# nyseg ree

February 12, 2010

Hon, Jaclyn A. Brilling Secretary State of New York Public Service Commission Three Empire State Plaza Albany, New York 12223

2010 FEB 12 PM 1: 28

Re:

Case 04-M-0159 – Proceeding on Motion of the Commission to Examine the Safety of Electric Transmission and Distribution Systems

Case 06-M-1467 - Petition of Orange and Rockland Utilities, Inc. to Modify its Stray Voltage Testing Program

#### Dear Secretary Brilling:

Pursuant to the reporting requirements contained in the Commission's Order Adopting Changes to Electric Safety Standards, issued and effective on December 15, 2008 in the above-captioned proceedings, New York State Electric & Gas Corporation ("NYSEG") and Rochester Gas and Electric Corporation ("RG&E" or collectively the "Companies") herein submit their annual reports for year five of stray voltage testing and inspection results for the 12-month period ending on December 31, 2009. The stray voltage testing and inspection results for NYSEG and RG&E are contained in separate reports.

NYSEG and RG&E are committed to the provision of safe and reliable electric service to our customers. The Companies have diligently performed the stray voltage testing and inspections as required by the aforementioned Order and view safety, of both the general public as well as our employees, to be a top priority.

Kindly acknowledge receipt of this filing by date stamping the enclosed duplicate copy of this letter and each report and returning it in the self-addressed envelope provided.

89 East Avenue, Rochester, NY 14649-0001 Telephone 585,724.8010, Fax 585,724.8285 www.nyseg.com www.rge.com

Hon. Jaclyn A. Brilling Secretary February 12, 2010 Page 2

Questions related to this filing may be directed either to me on 585-724-8010 or to Mr. Kevin Sullivan on 585-724-8826.

Sincerely,

Moked Left. Mark S. Lynch

President

# 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, 2009

# **Table of Contents**

Background

**Exhibit 1: Certifications** 

I.

	II.	Company Overview		
	III.	Stray Voltage Testing Program		
	IV.	Facility Inspection Program		
	V.	Company Facilities		
	VI.	Annual Performance Targets		
	VII.	Certifications		
	VIII.	Analysis of Causes of Findings and Stray Voltage		
	IX.	Analysis of Inspection Results		
	X.	Quality Assurance		
ΑĮ	pendix	1: Stray Voltage Testing Summary		
A	pendix	2: Summary of Energized Objects		
A	Appendix 3: Summary of Shock Reports from the Public			
Aj	pendix	4: Summary of Deficiencies and Repair Activity Resulting from the Inspection Process		
AĮ	Appendix 5: Temporary Repair Exceptions			

#### 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 and December 15, 2008 (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 2009.

#### 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 430 substations, 36,341 underground facilities and 32,609 streetlight/traffic signal facilities. This system includes an estimated 814,026 distribution structures and 78,242 transmission structures.

#### III. Stray Voltage Testing Program

During the period ending December 31, 2009, 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 961,218 facilities visited, 248,603 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 961,218 facilities visited, 1,781 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. <u>Private Property</u> 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. <u>NYSEG Property</u> Structure located on Company property, such as substations, are accessible only to Company personnel and authorized contractors.
- c. <u>Buried / Paved Over</u> 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. <u>Inside Building</u> 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. <u>Limited Access Highways</u> Structures located on highways, exit and entrance highway ramps. The performance of stray voltage testing would constitute an unacceptable risk to the employee.
- f. <u>Dangerous Terrain</u> 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.

NYSEG does not provide service to areas of any cities with a population of 50,000 or greater (based on the results of the 2000 census); therefore, the Mobile Detection Scan was not performed.

## 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:

<u>Level I</u> – 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.

<u>Level II</u> – 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.

<u>Level III</u> – 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.

<u>Level IV</u> – 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. <u>Company Facilities</u>

#### Structure Categories

NYSEG has approximately 710,834 individual facilities that require testing for the presence of stray voltage and in some cases facility inspection. These facilities are broken down into four main categories including:

<u>Distribution Overhead</u> – There are approximately 573,168 distribution pole structures that require testing for the presence of stray voltage in NYSEG's territory. The testing criteria includes 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.

<u>Underground Facilities</u> – There are 36,341 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 16,972 metallic street lights and approximately 15,637 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.

<u>Transmission Structures</u> – There are 70,497 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. <u>Annual Performance Targets</u>

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, 2009.

In addition, in compliance with the Safety Standards, NYSEG has met the fifth-year performance target for inspection of 100% of its electric facilities for the period ending December 31, 2009.

The results are summarized in the table below.

#### Facility Inspection Program Results

Category	PSC Order Requirement	Actual Cumulative Inspected as of 2009
Overhead Distribution	100%	100%
Overhead Transmission	100%	100%
Underground	100%	100%
Streetlight	100%	100%

# **5-Year Inspection Performance Summary**

## Overhead Distribution Facilities

Inspection	Number of Overhead Distribution	% of Overall System
Year	Structures Inspected	Inspected (Cumulative)
2005	171,121	17 %
2006	236,588	41 %
2007	297,259	70 %
2008	167,373	87 %
2009	132,381	100 %

# **Overhead Transmission Facilities**

Inspection Year	Number of Overhead Transmission Facilities Inspected	% of Overall System Inspected (Cumulative)
2005	33,376	29 %
2006	31,824	57%
2007	31,584	84%
2008	4,816	89 %
2009	13,136	100 %

# **Underground Facilities**

Inspection Year	Number of Underground Facilities Inspected	% of Overall System Inspected (Cumulative)
2005	555	4%
2006	4,404	38%
2007	5,621	82%
2008	1,075	90%
2009	1,277	100 %

## Pad-mount Facilities

Inspection Year	Number of Underground Facilities Inspected	% of Overall System Inspected (Cumulative)
2005	6,261	23%
2006	2,412	32%
2007	6,035	54%
2008	5,197	74%
2009	7,152	100 %

#### **Streetlights**

Inspection	Number of Streetlights Inspected	% of Overall System
Year		Inspected (Cumulative)
2005	0	0 %
2006	3,490	35 %
2007	2,497	61 %
2008	98	62%
2009	3,746	100 %

#### VII. <u>Certifications</u>

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."

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 1.7 % 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 2009 manual testing effort:

Structure Typ	e Cause of Stray Voltage	Stray Voltages Found
Streetlights	Customer Owned Equipment	13
Streetlights	Defective Neutral – Underground Cable	Annahar ta Barat a sad mata anta antabarata a san a chita a barata taiba a siri a c
Streetlights	Defective Light Fixture	a ann said se lea saidheann airteann an deadh 'a seil a ann a gaile a' a bhaile ab l' aid a <b>3</b>
Distribution	Grounds and ground rods	49
Distribution	Transformers/ Capacitors	22
Distribution	Customer owned equipment	antalian and a satisficion antique per la faction and artistic production of the satisfic and account of the satis
		109

In accordance with the PSC requirements, when a finding was discovered on an electric facility or streetlight during stray voltage testing, the Company performed stray voltage testing on all publicly accessible structures and sidewalks within a minimum 30 foot radius of the electric facility or streetlight. Of the 72 Findings identified and mitigated as a result of the 30-foot radius testing, 9 were associated with the initial test structure.

## IX. Analysis of Inspection Results

### **Overhead Distribution Structures**

Table of Locations with Deficiencies

Locations Inspected	Locations w/ Deficiencies	% Locations w/ Deficiencies
132,381	1,585	1.2%

Breakdown of Locations with Deficiencies

Priority Rating	Number of Deficiencies	% Deficiencies Found
1	117	7.4%
2	434	27.4%
3	788	49.7%
4	246	15.5%
- ·	4 #0#	1000

Total: 1,585 100%

## **Overhead Transmission Facilities**

Table of Locations with Deficiencies

Locations Inspected	Locations w/ Deficiencies	% Locations w/ Deficiencies
13,136	732	5.6%

Breakdown of Locations with Deficiencies

	N/	J
Priority Rating	Number of Deficiencies	% Deficiencies Found
1	5	.68%
2	38	5.2%
3	349	47.7%
4	340	46.4%
Total:	732	100%

#### **Underground/Pad-mount Facilities**

Table of Locations with Deficiencies

Locations Inspected	Locations w/ Deficiencies	% Locations w/ Deficiencies
8,429	991	11.8%

Breakdown of Locations with Deficiencies

Priority Rating	Number of Deficiencies	% Deficiencies Found
1	114	11.5%
2	193	19.5%
3	509	51.4%
4	175	17.7%

Total: 8,429 100%

**Streetlights** 

Table of Locations with Deficiencies

Locations Inspected	Locations w/ Deficiencies	% Locations w/ Deficiencies
3,746	77	2%

Breakdown of Locations with Deficiencies

	v	
Priority Rating	Number of Deficiencies	% Deficiencies Found
1	7	9.1%
2	2	2.6%
3	68	88.3%
4	0	0%

Total: 77 100%

In 2009, a total of 3,385 deficiencies were identified which represents about 2.1% of the total 157,692 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.

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	814,026	814,026	100.00%	163	0.020%	1132
Underground Facilities	36,341	36,341	100.00%	0	0.000%	147
Street Lights / Traffic Signals	32,609	32,609	100.00%	24	0.074%	9
Substation Fences	430	430	100.00%	0	0%	0
Transmission (69kV and Above)	78,242	78,242	100.00%	69	0	493
TOTAL	961,218	961,218	100.00%	256	0.027%	1,781

**Summary of Energized Objects** 

NYSEG		Initial Readings				Readings after Mitigation		
Note	NYSEG	41/ +-					1	
Pole   1					Totals			
Ground Guy   53	Distribution Facilities	-				-		
Guy Riser   7		· ·			l			
Riser				i	l		E I	: I
Other   2	-			1	l		I	· I
Underground	•			1				
Handhole / Pull box   0		2	0	0	2	2	0	0
Manhole	_	-				-		
Pad-mount Switchgear		1	1	1				l
Pad-mount Transformer	ľ	l	I		l	1		
Vault - Cover/Door	_	1	1		l	1		1
Pedestal		1	1			1		
Other   O			1		l	1		
Street Lights / Traffic				1		1		
Metal Street Light Pole         7         9         8         24         14         2         0           Traffic Signal Pole         0 <td></td> <td></td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td>			0	0	0	0	0	0
Traffic Signal Pole Control Box O O O O O O O O O O O O O O O O O O O	_			_		-		
Control Box   O   O   O   O   O   O   O   O   O	_	l		1	l	1		
Pedestrian Crossing	· ·							l
Other - NOT LISTED         0         0         0         0         0         0         0           Substation Fences         -         -         -         -         -         -           Fence Other         0         0         0         0         0         0         0           Other         0         0         0         0         0         0         0           Lattice Tower Pole         0         0         0         0         N/A         N/A         N/A           Pole Ground Pole         0         0         0         0         N/A         N/A         N/A         N/A           Ground Ground Ground Pole         29         18         0         47         N/A         N/A </td <td></td> <td></td> <td></td> <td></td> <td>l</td> <td></td> <td></td> <td></td>					l			
Substation Fences	_							
Fence Other   O			0	0	0		0	0
Other         0         0         0         0         0         0           Transmission (69kV)         -         -         -         -         -           Lattice Tower         0         0         0         0         N/A         N/A         N/A           Pole         0         0         0         0         N/A         N/A         N/A         N/A           Ground         29         18         0         47         N/A         N/A </td <td></td> <td></td> <td></td> <td></td> <td></td> <td>1</td> <td></td> <td></td>						1		
Transmission (69kV)         -								
Lattice Tower         0         0         0         0         N/A         N/A         N/A           Pole         0         0         0         0         N/A         N/A         N/A           Ground         29         18         0         47         N/A         N/A         N/A           Guy         19         2         0         21         N/A         N/A         N/A           Other         0         1         0         1         N/A         N/A         N/A           Miscellaneous         -         -         -         -         -         -         -           Sidewalk         2         0         0         2         2         0         0           Gate/Fence/Awning         2         2         0         4         4         0         0           Control Box         0         0         0         0         0         0         0         0           Scaffolding         0         0         0         0         0         0         0         0         0           Bus Shelter         0         0         0         0         0         0         <			· · ·	0	0	U	<u> </u>	0
Pole         0         0         0         N/A         N/A         N/A         N/A           Ground         29         18         0         47         N/A         N/A         N/A           Guy         19         2         0         21         N/A         N/A         N/A           Other         0         1         0         1         N/A         N/A         N/A           Miscellaneous         -         -         -         -         -         -           Sidewalk         2         0         0         2         2         0         0           Gate/Fence/Awning         2         2         0         4         4         0         0           Control Box         0         0         0         0         0         0         0           Scaffolding         0         0         0         0         0         0         0           Bus Shelter         0         0         0         0         0         0         0           Phone Booth         0         0         0         0         0         0         0           Water Pipe         0			_	١ ,		N/A -	NI/A	NI/A
Ground         29         18         0         47         N/A		l			l		I	
Guy Other         19         2         0         21         N/A         N/A <td></td> <td>ſ</td> <td></td> <td></td> <td>l</td> <td></td> <td>I</td> <td></td>		ſ			l		I	
Other         0         1         0         1         N/A         N/A         N/A           Miscellaneous         -         -         -         -         -         -           Sidewalk         2         0         0         2         2         0         0           Gate/Fence/Awning         2         2         0         4         4         0         0           Control Box         0         0         0         0         0         0         0         0           Scaffolding         0         0         0         0         0         0         0         0         0         0           Bus Shelter         0		I .			l		ſ	
Miscellaneous         -         <	-	ľ		1	ŧ			
Sidewalk         2         0         0         2         2         0         0           Gate/Fence/Awning         2         2         0         4         4         0         0           Control Box         0         0         0         0         0         0         0           Scaffolding         0         0         0         0         0         0         0           Bus Shelter         0         0         0         0         0         0         0           Fire Hydrant         0         0         0         0         0         0         0           Phone Booth         0         0         0         0         0         0         0           Water Pipe         0         0         0         0         0         0         0           Riser         0         0         0         0         0         0         0			<u> </u>	<del>-                                    </del>	<del></del>	19/7	1977	19/73
Gate/Fence/Awning Control Box Scaffolding Bus Shelter Fire Hydrant Phone Booth Water Pipe Riser         0		ء ا	٨	۱ ،	ر ا	و ا	٥	_
Control Box         0         0         0         0         0         0         0         0           Scaffolding         0				1				
Scaffolding Bus Shelter         0								
Bus Shelter         0 <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>								
Fire Hydrant         0         0         0         0         0         0         0           Phone Booth         0	•	1					I	
Phone Booth         0         0         0         0         0         0         0           Water Pipe         0         0         0         0         0         0         0         0           Riser         0         0         0         0         0         0         0         0							I	
Water Pipe         0         0         0         0         0         0         0         0           Riser         0         0         0         0         0         0         0         0		1		i			i i	
Riser 0 0 0 0 0 0 0		1						
	•							
	Other	1	1	1 1	3	3	ő	Ö

#### **Analysis**

The Summary of Energized Objects shows readings of "N/A" after mitigation on Transmission Structures. These readings are a result of Induced Voltages and are conditions inherent to the design and operation of the system. The electric fields that surround Transmission Structures can induce voltages onto metallic objects within these fields, and they are not indicative of a failed component of the electric system. Induced voltages can trigger the HD LV-S-5 stray voltage indicator and cause a high impedance digital voltmeter to falsely indicate a harmful stray voltage condition. These are not shock voltages attributable to structure or equipment defects.

	NYSEG	Quarterly Update	Yearly Total
1.	Total shock calls received: Unsubstantiated Normally Energized Equipment		5 5
	Stray Voltage: Person	1	8
	Animal		
II.	Injuries Sustained/Medical Attention Received		
	Person		5
	Animal		
III.	Voltage Source:		
	Utility Responsibility		
	Issue with primary, joint, or transformer		
	Secondary Joint (Crab)		
	SL Service Line		
	Abandoned SL Service Line		
	Defective service line		
	Abandoned service line		
	OH Secondary		
	OH Service		
	OH Service neutral	:	
	Pole		
	Riser		
	Other		
	Customer Responsibility		
	Contractor damage		_
	Customer Equipment / Wiring	1	7
	Other Utility / Gov't Agency Responsibility		
	SL Base Connection		
	SL Internal Wiring or Light Fixture		1
n,	Overhead Equipment	-	<b>"</b>
IV.	Voltage Range:		
	Unrecorded/Below 1V		
	1.0V to 4.4V		
H	4.5V to 24.9V		
	25V and above No Reading		8

Appendix 4

## Summary of Deficiencies and Repair Activity Resulting from the Inspection Process

#### **NYSEG**

	Total	Repaired In Time Frame	Repaired - Overdue	Not Repaired - Not Due	Not Repaired - Overdue
2009	2,613	1,266	48	1,299	
Level I	264	195	48	21	
Level II	669	302		367	
Level III	1,680	769		911	

In 2009, NYSEG initiated a new integrated inspection program to enhance the monitoring of the company's overall inspection program. The goal of the effort was to consolidate the inspection planning, monitoring and reporting activities from thirteen divisions into one central group. In transitioning inspection information to the new system, a small amount of Deficiency data from five Divisions was reported in error. Through a data validation check, 48 Level 1 deficiencies were found and immediately repaired. The overdue durations for all averaged around 12 days.

# **Temporary Repair Exceptions**

Reason > 90 Days	Count
Awaiting Town	1
Awaiting Telephone	7
Weather	1
Grand Total	9

A Temporary Repair that remains on the system for more than 90 days is due to extraordinary circumstances. Of the 9 temporary repairs still in place after 90 days; 1 was awaiting the Town to remove a tree, 7 awaiting the Telephone Company to set the pole, and 1 was rescheduled due to poor weather conditions.

#### Exhibit 1

## <u>CERTIFICATION</u> [STRAY VOLTAGE TESTING]

STATE OF NEW YORK	)	
	) ss.:	
COUNTY OF Monroe	)	

Mark S. Lynch, on this 12th day of February 2010, certifies as follows:

- 1. I am the President of New York State Electric & Gas (the "Company"), and in that capacity I make this Certification for the annual period ending December 31<sup>st</sup>, 2009 based on my knowledge of the testing program adopted by the Company in accordance the Public Service Commission's Orders issued and effective January 5, July 21, 2005, and December 15, 2008 in Case 04-M-0159 (collectively the "Orders"), including the Quality Assurance Program filed by the Company with the Commission.
- 2. In accordance with the requirements of the Orders, the Company developed a program designed to test (i) all of the publicly accessible electric facilities owned by the Company ("Facilities") and (ii) all streetlights located in public thoroughfares in the Company's service territory ("Streetlights"), as identified through a good faith effort by the Company, for stray voltage (the "Stray Voltage Testing Program").

- 3. I am responsible for overseeing the Company's Stray Voltage
  Testing Program and in that capacity I have monitored the
  Company's Stray Voltage Testing Program during the twelve
  months ended December 31<sup>st</sup>, 2009 (the "Twelve-Month
  Period").
- 4. I hereby certify that, to the best of my knowledge, information and belief, the Company has implemented and completed its Stray Voltage Testing program for the Twelve Month Period. Except for untested structures that are identified as temporarily inaccessible in the Company's Annual Report, submitted herewith, the Company is unaware of any Facilities or Streetlights that were not tested during the Twelve-Month Period.
- 5. I make this certification subject to the condition and acknowledgment that it is reasonably possible that, notwithstanding the Company's good faith implementation and completion of the Stray Voltage Testing Program, there may be Facilities and Streetlights that, inadvertently, may not have been tested or were not discovered or known after reasonable review of Company records and reasonable visual inspection of the areas of the service territory where Facilities and Streetlights were known to exist or reasonably expected to be found.

Moke Styl.

Sworn to before me this 12 day of February, 2010

Notary Public: Carl & Clark

CAROL L. CLARK
Notary Public, State of New York
Qualified in Albany County
No. 01CL5022286
Commission Expires Jan. 3, 2014

## CERTIFICATION [FACILITY INSPECTIONS]

STATE OF NEW YORK		)	
		) ss.	:
COUNTY OF Monroe	)		

Mark S. Lynch, on this 12th day of February 2010, certifies as follows:

- 1. I am the President of New York State Electric & Gas (the "Company"), and in that capacity I make this Certification for the annual period ending December 31<sup>st</sup>, 2009 based on my knowledge of the inspection program adopted by the Company in accordance the Public Service Commission's Orders issued and effective January 5, July 21, 2005, and December 15, 2008 in Case 04-M-0159 (collectively the "Orders"), including the Quality Assurance Program filed by the Company with the Commission.
- 2. The Company has an inspection program that is designed to inspect all of its electric facilities on a five-year inspection cycle, as identified through a good faith effort by the Company ("Facilities"), in accordance with the requirements of the Orders (the "Facility Inspection Program").
- 3. I am responsible for overseeing the Company's Facility
  Inspection Program and in that capacity I have monitored the program during the twelve months ended December 31<sup>st</sup>,
  2009 (the "Twelve-Month Period").

4. I hereby certify that, to the best of my knowledge, information and belief, the Company has implemented and completed its Facility Inspection Program to inspect approximately 20 % of its Facilities during calendar year 2009, in order to comply with the five-year inspection cycle required under the Orders. I further certify that, to the best of my knowledge, information and belief, the Company has inspected 100% of its Facilities for the five-year period ended December 31, 2009.

Mok Styl.

Sworn to before me this 2 day of February, 2010

Notary Public: ( Word of Clark

CAROL L. CLARK
Notary Public, State of New York
Qualified in Albany County
No. 01CL5022286
Commission Expires Jan. 3, 20