island, KeySpan New York City, Orange & Rockland, and St. Lawrence did not meet the goal of responding to 75% of leak and odor calls reached 30 minutes.

The final 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 divided by the number of such repairs actually made during the year. The results show that while KeySpan Long Island was an average performer in this measure, in raw numbers it carried a year-end backlog of such leaks that was significantly higher than the other LDCs. In this measure, Corning Natural Gas also stood out remarkably with a high number, indicating poor performance.

As indicated above, the analysis of each performance measure discussed within this report identifies outliers and specific areas where LDCs have room for improvement. It is recommended that those LDCs perform self-analyses 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 the chief 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. In addition, all the LDCs will be invited to comment on the report with observations, reactions, or planned actions to maintain or improve performance.

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COMPANY ACRONYMS

Company	Acronym in Report
Central Hudson Gas & Electric Corporation	CHG&E
Consolidated Edison Company of New York, Inc.	Con Ed
Corning Natural Gas Corporation	CNG
KeySpan Energy Delivery Long Island	KSE-LI
KeySpan Energy Delivery New York City	KSE-NYC
National Fuel Gas Corporation	NFG
New York State Electric & Gas Corporation	NYSEG
Niagara Mohawk Power Corporation	NIMO
Orange & Rockland Utilities, Inc.	O&R
Rochester Gas & Electric Corporation	RG&E
St. Lawrence Gas Co., Inc.	SLG

INTRODUCTION

In the middle 1990's, Gas Safety Staff began moving from a checklist approach of primarily performing record and field auditing processes towards a greater emphasis on assessing risk (i.e., devoting more attention to the specific areas that present potentially greater hazards). One of the key principles of management is that if performance is measured, it can be better managed, at any level. Safety performance measures were developed by staff as a means of efficiently improving pipeline safety by measuring performance in areas identified as presenting the highest risks. Performance measures are tools that staff and the local distribution companies (LDCs) can utilize to monitor the operation and maintenance of safe distribution systems. They can indicate how companies are performing year after year, and whether safety aspects are improving, remaining stable, or deteriorating.

In developing the performance measures staff first identified areas in a LDC’s system 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 as follows:

Damage Prevention: This measure examines damages to the LDC’s buried facilities resulting from excavator activities, which is the leading cause of incidents involving buried pipeline facilities.

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

Leaks Management: This measure examines LDC performance in effectively maintaining leak inventory levels and keeping

potentially hazardous leaks to a minimum. The escape of natural gas inherently causes a potentially unsafe condition. Both the number of leaks and their proximity to enclosed structures increase the risk of incidents.

The data for evaluation of LDC performance in leak management and emergency response was readily available through existing reporting requirements in the Gas Safety Regulations (16 NYCRR Part 255). The LDCs were also tracking data related to damage prevention. Thus, the data used for these performance measures was primarily obtained from information on hand.

In the early years of this effort, however, staff found that results varied greatly among companies in the different areas, often due to dissimilar data collection processes. In an effort to develop tighter tolerances to eliminate inconsistencies and increase validity of data, staff worked jointly with the LDCs on refining the measures and the collection and reporting of the data. In February 2003, staff sponsored a Safety Performance Measures Workshop. This forum allowed both staff and the LDCs to identify inconsistencies in reporting methods. The workshop led to the creation of task groups - one group per performance measure - containing people from both staff and industry to develop specific guidelines for each measure. The guidelines created by the task groups resulted in more uniform data tracking requirements for LDCs as well as outlining the frequency in which the data is reported to staff.

Beginning in 2003, all of the data being collected meets the criteria established from these collaborative efforts. Since this recent data was collected in a manner different from previous years, meaningful comparisons to previous years' data are not practical. Therefore, this report for 2003 will serve as a baseline for future comparisons. However, in some cases

staff was able to identify LDCs as significant outliers and make recommendations on issues to be addressed.

PERFORMANCE AND ANALYSIS FOR 2003

Damage Prevention

Damage due to excavation activities is the leading cause of pipeline failures and accidents, both statewide and nationwide.

In very simplistic terms, the way the damage-prevention system should work is as follows: (1) excavators provide notice of their intent to excavate to a One-Call system, which transmits a “ticket” to the member operators[1] potentially affected by that excavation; (2) member operators clearly 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 the incident lies.

Evaluating the number of damages that occur, in relation to the volume of construction and excavation activity in a LDC's operating territory, provides a useful basis for assessing performance in this area. Therefore, a simple mathematical formula is used: number of damages per 1000 requested facility locates (or tickets).

The number of damages are categorized as follows:

- damages resulting from mismarks[2]

[1] Member operators include all underground utility providers.

[2] Mismark: Failure to accurately mark the location of underground facilities.

- damages resulting from excavator error
- damages resulting from company or company contractors
- damages resulting from no-calls, or no ticket request

The raw data used in the analysis is located in **Appendix A**.

Each excavation notice (one-call ticket or ticket) received by a LDC can be considered an opportunity to mark their 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 can then be considered an opportunity for the excavator to work carefully and avoid damages. Damages due to excavator error per 1000 tickets tracks this category. Historically, this metric is the highest 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 a ticket for the location of gas facilities was not requested. 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 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.

2003 Damage Results & Analysis

The data for the damage prevention measure will first be addressed by taking a macro view across the state. Afterwards, the data will be broken down by individual metrics in an effort to carry out a closer analysis of LDCs' strengths and weaknesses in specific categories and to determine areas in which they excel or need improvement.

The data contained below in **Figure #1** displays overall performance of all LDCs across the state. Each column represents a summation of damages from all categories normalized per 1000 location requests.

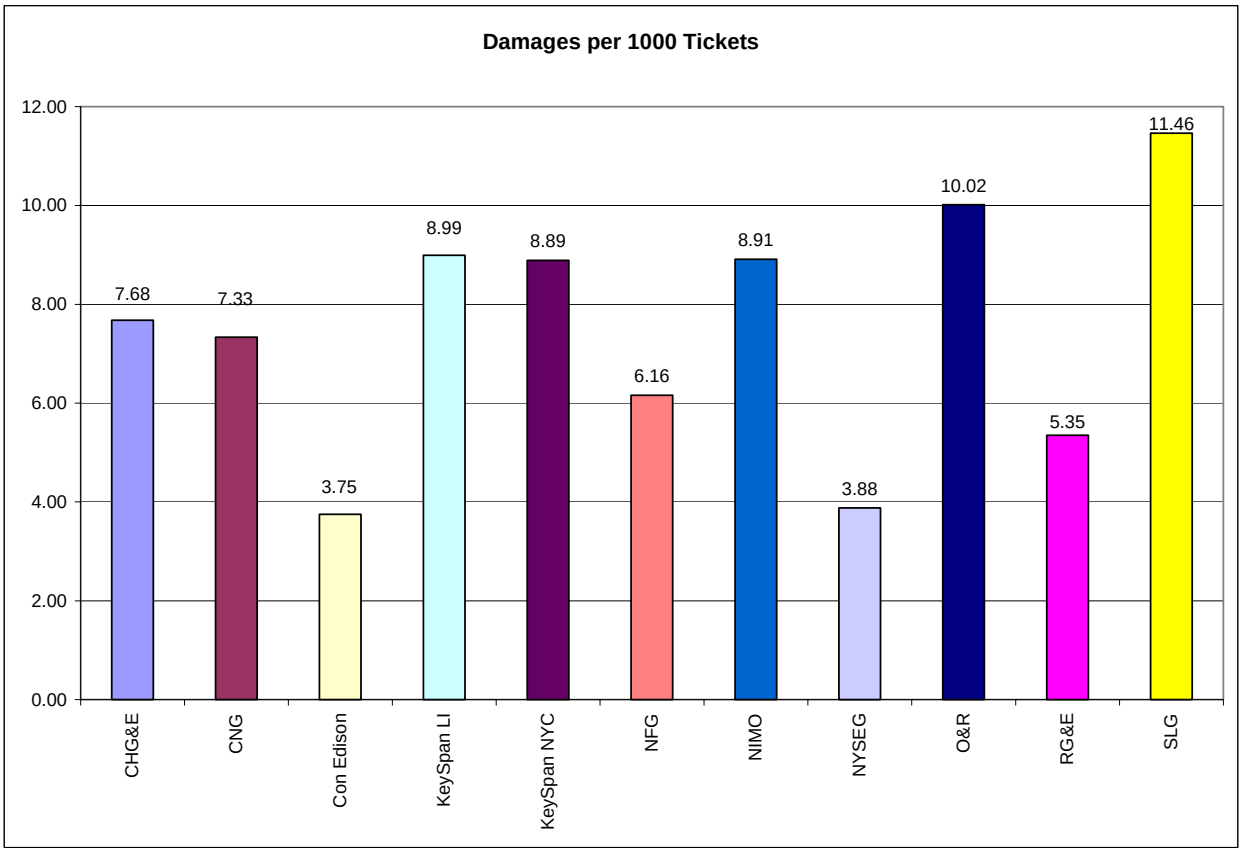

Figure #1: *Total Facility Damages per 1000 Tickets*

The data shows little correlation between performance, geographical area, and size of system. For example, Con Ed and NYSEG have the lowest relative number of normalized damages (upstate and downstate), while O&R and SLG have the highest. Each of these companies has differing geographical areas as well as size of systems. Regardless of performance, all LDCs have room for improvement in particular areas as displayed in the four analyses (**Figures #2 - #5**) below, which present normalized damages for the individual categories discussed above.

Figure #2 displays the damages by mismarks normalized by 1000 requested locates.

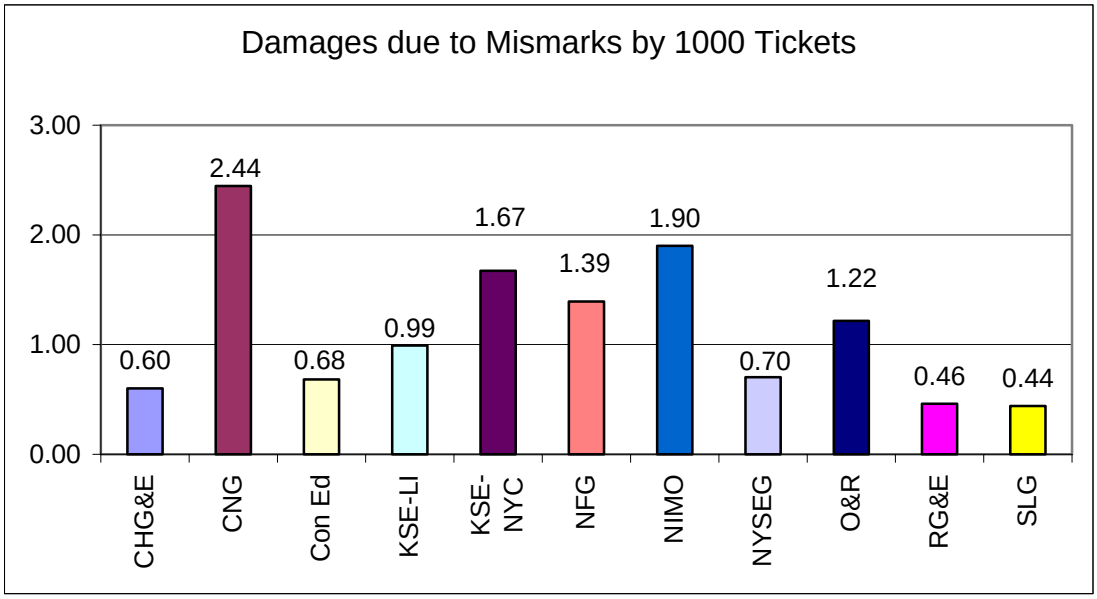

Figure #2: *Damages due to Mismarks*

As can be seen in **Figure #2**, there is a wide range of performance between the LDCs and it is not delineated by company size, operating territory, or upstate versus downstate locations. For example, CNG and SLG are very different in performance and both are upstate companies with similar size

systems. Con Ed and RG&E differ in location, and size of system, but had similar performance.

Since this aspect of damage prevention is most directly within the control of the LDCs, Staff recommends that they all continuously strive to keep mismarks to a minimum. In particular, Staff recommends that CNG, KSE-LI, KSE-NYC, NFG, NIMO and O&R evaluate the current status of their mapping systems, training activities, locating and marking protocols, and locating equipment and identify areas where efforts can be made to reduce these types of damages.

Figure #3 displays damages where operators' facilities were properly marked, but were damaged by third-party excavators due to excavator error.

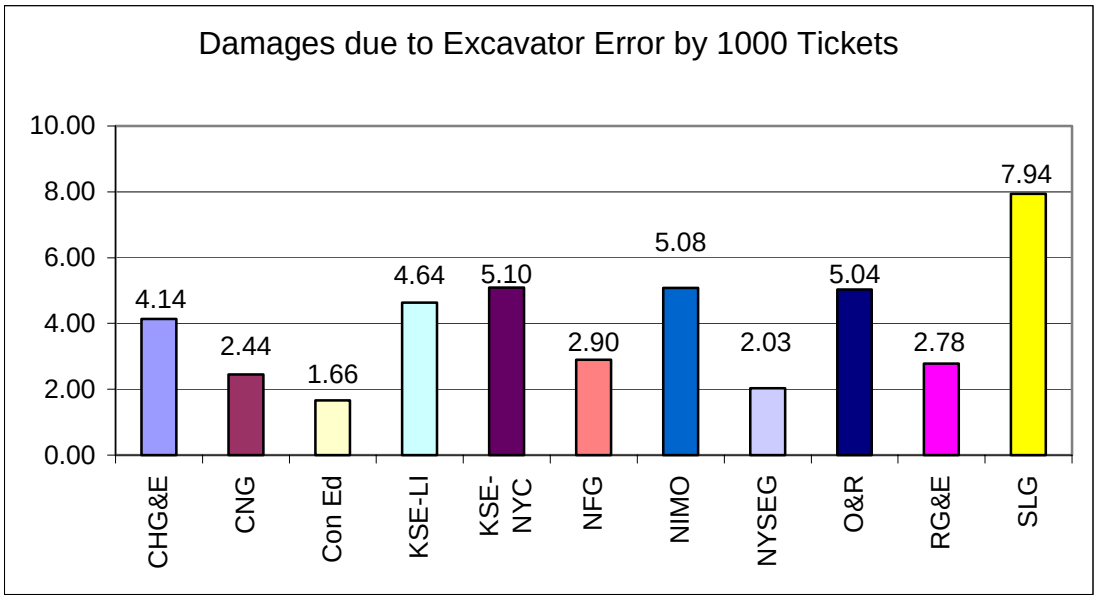

Figure #3: *Damages due to Excavator Error*

Historical data has shown that this category comprises the highest percentage of damages to LDC underground facilities. Thus, LDCs can have the greatest impact on overall damage reduction by reducing these damages. However, these damages are

not totally within the LDCs' control since they involve the actions of third parties. However, the LDCs can influence this area in various ways.

Education efforts have historically focused heavily on the "Call Before You Dig" message. Although that is valuable and should continue, LDCs should consider expanded education efforts regarding proper excavation practices after the One-Call System has been notified and the underground facilities have been marked by the LDCs. For example, this effort can be carried out by hosting safety seminars for the excavating community.

Additional examples of ways to influence excavator behavior include, but are not limited to: collection practices for repairs[3] and inspection of construction sites by utility personnel.

Although all the LDCs have room for improvement in this area, Staff recommends that CHG&E, KSE-LI, KSE-NYC, NIMO, O&R and SLG perform a self-assessment in this area in an attempt to identify potential improvement opportunities.

[3] General Business Law, Section 765.4 makes an excavator liable for reasonable repair costs when a violation of the regulations results in damage.

Figure #4 shows the data for damages caused by company forces and qualified company contractors.

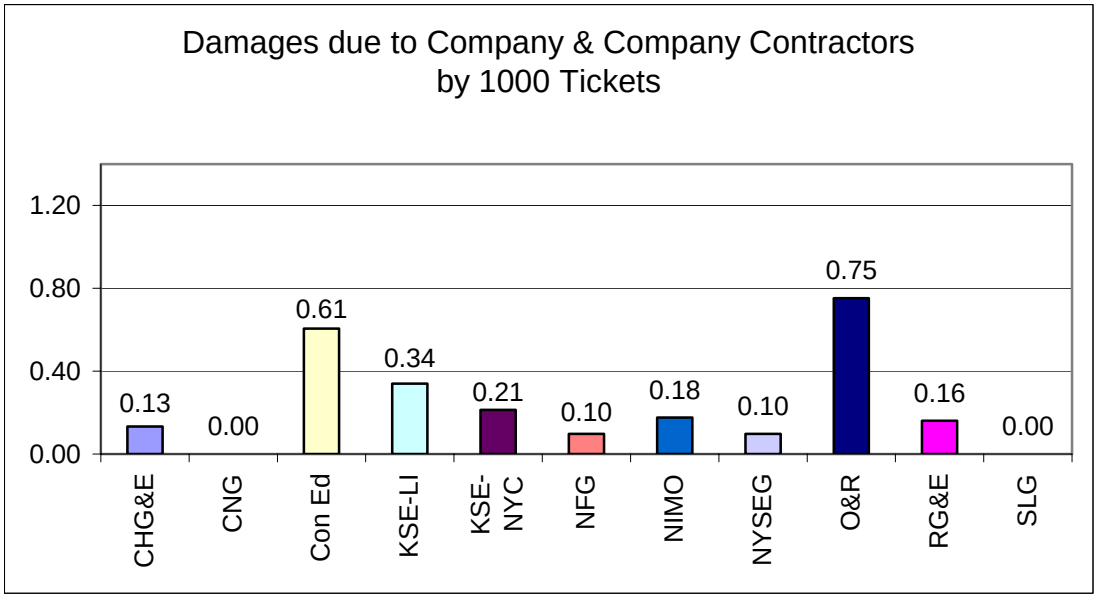

Figure #4: *Damages due to Company and Company Contractors*

Staff expects performance in this category of damages to be minimal. LDCs have the most control over their own excavators and thus the greatest ability to reduce these types of damages. Even though these damages represent the smallest contribution to total damages, it should also require the least amount of resources for LDCs to make improvements. LDCs should assess training methods for their own personnel and company contractors and make efforts to prevent these types of damages.

The two LDCs that can benefit the most from reducing these types of damages are O&R and Con Ed. Con Ed had the lowest total damages in the state, despite being the highest[4] in this category. Con Ed would further improve its overall performance by reducing these damages. These two LDCs should

[4] Highest in raw numbers, second when normalized per 1000 tickets.

conduct a self-assessment in this area to identify ways to improve. Suggested areas to consider include, but are not limited to, training of in-house and contracted personnel, management oversight, construction procedures, quality control and performance incentives.

Figure #5 displays damages caused by excavators who did not request a one-call ticket, normalized by 1000 tickets. Since by definition no ticket exists for this category, normalizing by ticket volume serves as a proxy for normalizing by the level of construction activity.

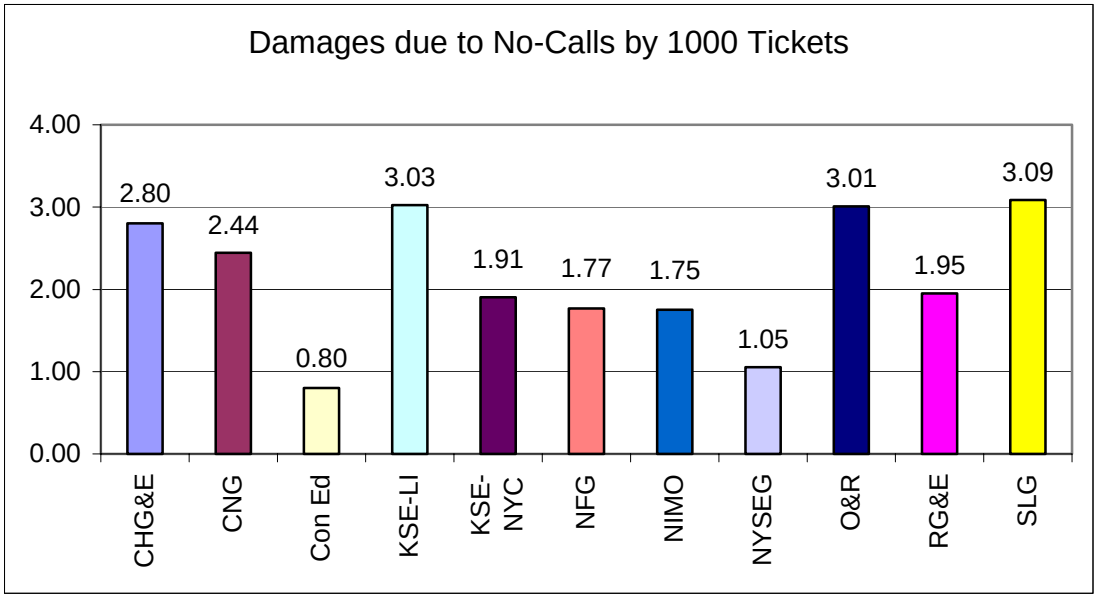

Figure #5: *Damages due to No Ticket Request by Excavators*

These types of damages are typically the second-highest contributor to the total damages in LDCs' systems. Staff recommends LDCs evaluate their excavator outreach efforts and identify areas (or types of excavators) which are the largest source of these types of damages. All LDCs should target problem excavators and strive to reduce these damages. Although it is the excavators' duty to use the one-call system, and be

aware of the laws that apply to their business, LDCs can influence excavator behavior though outreach efforts.

Staff also contributes to excavator education and damage prevention though combined efforts with the LDCs and the one-call systems. For example, the department has obtained Damage Prevention Grants from the USDOT Office of Pipeline Safety for the purpose of supporting education efforts. Working cooperatively with personnel from the one-call notification systems and the LDCs, particularly members of the New England Gas Association's Minimizing Damages Committee, grant money has been used to conduct advertising, excavator seminars and to develop training materials. For example, during a project covering the period from October 2001 through March 2003, grant money was used to develop, print, and distribute an Excavator Manual, which provides guidance and practical advice on how to comply with the regulations and to excavate safely near buried utility facilities. An excavator tool kit was also developed, produced, and distributed that excavators can use to train new employees or for periodic refresher training. It includes the Excavator Manual, a videotape about One-Call Systems, a PowerPoint presentation covering code requirements, a model test, a model "safety meeting" agenda, and a cover letter explaining the kit and how to use it.

The Department was awarded a second Damage Prevention Grant in October 2003, for which implementation will begin this year and carry over into 2005. Again working in cooperation with the one-call notification systems and the LDCs, planned activities include translating the Excavator Manual into Spanish (including printing and distribution), training seminars focusing on utility locating techniques, and a demonstration of new technologies for safe excavation techniques such as vacuum excavation.

Staff also participates in regional Damage Prevention Council (DPC) meetings, which are held regularly so that stakeholders can meet informally to discuss damage prevention issues on a more localized level. Staff contributes to the Councils' efforts in local education activities and provides Department perspective on Part 753 intent and enforcement issues. The gas LDCs are also very active on these DPCs.

Finally, the department actively conducts a program to enforce the state's underground facilities damage prevention regulations contained in 16 NYCRR Part 753, and collects penalties from excavators and LDCs for non-compliance with the law. Staff often resolves such enforcement actions by requiring the violator to obtain training in consideration of a reduced penalty.

In each of the four sub-categories of damage prevention discussed above, several LDCs have been identified as having room for improvement in that specific area. Beyond that, Staff recommends that all LDCs continuously monitor their performance in these areas in order to identify opportunities for improvement and to further reduce damages to their underground facilities.

Emergency Response

Each LDC provides a monthly summary of its response times to calls reporting gas leaks, odors and emergencies. This report, required by Part 16 NYCRR Part 255.825(d), provides 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.[5]

The intent of the code requirement and the performance measure is to evaluate company responses to gas leak, odor, and emergency calls that are generated by the public and non-company personnel (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 qualified[6] company personnel at the location.

Immediate or 'zero' response times for gas odors or leaks that are discovered by company personnel during normal operations and maintenance activities are excluded from the reporting. Legitimate zero response times may be included in the reported data only in cases where *qualified* company personnel are stopped or 'flagged down' on the street and informed of a gas odor which is then immediately investigated by those same qualified company personnel.

Instances where the company responds to a report of a gas odor or otherwise unidentified odor, and investigation determines that the problem is due to something other than natural gas, are also included in the reported data. These are included because LDCs must respond as if it is an actual gas emergency until proven otherwise.

Any company that does not meet the target response level at 30, 45, or 60 minutes provides additional data showing

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

[6] *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 Part 255.604 – Operator Qualification.

when the desired response level is actually achieved. For illustration, if a LDC's data shows that it has responded to 72% of all calls within 30 minutes, that company would also provide an analysis that shows it is responding to 74% of calls in 31 minutes, and then 75% of calls within 32 minutes. This data enables staff to determine the LDC's progress as they work towards meeting the 75% goal.

2003 Results and Analysis

Figure #6 presents data for calendar year 2003 arranged by operator and percentage of responses falling within the three goals of 30, 45, and 60 minutes. Percentages in **bold** indicates performance is below the pertinent goal.

2003 – Total Response Results			
COMPANY	**WITHIN 30 MINUTES (Goal: 75%)**	**WITHIN 45 MINUTES (Goal: 90%)**	**WITHIN 60 MINUTES (Goal: 95%)**
Con Ed	**71.9%**	96.3%	99.9%
CHG&E	81.0%	99.2%	99.9%
CNG	77.0%	93.0%	98.0%
KSE – LI	**67.9%**	93.1%	99.9%
KSE – NYC	**67.6%**	92.2%	98.1%
NFG	87.1%	96.1%	98.9%
NIMO	76.8%	92.1%	99.2%
NYSEG	80.4%	96.2%	97.2%
O&R	**68.0%**	94.2%	99.7%
RG&E	95.0%	99.3%	99.9%
SLG	**72.4%**	**89.0%**	98.2%

FIGURE #6: *2003 Response Times for All Goals*

The data indicates that all companies have acceptable performance in responding to leak and odor calls within 60 minutes. Also, with the exception of SLG, all companies have acceptable performance in achieving the goal of responding to

90% of calls within 45 minutes[7]. However, for the 30 minute goal, Con Ed, KSE-LI, KSE-NYC, O&R, and SLG did not achieve the 75% response goal.

Figure #7 displays the minute-by-minute analysis beyond 30 minutes for the operators (Con Ed, KSE-LI, KSE-NYC, O&R, and SLG) that failed to reach the 75% within 30 minutes goal.

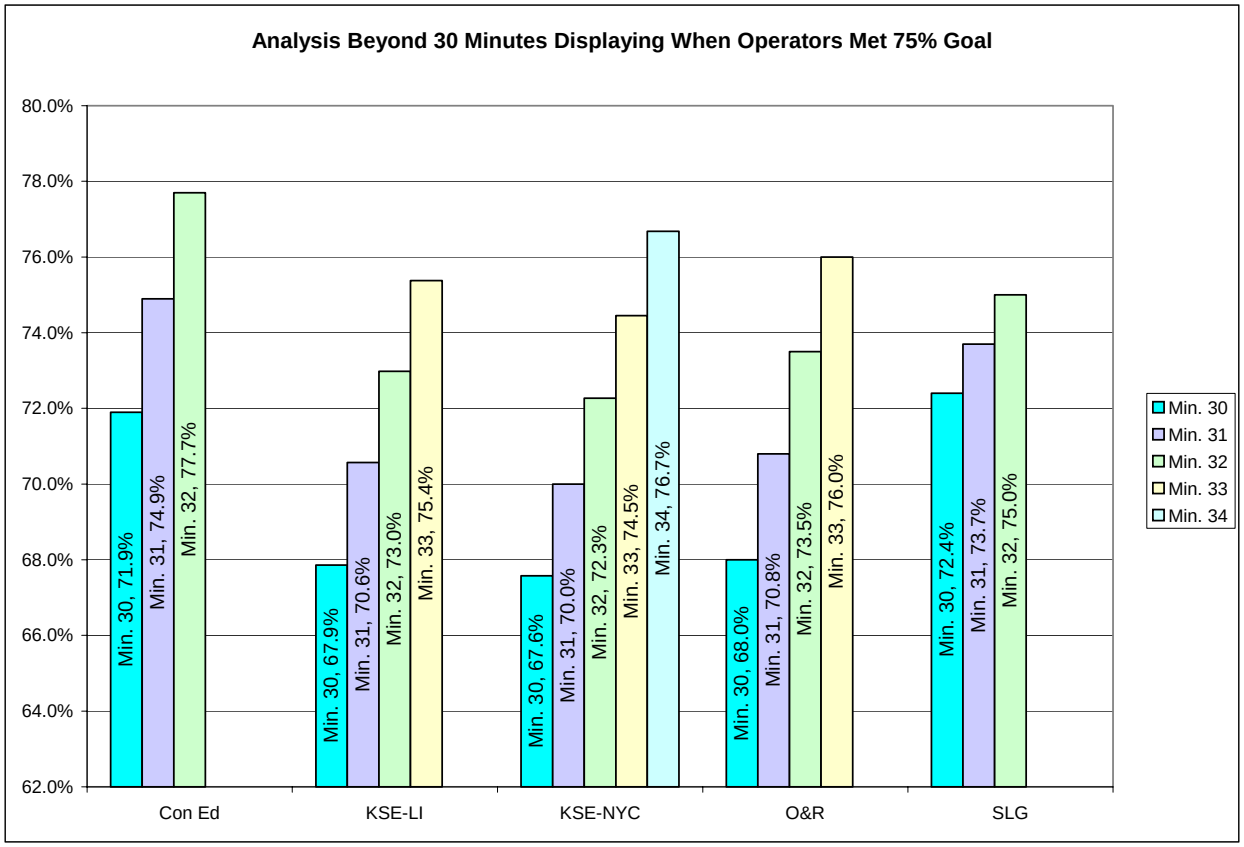

Figure #7: *When 75% Goal was Met Beyond 30 Minutes*

As seen in **Figure #7**, Con Ed & SLG met the 75% goal within 32 minutes, KSE-LI & O&R met the 75% goal within 33 minutes, and KSE-NYC met the 75% goal within 34 minutes.

[7] SLG was able to meet the 90% in 45 minutes goal in 47 minutes.

For these same LDCs, **Figure #8** shows the percentages responded to within 30 minutes for different time periods.

LDC	% Reached Weekdays Normal Business Hours	% Reached Weekdays After Business Hours	% Reached Saturday, Sunday, & Holidays	Aggregate Total % Achieved
Con Ed	71.7	69.6	75.1	71.9
KSE-LI	72.7	61.8	66.1	67.9
KSE-NYC	71.0	64.0	67.6	67.6
O&R	74.5	60.5	60.7	68.0
SLG	83.4	51.2	51.8	72.4

Figure #8*: Breakdown of Response Times for Various Time Periods for LDCs not Meeting 30 Minute Goal*

This analysis shows that Con Ed, KSE-LI and KSE-NYC seem to have the most trouble responding to leak and odor calls on weekdays after business hours. O&R and SLG seem to have difficulties on weekdays after business hours and on weekends and holidays; each having nearly identical numbers for both time periods. All of the LDCs (except Con Ed) perform better on weekdays during normal business hours.

Staff obtained further data in order to analyze the distribution of when the incoming calls are received. The results are displayed in **Figure #9**.

LDC	% Calls Weekdays Normal Business Hours	% Calls Weekdays After Business Hours	% Calls Saturday, Sunday, & Holidays
Con Ed	46.6	30.9	22.5
KSE-LI	46.4	31.0	22.6
KSE-NYC	39.5	38.5	22.0
O&R	53.1	27.6	19.4
SLG	65.6	20.9	13.5

Figure #9: *Percentage of Calls Received During Business and non-Business Hours*

This analysis indicates that LDCs must focus on response times during all times periods. The data shows that a significant percentage of calls, in some cases more than 50%, occur outside of normal business hours.

It is recommended that Con Ed, KSE-LI, KSE-NYC, O&R and SLG perform a self-assessment of their performance in this area. These LDCs should examine potential ways to improve their performance and report to Staff on their plans of action. Suggested areas to examine include, but are not limited to: staffing levels at various time periods versus incoming calls, deployment of resources, dispatching procedures, traffic patterns/congestion, travel times/distances to remote areas of their territories, etc.

Leak Management

The intent in evaluating a LDC's leak management program is to gauge performance in reducing the number of leaks that occur, repairing potentially hazardous leaks that are found, and reducing the backlog[8].

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 greater 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 because leaks are being repaired throughout the year, even as new leaks are discovered, the end of a calendar year is significant since it's typically the beginning of the frost season. Thus, all data analysis is as of December 31, 2003 (raw data as reported by the LDCs is contained in **Appendix B**).

The reported data 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 susceptibility of pipe materials to leakage. As one means of continuously improving leak management programs, staff encourages the identification and replacement of leak-

[8] Backlog: defined as total active leaks in system, including Type 1 (most severe and requires immediate attention to eliminate the hazard), Type 2A (must be monitored every two weeks and repaired within six months), Type 2 (must be monitored at least every two months and be repaired within one year), and Type 3 (must be monitored annually) leaks.

prone segments of steel and cast iron mains as well as the replacement of unprotected[9] steel and cast iron services. Incentives to reduce safety risks by replacing aging facilities and/or reducing leak backlogs have been incorporated into past and current rate cases for every LDC except SLG. Historically, the great majority of leaks occur on steel pipe not cathodically protected against corrosion, and cast iron. SLG's system is comprised of plastic and cathodically protected steel and they have not had significant leak problems.

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.

[9] Unprotected: a pipeline without cathodic protection to prevent corrosion

2003 Results and Analysis

Staff focused its analyses on the backlog of potentially hazardous leaks requiring repair (Types 1, 2A, and 2), which by their nature carry more risk. **Figure #10** displays the backlog of leaks requiring repair as of December 31, 2003.

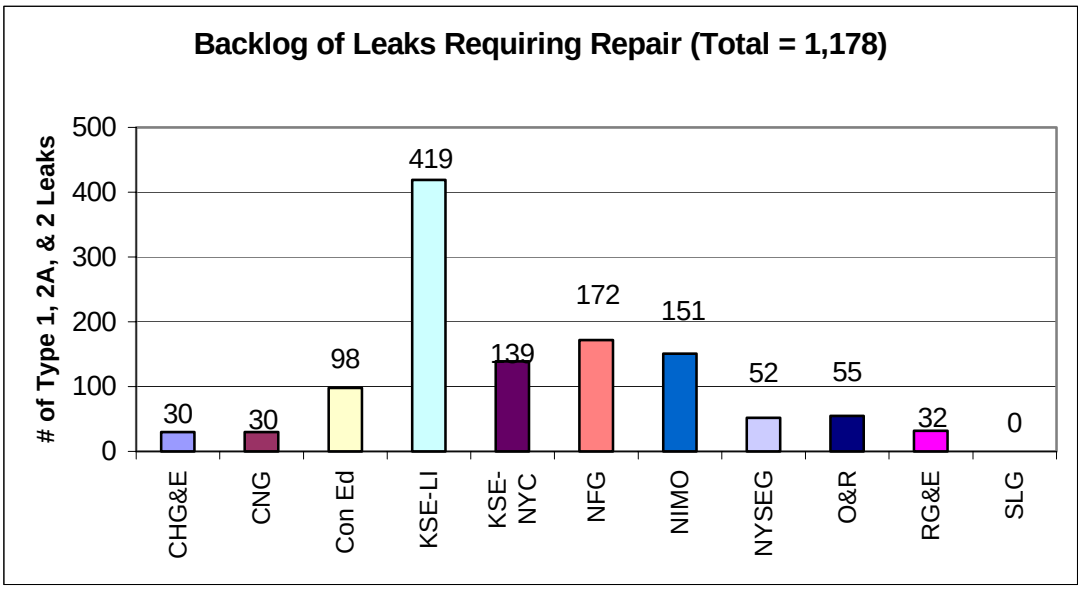

Figure #10: *Leak Backlog*

Staff will also closely evaluate this leak backlog in subsequent years to determine company performance in properly managing these potentially hazardous leaks. Staff expects to see these leak totals decrease and recommends LDCs strive to minimize the backlog of these leaks at the onset of the typical frost season.

As can be seen in **Figure #10,** KSE-LI's backlog of potentially hazardous leaks requiring repair was 419. Compared to other LDCs it has a relatively higher percentage of leak-prone facilities (unprotected bare and coated steel), which also typically leads to a higher number of overall leaks. Staff believes the company should work to reduce the number of these leaks. Staff is currently looking into the company's policies and procedures for leak management including the frequency and

scheduling of leak surveys, leak repair timeframes and pipe replacement programs.

As a calculated measure of performance, staff analyzed the ratio of year-end backlog of leaks requiring repair versus the total number of these leaks actually repaired during the year. This indicator displays LDCs' diligence in reducing the safety risk from these more hazardous leaks and is shown in **Figure #11.**

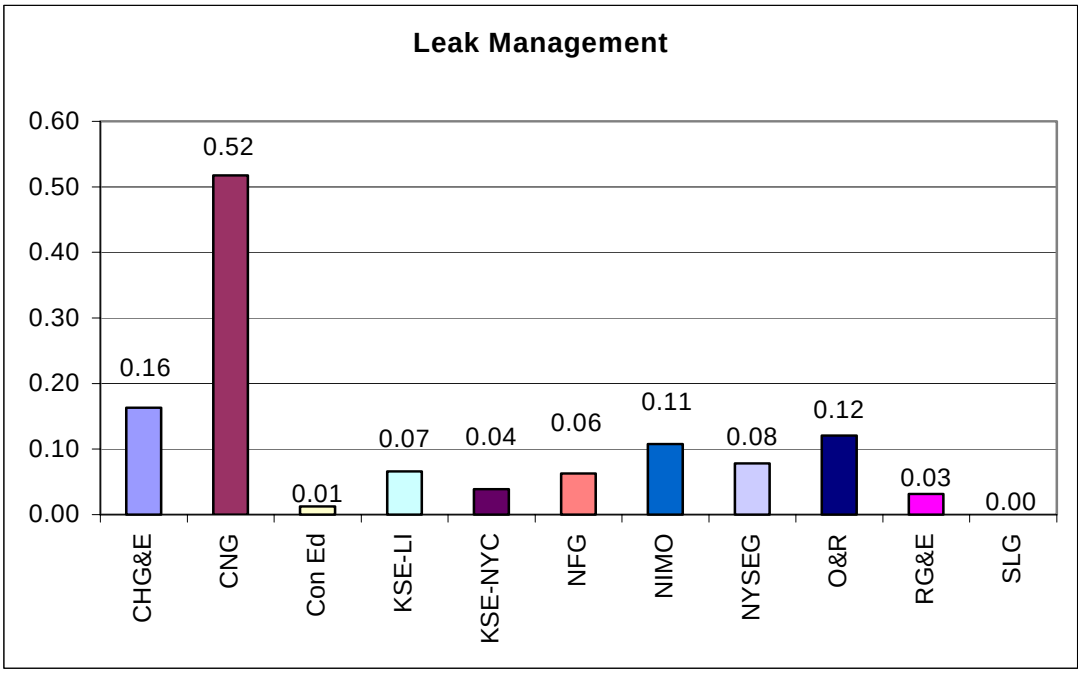

Figure #11: *Year-End Backlog of Leaks Requiring Repair versus such Leaks Repaired During Year*

Figure #11 shows that for this metric, most LDCs achieve a level of 0.10 or less. However, CNG stands out remarkably in this measure. Its backlog of leaks requiring repairs is 30, and it repaired 58 such leaks (calculation: 30/58 = .52). SLG scored 0.00 due to its repair efforts that resulted in no backlog of leaks that require repair at year end.

Staff recommends CNG and KSE-LI evaluate their leak

management programs and make efforts to maintain lower backlogs of potentially hazardous leaks that require repair at year end. These two companies should report to Staff on any changes in leak management programs or procedures they intend to make. Beyond that, all the LDCs should continuously monitor their own performance in this area to identify opportunities for improvement.

Beginning in 2004 LDCs will report leak data to staff on a quarterly basis. This further detailed data will allow staff to more closely evaluate LDCs' performance regarding the management of outstanding leaks throughout the year. Staff believes LDCs should manage their survey and repair programs year-round in order to have the backlog "bottom-out" heading into the frost season.

CONCLUSION

Performance measures are an important management tool that will provide 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 if performance is sub-standard. 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 with specific details on how they expect to improve this performance. LDC performance will be analyzed in successive performance measure reports.

APPENDIX A

Reported Raw Damage Data

LDC	# One Call Tickets	Damages due to Mismarks	Co. & Co. Contractor Damages	Excavator Error Damages	No-Call Damages	Total Damages
CHG&E	14979	9	2	62	42	115
CNG	2045	5	0	5	5	15
Con Ed	77576	53	47	129	62	291
KSE-LI	70718	70	24	328	214	636
KSE-NYC	56132	94	12	286	107	499
NFG	71772	100	7	208	127	442
NIMO	73613	140	13	374	129	656
NYSEG	51252	36	5	104	54	199
O&R	17274	21	13	87	52	173
RG&E	43550	20	7	121	85	233
SLG	2268	1	0	18	7	26

Appendix B

Reported Raw Leak Data

	Unprot. Bare	Unprot. Coated	Prot. Bare	Prot. Coated	Plastic	Cast/Wrt. Iron	Copper	Other
Con Ed	**2372**	49	0	82	25	**3971**	0	0
O&R	185	0	0	26	76	31	0	0
KSE-LI	1707	**441**	43	134	**127**	519	0	0
KSE-NYC	135	0	0	52	47	1741	0	0
CHG&E	70	0	0	25	6	57	0	0
CNG	27	2	1	0	0	0	0	0
NYSEG	249	0	0	125	26	19	0	0
RG&E	212	14	0	**211**	14	169	0	0
NIMO	83	138	0	0	27	506	0	14
NFG	2086	0	**487**	110	**129**	521	0	**33**
SLG	0	0	0	1	0	0	0	0
Total:	7126	644	531	766	477	7534	0	47

Figure B-1: *Leak Repairs on Mains by Pipe Material*

	Unprot. Bare	Unprot. Coated	Prot. Bare	Prot. Coated	Plastic	Cast/Wrt. Iron	Copper	Other
Con Ed	**3018**	164	0	**303**	92	0	210	1
O&R	120	0	0	36	83	8	0	0
KSE-LI	1884	**1086**	**65**	357	487	0	41	0
KSE-NYC	438	0	0	234	**515**	0	**790**	0
CHG&E	0	92	0	26	12	0	0	0
CNG	33	2	0	0	1	0	0	0
NYSEG	297	0	0	193	82	0	0	67
RG&E	139	29	0	225	72	0	20	0
NIMO	144	479	0	0	171	**14**	27	**97**
NFG	890	73	0	40	203	0	0	45
SLG	0	0	0	4	1	0	0	0
Total:	6963	1925	65	1418	1719	22	1088	210

Figure B-2: *Leak Repairs on Services by Pipe Material*

Leaks Repaired by Type of Leak						
LDC	Type 1	Type 2a	Type 2	Sub-Total	Type 3	Total
CHG&E	99	36	49	184	104	288
CNG	13	3	42	58	8	66
Con Ed	4311	1477	1981	7769	2518	10287
KSE-LI	1554	1234	3539	6327	564	6891
KSE-NYC	1458	56	246	1760	215	1975
NFG	1053	564	1124	2741	1876	4617
NIMO	800	130	477	1407	293	1700
NYSEG	223	100	342	665	393	1058
O&R	237	99	120	456	109	565
RG&E	285	68	669	1022	83	1105
SLG	2	0	3	5	1	6

Leaks Discovered by Type of Leak						
LDC	Type 1	Type 2a	Type 2	Sub-Total	Type 3	Total
CHG&E	73	25	42	140	132	272
CNG	23	9	47	79	12	91
Con Ed	2251	866	1141	4258	2154	6412
KSE-LI	1598	1608	3159	6365	4011	10376
KSE-NYC	3255	531	220	4006	578	4584
NFG	1036	533	966	2535	839	3374
NIMO	800	485	129	1414	474	1888
NYSEG	223	105	333	661	385	1046
O&R	317	116	178	611	322	933
RG&E	504	74	680	1258	119	1377
SLG	2	0	3	5	1	6

LDC	**Type 1, 2 and 2a**	
	Leaks Repaired	**Leak Backlog**
CHG&E	184	30
CNG	58	30
Con Ed	7769	98
KSE-LI	6327	419
KSE-NYC	3576	139
NFG	2741	172
NIMO	1407	151
NYSEG	665	52
O&R	456	55
RG&E	1022	32