New York State Electric & Gas

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 New York State Electric & Gas ("NYSEG" 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 New York State Electric & Gas's Stray Voltage Detection Program and Equipment Inspection Program conducted in 2010.

II. Company Overview

NYSEG is located in upstate New York and serves approximately 860,609 electric customers. NYSEG covers an area of about 18,359 square miles or 40% of upstate New York, and serves a primarily rural area composed of 149 small cities and villages.

NYSEG's electric delivery infrastructure consists of 519 substations, 49,758 underground facilities and 5,412 streetlight/traffic signal facilities. This system includes an estimated 820,049 distribution structures and 76,841 transmission structures.

III. Stray Voltage Testing Program

During the period ending December 31, 2010, NYSEG 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 NYSEG's system components identified with elevated voltage.

In addition, and in compliance with the Order, NYSEG:

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 964,181 facilities visited, 219,841 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); de-energized facilities; and/or the facilities are deemed inaccessible to the public.

Structures Inaccessible to the Public

There are several types of Inaccessible structures as described below. Of the 964,181 facilities visited, 2,320 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. NYSEG 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, NYSEG personnel verified that the structure was actually inside the building. If the NYSEG 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 NYSEG to visually inspect approximately 20% of its facilities annually, resulting in 100% inspection of its electric facilities every five years.

NYSEG 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, NYSEG 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

NYSEG has approximately 742,020 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 602,808 distribution pole structures that require testing for the presence of stray voltage in NYSEG'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 36,803 underground facilities that require testing for the presence of stray voltage that comprise NYSEG's system. The testing criteria are comprised of subsurface structures, including above ground pad-mounted structures. Included in the underground facilities are pad-mount switchgear cases, pad-mount 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 17,042 metallic street lights and approximately 16,069 traffic signals within NYSEG's service territory. This total includes metallic street lights owned by NYSEG with the balance of the equipment owned by various municipalities. The testing criteria include 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 71,618 individual poles/towers that require testing for the presence of stray voltage that comprise NYSEG's transmission system. The testing criteria is 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

NYSEG 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, NYSEG 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, NYSEG 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	**NYSEG Inspection Target**	**Actual Cumulative Inspected as of 2010**
Overhead Distribution	20%	21%
Overhead Transmission	20%	26%
Underground	20%	23%
Streetlight	20%	36%

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	168,617	21%
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	20,143	26%
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	2,321	45%
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	9,167	21%
2011		
2012		
2013		
2014		

Streetlights

Inspection Year	Number of Streetlights Inspected	% of Overall System Inspected (Cumulative in Five Year Cycle 2010-2014)
2010	1,970	36%
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 .020% 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, NYSEG 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	Customer Owned Equipment	5
Streetlights	Defective Neutral Connection- Light Pole	4
Streetlights	Defective Conductor Connection- Light Pole	1
Streetlights	Defective Cable – Handhole	3
Streetlights	City/Town Owned Equipment	8
Streetlights	Loose Connections	2
Distribution	Grounds and ground rods	93
Distribution	Guy Wire	4
Distribution	Defective Insulator	17
Distribution	Defective Cutout/Lightening Arrestor	5
Distribution	Transformers/ Capacitors	29
Distribution	Defective Primary Neutral Connection	10
Distribution	Loose Connections	6
Distribution	Inadequate Ground Path	1
Distribution	Vegetation	4
Distribution	Customer owned equipment	24
Transmission	Ground Rods	24
Transmission	Neutral	3
Transmission	Guy Wire	2
Transmission	Connections	1
Underground	Ground connections	1
Underground	Defective splice in neutral wire	1
		248

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 248 findings due to potentially hazardous stray voltages were found. A total of 36 additional objects were tested as a result of testing within a 30 foot radius. Of the 36 objects tested, 8 were energized associated with the initial tested structure. All 8 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
168,617	4,181	2.48%

Breakdown of Locations with Deficiencies

Priority Rating	Number of Deficiencies	% Deficiencies Found
1	253	6.05%
2	688	16.46%
3	850	20.33%
4	2,390	57.16%
Total:	4,181	100%

Overhead Transmission Facilities

Table of Locations with Deficiencies

Locations Inspected	Locations w/ Deficiencies	% Locations w/ Deficiencies
20,143	1,488	7.39%

Breakdown of Locations with Deficiencies

Priority Rating	Number of Deficiencies	% Deficiencies Found
1	93	6.25%
2	216	14.52%
3	550	36.96%
4	629	42.27%
Total:	1,488	100%

Underground Facilities

Table of Locations with Deficiencies

Locations Inspected	Locations w/ Deficiencies	% Locations w/ Deficiencies
2,321	226	9.74%

Breakdown of Locations with Deficiencies

Priority Rating	Number of Deficiencies	% Deficiencies Found
1	37	16.38%
2	54	23.89%
3	25	11.06%
4	110	48.67%
Total:	226	100%

Pad-mount Facilities

Table of Locations with Deficiencies

Locations Inspected	Locations w/ Deficiencies	% Locations w/ Deficiencies
9,167	990	10.80%

Breakdown of Locations with Deficiencies

Priority Rating	Number of Deficiencies	% Deficiencies Found
1	54	5.46%
2	173	17.47%
3	202	20.40%
4	561	56.67%
Total:	990	100%

Streetlights

Table of Locations with Deficiencies

Locations Inspected	Locations w/ Deficiencies	% Locations w/ Deficiencies
1,970	141	7.16%

Breakdown of Locations with Deficiencies

Priority Rating	Number of Deficiencies	% Deficiencies Found
1	6	4.26%
2	102	72.34%
3	0	0%
4	33	23.40%
Total:	141	100%

In 2010, a total of 7,026 deficiencies were identified which represents about 3.47% of the total 202,218 inspections performed.

X. Quality Assurance

Data Submission Quality Assurance

Throughout the testing effort, the testing contractor submits their testing data to NYSEG 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 NYSEG'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 NYSEG 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, NYSEG 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.

Appendix 1

Stray Voltage Testing Summary

NYSEG	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	816,193	816,193	100.00%	222	0.027%	1451
Underground Facilities	36,803	36,803	100.00%	3	0.008%	196
Street Lights / Traffic Signals	33,111	33,111	100.00%	24	0%	21
Substation Fences	519	519	100.00%	0	0%	0
Transmission (69kV and Above)	78,074	78,074	100.00%	161	0.206%	631
TOTAL	964,181	964,181	100.00%	410	0.043%	2,299

Appendix 2

Summary of Energized Objects

NYSEG	Initial Readings				Readings after Mitigation		
	1-4.4V	4.5-24.9V	>25V	Totals	< 1V	1-4.4V	>4.5V
Distribution Facilities	180	35	7	**222**	162	54	6
Pole	1	0	0	1	1	0	0
Ground	112	23	5	140	94	40	6
Guy	63	7	1	71	59	12	0
Riser	4	5	1	10	8	2	0
Other				0			
Underground Facilities	3	0	0	**3**	3	0	0
Manhole/ Pull box				0			
Manhole				0			
Padmount Switchgear				0			
Padmount Transformer				0			
Vault-Cover/Door				0			
Pedestal				0			
Other	3	0	0	3	3	0	0
Street Lights/Traffic Signals	4	8	12	**24**	24	0	0
Metal Street Light Pole	4	8	12	24	24	0	0
Traffic Signal Pole				0			
Pedestrian Crossing Pole				0			
Traffic Control Box				0			
Other				0			
Substation Fences	0	0	0	**0**	0	0	0
Fence				0			
Other				0			
Transmission (Total)	145	16	0	**161**	20	129	12
Lattice Tower				0			
Pole				0			
Ground	104	9	0	113	12	95	6
Guy	38	7	0	45	6	33	6
Other	3	0	0	3	2	1	0
Miscellaneous Facilities	5	2	1	**8**	8	0	0
Sidewalk	1	0	0	1	1	0	0
Gate/Fence/Awning				0			
Control Box				0			
Scaffolding				0			
Bus Shelter				0			
Fire Hydrant				0			
Phone Booth				0			
Water Pipe	1	0	0	1	1	0	0
Riser				0			
Other	3	2	1	6	6	0	0

Appendix 3

NYSEG Data as of December 31, 2010	Quarterly Update	Yearly Total
I. Total Shock Calls Received:	**7**	**21**
Unsubstantiated	1	5
Normally Energized Equipment	5	12
Stray Voltage:		
Person	1	4
Animal		
II. Injuries Sustained/Medical Attention Received:	**2**	**5**
Person	2	5
Animal		
III. Voltage Source:	**3**	**16**
Utility Responsibility		
Issue with primary, joint, or transformer		3
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		
Other		1
Customer Responsibility		
Contractor damage		1
Customer equipment/wiring	3	10
Other Utility/Gov't Agency Responsibility		
SL Base Connection		
SL Internal wiring or light fixture		
Overhead equipment		
IV. Voltage Range:	**1**	**4**
1.0V to 4.4V		
4.5V to 24.9V		
25V and above		
No Reading	1	4

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	***4***	***143***	***123***
Repaired in Time Frame	1	49	31
Repaired - Overdue	3		
Not Repaired - Not Due		94	92
Not Repaired - Overdue			
Grounding System			
Number of Deficiencies	***6***	***29***	***9***
Repaired in Time Frame	5	1	
Repaired - Overdue	1		
Not Repaired - Not Due		28	9
Not Repaired - Overdue			
Anchors/Guy Wire			
Number of Deficiencies	***10***	***57***	***146***
Repaired in Time Frame	8	23	88
Repaired - Overdue	2		
Not Repaired - Not Due		34	58
Not Repaired - Overdue			
Riser			
Number of Deficiencies	***-***	***5***	***2***
Repaired in Time Frame		1	
Repaired - Overdue			
Not Repaired - Not Due		4	2
Not Repaired - Overdue			
Cross Arm/Bracing			
Number of Deficiencies	***26***	***167***	***241***
Repaired in Time Frame	24	59	46
Repaired - Overdue	2		
Not Repaired - Not Due		108	195
Not Repaired - Overdue			

Conductors			
Primary Wire/Broken Ties			
Number of Deficiencies	***72***	***100***	***31***
Repaired in Time Frame	65	60	9
Repaired - Overdue	7		
Not Repaired - Not Due		40	22
Not Repaired - Overdue			
Neutral			
Number of Deficiencies	***5***	***5***	***7***
Repaired in Time Frame	5	4	
Repaired - Overdue			
Not Repaired - Not Due		1	7
Not Repaired - Overdue			
Insulators			
Number of Deficiencies	***9***	***29***	***83***
Repaired in Time Frame	9	13	31
Repaired - Overdue			
Not Repaired - Not Due		16	52
Not Repaired - Overdue			
Pole Equipment			
Transformers			
Number of Deficiencies	***1***	***20***	***19***
Repaired in Time Frame	1	14	7
Repaired - Overdue			
Not Repaired - Not Due		6	12
Not Repaired - Overdue			
Cutouts			
Number of Deficiencies	***2***	***7***	***44***
Repaired in Time Frame	2	5	6
Repaired - Overdue			
Not Repaired - Not Due		2	38
Not Repaired - Overdue			
Lightning Arrestors			
Number of Deficiencies	***1***	***29***	***27***
Repaired in Time Frame	1	15	4
Repaired - Overdue			
Not Repaired - Not Due		14	23
Not Repaired - Overdue			
Skypin/Skypin Bolt			
Number of Deficiencies	***-***	***-***	***-***
Repaired in Time Frame			
Repaired - Overdue			

Not Repaired - Not Due			
Not Repaired - Overdue			
	Miscellaneous		
Trimming Related			
Number of Deficiencies	***106***	***78***	***76***
Repaired in Time Frame	89	18	51
Repaired - Overdue	17		
Not Repaired - Not Due		60	25
Not Repaired - Overdue			
Other			
Number of Deficiencies	***11***	***19***	***42***
Repaired in Time Frame	10	8	14
Repaired - Overdue	1		
Not Repaired - Not Due		11	28
Not Repaired - Overdue			
	Overhead Facilities Total		
Total			
Number of Deficiencies	***253***	***688***	***850***
Repaired in Time Frame	220	270	287
Repaired - Overdue	33	-	-
Not Repaired - Not Due	-	418	563
Not Repaired - Overdue	-	-	-

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	*-*	*-*	***10***
Repaired in Time Frame			1
Repaired - Overdue			
Not Repaired - Not Due			9
Not Repaired - Overdue			
Poles			
Number of Deficiencies	*-*	***43***	***158***
Repaired in Time Frame		4	1
Repaired - Overdue			
Not Repaired - Not Due		39	157
Not Repaired - Overdue			
Anchors/Guy Wire			
Number of Deficiencies	***2***	***27***	***14***
Repaired in Time Frame	2	17	
Repaired - Overdue			
Not Repaired - Not Due		10	14
Not Repaired - Overdue			
Crossarm/Brace			
Number of Deficiencies	***2***	***56***	***86***
Repaired in Time Frame	2	1	14
Repaired - Overdue			
Not Repaired - Not Due		55	72
Not Repaired - Overdue			
Grounding System			
Number of Deficiencies	***45***	***29***	***107***
Repaired in Time Frame	45	5	5
Repaired - Overdue			
Not Repaired - Not Due		24	102
Not Repaired - Overdue			

		Conductors		
Cable				
Number of Deficiencies	***-***	***3***		***-***
Repaired in Time Frame				
Repaired - Overdue				
Not Repaired - Not Due		3		
Not Repaired - Overdue				
Static/Neutral				
Number of Deficiencies	***-***	***2***		***1***
Repaired in Time Frame				
Repaired - Overdue				
Not Repaired - Not Due		2	1	
Not Repaired - Overdue				
Insulators				
Number of Deficiencies	***1***	***8***		***35***
Repaired in Time Frame		2		
Repaired - Overdue	1			
Not Repaired - Not Due		6	35	
Not Repaired - Overdue				
		Miscellaneous		
Right of Way Condition				
Number of Deficiencies	***-***	***22***		***6***
Repaired in Time Frame				
Repaired - Overdue				
Not Repaired - Not Due		22	6	
Not Repaired - Overdue				
Other				
Number of Deficiencies	***43***	***26***		***133***
Repaired in Time Frame	43	7	4	
Repaired - Overdue				
Not Repaired - Not Due		19	129	
Not Repaired - Overdue				

	Transmission Facilities Total		
Total			
Number of Deficiencies	***93***	***216***	***550***
Repaired in Time Frame	92	36	25
Repaired - Overdue	1	-	-
Not Repaired - Not Due	-	180	525
Not Repaired - Overdue	-	-	-

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	***21***	***23***		***5***
Repaired in Time Frame	21	21	5	
Repaired - Overdue				
Not Repaired - Not Due		2		
Not Repaired - Overdue				
Damaged Structure				
Number of Deficiencies	***8***	***10***		***3***
Repaired in Time Frame	7	9	2	
Repaired - Overdue	1			
Not Repaired - Not Due		1	1	
Not Repaired - Overdue				
Congested Structure				
Number of Deficiencies	***-***	***-***		***-***
Repaired in Time Frame				
Repaired - Overdue				
Not Repaired - Not Due				
Not Repaired - Overdue				
Damaged Equipment				
Number of Deficiencies	***1***	***6***		***1***
Repaired in Time Frame	1	6	1	
Repaired - Overdue				
Not Repaired - Not Due				
Not Repaired - Overdue				

		Conductors		
Primary Cable				
Number of Deficiencies	***1***	***-***		***-***
Repaired in Time Frame	1			
Repaired - Overdue				
Not Repaired - Not Due				
Not Repaired - Overdue				
Secondary Cable				
Number of Deficiencies	***-***	***-***		***-***
Repaired in Time Frame				
Repaired - Overdue				
Not Repaired - Not Due				
Not Repaired - Overdue				
Neutral Cable				
Number of Deficiencies	***-***	***-***		***-***
Repaired in Time Frame				
Repaired - Overdue				
Not Repaired - Not Due				
Not Repaired - Overdue				
Racking Needed				
Number of Deficiencies	***-***	***1***		***-***
Repaired in Time Frame		1		
Repaired - Overdue				
Not Repaired - Not Due				
Not Repaired - Overdue				
		Miscellaneous		
Other				
Number of Deficiencies	***6***	***14***		***16***
Repaired in Time Frame	6	14	14	
Repaired - Overdue				
Not Repaired - Not Due			2	
Not Repaired - Overdue				
		Underground Facilities Total		
Total				
Number of Deficiencies	***37***	***54***		***25***
Repaired in Time Frame	36	51	22	
Repaired - Overdue	1	-	-	
Not Repaired - Not Due	-	3	3	
Not Repaired - Overdue	-	-	-	

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	***7***	***35***		***9***
Repaired in Time Frame	7	23	4	
Repaired - Overdue				
Not Repaired - Not Due		12	5	
Not Repaired - Overdue				
Damaged Equipment				
Number of Deficiencies	***2***	***4***		***10***
Repaired in Time Frame	1	3	6	
Repaired - Overdue	1			
Not Repaired - Not Due		1	4	
Not Repaired - Overdue				
Cable Condition				
Number of Deficiencies	***1***	***-***		***3***
Repaired in Time Frame			2	
Repaired - Overdue	1			
Not Repaired - Not Due			1	
Not Repaired - Overdue				
Oil Leak				
Number of Deficiencies	***9***	***24***		***7***
Repaired in Time Frame	8	7	2	
Repaired - Overdue	1			
Not Repaired - Not Due		17	5	
Not Repaired - Overdue				

Off Pad					
Number of Deficiencies	***13***		***20***		***9***
Repaired in Time Frame	12		13	8	
Repaired - Overdue	1				
Not Repaired - Not Due			7	1	
Not Repaired - Overdue					
Lock/Latch/Penta					
Number of Deficiencies	***10***		***22***		***17***
Repaired in Time Frame	10		18	8	
Repaired - Overdue					
Not Repaired - Not Due			4	9	
Not Repaired - Overdue					
	Miscellaneous				
Other					
Number of Deficiencies	***12***		***68***		***147***
Repaired in Time Frame	12		46	134	
Repaired - Overdue					
Not Repaired - Not Due			22	13	
Not Repaired - Overdue					
	Pad Mount Total				
Total					
Number of Deficiencies	***54***		***173***		***202***
Repaired in Time Frame	50	110		164	
Repaired - Overdue	4		-	-	
Not Repaired - Not Due	-	63		38	
Not Repaired - Overdue	-		-	-	

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	**2**	**51**	**0**
Repaired in Time Frame	2	51	
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	**4**	**9**	**0**
Repaired in Time Frame	4	9	
Repaired - Overdue			
Not Repaired - Not Due			
Not Repaired - Overdue			
Access Cover			
Number of Deficiencies	**0**	**39**	**0**
Repaired in Time Frame		39	
Repaired - Overdue			
Not Repaired - Not Due			
Not Repaired - Overdue			
		Miscellaneous	
Other			
Number of Deficiencies	**0**	**3**	**0**
Repaired in Time Frame		3	
Repaired - Overdue			
Not Repaired - Not Due			
Not Repaired - Overdue			
		Streetlight Total	
Total			
Number of Deficiencies	**6**	**102**	**-**
Repaired in Time Frame	6	102	-
Repaired - Overdue	-	-	-
Not Repaired - Not Due	-	-	-
Not Repaired - Overdue	-	-	-

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	109	8
Grounding System	6	6
Anchors/Guy Wire	131	124
Cross Arm/Bracing	122	12
Riser	1	1
Conductors		
Primary Wire/Broken Ties	31	8
Secondary Wire		
Neutral		
Insulators	315	18
Pole Equipment		
Transformers	38	2
Cutouts	32	2
Lightning Arrestors	6	1
Other Equipment	2	1
Miscellaneous		
Trimming Related	1582	179
Other	15	3
Overhead Facilities Total	2390	365
		Transmission Facilities
Towers/Poles		
Steel Towers	9	
Poles	211	2
Anchors/Guy Wire	4	
Crossarm/Brace	31	
Grounding System	33	
Conductors		
Cable	2	1
Static/Neutral	2	
Insulators	41	
Miscellaneous		
Right of Way Condition	42	
Other	254	2
Transmission Facilities Total	629	5

	Underground Facilities	
Underground Structures		
Damaged Cover	4	3
Damaged Structure	1	1
Congested Structure		
Damaged Equipment		
Conductors		
Primary Cable	1	1
Secondary Cable		
Neutral Cable		
Racking Needed		
Miscellaneous		
Other	104	84
Underground Facilities Total	110	89
	Pad Mount Transformers	
Pad Mount Structures		
Damaged Structure	6	2
Damaged Equipment	3	1
Damaged Cable		
Oil Leak	3	
Off Pad	2	2
Lock/Latch/Penta	32	29
Miscellaneous		
Other	515	376
Pad Mount Transformer Total	561	410
	Streetlights	
Streetlight		
Base/Standard/Light	13	
Handhole/Service Box		
Service/Internal Wiring		
Access Cover	9	2
Miscellaneous		
Other	11	
Streetlight Total	33	2
	Total Level IV Conditions	
Overall Total	**3,723**	**871**

Summary of Deficiencies and Repair Activity Resulting from the Inspection Proces

Year	Priority Level / Repair Expected		Deficiencies Found (Total)	Repaired In Time Frame	Repaired - Overdue	Not Repaired - Not Due	Not Repa Overd
2010							
	I	Within 1 week	**443**	404	39	0	
	II	Within 1 year	**1,233**	569	0	664	
	III	Within 3 years	**1,627**	498	0	1,129	
	IV	N/A	**3,723**	871	n/a	2,852	

Appendix 5

Temporary Repair Exceptions

Reason > 90 Days	Count
Awaiting Town	1
Awaiting Telephone	1
Awaiting Materials	4
Grand Total	**6**

A Temporary Repair that remains on the system for more than 90 days is due to extraordinary circumstances. Of the 6 temporary repairs still in place after 90 days; 1 was inaccessible due to a road closure and awaiting the Town to repair the road, 1 was awaiting the Telephone Company to set the pole, and 4 were awaiting materials for crews to replace the 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	20	12	2					
	Transmission								
	Underground	9	10						
	Pad-mounts								
	Streetlights								