



New York State Electric & Gas
Corporation

**STRAY VOLTAGE TEST AND
FACILITY INSPECTION
PROGRAM**

Report on the results of Stray Voltage Tests and
Facility Inspections for the 12-month period
ending on December 31, 2015

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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, with subsequent revisions issued on July 21, 2005, December 15, 2008, March 22, 2013, and January 13, 2015 (Case 04-M-0159), and July 21, 2010 and June 23, 2011 (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 streetlights and underground electric facilities, and test their overhead distribution facilities, overhead and underground transmission facilities, underground residential distribution facilities (URD), and substation fences for stray voltage every five years coinciding with their electric facility inspections.

This report describes New York State Electric & Gas's Stray Voltage Detection Program and Facility Inspection Program conducted in 2015.

II. Company Overview

NYSEG serves approximately 883,000 electricity customers and 264,000 natural gas customers across more than 40% of upstate New York.

NYSEG's electric delivery infrastructure consists of approximately 844,512 distribution structures, 67,573 transmission structures, 57,736 underground/URD facilities, 435 substations, and 13,095 streetlight facilities.

III. Stray Voltage Testing Program

During the 12-month period ending December 31, 2015, NYSEG conducted stray voltage testing of all its publicly accessible underground electric facilities, and all Company and non-Company owned metallic streetlights and traffic signals, as well as approximately 20% of its overhead transmission and distribution facilities, and underground residential distribution facilities that are capable of conducting electricity. 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 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.

Structures Inaccessible to the Public

Contractors made every attempt to locate and test all structures. 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. Of the 237,577 facilities visited, 1,639 were deemed Inaccessible to the public. As described below, there are several types of Inaccessible structures:

- 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. Stray Voltage Testing Facilities

Structure Categories

As presented in Appendix 1, NYSEG visited a total of 237,577 individual facilities in 2015. Of the 237,577 facilities visited, 47,080 did not require stray voltage testing because these structures and their associated equipment are non-metallic and incapable of conducting electricity. Additionally, 1,639 facilities were deemed inaccessible. As a result, approximately 188,858 facilities required testing for the presence of stray voltage. These facilities are broken down into five main categories including:

Distribution Overhead – Of the 174,136 facilities visited, there are approximately 127,037 distribution pole structures that required 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 – Of the 10,838 facilities visited there are approximately 10,611 underground facilities that required 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 – Of the 33,158 facilities visited, there are approximately 16,953 metallic street lights and approximately 15,991 traffic signals within NYSEG’s service territory that required testing for the presence of stray voltage. 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. All Company-owned streetlights are included in the facility inspection program.

Transmission Structures – Of the 19,445 facilities visited, there are approximately 18,266 individual poles/towers that required 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.

Substations – There are approximately 435 substation fences in NYSEG’s territory tested for the presence of stray voltage every five years. No unique stray voltage tests were performed on substation fences this year.

V. 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 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.”

Generally, there are two types of reported findings;

The first is a confirmed voltage reading greater than or equal to 1 volt measured using a volt meter and 500 ohm shunt resistor which is the result of an abnormal power system condition.

The second type is a confirmed voltage reading greater than or equal to 1 volt measured using a volt meter and 500 ohm shunt resistor which results from the normal delivery and/or use of electricity.

As Appendix 1 shows; of the 237,577 facilities visited during this year’s testing a total of 326 stray voltage conditions were found equating to an overall detection rate of .137%. Of the 326 findings, 294 were deemed normal to operating conditions. Inclusion of these normal occurring voltages in the total findings can result in the perception that there are more potentially hazardous voltage findings than actually exist. Excluding these 294 normal occurring voltages from the 326 findings overall results in a more accurate detection rate of .0134%

Utilities are required to report on all findings, regardless of whether or not the voltage is abnormal or normal to operating conditions. 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 imbalance between phases; long low voltage single phase circuit spurs with high current loads; and/or proximity to transmission lines.

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. A summary of energized objects included as Appendix 2 in this report displays the voltage ranges found for each stray voltage condition encountered this year.

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 there were no energized objects reported within a 30 foot radius of any stray voltage finding.

VI. 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.

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 puts forth best efforts to conduct permanent repairs in the field, and only construct a temporary repair if/when absolutely necessary. For cycle year 2015, NYSEG has no temporary repair exceptions to report.

VII. 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 streetlights and underground electric facilities, and an average of 20% of the overhead distribution facilities, overhead and underground transmission facilities, underground residential distribution facilities, and substation fences per year, over the five year term 2015-2019 for the period ending December 31, 2015.

In addition, in compliance with the Safety Standards, NYSEG has met the first year annual performance target for inspection of its electric facilities for the period ending December 31, 2015; thus beginning the third cycle.

The results are summarized in the table below.

Facility Inspection Program Results

Category	NYSEG Inspection Target	Actual Cumulative Inspected as of 2015
Overhead Distribution	20%	21%
Overhead Transmission	20%	25%
Underground	20%	21%
Padmounts	20%	19%
Streetlight	20%	19%

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 2015-2019)
2015	174,688	21%
2016		
2017		
2018		
2019		

Overhead Transmission Facilities

Inspection Year	Number of Overhead Transmission Facilities Inspected	% of Overall System Inspected (Cumulative in Five Year Cycle 2015-2019)
2015	17,134	25%
2016		
2017		
2018		
2019		

Underground Facilities

Inspection Year	Number of Underground Facilities Inspected	% of Overall System Inspected (Cumulative in Five Year Cycle 2015-2019)
2015	4,572	21%
2016		
2017		
2018		
2019		

Padmount Facilities

Inspection Year	Number of Underground Facilities Inspected	% of Overall System Inspected (Cumulative in Five Year Cycle 2015-2019)
2015	6,815	19%
2016		
2017		
2018		
2019		

Streetlights

Inspection Year	Number of Streetlights Inspected	% of Overall System Inspected (Cumulative in Five Year Cycle 2015-2019)
2015	2,424	19%
2016		
2017		
2018		
2019		

VIII. Analysis of Inspection Results

Overhead Distribution Structures

Table of Locations with Deficiencies

Locations Inspected	Locations w/ Deficiencies	% Locations w/ Deficiencies
174,688	18,773	10.75%

Breakdown of Locations with Deficiencies

Priority Rating	Number of Deficiencies	% Deficiencies Found
1	242	1.29%
2	2,334	12.43%
3	3,584	19.09%
4	12,613	67.19%
Total:	18,773	100%

Overhead Transmission Facilities

Table of Locations with Deficiencies

Locations Inspected	Locations w/ Deficiencies	% Locations w/ Deficiencies
17,134	1,384	8.08%

Breakdown of Locations with Deficiencies

Priority Rating	Number of Deficiencies	% Deficiencies Found
1	6	.434%
2	232	16.76%
3	966	69.80%
4	180	13.01%
Total:	1,384	100%

Underground Facilities

Table of Locations with Deficiencies

Locations Inspected	Locations w/ Deficiencies	% Locations w/ Deficiencies
4,572	728	15.92%

Breakdown of Locations with Deficiencies

Priority Rating	Number of Deficiencies	% Deficiencies Found
1	17	2.34%
2	27	3.71%
3	48	6.59%
4	636	87.36
Total:	728	100%

Pad-mounts

Table of Locations with Deficiencies

Locations Inspected	Locations w/ Deficiencies	% Locations w/ Deficiencies
6,815	124	1.82%

Breakdown of Locations with Deficiencies

Priority Rating	Number of Deficiencies	% Deficiencies Found
1	34	27.42%
2	23	18.55%
3	31	25.00%
4	36	29.03%
Total:	124	100%

Streetlights

Table of Locations with Deficiencies

Locations Inspected	Locations w/ Deficiencies	% Locations w/ Deficiencies
2,424	36	1.49%

Breakdown of Locations with Deficiencies

Priority Rating	Number of Deficiencies	% Deficiencies Found
1	0	0%
2	9	25.00%
3	6	16.67%
4	21	58.33%
Total:	36	100%

In 2015, a total of 21,045 Level I – IV deficiencies were identified through scheduled inspections representing a deficiency rate of about 10.21% of the unique inspections performed. As described by the Safety Standards, Level IV conditions represent “Condition[s] 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 should be used for future monitoring purposes and planning proactive maintenance activities.” (Safety Standards Section 4 (j)). By excluding these atypical conditions focusing only on the 7,559 Level I - III deficiencies results in a deficiency rate of 3.7% which is a more accurate representation.

IX. QA/QC Programs

Overhead Distribution, Streetlights, and Underground inspections were performed using a Distribution Line Inspection (“DLI”) Toughbook. The DLI Toughbooks are portable laptop computers with pre-loaded software that displays all assets to be inspected and includes pre-formatted inspection pick tables the inspectors will use to document individual inspections. The DLI Toughbook has built-in GPS capability that displays its real-time position in relation to any company asset. Inspectors are required to document all inspections on the DLI Toughbook, and the resulting data is uploaded into the Company SAP system. Overhead transmission inspections are performed using maps that display specific lines to be inspected and resulting data is also uploaded into the Company SAP system.

Notifications are made from the deficiencies in the SAP system and are sent to field crews noting the repair. When completed, the field crews close out the notification. The company routinely monitors these notifications to report status of the program and track any follow-up repairs.

Stray Voltage Testing QA/QC Program

Stray voltage testing data is acquired through two means. The first is in conjunction with a distribution line (DLI) facility inspection where a stray voltage test is performed at the same time an inspector is doing a DLI inspection. Stray voltage test data is stored on the DLI toughbook and is acquired by the Company through weekly uploads along with inspection data.

The second means is in conjunction with planned transmission line (TLI) facility inspections and the annual obligation to test all streetlights, traffic signal equipment, and underground facilities. This testing data is captured on a separate handheld PDA device. These PDA units are preloaded with all the scheduled testable objects and given to field testers. Resulting test data is stored on the PDA and forwarded to the company in batch files.

DLI (Tough Book) Test Data

Stray voltage tests were conducted on all distribution facilities scheduled for inspection. Since the testing is done at the same time of inspection, test records are linked to the inspection record assuring a test for each asset.

Inspectors upload this test data into Company files each week. Upon receipt of these files, QA/QC personnel verify not only every inspected asset has a test record but also all the required data fields are populated accurately.

Handheld PDA Test Data

All other required stray voltage tests conducted and collected by the inspecting/testing contractor are captured utilizing a Trimble GeoXt handheld device (PDA) and submitted to the Company in the form of batches. These batch files are subject to multiple QA/QC reviews.

The first review assesses data accuracy. Batch files are scanned to ensure proper formatting and appropriate data is populated in each of the required fields. If approved, the file is loaded into a production database.

Once in the database, a second review is made to check the data for positional (GPS) accuracy and content. QA/QC personnel check new data to make sure a test is performed at all planned locations. They do this by comparing the new test data against a control set of planned test data sent to the testing contractor in the beginning of the year. They also check to see if time stamps on each test are reasonable and all reported findings are documented and follow up repairs are scheduled accordingly. If any part of the data is not acceptable, the batch is rejected and the contractor is notified of the reasons for failure. The testing contractor remediates the problems and re-submits the rejected batch file with corrections. Final repair efforts are monitored with company crews on all findings to ensure they are made.

At the end of each year, QA/QC personnel check company asset records to gather any new installations constructed in the current year. This evaluation allows us to identify any new structures which are included in the testing contractor's scope to obtain.

On an ongoing basis, NYSEG performs additional 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 necessary, 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, or incorrect spellings are also 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 will observe testers performing their work to ensure they're doing it correctly and answer any questions about map reading, structure IDs, and location of structures. The Field Coordinator also performs follow up on randomly chosen completed maps to check that all structures were tested and recorded properly.

Facility Inspections QA/QC Program

A thorough review of inspection data is made by QA/QC personnel to evaluate the effectiveness of the following three primary focus areas.

Focus Area 1- Ensure all planned inspections (that make up the 20% obligation) developed for the current year are performed. To do this, a 5 year plan is established for each cycle which details what transmission and distribution circuits, and accompanying assets, are scheduled for any given year. This plan assures that all circuits are scheduled and any given year's asset count is balanced to the 20% goal. The scope of the inspection plan is communicated to the inspector contractor through data on the toughbook and supplemental drawings. Inspection results are returned to the company each week. QA/QC personnel review progress to validate all planned inspections are made.

Focus Area 2 - Ensure inspector's evaluation of asset condition is accurate and consistent and performed in accordance with established procedures and applicable training manuals. To do this, QA/QC personnel conduct two types of assessments.

The first is a field review. In the field review QA/QC personnel are given a list of assets to visit and inspect. This asset list consists of recent inspections made by our inspection contractor though the QA/QC personnel are unaware of the reported results and independently inspect them. Results are then compared.

The second review is made in the office. This review looks at deficiencies reported by the inspection contractor. All reported deficiencies have photographs attached. QA/QC personnel review deficiencies and their pictures to assert the accuracy of the reported problem and assigned

priority. Any problems noted from this focus area are communicated back to the inspectors for correction.

Focus Area 3 – Ensure all reported repairs made on deficiencies found, as a result of the inspection program are completed. QA/QC personnel select a sample set of reported deficiencies and associated repairs made throughout each division. This sample set is given to the QA/QC personnel to be field verified. QA/QC personnel visit each specific asset and validate whether the reported repair work has been made. Any issues found with this effort are communicated back to company personnel for follow-up action.

X. **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.


Appendix 1

Stray Voltage Testing Summary

 NYSEG	2015 Targets	Units Completed	Percent Completed	Units with Voltage Found (>= 1.0v)	Percent of Units Tested with Voltage (>= 1.0v)	Units Classified as Inaccessible
Distribution Facilities	174,688	174,136	100%	37	0.021%	1,001
Underground Facilities	10,729	10,838	100%	0	0.000%	100
Street Lights / Traffic Signals	33,150	33,158	100%	17	0.051%	194
Substation Fences	0	0	0%	0	0.000%	0
Overhead Transmission	17,134	19,445	100%	272	1.399%	344
TOTAL	235,701	237,577	100%	326	0.137%	1,639


Appendix 2

Summary of Energized Objects

	Initial Readings				Readings after Mitigation		
	1-4.4V	4.5-24.9V	>25V	Totals	< 1V	1-4.4V	>4.5V
Distribution Facilities	33	3	1	37	34	0	0
Pole				0			
Ground	14	1	1	16	15	0	0
Guy	19	2	0	21	19	0	0
Riser				0			
Other				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	4	2	11	17	15	0	0
Metal Street Light Pole	3	2	10	15	14	0	0
Traffic Signal Pole	0	0	1	1	1	0	0
Pedestrian Crossing Pole				0			
Traffic Control Box				0			
Other	1	0	0	1	0	0	0
Substation Fences	0	0	0	0	0	0	0
Fence				0			
Other				0			
Transmission (Total)	250	21	0	271	1	249	21
Lattice Tower				0			
Pole	3	0	0	3	0	3	0
Ground	211	19	0	230	0	211	19
Guy	36	2	0	38	1	35	2
Other				0			
Miscellaneous Facilities	0	0	0	0	0	0	0
Sidewalk				0			
Gate/Fence/Awning				0			
Control Box				0			
Scaffolding				0			
Bus Shelter				0			
Fire Hydrant				0			
Phone Booth				0			
Water Pipe				0			
Riser				0			
Other				0			

Appendix 3

Summary of Shock Reports from the Public

 Data collected as of December 31, 2015	Yearly Total
I. Total Shock Calls Received:	42
Unsubstantiated	5
Normally Energized Equipment	10
Stray Voltage:	27
Person	26
Animal	1
II. Injuries Sustained/Medical Attention Received:	5
Person	4
Animal	1
III. Stray Voltage Source:	27
Utility Responsibility (Total)	11
Overhead Distribution System	10
Underground Distribution System	1
Transmission System	0
Other Utility/Gov't Agency (Total)	1
Streetlight	1
Other (Total)	0
Customer Responsibility (Total)	15
IV. Stray Voltage Range:	27
1.0V to 4.4V	1
4.5V to 24.9V	0
25V and above	2
Unknown	24

Appendix 4

New York State Electric and Gas

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

As of December 31, 2015

Detail of Deficiencies by Facilities	2011				2012				2013				2014				2015			
	Priority Level				Priority Level				Priority Level				Priority Level				Priority Level			
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV
Repair Expected	Within 1 week	Within 1 year	Within 3 years	IV	Within 1 week	Within 1 year	Within 3 years	IV	Within 1 week	Within 1 year	Within 3 years	IV	Within 1 week	Within 1 year	Within 3 years	IV	Within 1 week	Within 1 year	Within 3 years	IV
Overhead Facilities																				
Repaired in Time Frame	114	886	1152	836	107	1726	10612	2,673	161	1,411	2,483	1,754	101	1,840	1,644	414	188	335	374	236
Repaired - Overdue	26	268	216	0	46	724	75	0	23	227	0	0	39	74	0	0	54	1	0	0
Not Repaired - Not Due	0	0	0	2,940	0	0	0	25,294	0	0	4,030	15,617	0	2	2,250	10,579	0	1,997	3,210	12,377
Not Repaired - Overdue	0	0	19	0	0	4	1372	0	0	17	0	0	0	237	0	0	0	1	0	0
Total Overhead Facilities	140	1,154	1,387	3,776	153	2,454	12,059	27,967	184	1,655	6,513	17,371	140	2,153	3,894	10,993	242	2,334	3,584	12,613
Underground Facilities																				
Repaired in Time Frame	6	10	5	0	0	5	6	1	22	32	8	2	7	5	21	21	11	0	3	20
Repaired - Overdue	0	3	0	0	0	0	0	0	21	3	0	0	13	0	0	0	6	0	0	0
Not Repaired - Not Due	0	0	0	0	0	0	0	8	0	0	70	112	0	0	162	125	0	27	45	616
Not Repaired - Overdue	0	0	0	0	0	0	3	0	0	0	0	0	4	45	0	0	0	0	0	0
Total Underground Facilities	6	13	5	0	0	5	9	9	43	35	78	114	24	50	183	146	17	27	48	636
Pad Mount Facilities																				
Repaired in Time Frame	17	60	97	157	16	33	337	26	33	12	21	8	13	32	23	3	25	6	3	3
Repaired - Overdue	1	21	5	0	7	2	3	0	7	6	0	0	7	1	0	0	9	0	0	0
Not Repaired - Not Due	0	0	0	23	0	0	0	346	0	0	38	132	0	0	29	36	0	17	28	33
Not Repaired - Overdue	0	0	0	0	0	0	186	0	0	2	0	0	0	8	0	0	0	0	0	0
Total Pad Mount Facilities	18	81	102	180	23	35	526	372	40	20	59	140	20	41	52	39	34	23	31	36
Streetlight Facilities																				
Repaired in Time Frame	0	1	1	0	0	6	16	0	0	2	5	1	0	0	5	6	0	1	0	0
Repaired - Overdue	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Not Repaired - Not Due	0	0	0	0	0	0	0	7	0	0	176	30	0	0	16	77	0	8	6	21
Not Repaired - Overdue	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	0	0	0
Total Streetlight Facilities	0	1	1	0	0	6	17	7	0	4	181	31	0	1	21	83	0	9	6	21
Transmission Facilities																				
Repaired in Time Frame	15	96	269	74	2	69	645	71	1	16	463	1	5	35	24	0	5	3	2	0
Repaired - Overdue	1	101	118	0	0	27	0	0	0	3	0	0	0	15	0	0	1	0	0	0
Not Repaired - Not Due	0	0	0	364	0	0	0	506	0	0	371	128	0	0	721	260	0	229	964	180
Not Repaired - Overdue	0	0	99	0	0	0	54	0	0	2	0	0	0	52	0	0	0	0	0	0
Total Transmission Facilities	16	197	486	438	2	96	699	577	1	21	834	129	5	102	745	260	6	232	966	180

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 31st, 2015 (the "Twelve-Month Period"). I hereby certify that the utility has exercised due diligence in carrying out a plan designed to meet the inspection requirements, including quality assurance, and, to the best of my knowledge, the utility has inspected the requisite number of electric facilities. In addition, the utility has inspected all of its electric facilities during the previous five year period, except those identified in the Annual Report.



Sworn to before me this 4th day of February, 2016

Notary Public:



SHELLEY MORRIS
NOTARY PUBLIC
State of Maine
My Commission Expires
May 26, 2018

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 31st, 2015 (the “Twelve-Month Period”).
4. I hereby certify that the Company exercised due diligence in carrying out a plan designed to meet the stray voltage testing requirements, including quality assurance, and, to the best of my knowledge, the Company has tested all of its publically accessible electric facilities and streetlights, except those identified in the Annual Report. 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.

GC RDA

Sworn to before me this 4th day of February, 2016
Notary Public:

Shelley Morris

**SHELLEY MORRIS
NOTARY PUBLIC
State of Maine
My Commission Expires
May 26, 2018**

