Rochester Gas and Electric

STRAY VOLTAGE TEST

And

FACILITY INSPECTION

Report on the results of stray voltage tests and facility inspections

for the period ending on December 31, 2010

February 15, 2011

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I. Background

The New York State Public Service Commission's ("PSC" or "Commission") Electric Safety Standards Order issued on January 5, 2005 (Case 04-M-0159), with subsequent revisions issued on July 21, 2005, December 15, 2008, and July 21, 2010 (Case 10-E-0271), (collectively referred to herein as the "Safety Standards" or "Order"), require electric utilities in New York State, including Rochester Gas and Electric ("RG&E" or the "Company") to test annually all of their publicly accessible transmission and distribution facilities for stray voltage and to inspect their electric facilities every five years.

This report describes Rochester Gas and Electric Stray Voltage Detection Program and Equipment Inspection Program conducted in 2010.

II. Company Overview

RG&E is located in upstate New York and serves approximately 355,324 electric customers. RG&E covers an area of about 2,700 square miles and serves a primarily rural area composed of 1 large city and 80 villages.

RG&E's electric delivery infrastructure consists of 170 substations, 43,214 underground facilities and 6,353 streetlight/traffic signal facilities. This system includes an estimated 211,298 distribution structures and 19,767 transmission structures.

III. Stray Voltage Testing Program

During the period ending December 31, 2010, RG&E conducted stray voltage testing of all its publicly accessible transmission and distribution facilities that are capable of conducting electricity, and all Company and non-Company owned metallic streetlights and traffic signals. The Company also tested all publicly accessible third party facilities in close proximity to RG&E's system components identified with elevated voltage.

In addition, and in compliance with the Order, RG&E:

a. Immediately safeguarded and/or mitigated all voltage findings ≥ 1.0 volt. In instances where the stray voltage finding was determined to be caused by customer-owned equipment, the area was immediately made safe and the customer or responsible party associated with the premises was notified of the unsafe condition and the need for the customer to arrange for a permanent repair. Voltage findings determined to be caused by a utility-owned facility

were immediately safeguarded and/or mitigated. All permanent repairs were made within 45 days.

b. Tested all publicly accessible structures and sidewalks within a 30 foot radius of the electric facility or streetlight where there was a stray voltage finding ≥ 1.0 volt.
c. Responded, investigated, and mitigated positive findings of shock incidents reported by the public.

Of the 299,451 facilities visited, 86,498 did not require stray voltage testing because these are wood poles that have no attached appurtenances capable of conducting electricity; their electrically conductive appurtenances are not accessible to the public (pre-wired wood); the facilities are enclosed in fiberglass (non-conductive materials); and/or de-energized facilities.

Structures Inaccessible to the Public

There are several types of Inaccessible structures as described below. Of the 299,451 facilities visited, 875 were deemed Inaccessible to the public. If the contractor could not reach the structure to perform a test, it was identified as "Inaccessible" and all other pertinent data was collected in the field. Contractors made every attempt to locate and test all structures. Inaccessible structures include:

a. Private Property – The structure was not tested if it was located on private property and was inaccessible due to walls, fences or barriers such as a locked gate, if excavation or bush/tree removal was required, or if there was unauthorized construction around the structure.
b. RG&E Property – Structure located on Company property, such as substations, are accessible only to Company personnel and authorized contractors.
c. Buried / Paved Over – The structure was not tested if it had been covered over with dirt, pavement, or other foreign objects that would prohibit public access and prevent testing the structure. Contractors noted the structure ID on the issued maps and turned them in to Maintenance Engineering for verification with the Maps and Records Department. If Maps and Records confirmed that the structure does exist, company and contractor crews followed up and attempted to locate, uncover, and test the structure. If the structure could not be found, it was then considered removed from the field, and revisions to mapping were generated.
d. Inside Building – If a tester identified a structure as being inside a building, RG&E personnel verified that the structure was actually inside the building. If the RG&E personnel verified that the structure was accessible to the public, a test was performed. Typically, customer owned equipment that is inside a building is in a locked equipment room that is accessible to authorized personnel only.

e. Limited Access Highways – Structures located on highways, exit and entrance highway ramps. The performance of stray voltage testing would constitute an unacceptable risk to the employee.
f. Dangerous Terrain – Poles located on cliffs and other dangerous terrain are generally inaccessible to Company personnel and are approached only under urgent circumstances. The performance of stray voltage testing would constitute an unacceptable risk to the employee.

IV. Facility Inspection Program

The Safety Standards require RG&E to visually inspect approximately 20% of its facilities annually, resulting in 100% inspection of its electric facilities every five years.

RG&E visually inspects its distribution system on a five-year cycle as prescribed by the Safety Standards, and inspects its transmission system annually.

The objective of all inspections is to conduct a careful and critical examination of an electric facility by a qualified individual to determine the condition of the facility and the potential to cause, or lead to safety hazards, or adverse effects on reliability.

Inspections conducted during routine maintenance and other work not directly related to the inspection program count as an inspection visit, provided that the inspection is performed using the same safety and reliability criteria and to the same extent as would otherwise be required under the Electric Safety Standards.

In accordance with the Safety Standards, RG&E uses the following severity levels to establish priority for repairs and scheduling:

Level I – Repair as soon as possible but not longer than one week. A Level I deficiency is an actual or imminent safety hazard to the public or poses a serious and immediate threat to the delivery of power. Critical safety hazards present at the time of the inspection shall be guarded until the hazard is mitigated.
Level II – Repair within one year. A Level II deficiency is likely to fail prior to the next inspection cycle and represent a threat to safety and / or reliability should a failure occur prior to repair.
Level III – Repair within three years. A Level III deficiency does not present immediate safety or operational concerns and would likely have minimum impact on the safe and reliable delivery of power if it does fail prior to repair.
Level IV – Condition found but repairs not needed at this time. Level IV is used to track atypical conditions that do not require repair within a five year timeframe. This level shall be used for future monitoring purposes and planning proactive maintenance activities.

In accordance with the PSC requirements, when a temporary repair is located during inspection or performed by the company, best efforts are put forth to make a permanent repair of the facility within 90 days. Temporary repairs that remain on the system for more than 90 days are due to extraordinary circumstances, i.e. storms, and require extensive repair activity. The Company has compiled a list of exceptions of temporary repairs that still remain in place after the 90 day requirement. The list and justifications can be found in Appendix 5 of this report.

V. Company Facilities

Structure Categories

RG&E has approximately 212,078 individual facilities that require testing for the presence of stray voltage. These facilities are broken down into four main categories including:

Distribution Overhead – There are approximately 127,113 distribution pole structures that require testing for the presence of stray voltage in RG&E's territory. The testing criteria include all utility-owned or joint use wooden poles with utility electrical facilities located on both public thoroughfares and customer property, including backyards or alleys. Stray voltage tests are performed on all wooden poles with metallic attachments such as ground wires, ground rods, anchor guy wires, riser pipes, or any electrical equipment within reach of the general public. Distribution overhead facilities are included in both the stray voltage and inspection programs.

Underground Facilities – There are 44,513 underground facilities that require testing for the presence of stray voltage that comprise RG&E's system. The testing criteria are comprised of subsurface structures, including above ground pad-mounted structures. Included in the underground facilities are padmount switchgear cases, padmount transformer cases, electric utility manhole covers, submersible transformer covers, electric utility handhole covers, network vaults and grates. These facilities are included in both the stray voltage and facility inspection programs.

Street lights and Traffic Signals – There are approximately 13,087 metallic street lights and approximately 11,108 traffic signals within RG&E's service territory. This total includes all conductive street lights owned by RG&E with the balance of the equipment owned by various municipalities. The testing criterion includes all metallic streetlights, traffic signals, and pedestrian crosswalk signals located on publicly accessible thoroughfares. All stray voltage testing of street lights is performed at night while the fixtures are energized. Area and street lighting that is privately owned is not included in the stray voltage testing program, as per the Order's requirements. All Company-owned streetlights are included in the facility inspection program.

Transmission Structures – There are 17,132 individual poles/towers that require testing for the presence of stray voltage that comprise RG&E's transmission system. The testing criteria are comprised of all structures, guys, and down leads attached to the structures. Transmission structures support circuit voltages of 34.5 kilovolts and greater. Transmission poles as described above, with distribution under-build, are included in this transmission category. All transmission structures are included in both the stray voltage and facility inspection programs.

VI. Annual Performance Targets

RG&E performed the required stray voltage testing and facilities inspections in accordance with the requirements set forth in the Order.

In compliance with the Safety Standards, RG&E has met the annual performance target for stray voltage testing of 100% of electric facilities and streetlights for the period ending December 31, 2010.

In addition, in compliance with the Safety Standards, RG&E has met the first-year performance target for inspection of 20% of its electric facilities for the period ending December 31, 2010.

The results are summarized in the table below.

Facility Inspection Program Results

Category	**RG&E Inspection Target**	**Actual Cumulative Inspected as of 2010**
Overhead Distribution	20%	19%
Overhead Transmission	20%	33%
Underground	20%	18%
Streetlight	20%	21%

5-Year Inspection Performance Summary

Overhead Distribution Facilities

Inspection Year	Number of Overhead Distribution Structures Inspected	% of Overall System Inspected (Cumulative in Five Year Cycle 2010-2014)
2010	39,325	19%
2011		
2012		
2013		
2014		

Overhead Transmission Facilities

Inspection Year	Number of Overhead Transmission Facilities Inspected	% of Overall System Inspected (Cumulative in Five Year Cycle 2010-2014)
2010	6,570	33%
2011		
2012		
2013		
2014		

Underground Facilities

Inspection Year	Number of Underground Facilities Inspected	% of Overall System Inspected (Cumulative in Five Year Cycle 2010-2014)
2010	4,227	18%
2011		
2012		
2013		
2014		

Pad-mount Facilities

Inspection Year	Number of Underground Facilities Inspected	% of Overall System Inspected (Cumulative in Five Year Cycle 2010-2014)
2010	3,760	19%
2011		
2012		
2013		
2014		

Streetlights

Inspection Year	Number of Streetlights Inspected	% of Overall System Inspected (Cumulative in Five Year Cycle 2010-2014)
2010	1,347	21%
2011		
2012		
2013		
2014		

VII. Certifications

Pursuant to Section 7 of Appendix A of the Safety Standards, the president or officer of each utility with direct responsibility for overseeing stray voltage testing and facility inspections shall provide an annual certification to the Commission that the utility has, to the best of his or her knowledge, exercised due diligence in carrying out a plan, including quality assurance, that is designed to meet the stray voltage testing and inspection requirements, and that the utility has:

- Tested all of its publicly accessible electric facilities and street lights, as referred to in the body of the February 15 Report, and
- Inspected the requisite number of electric facilities.

The certifications are attached as Exhibit 1 of this report.

VIII. Analysis of Causes of Findings and Stray Voltage

All New York State utilities perform an inventory on all findings and report on the number of these findings each year. Section 1(f) of the December 15, 2008 Order defines a finding as "any confirmed voltage reading on an electric facility or streetlight greater than or equal to 1 volt measured using a volt meter and 500 ohm shunt resistor." Section 1(c) defines Stray Voltage as "voltage conditions on electric facilities that should not ordinarily exist. These conditions may be due to one or more factors, including, but not limited to, damaged cables, deteriorated, frayed, or missing insulation, improper maintenance, or improper installation." A Summary of Energized Objects for the manual program can be found in Appendix 2 of this report.

Although not all findings are due to Stray Voltage, utilities are required to report on all findings, regardless of whether or not the voltage is normal to the operating system. It has been established that .062% of the findings identified in this year's testing effort are normal to the operating system, and not due to Stray Voltage. Inclusion of these naturally occurring voltages in the findings can result in the perception that there are more potentially hazardous voltage findings than actually exist.

Causes of these findings include, but are not limited to, naturally occurring neutral to earth voltages (as part of a multi-grounded WYE power system); poor soil grounding conditions; load balance between phases; long low voltage single phase circuit spurs with high current loads; and/or proximity to transmission lines. Attempts to mitigate these conditions include a high cost, and there is no guarantee of resolution.

True hazardous voltages have been identified and mitigated through the stray voltage testing program. These voltages resulted from a variety of conditions including: deterioration of conductors; age of equipment; exposure to the elements; and various customer related issues. Through the efforts of the stray voltage testing program, RG&E has been able to repair these issues and mitigate the danger associated with the elevated voltage.

Some distinction needs to be made between these two classes of findings: findings due to potentially hazardous Stray Voltage, and findings normal to the operating system. The following table contains a breakdown of the causes of Stray Voltage findings identified through the 2010 manual testing effort:

Structure Type	*Cause of Stray Voltage*	*Stray Voltages Found*
Streetlights	Defective Neutral Connection – Handhole	1
Streetlights	Defective Ground Connection	1
Streetlights	Customer Owned Equipment	3
Streetlights	Defective Neutral Connection – Light Pole	2
Streetlights	Defective Neutral – Underground Cable	7
Transmission	Transformers/Capacitors	1
Transmission	Grounds and Ground Rods	1
Transmission	Common Neutral	2
Distribution	Neutral Imbalance Single Phase Spur	5
Distribution	Defective Down Ground Connection	11
Distribution	Customer Owned Equipment	3
Distribution	Other Utility Equipment	1
Distribution	Inadequate Ground Path	5
Distribution	Defective Cutout/ Lightening Arrestor	1
		44

In accordance with the PSC requirements; when a finding is discovered on an electric facility or streetlight during stray voltage testing, the Company is obligated to perform stray voltage testing on all publicly accessible structures and sidewalks within a minimum 30 foot radius of the electric facility or streetlight. In this year's testing cycle 44 findings due to potentially hazardous stray voltages were found. A total of 49 additional objects were tested as a result of testing within a 30 foot radius. Of the 49 objects tested, 2 were energized associated with the initial tested structure. Both findings were mitigated when the initial tested structure was repaired.

IX. Analysis of Inspection Results

Overhead Distribution Structures

Table of Locations with Deficiencies

Locations Inspected	Locations w/ Deficiencies	% Locations w/ Deficiencies
39,325	489	1.24%

Breakdown of Locations with Deficiencies

Priority Rating	Number of Deficiencies	% Deficiencies Found
1	22	4.50%
2	233	47.65%
3	158	32.31%
4	76	15.54%
Total:	489	100%

Overhead Transmission Facilities

Table of Locations with Deficiencies

Locations Inspected	Locations w/ Deficiencies	% Locations w/ Deficiencies
6,570	79	1.20%

Breakdown of Locations with Deficiencies

Priority Rating	Number of Deficiencies	% Deficiencies Found
1	0	0%
2	7	8.86%
3	64	81.01%
4	8	10.13%
Total:	79	100%

Underground Facilities

Table of Locations with Deficiencies

Locations Inspected	Locations w/ Deficiencies	% Locations w/ Deficiencies
4,227	185	4.38%

Breakdown of Locations with Deficiencies

Priority Rating	Number of Deficiencies	% Deficiencies Found
1	5	2.70%
2	45	24.32%
3	45	24.32%
4	90	48.65%
Total:	185	100%

Pad-mounts

Table of Locations with Deficiencies

Locations Inspected	Locations w/ Deficiencies	% Locations w/ Deficiencies
3,760	911	24.23%

Breakdown of Locations with Deficiencies

Priority Rating	Number of Deficiencies	% Deficiencies Found
1	1	.11%
2	196	21.51%
3	109	11.96%
4	605	66.41%
Total:	911	100%

Streetlights

Table of Locations with Deficiencies

Locations Inspected	Locations w/ Deficiencies	% Locations w/ Deficiencies
1,347	3	.22%

Breakdown of Locations with Deficiencies

Priority Rating	Number of Deficiencies	% Deficiencies Found
1	0	0%
2	0	0%
3	1	33.33%
4	2	66.67%
Total:	3	100%

In 2010, a total of 1,667 deficiencies were identified which represents about 3.02% of the total 55,229 inspections performed.

X. Quality Assurance

Data Submission Quality Assurance

Throughout the testing effort, the testing contractor submits their testing data to RG&E in the form of batch files. Testing data batch files are submitted for multiple QA/QC reviews. The first review that takes place is for data accuracy. If approved, the file is loaded into the production database and a copy forwarded to the Global Positioning System (GPS) QA Team for the second review, to check the data for positional accuracy. If the data is not acceptable, the contractor is notified of such and the reasons for failure. The testing contractor remedies the problems and re-submits the file with corrections.

GIS Quality Control Procedure

Data is received from the testing contractor (vendor) through a series of "batch files". Following vendor batch file approval through the program administrator, the batch is loaded into RG&E's GIS database, SDE. The QA/QC analysis team uses the GIS application Arc Map to evaluate and certify the testing results. The data, GPS location, test results and time stamp are recorded at each structure on Trimble GeoXt's with sub-meter GPS capability. This collection method has been extensively and successfully tested by RG&E using high level Ortho photography to verify positional accuracy. The methodologies deployed to conduct the QA/QC evaluation are as follows:

- Upon data load into SDE, the level of digitized data points is checked and recorded to insure that the number of points does not exceed the expected level based on satellite position, interference (i.e. buildings, vegetation) and equipment capabilities. This level is generally < 1%. Also, at this time a gross high level check is made looking for gross geographical errors that would indicate a batch file processing error by the vendor. If either of these conditions is not acceptable the "batch" is rejected.
- Following the initial checks above, the batch data is overlaid on top of the previous years' data in Arc Map. All data is 100% evaluated against the prior testing effort plus some additional safeguards to be covered later. These methods have proven to be very effective in ensuring that ALL structures have been tested. The overall management of the process is through a grid system on which the field testing maps are based. As data accumulates throughout the year the grids are attributed to reflect their completeness based on structure type, i.e. Streetlights OK = Yes and so on.
- The next aspect of QA/QC effort is final certification by division. When we are notified by the vendor that a division is complete and all data has been submitted we initiate a final audit of the division. This is a final review of any missed structures and any new structures not tested. Any structures deemed "missed" are extracted into a shape file (GIS database) and fed back to the vendor for follow up testing, thus completing a continuous feedback loop year to year to cover missed structures. At this time the QA/QC team does a high level grid check to make sure no map sheets were omitted.

- The additional safeguards mentioned above are as follows:
  - Duplicate testing of structures: The analysts are prompted to be aware of and flag any evidence of massive duplicate testing.
  - GPS time stamp anomalies: Analysts are aware to look for suspicious time intervals between structures, particularly on heavily digitized areas (i.e. 3 seconds between poles 300' apart).

The QC team does a periodic review of the Stray Voltage data vs. The Corporate electrical distribution asset system called Smart-map. This evaluation allows us to identify any new or previously missed structures which are extracted and sent back to the vendor for testing.

Random Quality Assurance

On an ongoing basis, RG&E performs many quality assurance measures to ensure testing data accuracy. These include, but are not limited to; investigations into inaccessible structures to determine the nature of inaccessibility, performance of individual testers, miscellaneous anomalies found in testing data, and checking circuit maps to ensure all structures have been visited. Problem testers are identified to the testing contractor and, if need be, removed from the testing effort. If needed, problem areas are retested in order to ensure testing accuracy. Any discrepancies found as a result of random data sampling checks like wrong town or street name and incorrect spellings are then corrected.

In addition to these measures, Field Coordinators conduct random field visits to ascertain that field contractors are performing tests on all required structures. During these visits, the Field Coordinator answers questions about map reading, structure IDs and location of structures. In addition, the Field Coordinator also performs follow up on randomly chosen completed maps to check that all structures are tested and recorded properly.

XI. Other Pertinent Information

Mobile Detection Program

As required in the Safety Standards, RG&E performed 1 Mobile system scan in the City of Rochester between January 1, 2010 and December 31, 2010. Stray voltage events captured during the mobile detection program are as follows:

Total Events:	39
Total Events < 4.5 Volts:	27 (67.5%)
Total Events ≥ 4.5 Volts:	13 (32.5%)

All findings have been mitigated as required in the order, and The Summary of Energized Objects for the Rochester Mobile Detection Program can be found in Appendix 2(a) of this report.

A traffic cabinet identified with an elevated voltage during the required 30-foot radius testing was associated with a utility-owned facility. The mobile detector was not used in areas where overhead facilities are present. Overhead facilities show up as numerous energized objects making detection of any real stray voltages impossible. In these areas Premier performed manual stray voltage testing.

RG&E assigned a full-time coordinator to the mobile testing effort. His responsibility was to be present at all times with the Premier testers and ensure the mobile testing was conducted in accordance with contract terms and conditions.

While Premier conducted mobile testing, the RG&E Coordinator followed along independently collecting GPS coordinates of the daily routes traveled. This data was used to validate streets reported as completed by Premier and give positional attributes to any structures detected as having voltages on them. The coordinator made sure any call-ins by Premier to the RG&E ECC to report a finding were adequately performed. The coordinator also witnessed and ensured all documented voltage reads were accurate.

Appendix 1

Stray Voltage Testing Summary

RG&E	Total System Units	Units Completed	Percent Completed	Units with Voltage Found (≥1.0v)	Percent of Units Tested with Voltage (≥ 1.0v)	Units Classified as Inaccessible
Distribution Facilities	211,399	211,399	100.00%	31	0.015%	516
Underground Facilities	44,513	44,513	100.00%	1	0.002%	193
Street Lights / Traffic Signals	24,195	24,195	100.00%	14	0.058%	20
Substation Fences	170	170	100.00%	0	0%	0
Transmission (69kV and Above)	19,344	19,344	100.00%	133	0.688%	126
TOTAL	299,451	299,451	100.00%	179	0.060%	855

Appendix 2

Summary of Energized Objects (Manual Program)

RG&E	Initial Readings				Readings after Mitigation		
	1-4.4V	4.5-24.9V	>25V	Totals	< 1V	1-4.4V	>4.5V
Distribution Facilities	30	0	1	**31**	28	3	0
Pole	0	0	0	0	0	0	0
Ground	13	0	0	13	13	0	0
Guy	15	0	0	15	13	2	0
Riser	1	0	1	2	1	1	0
Other	1	0	0	1	1	0	0
Underground Facilities	0	0	0	**0**	0	0	0
Manhole/ Pull box				0			
Manhole				0			
Padmount Switchgear				0			
Padmount Transformer				0			
Vault-Cover/Door				0			
Pedestal				0			
Other				0			
Street Lights/Traffic Signals	2	10	2	**14**	6	0	0
Metal Street Light Pole	2	8	2	12	4	0	0
Traffic Signal Pole	0	1	0	1	1	0	0
Pedestrian Crossing Pole	0	0	0	0	0	0	0
Traffic Control Box	0	0	0	0	0	0	0
Other	0	1	0	1	1	0	0
Substation Fences	0	0	0	**0**	0	0	0
Fence				0			
Other				0			
Transmission (Total)	89	43	1	**133**	5	85	43
Lattice Tower	0	0	0	0	0	0	0
Pole	2	0	0	2	0	2	0
Ground	77	40	1	118	4	74	40
Guy	10	2	0	12	1	9	2
Other	0	1	0	1	0	0	1
Miscellaneous Facilities	1	1	0	**2**	2	0	0
Sidewalk				0			
Gate/Fence/Awning	1	1	0	2	2	0	0
Control Box				0			
Scaffolding				0			
Bus Shelter				0			
Fire Hydrant				0			
Phone Booth				0			
Water Pipe				0			
Riser				0			
Other				0			

Appendix 2(a)

Summary of Energized Objects (Mobile Program)

RG&E	Initial Readings				Readings after Mitigation		
	1-4.4V	4.5-24.9V	>25V	Totals	< 1V	1-4.4V	>4.5V
Distribution Facilities				**0**			
Pole							
Ground							
Guy							
Riser							
Other							
Underground Facilities				**0**			
Service Box							
Manhole							
Padmount Switchgear							
Padmount Transformer							
Vault-Cover/Door							
Pedestal							
Other							
Street Lights/Traffic Signals	26	5	8	**39**	19	0	0
Metal Street Light Pole	21	2	7	30	14		
Traffic Signal Pole	4	3	1	8	5		
Pedestrian Crossing Pole							
Traffic Control Box	1			1			
Other							
Substation Fences				**0**			
Fence							
Other							
Transmission (Total)				**0**			
Lattice Tower							
Pole							
Ground							
Guy							
Other							
Miscellaneous Facilities	0	0	0	**1**	0	0	0
Sidewalk							
Gate/Fence/Awning							
Control Box							
Scaffolding							
Bus Shelter							
Fire Hydrant							
Phone Booth							
Control Box							
Water Pipe							
Riser							
Other	1	0	0	1	1	0	0

Appendix 3

RG&E Data as of December 31, 2010	Quarterly Update	Yearly Total
I. Total Shock Calls Received:	**4**	**12**
Unsubstantiated	1	1
Normally Energized Equipment	3	8
Stray Voltage:		
Person		3
Animal		
II. Injuries Sustained/Medical Attention Received:	**1**	**3**
Person	1	3
Animal		
III. Voltage Source:	**0**	**8**
Utility Responsibility		
Issue with primary, joint, or transformer		1
Secondary joint (Crab)		
SL service Line		
Abandoned SL service line		
Defective service line		
Abandoned service line		
OH Secondary		
OH Service		
OH Service neutral		1
Pole		
Riser		1
Other		
Customer Responsibility		
Contractor damage		
Customer equipment/wiring		5
Other Utility/Gov't Agency Responsibility		
SL Base Connection		
SL Internal wiring or light fixture		
Overhead equipment		
IV. Voltage Range:	**0**	**3**
1.0V to 4.4V		
4.5V to 24.9V		1
25V and above		
No Reading		2

Appendix 4

Summary of Deficiencies and Repair Activity Resulting from the Inspection Process

Summary of Deficiencies and Repair Activity Resulting from the Inspection Process - Distribution

Overhead Facilities	2010		
Priority Level	I	II	III
Repair Expected	Within 1 week	Within 1 year	Within 3 years
	Poles		
Pole Condition			
Number of Deficiencies	***0***	***7***	***13***
Repaired in Time Frame		6	8
Repaired - Overdue			
Not Repaired - Not Due		1	5
Not Repaired - Overdue			
Grounding System			
Number of Deficiencies	***0***	***3***	***7***
Repaired in Time Frame		3	4
Repaired - Overdue			
Not Repaired - Not Due			3
Not Repaired - Overdue			
Anchors/Guy Wire			
Number of Deficiencies	***0***	***6***	***10***
Repaired in Time Frame		5	7
Repaired - Overdue			
Not Repaired - Not Due		1	3
Not Repaired - Overdue			
Riser			
Number of Deficiencies	***0***	***0***	***1***
Repaired in Time Frame			
Repaired - Overdue			
Not Repaired - Not Due			1
Not Repaired - Overdue			
Cross Arm/Bracing			
Number of Deficiencies	***0***	***8***	***7***
Repaired in Time Frame		4	4
Repaired - Overdue			
Not Repaired - Not Due		4	3
Not Repaired - Overdue			

	Conductors		
Primary Wire/Broken Ties			
Number of Deficiencies	***2***	***61***	***45***
Repaired in Time Frame	2	34	40
Repaired - Overdue			
Not Repaired - Not Due		27	5
Not Repaired - Overdue			
Neutral			
Number of Deficiencies	***7***	***4***	***1***
Repaired in Time Frame	7	3	1
Repaired - Overdue			
Not Repaired - Not Due		1	
Not Repaired - Overdue			
Insulators			
Number of Deficiencies	***0***	***9***	***2***
Repaired in Time Frame		6	2
Repaired - Overdue			
Not Repaired - Not Due		3	
Not Repaired - Overdue			
	Pole Equipment		
Transformers			
Number of Deficiencies	***0***	***0***	***0***
Repaired in Time Frame			
Repaired - Overdue			
Not Repaired - Not Due			
Not Repaired - Overdue			
Cutouts			
Number of Deficiencies	***2***	***14***	***4***
Repaired in Time Frame	2	13	4
Repaired - Overdue			
Not Repaired - Not Due		1	
Not Repaired - Overdue			
Lightning Arrestors			
Number of Deficiencies	***0***	***7***	***2***
Repaired in Time Frame		5	2
Repaired - Overdue			
Not Repaired - Not Due		2	
Not Repaired - Overdue			
Skypin/Skypin Bolt			
Number of Deficiencies	***0***	***12***	***10***
Repaired in Time Frame		10	5
Repaired - Overdue			
Not Repaired - Not Due		2	5
Not Repaired - Overdue			

		Miscellaneous	
Trimming Related			
Number of Deficiencies	***5***	***26***	***3***
Repaired in Time Frame	4	20	3
Repaired - Overdue	1		
Not Repaired - Not Due		6	
Not Repaired - Overdue			
Other			
Number of Deficiencies	***6***	***76***	***54***
Repaired in Time Frame	6	57	41
Repaired - Overdue			
Not Repaired - Not Due		19	13
Not Repaired - Overdue			
		Overhead Facilities Total	
Total			
Number of Deficiencies	***22***	***233***	***158***
Repaired in Time Frame	21	166	121
Repaired - Overdue	1	0	0
Not Repaired - Not Due	0	67	37
Not Repaired - Overdue	0	0	0

Summary of Deficiencies and Repair Activity Resulting from the Inspection Process - Transmission

Transmission Facilities	2010		
Priority Level	I	II	III
Repair Expected	Within 1 week	Within 1 year	Within 3 years
		Towers/Poles	
Steel Towers			
Number of Deficiencies	***0***	***0***	***0***
Repaired in Time Frame			
Repaired - Overdue			
Not Repaired - Not Due			
Not Repaired - Overdue			
Poles			
Number of Deficiencies	***0***	***0***	***9***
Repaired in Time Frame			
Repaired - Overdue			
Not Repaired - Not Due			9
Not Repaired - Overdue			
Anchors/Guy Wire			
Number of Deficiencies	***0***	***1***	***6***
Repaired in Time Frame		1	4
Repaired - Overdue			
Not Repaired - Not Due			2
Not Repaired - Overdue			
Crossarm/Brace			
Number of Deficiencies	***0***	***0***	***8***
Repaired in Time Frame			1
Repaired - Overdue			
Not Repaired - Not Due			7
Not Repaired - Overdue			
Grounding System			
Number of Deficiencies	***0***	***0***	***15***
Repaired in Time Frame			
Repaired - Overdue			
Not Repaired - Not Due		15	
Not Repaired - Overdue			

	Conductors		
Cable			
Number of Deficiencies	***0***	***0***	***0***
Repaired in Time Frame			
Repaired - Overdue			
Not Repaired - Not Due			
Not Repaired - Overdue			
Static/Neutral			
Number of Deficiencies	***0***	***0***	***0***
Repaired in Time Frame			
Repaired - Overdue			
Not Repaired - Not Due			
Not Repaired - Overdue			
Insulators			
Number of Deficiencies	***0***	***0***	***1***
Repaired in Time Frame			
Repaired - Overdue			
Not Repaired - Not Due			1
Not Repaired - Overdue			
	Miscellaneous		
Right of Way Condition			
Number of Deficiencies	***0***	***2***	***1***
Repaired in Time Frame		2	1
Repaired - Overdue			
Not Repaired - Not Due			
Not Repaired - Overdue			
Other			
Number of Deficiencies	***0***	***4***	***24***
Repaired in Time Frame			2
Repaired - Overdue			
Not Repaired - Not Due		4	22
Not Repaired - Overdue			
	Transmission Facilities Total		
Total			
Number of Deficiencies	***0***	***7***	***64***
Repaired in Time Frame	0	3	8
Repaired - Overdue	0	0	0
Not Repaired - Not Due	0	4	56
Not Repaired - Overdue	0	0	0

Summary of Deficiencies and Repair Activity Resulting from the Inspection Process - Underground

Underground Facilities	**2010**		
Priority Level	**I**	**II**	**III**
Repair Expected	**Within 1 week**	**Within 1 year**	**Within 3 years**
		Underground Structures	
Damaged Cover			
Number of Deficiencies	***2***	***11***	***13***
Repaired in Time Frame	2		1
Repaired - Overdue			
Not Repaired - Not Due		11	12
Not Repaired - Overdue			
Damaged Structure			
Number of Deficiencies	***0***	***2***	***3***
Repaired in Time Frame		1	1
Repaired - Overdue			
Not Repaired - Not Due		1	2
Not Repaired - Overdue			
Congested Structure			
Number of Deficiencies	***0***	***1***	***2***
Repaired in Time Frame			
Repaired - Overdue			
Not Repaired - Not Due		1	2
Not Repaired - Overdue			
Damaged Equipment			
Number of Deficiencies	***0***	***8***	***10***
Repaired in Time Frame			
Repaired - Overdue			
Not Repaired - Not Due		8	10
Not Repaired - Overdue			

		Conductors	
Primary Cable			
Number of Deficiencies	***0***	***5***	***0***
Repaired in Time Frame			
Repaired - Overdue			
Not Repaired - Not Due		5	
Not Repaired - Overdue			
Secondary Cable			
Number of Deficiencies	***3***	***7***	***5***
Repaired in Time Frame	3	2	1
Repaired - Overdue			
Not Repaired - Not Due		5	4
Not Repaired - Overdue			
Neutral Cable			
Number of Deficiencies	***0***	***1***	***3***
Repaired in Time Frame			
Repaired - Overdue			
Not Repaired - Not Due		1	3
Not Repaired - Overdue			
Racking Needed			
Number of Deficiencies	***0***	***0***	***2***
Repaired in Time Frame			
Repaired - Overdue			
Not Repaired - Not Due			2
Not Repaired - Overdue			
		Miscellaneous	
Other			
Number of Deficiencies	***0***	***10***	***7***
Repaired in Time Frame			1
Repaired - Overdue			
Not Repaired - Not Due		10	6
Not Repaired - Overdue			
		Underground Facilities Total	
Total			
Number of Deficiencies	***5***	***45***	***45***
Repaired in Time Frame	5	3	4
Repaired - Overdue	0	0	0
Not Repaired - Not Due	0	42	41
Not Repaired - Overdue	0	0	0

Summary of Deficiencies and Repair Activity Resulting from the Inspection Process Pad Mount Transformers

Pad Mount Transformers	2010		
Priority Level	I	II	III
Repair Expected	Within 1 week	Within 1 year	Within 3 years
	Pad Mount Transformers		
Damaged Structure			
Number of Deficiencies	***0***	***115***	***24***
Repaired in Time Frame			
Repaired - Overdue			
Not Repaired - Not Due		115	24
Not Repaired - Overdue			
Damaged Equipment			
Number of Deficiencies	***0***	***4***	***0***
Repaired in Time Frame			
Repaired - Overdue			
Not Repaired - Not Due		4	
Not Repaired - Overdue			
Cable Condition			
Number of Deficiencies	***0***	***0***	***0***
Repaired in Time Frame			
Repaired - Overdue			
Not Repaired - Not Due			
Not Repaired - Overdue			
Oil Leak			
Number of Deficiencies	***0***	***12***	***3***
Repaired in Time Frame			
Repaired - Overdue			
Not Repaired - Not Due		12	3
Not Repaired - Overdue			
Off Pad			
Number of Deficiencies	***0***	***0***	***0***
Repaired in Time Frame			
Repaired - Overdue			
Not Repaired - Not Due			
Not Repaired - Overdue			
Lock/Latch/Penta			
Number of Deficiencies	***1***	***24***	***31***
Repaired in Time Frame	1		1
Repaired - Overdue			
Not Repaired - Not Due		24	30
Not Repaired - Overdue			

		Miscellaneous	
Other			
Number of Deficiencies	***0***	***41***	***51***
Repaired in Time Frame			
Repaired - Overdue			
Not Repaired - Not Due		41	51
Not Repaired - Overdue			
		Pad Mount Total	
Total			
Number of Deficiencies	***1***	***196***	***109***
Repaired in Time Frame	1	0	1
Repaired - Overdue	0	0	0
Not Repaired - Not Due	0	196	108
Not Repaired - Overdue	0	0	0

Summary of Deficiencies and Repair Activity Resulting from the Inspection Process - Streetlights			
Overhead Facilities	**2010**		
Priority Level	**I**	**II**	**III**
Repair Expected	**Within 1 week**	**Within 1 year**	**Within 3 years**
		Streetlight	
Base/Standard/Light			
Number of Deficiencies	***0***	***0***	***0***
Repaired in Time Frame			
Repaired - Overdue			
Not Repaired - Not Due			
Not Repaired - Overdue			
Handhole/Service Box			
Number of Deficiencies	***0***	***0***	***0***
Repaired in Time Frame			
Repaired - Overdue			
Not Repaired - Not Due			
Not Repaired - Overdue			
Service/Internal Wiring			
Number of Deficiencies	***0***	***0***	***1***
Repaired in Time Frame			
Repaired - Overdue			
Not Repaired - Not Due			1
Not Repaired - Overdue			
Access Cover			
Number of Deficiencies	***0***	***0***	***0***
Repaired in Time Frame			
Repaired - Overdue			
Not Repaired - Not Due			
Not Repaired - Overdue			
		Miscellaneous	
Other			
Number of Deficiencies	***0***	***0***	***0***
Repaired in Time Frame			
Repaired - Overdue			
Not Repaired - Not Due			
Not Repaired - Overdue			
		Streetlight Total	
Total			
Number of Deficiencies	***0***	***0***	***1***
Repaired in Time Frame	0	0	0
Repaired - Overdue	0	0	0
Not Repaired - Not Due	0	0	1
Not Repaired - Overdue	0	0	0

Summary of Deficiencies and Repair Activity Resulting from the Inspection Process - Level IV Conditions

Overhead Facilities	2010	
	Number of Conditions Found	Number of Conditions Repaired
	Overhead Facilities	
Pole Condition		
Pole Condition	2	2
Grounding System	32	5
Anchors/Guy Wire		
Cross Arm/Bracing		
Riser		
Conductors		
Primary Wire/Broken Ties	8	1
Secondary Wire	3	
Neutral	2	
Insulators		
Pole Equipment		
Transformers		
Cutouts		
Lightning Arrestors		
Other Equipment		
Miscellaneous		
Trimming Related	26	1
Other	3	
Overhead Facilities Total	**76**	**9**
	Transmission Facilities	
Towers/Poles		
Steel Towers		
Poles		
Anchors/Guy Wire	2	2
Crossarm/Brace		
Grounding System		
Conductors		
Cable		
Static/Neutral		
Insulators		
Miscellaneous		
Right of Way Condition		
Other	6	4
Transmission Facilities Total	**8**	**6**

	Underground Facilities	
Underground Structures		
Damaged Cover	14	
Damaged Structure	19	1
Congested Structure	8	1
Damaged Equipment	7	
Conductors		
Primary Cable	6	
Secondary Cable		
Neutral Cable	1	
Racking Needed	9	
Miscellaneous		
Other	26	3
Underground Facilities Total	**90**	**5**
	Pad Mount Transformers	
Pad Mount Structures		
Damaged Structure	2	
Damaged Equipment	1	
Damaged Cable		
Oil Leak		
Off Pad		
Lock/Latch/Penta	90	
Miscellaneous		
Other	512	1
Pad Mount Transformer Total	**605**	**1**
	Streetlights	
Streetlight		
Base/Standard/Light		
Handhole/Service Box		
Service/Internal Wiring	1	
Access Cover		
Miscellaneous		
Other	1	
Streetlight Total	**2**	
	Total Level IV Conditions	
Overall Total	**781**	**21**

Summary of Deficiencies and Repair Activity Resulting from the Inspection Process
RG&E

Year	Priority Level / Repair Expected		Deficiencies Found (Total)	Repaired In Time Frame	Repaired - Overdue	Not Repaired - Not Due	Not Repaired - Overdue
2010							
	I	Within 1 week	**28**	27	1	0	0
	II	Within 1 year	**481**	172	0	309	0
	III	Within 3 years	**377**	134	0	243	0
	IV	N/A	**781**	0	0	781	0

Appendix 5

Temporary Repair Exceptions

Reason > 90 Days	Count
Weather	1
Awaiting Materials	2
Grand Total	**3**

A Temporary Repair that remains on the system for more than 90 days is due to extraordinary circumstances. RG&E made 1 Temporary Repair that remained in place for more than 90 days due to winter weather conditions and is pending accessibility. The 2 temporary repairs in place awaiting materials are pole replacements due to broken poles.

Appendix 6

Summary of Overdue Repairs for Level II Repairs

Year	Facilities	-- Repaired -- Number of Days Overdue				-- Not Repaired -- Number of Days Overdue			
		1-30	31-90	91-180	>180	1-30	31-90	91-180	>180
2010	Distribution								
	Transmission			3					
	Underground								
	Pad-mounts	40	23	3					91
	Streetlights								