Orange and Rockland Utilities, Inc.

STRAY VOLTAGE TESTS
AND
FACILITY INSPECTIONS

Report on the results of stray voltage tests and facility inspections for the year ended December 31, 2017

February 15, 2018

Pearl River, New York

Table of Contents

I. Background

The New York State Public Service Commission's ("PSC" or "Commission") Electric Safety Standards issued on January 5, 2005 (with subsequent revisions issued on July 21, 2005, December 15, 2008, March 22, 2013 and January 13, 2015) ("Safety Standards")[1], require electric utilities in New York State to annually stray voltage test their publicly accessible underground electric facilities, including but not limited to, manholes, service boxes, and transformer vaults. Stray voltage testing shall be conducted on the exposed surfaces of the facilities. Annual stray voltage testing shall also be conducted on Company and non-Company owned, publically accessible, metallic street light and traffic signal poles located in public thoroughfares in the Company's service territory. The Safety Standards also require the Company to stray voltage test overhead distribution facilities, underground residential distribution facilities, overhead and underground transmission facilities, and substation fences concurrently with the facility five year inspections required by the Safety Standards.

This Stray Voltage Tests and Facility Inspections Report ("Report") describes the stray voltage detection program and equipment inspection program Orange and Rockland Utilities, Inc. ("O&R" or the "Company") conducted in 2017.

II. Company Overview

O&R is an investor-owned utility that provides electric service to approximately 229,343 customers in a service area of approximately 1,000 square miles within Rockland County and parts of Orange and Sullivan Counties, New York. The Company operates an electric transmission and distribution ("T&D") system that includes 212 distribution circuits with approximately 3,039 overhead circuit miles and 1,593 conductor miles of underground cable, nearly 455 transmission circuit miles, 43 distribution substations, 0 distribution switchyards, 7 transmission substations, 5 transmission/distribution substations, 6 transition structures located in 5 transition yards and 5 transmission switchyards. The Company also owns the transmission interconnections to 6 substations for single industrial customers.

III. Stray Voltage Testing Program

- Testing personnel

  O&R conducted separate stray voltage test programs for its transmission system and its distribution system. Non-Company labor (i.e., contractors), selected through O&R's bid selection process was used to perform the test work associated with each program.

[1] Case 04-M-0159 – *Proceeding on Motion of the Commission to Examine the Safety of Electric Transmission and Distribution Systems*, Order Instituting Safety Standards (issued January 5, 2005), Order on Petitions for Rehearing and Waiver (issued July 21, 2005), Order Adopting Changes to Electric Safety Standards (issued December 15, 2008),Order Adopting Changes to Electric Safety Standards (issued March 22, 2013), and Order Granting a Petition to Modify Electric Safety Standards (issued January 13, 2015).

- Equipment

  To test for stray voltage, the contractor's inspectors used HD Electric Company LV-S-5 Direct Contact Low Voltage Detectors. This HD device is an independently certified low voltage AC test probe.[2] These probes were used to detect AC voltage on publicly accessible, conductive equipment or apparatus.

- Training

  O&R trains the contractor personnel on the contact voltage testing and program requirements. The participants include the contractor's planners, field supervisors and administrative staff assigned to O&R's project. Subsequently, the contractor is required to train new personnel. Prior to the start of annual testing, all contractor personnel are required to attend a one day refresher course, conducted by the Company. The initial two day training program and refresher course include a review of:

  - The Safety Standards;
  - Company policies and procedures;
  - Personal protective equipment;
  - Scope of the work for stray voltage testing;
  - Completing the testing form;
  - Data entry process; and
  - Hand-held devices and laptop requirements (increases data entry efficiency).

- Stray Voltage Testing

  During the annual period ended December 31, 2017, O&R conducted stray voltage testing of its publicly accessible underground electric facilities, including but not limited to, manholes, service boxes, and transformer vaults. Stray voltage testing was conducted on the exposed surfaces of the facilities. Annual stray voltage testing was also conducted on Company and non-Company owned, publically accessible, metallic street light and traffic signal poles located in public thoroughfares in the Company's service territory. In addition, the Company performed stray voltage tests on its overhead distribution facilities and underground residential distribution facilities, concurrently with the facility five (5) year inspections required by the Safety Standards.

  In accordance with the Safety Standards, O&R:

  a. Immediately safeguarded and /or mitigated the twelve (12) voltage findings ≥ 1.0 volt identified in 2017, eight (8) on the overhead distribution system and four (4) on street lights. Permanent repairs were made within 45 days; and,

[2] The HD device is certified to detect AC voltage within a range of 5 volts to 600 volts.

b. Tested all publicly accessible structures and sidewalks within a 30 foot radius of the electric facility where there was a stray voltage finding ≥ 1. 0 volt.

There are 178,277 structures that comprise O&R's T&D system and 2,236 non-Company owned metallic street light and traffic signal poles. Among the Company-owned structures, there are structures that did not require stray voltage testing for one or more of the following reasons:

- Wood poles that have no attached appurtenances capable of conducting electricity;
- Wood poles with electrically conductive appurtenances that are not accessible to the public (pre-wired wood);
- The facility is enclosed in fiberglass (non-conductive materials);
- The facility is de-energized; and/or
- The facility is deemed inaccessible to the public.

Inaccessible facilities include:

a. Locked Gate/Fence – Poles behind locked gates and fences that are not accessible to the public, i.e., facilities located in fenced areas owned by other utilities, such as, water companies.
b. Dangerous Grades – Poles located on cliffs and other dangerous grades 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.
c. Company Property – Poles located on Company property, such as substations, are accessible only to Company personnel and authorized contractors.
d. Vaults - Structures located inside buildings. These structures are accessible only to Company and building maintenance personnel.
e. Limited Access Highway Facilities – Structures located on highways, exit and entrance highway ramps. The performance of stray voltage testing would constitute an unacceptable risk to the employee.

In accordance with the Commission's June 23, 2011 Order[3], O&R was not required to perform mobile testing during the annual period ended December 31, 2017 because there is no city with a population of at least 50,000 located in the Company's service area and the Company does not have an underground network system where mobile testing is effective.

3 Case 10-E-0271 - *Proceeding on Motion of the Commission to Examine the Mobile Testing Requirements of the Safety Standards,* Order Requiring Additional Mobile Stray Voltage Testing (issued June 23, 2011)

IV. Facility Visual Inspection Program

O&R conducted the majority of the visual inspections in conjunction with its stray voltage testing program. Separate visual inspections were performed on its fiberglass and de-energized facilities. Contractors performed the majority of the stray voltage tests and visual inspections.

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

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

- Training

  O&R trains the contractor personnel on the visual inspection program requirements. The participants include the contractor's planners, field supervisors and administrative staff assigned to O&R's project. Subsequently, the contractor is required to train new personnel. Prior to the start of annual testing, all contractor personnel are required to attend a one day refresher course. The initial two day training program and refresher course include a review of:

  - The Safety Standards;
  - Company policies and procedures;
  - Personal protective equipment;
  - Scope of the work for visual inspections;
  - Completing the visual inspection form;
  - Data entry process; and
  - Hand-held devices and laptop requirements (increases data entry efficiency).

- Inspection Findings

  In accordance with the Safety Standards, O&R classifies defects found on inspection by 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 represents 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 should be used for future monitoring purposes and planning proactive maintenance activities.

Appendix 4, Summary of Deficiencies and Repair Activity Resulting from the Inspection Process, to this Report contains the following information:

- Deficiencies found;
- Permanent repair actions taken by year;
- Whether the repair was completed within the required timeframe; and
- The number of deficiencies awaiting repair.

The information is provided on an annual basis by priority level and by equipment groupings.

V. Program Facilities

- Structure Categories – There are 178,277 structures that comprise O&R's T&D system and 2,236 non-Company owned street lights and traffic signals. The Company facilities are broken down into the following four main categories:

- Distribution Overhead – There are 138,724 distribution pole structures in O&R's service territory. Twenty percent of the distribution overhead facilities are included in both the stray voltage and inspection programs. The stray voltage testing criteria include all publicly accessible utility-owned or joint-use wooden poles with utility electrical facilities located on public thoroughfares or 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.

- Underground Facilities – There are 32,643 underground facilities in O&R's service territory. Twenty percent of the facilities are included in both the stray voltage (with the exception of fiberglass hand hole covers) and inspection programs. The stray voltage testing criteria includes subsurface structures and above ground structures. Included in the above ground structures are pad mount transformers and switchgear enclosures. All subsurface structures include electric utility manhole covers, submersible transformer covers and electric utility metal hand hole covers.

- Street Lights and Traffic Signals – Of the 2,705 metallic street light poles and traffic signals within O&R's service territory, 469 are Company-owned street lights. The remaining street lights and traffic signals are owned by municipalities. All metallic

street light and traffic signal poles are included in O&R's annual stray voltage testing program. The Company-owned streetlights are included in the facility inspection program. Privately owned street lighting is not included in the stray voltage testing program, as per the Safety Standards. The stray voltage testing criteria includes all metallic street light poles, traffic signals, and pedestrian crosswalk signals located on publicly accessible thoroughfares. The large majority of street lights in O&R's service area are mounted on wooden poles, and do not require stray voltage testing because their electrically conductive surfaces are not accessible to the public. All stray voltage testing of street lights is performed at night while the fixtures are energized.

- Substation Fences and Transmission Structures – There are 69 substation fences and approximately 6,841 individual poles and towers that comprise O&R's overhead transmission system. Transmission structures support circuit voltages of 34.5 kilovolts and greater. Transmission poles with distribution under build are included in this transmission category. O&R inspects its transmission system annually. Stray voltage testing was performed on all transmission structures and substation fences in 2016. The stray voltage testing criteria includes all structures, guys, and down leads attached to the structures. As per the Safety Standards, stray voltage testing is required to be performed again in 2021.

VI. Annual Performance Targets

O&R performed the required stray voltage testing and facility inspections in accordance with the requirements and performance mechanism targets set forth in the Safety Standards.

In compliance with the Safety Standards, O&R has met the annual performance target for stray voltage testing for the annual period ended December 31, 2017. The structures tested and testing results are set forth in Appendix 1, Stray Voltage Testing Summary, of this Report.

The results are summarized in the tables set forth below.

Inspection Performance Summary

178,277 Total O&R Transmission and Distribution Structures

Inspection Year	Number of Transmission and Distribution Structures Inspected in 2017	% of Transmission and Distribution Structures Inspected in 2017	Cumulative % of Transmission and Distribution Structures Inspected During 5-Year Cycle 2015 – 2019
2017	**34,426**	**19.3%**	**69.3%**

138,724 Total Overhead Distribution Structures

Inspection Year	Number of Overhead Distribution Structures Inspected in 2017	% of Overhead Distribution Structures Inspected in 2017	Cumulative % of Overhead Distribution Structures Inspected During 5-Year Cycle 2015 – 2019
2017	**22,705**	**16.4%**	**62.4%**

6,910 Total Overhead Transmission Structures

Inspection Year	Number of Overhead Transmission Structures Inspected in 2017	% of Overhead Transmission Structures Inspected in 2017	Cumulative % of Transmission Structures Inspected During 5-Year Cycle 2015 – 2019
2017	**6,910**	**100.0%**	**100.0%**

32,643 Total Underground Structures and Pad-Mounted Transformers

Inspection Year	Number of Underground Facilities and Pad-Mounted Transformers Inspected in 2017	% of Underground Facilities and Pad-Mounted Transformers Inspected in 2017	Cumulative % of Underground Facilities and Pad-Mounted Transformers Inspected During 5-Year Cycle 2015 – 2019
2017	**4,811**	**14.7%**	**52.7%**

469 Total O&R Street Lights

Inspection Year	Number of Street Lights Inspected in 2017	% of Street Lights Inspected in 2017	Cumulative % of Street lights inspected during 5-Year Cycle 2015 – 2019
2017	**0**	**0**	**0**

**Note: Of the 2,705 street lights and traffic signals, 2,035 are non-Company owned structures and do not require inspection. Company-owned street lights were not due for inspection in 2017.*

VII. Certifications

Pursuant to Section 7 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 street lights and traffic signals within the service territory. Publically accessible overhead distribution facilities, underground residential facilities were tested concurrently with the facility inspection required in Section 4 of the Electric Safety Standards, as referred to in the body of this Report; and
- Inspected the requisite number of electric facilities.

The certifications are attached as Exhibit 1of this Report.

VIII. Analysis of Causes of Findings and Stray Voltage

- Of the 178,277 electrical structures that comprise O&R's T&D system and 2,236 non-Company owned equipment, 29,307 distribution and transmission structures were visited and/or stray voltage tested, as part of its stray voltage-testing program for 2017. O&R stray voltage tested its transmission system in 2016. Pursuant to the Safety Standards, stray voltage testing is required to be performed again in 2021.

The chart below describes all Findings ≥ 1.0 volt identified and mitigated.[4]

Structure Type	*Cause of Voltage*	*Voltages Found ≥ 1 Volt*
Distribution Poles - Ground	Broken Cable tv Ground	1
Distribution Poles - Ground	Bad Transformer	1
Distribution Poles - Ground	No issue found after investigation	1
Distribution Poles - Guy	Ground Needed	1
Distribution Poles - Guy	No issue found after investigation	1
Streetlight	Bad Grounds	4
Other GOAB	No Issue found after investigation	2
Other/Tele repeater	Telephone repeater ground	1

Twelve (12) findings = /> 1 volt were identified on the overhead distribution system. All voltage findings were immediately safeguarded and permanently mitigated the same day.

[4] Section 1(f) of the Safety Standards defines a Finding as "[a]ny 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 "[v]oltage 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."

O&R analyzed the testing results of 2017 and determined that the predominant cause of stray voltage findings were bad streetlight grounds. O&R continues its quality assurance and control measures by conducting field audits to verify that the system is built to engineering standards.

In accordance with the Safety Standards, when O&R identified a stray voltage finding on the electric facility during stray voltage testing, the Company stray voltage tested all publicly accessible structures and sidewalks within a minimum 30 foot radius of the electric facility. Regarding the twelve stray voltage findings referred to above, the Company identified no nearby structures with voltage.

IX. Inspections Results and Analysis

Of the 178,277 electrical structures that comprise O&R's T&D system, 34,426 structures were inspected during 2017. The charts below summarize the results of these inspections.

Overhead Distribution Structures

Table of Locations with Deficiencies

Locations Inspected	*Locations w/ Deficiencies	% Locations w/ Deficiencies
22,705	1,283	5.7%

Breakdown of Deficiencies

Level Rating	Number of Deficiencies	% Deficiencies Found
1	82	6.4%
2	687	53.5%
3	514	40.1%
Total	**1,283**	**100**

Overhead Transmission Structures

Table of Locations with Deficiencies

Locations Inspected	*Locations w/ Deficiencies	% Locations w/ Deficiencies
6,910	88	1.3%

Breakdown of Deficiencies

Level Rating	Number of Deficiencies	% Deficiencies Found
Level 1	0	0%
Level 2	0	0%
Level 3	88	100%
Total	**88**	**100%**

Underground Facilities and Pad-mounted Transformers

Table of Locations with Deficiencies

Locations Inspected	*Locations w/ Deficiencies	% Locations w/ Deficiencies
4,811	63	1.3%

Breakdown of Deficiencies

Level Rating	Number of Deficiencies	% Deficiencies Found
Level 1	42	66.7%
Level 2	2	3.2%
Level 3	19	30.1%
Total	**63**	**100%**

Streetlights

Table of Locations with Deficiencies

Locations Inspected	Locations w/ Deficiencies	% Locations w/ Deficiencies
0	0	0%

Breakdown of Deficiencies

Level Rating	Number of Deficiencies	% Deficiencies Found
Level 1	0	0%
Level 2	0	0%
Level 3	0	0%
Total	**0**	**0%**

***Note:** Number of locations with deficiencies is less than the number of deficiencies because there is more than one deficiency at a location.*

- Level 1 Conditions

  In 2017, O&R visually inspected 34,426 structures and identified 124 Level 1 conditions. The Level 1 conditions O&R identified on the overhead distribution system were primarily blown lightening arrestors, floating primary wires, tree limbs on the primary wire, leaking transformers, and cracked insulators. The Level 1 conditions O&R identified on the underground distribution system were primarily damaged and/or leaking pad mount transformers, Off base >3", and hand holes with damaged covers. O&R identified no Level 1 conditions on the Company's transmission system.

- Level 2 Conditions

  In 2017, O&R identified 689 Level 2 conditions on the T&D system. The majority of the Level 2 conditions on the overhead distribution system are rungs on poles located below 8'-0", cracked cross arms and secondary wire off the pin. The majority of the Level 2 conditions on the underground distribution system are unsecured hand hole covers and damaged and/or shifted pad mounts.

- Level 3 Conditions

  In 2017, O&R identified 621 Level 3 conditions on the T&D system. O&R identified 88 Level 3 conditions on the transmission system and 533 conditions on the distribution system (514 on overhead and 19 on underground). The majority of Level 3 conditions on the transmission system are wood pole deficiencies, and grounding system conditions. The remaining conditions are related to anchors/guy wires, cross arms, right of way conditions and, insect/woodpecker damage. Of the Level 3 conditions identified on the overhead distribution system, the majority are anchors and guy wire conditions, grounding conditions and conductor conditions. The majority of the Level 3 conditions on the underground distribution system are unsecured hand hole covers.

  In an effort to reduce the Level 2 and Level 3 conditions, O&R continues to improve its quality assurance and control so that new construction is built to specification and the National Electrical Safety Code compliance. O&R's distribution line upgrades, capital improvements, defective pole replacement program and transmission and distribution system repair program (completing repairs on conditions identified during the inspection cycles) have resulted in an approximate 31% reduction in Level 2 and 3 conditions identified during the 2010 -2014 inspection cycle from the number of Level 2 and 3 conditions identified during 2005 through 2009.

X. Quality Assurance and Control

O&R's Quality Assurance and Compliance Department is responsible for the implementation of the Company's Electric Quality Assurance Program ("Electric QA Program"). In addition to verifying compliance with the requirements of the Safety Standards, the Company's Electric QA Program is designed to promote the health and safety of the public, the reliable and economical operation of the Company's electric system, compliance with applicable electric codes and regulations, and utilization of Company resources in an efficient manner.

The O&R Electric QA Program also includes a Corrective Action Documentation and Trending procedure.[5] The purpose of this procedure is to define the process by which

[5] Details on the O&R Electric QA Program and the Corrective Action Documentation were included with the Company's February 18, 2005 filing with the Commission in Case 04-M-0159.

Quality Assurance and Compliance maintains a corrective action database and trends discrepancies identified by the Electric QA Program. O&R personnel implementing the Electric QA Program are independent from the Electric Operations and Electric Engineering Groups and the Company personnel responsible for the implementation of the Stray Voltage Testing and Visual Inspection Programs.

Quality Assurance ("QA") personnel conducted a review of the Stray Voltage Testing and Visual Inspection programs during 2017. QA performed stray voltage testing and visual inspection on a selective sample of previously tested and inspected Company and municipal streetlights, overhead and underground distribution facilities to verify testing and inspection of equipment and the accuracy of data and records.

2017 Quality Assurance and Quality Control Results

The Company's Electric QA Program selectively sampled and retested 859 distribution structures. This statistically significant sample size exceeds the 500 units required by the latest version of ANSI Z1.4 (MIL-STD-105D) for the determination of a normal sample size for a unit population of 35,001 - 150,000. The sample selection was distributed across the various structure types.

859 Structures Sampled

Category	Number of Structures Sampled	Percentage of Sample Size
Overhead Distribution	308	36%
Underground Distribution	379	44%
Street Lights/Traffic Signals	172	20%
Total	**859**	**100%**

Of the 859 structures selected, QA identified no stray voltage conditions during retesting and the re-inspections verified the visual inspection results reported by the contractor.

XI. Other Pertinent Information

- Reports from the Public

  As set forth in Appendix 3 to this Report, during 2017, O&R received 11 reports from customers regarding a stray voltage or shock hazard. In compliance with the Safety Standards, O&R responded, investigated and mitigated positive findings of shock incidents reported by the public.

  Of the 11 incidents that were reported to O&R, 4 cases were substantiated and 7 incidents proved to be unsubstantiated. Of the 4 substantiated cases, 3 were attributable to O&R system equipment, and 1 was due to non-Company equipment.

The 7 unsubstantiated cases were a result of faulty customer–owned equipment/wiring or no trouble found upon arrival.

- Temporary Repairs

In accordance with the Safety Standards, when a temporary repair is located during inspection or performed by the Company, the Company exercised its best efforts to make a permanent repair of the facility within 90 days. Identified temporary repairs that remain on the system for more than 90 days are generally due to extraordinary circumstances, e.g., storms that require extensive repair activity, equipment outage not available, or customer work required.

Appendix 1

Stray Voltage Testing Summary

Orange & Rockland Utilities, Inc. Data as of 12/31/17	2017 Total System Units	2017 System Units Tested	Percent Completed	Units with Voltage Found (>/= 1.0v)	Percent of Units Tested with Voltage (>/= 1.0v)	*Units Classified as Inaccessible /Not In Field
Overhead Distribution Facilities	133,244	21,774	16%	8	0.036%	720
Underground Distribution Facilities	32,643	4,828	15%	0	0	84
Street Lights / Traffic Signals	2,705	2,661	100%	4	0.16	44
****Substation Fences**	0	0	0	0	0	0
****Transmission Facilities**	0	0	0	0	0	0
TOTAL	168,592	29,307	***17%	12	0.04	848

** Structures classified as inaccessible/Not in Field are defined on page 4, of this Report. Facilities that are inaccessible are not considered in determination of whether the target has been achieved.*
*** Substation fences and transmission structures were stray voltage tested in 2016. Stray voltage testing is required to be performed again in 2021. This lowered the total % completed for 2017.*
****2017 Annual testing goal requirement is 95% of annual target (20% of Total System Units). 17% represents what was tested out of the complete structure count of 168,592. The actual 2017 target structure count was 30,472. O&R tested 29,307 structures or at 96% of the annual target.*

Appendix 2

Summary of Energized Objects

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

Appendix 3

Summary of Shock Reports from the Public

	Quarterly Update	Yearly Total
I. Total Shock Calls Received:	**0**	**11**
Unsubstantiated	0	7
Normally Energized Equipment	0	4
Stray Voltage:		
Person	0	4
Animal	0	
II. Injuries Sustained/Medical Attention Received:	**0**	**0**
Person	0	
Animal	0	
III. Stray Voltage Source:	**0**	**4**
Utility Responsibility (Total)	**0**	**3**
Overhead Distribution System	0	3
Underground Distribution System	0	
Transmission System	0	0
Other Utility/Gov't Agency (Total)	**0**	
Streetlight	0	
Other (Total)	0	
Customer Responsibility (Total)	**0**	**1**
IV. Stray Voltage Range:	**0**	**1**
1.0V to 4.4V	0	1
4.5V to 24.9V	0	0
25V and above	0	0
Unknown	0	10

Appendix 4

Distribution

Orange and Rockland Utilities, Inc.															
Summary of Deficiencies and Repair Activity Resulting from the Inspection Process – Distribution															
As of 12/31/17															
Overhead Facilities		**2013**			**2014**			**2015**			**2016**			**2017**	
Priority Level	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**
Repair Expected	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**
Poles															
Pole Condition															
Number of Deficiencies	**-**	**244**	**-**	**-**	**195**	**-**	**3**	**100**	**-**	**-**	**409**	**-**	**-**	**562**	**-**
Repaired in Time Frame		226			195		3	99			408			27	
Repaired - Overdue		18						1			1				
Not Repaired - Not Due														535	
Not Repaired - Overdue															
Grounding System															
Number of Deficiencies	**-**	**-**	**132**	**-**	**-**	**119**	**-**	**-**	**315**	**-**	**-**	**856**	**-**	**-**	**141**
Repaired in Time Frame			132			101			145			41			4
Repaired - Overdue						18									
Not Repaired - Not Due									170			815			137
Not Repaired - Overdue															

Orange and Rockland Utilities, Inc.															
Summary of Deficiencies and Repair Activity Resulting from the Inspection Process – Distribution															
As of 12/31/17															
Overhead Facilities		**2013**			**2014**			**2015**			**2016**			**2017**	
Priority Level	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**
Repair Expected	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**
Poles															
Anchors/Guy Wires															
Number of Deficiencies	**-**	**-**	**469**	**-**	**-**	**1,636**	**1**	**-**	**136**		**-**	**116**	**-**	**-**	**97**
Repaired in Time Frame			468			1,635	1		131			109			61
Repaired - Overdue			1			1									
Not Repaired- Not Due									5			7			36
Not Repaired- Overdue															
Cross Arm/Bracing															
Number of Deficiencies	**-**	**2**	**-**	**2**	**-**	**-**	**-**	**4**	**70**	**2**	**60**	**12**	**-**	**76**	**6**
Repaired in Time Frame		2		2				4	65	2	60	1		66	
Repaired - Overdue															
Not Repaired - Not Due									5			11		10	6
Not Repaired - Overdue															
Riser															
Number of Deficiencies	**-**	**-**	**-**	**-**	**-**	**1**	**-**	**-**	**34**	**-**	**-**	**14**	**-**	**-**	**14**
Repaired in Time Frame						1			1			1			
Repaired - Overdue															
Not Repaired- Not Due									33			13			14
Not Repaired- Overdue															

Orange and Rockland Utilities, Inc.															
Summary of Deficiencies and Repair Activity Resulting from the Inspection Process – Distribution															
As of 12/31/17															
Overhead Facilities		**2013**			**2014**			**2015**			**2016**			**2017**	
Priority Level	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**
Repair Expected	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**
Conductors															
Primary Wire/Broken Ties															
Number of Deficiencies	**5**	**-**	**75**	**1**	**-**	**14**	**19**	**-**	**175**	**12**	**-**	**201**	**17**	**-**	**176**
Repaired in Time Frame	5		75	1		14	18		171	11		119	17		70
Repaired - Overdue							1			1					
Not Repaired - Not Due									4			82			106
Not Repaired - Overdue															
Secondary Wire															
Number of Deficiencies	**-**	**1**	**3**	**-**		**36**	**-**	**-**	**60**	**-**	**-**	**16**	**-**	**8**	**23**
Repaired in Time Frame		1	3			36			3			2			4
Repaired - Overdue															
Not Repaired - Not Due									57			14		8	19
Not Repaired - Overdue															

Orange and Rockland Utilities, Inc.

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

As of 12/31/17															
Overhead Facilities		**2013**			**2014**			**2015**			**2016**			**2017**	
Priority Level	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**
Repair Expected	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**
Conductors															
Neutral															
Number of Deficiencies	**-**	**1**	**1**	**-**	**-**	**-**	**-**	**1**	**-**	**-**	**5**	**-**	**-**	**16**	**-**
Repaired in Time Frame		1	1					1			5			15	
Repaired - Overdue															
Not Repaired - Not Due														1	
Not Repaired - Overdue															
Insulators															
Number of Deficiencies	**2**	**-**	**-**	**1**	**-**	**-**	**7**	**-**	**-**	**10**	**-**	**-**	**4**	-	-
Repaired in Time Frame	2			1			7			9			4		
Repaired - Overdue										1					
Not Repaired - Not Due															
Not Repaired - Overdue															
Pole Equipment															
Transformers															
Number of Deficiencies	**-**	**-**	**-**	**4**	**-**	**-**	**2**	**-**	**-**	**1**	**-**	**-**	**1**	**-**	**-**
Repaired in Time Frame				4			2			1			1		
Repaired - Overdue															
Not Repaired - Not Due															
Not Repaired - Overdue															

Orange and Rockland Utilities, Inc.															
Summary of Deficiencies and Repair Activity Resulting from the Inspection Process – Distribution															
As of 12/31/17															
Overhead Facilities		**2013**			**2014**			**2015**			**2016**			**2017**	
Priority Level	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**
Repair Expected	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**
Pole Equipment															
Cutouts															
Number of Deficiencies	**1**	**-**	**-**	**-**	**-**	**-**	**2**	**1**	**-**	**2**	**-**	**-**	**-**	**-**	**-**
Repaired in Timeframe	1						2	1		2					
Repaired – Overdue															
Not Repaired - Not Due															
Not Repaired - Overdue															
Lightning Arrestors															
Number of Deficiencies	**4**	**-**	**-**	**5**	**-**	**-**	**31**	**-**	**-**	**37**	**-**	**-**	**44**	**-**	**-**
Repaired in Time Frame	4			5			29			32			44		
Repaired - Overdue							2			5					
Not Repaired - Not Due															
Not Repaired - Overdue															

Orange and Rockland Utilities, Inc.															
Summary of Deficiencies and Repair Activity Resulting from the Inspection Process – Distribution															
As of 12/31/17															
Overhead Facilities		**2013**			**2014**			**2015**			**2016**			**2017**	
Priority Level	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**
Repair Expected	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**
Pole Equipment															
Other Equipment															
Number of Deficiencies	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Repaired in Time Frame															
Repaired - Overdue															
Not Repaired - Not Due															
Not Repaired - Overdue															

Orange and Rockland Utilities, Inc.															
Summary of Deficiencies and Repair Activity Resulting from the Inspection Process – Distribution															
As of 12/31/17															
Overhead Facilities		**2013**			**2014**			**2015**			**2016**			**2017**	
Priority Level	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**
Repair Expected	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**
Miscellaneous															
Trimming Related															
Number of Deficiencies	**1**	**14**	**5**	**1**	**6**	**10**	**10**	**2**	**11**	**5**	**3**	**5**	**16**	**25**	**57**
Repaired in Time Frame	1	11	5	1	6	10	10	2	11	5	3	5	16	22	37
Repaired - Overdue		3													
Not Repaired - Not Due														3	20
Not Repaired - Overdue															
Other															
Number of Deficiencies	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Repaired in Time Frame															
Repaired - Overdue															
Not Repaired - Not Due															
Not Repaired - Overdue															

Orange and Rockland Utilities, Inc.															
Summary of Deficiencies and Repair Activity Resulting from the Inspection Process – Distribution															
As of 12/31/17															
Overhead Facilities		**2013**			**2014**			**2015**			**2016**			**2017**	
Priority Level	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**
Repair Expected	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**
Overhead Facilities Total															
Total															
Number of Deficiencies	**13**	**262**	**685**	**14**	**201**	**1816**	**74**	**108**	**801**	**69**	**477**	**1220**	**82**	**687**	**514**
Repaired in Time Frame	13	241	684	14	201	1797	71	107	527	62	476	278	82	130	176
Repaired - Overdue		21	1			19	3	1		7	1				
Not Repaired - Not Due									274			942		557	338
Not Repaired - Overdue															

Transmission

Orange and Rockland Utilities, Inc.															
Summary of Deficiencies and Repair Activity Resulting from the Inspection Process - Transmission															
As of 12/31/17															
Transmission Facilities		**2013**			**2014**			**2015**			**2016**			**2017**	
Priority Level	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**
Repair Expected	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**
Towers / Poles															
Steel Towers															
Number of Deficiencies	**-**	**-**	**-**	**-**	**-**	**6**	**-**	**-**	**2**	**-**	**-**	**2**	**-**	**-**	**7**
Repaired in Time Frame									1						2
Repaired - Overdue						1									
Not Repaired - Not Due									1			2			5
Not Repaired - Overdue						5									
Poles															
Number of Deficiencies	**-**	**5**	**85**	**-**	**-**	**25**	**-**	**-**	**47**	**-**	**-**	**40**	**-**	**-**	**13**
Repaired in Time Frame		4	69			24			29			19			2
Repaired - Overdue		1	6												
Not Repaired - Not Due						1			18			21			11
Not Repaired - Overdue			5												

Orange and Rockland Utilities, Inc.

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

As of 12/31/17															
Transmission Facilities		**2013**			**2014**			**2015**			**2016**			**2017**	
Priority Level	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**
Repair Expected	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**
Towers / Poles															
Anchors/Guy Wire															
Number of Deficiencies	**-**	**-**	1	**-**	**-**	**5**	**-**	**1**	**9**	**-**	**-**	**6**	**-**	**-**	**4**
Repaired in Time Frame			1					1	4			1			3
Repaired - Overdue															
Not Repaired - Not Due									5			5			1
Not Repaired - Overdue						5									
Cross Arm/Brace															
Number of Deficiencies	**-**	**1**	**5**	**-**	**1**	**7**	**-**	**-**	**11**	**-**	**-**	**20**	**-**	**-**	**19**
Repaired in Time Frame			2		1	4			6						3
Repaired - Overdue		1				1									
Not Repaired - Not Due									5			20			16
Not Repaired - Overdue			3			2									
Grounding System															
Number of Deficiencies	**-**	**-**	**14**	**-**	**-**	**37**	**-**	**-**	**42**	**-**	**-**	**56**	**-**	**-**	**22**
Repaired in Time Frame			12			33			34			50			
Repaired - Overdue						2									
Not Repaired - Not Due									8			6			22
Not Repaired - Overdue			2			2									

Orange and Rockland Utilities, Inc.															
Summary of Deficiencies and Repair Activity Resulting from the Inspection Process – Transmission															
As of 12/31/17															
Transmission Facilities		**2013**			**2014**			**2015**			**2016**			**2017**	
Priority Level	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**
Repair Expected	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**
Conductors															
Cable															
Number of Deficiencies	**-**	**-**	**-**	**-**	**-**	**4**	**-**	**-**	**1**	**-**	**-**	**1**	**-**	**-**	**2**
Repaired in Time Frame						4			1						
Repaired - Overdue															
Not Repaired - Not Due												1	-	-	2
Not Repaired - Overdue															
Static/Neutral															
Number of Deficiencies	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Repaired in Time Frame															
Repaired - Overdue															
Not Repaired - Not Due															
Not Repaired - Overdue															

Orange and Rockland Utilities, Inc.

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

As of 12/31/17															
Transmission Facilities		**2013**			**2014**			**2015**			**2016**			**2017**	
Priority Level	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**
Repair Expected	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**
Conductors															
Insulators															
Number of Deficiencies	**-**	**-**	**2**	**-**	**-**	**7**	**-**	**-**	**9**	**-**	**-**	**10**	**-**	**-**	**4**
Repaired in Time Frame			2			3			5						
Repaired - Overdue															
Not Repaired - Not Due						4			4			10			4
Not Repaired - Overdue															
Miscellaneous															
Right of Way Condition															
Number of Deficiencies	**-**	**-**	**12**	**-**	**-**	**21**	**-**	**-**	**9**	**-**	**-**	**4**	**-**	**-**	**17**
Repaired in Time Frame			11			19			6			1			2
Repaired - Overdue															
Not Repaired - Not Due									3						15
Not Repaired - Overdue			1			2									
Other															
Number of Deficiencies	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Repaired in Time Frame															
Repaired - Overdue															
Not Repaired - Not Due															
Not Repaired - Overdue															

Orange and Rockland Utilities, Inc.															
Summary of Deficiencies and Repair Activity Resulting from the Inspection Process - Transmission															
As of 12/31/17															
Transmission Facilities		**2013**			**2014**			**2015**			**2016**			**2017**	
Priority Level	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**
Repair Expected	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**
Transmission Facilities Total															
Total															
Number of Deficiencies	**-**	**6**	**113**	**-**	**1**	**112**	**-**	**1**	**130**	**-**	**-**	**130**	**-**	**-**	**88**
Repaired in Time Frame		4	97		1	87		1	86			77			12
Repaired - Overdue		2	9			4									
Not Repaired - Not Due									44			53			76
[6]Not Repaired - Overdue			7			21									

[6] The overdue repairs are scheduled to be completed in conjunction with capital projects and scheduled facility outages.

Underground

Orange and Rockland Utilities, Inc.															
Summary of Deficiencies and Repair Activity Resulting from the Inspection Process - Underground															
As of 12/31/17															
Underground Facilities		**2013**			**2014**			**2015**			**2016**			**2017**	
Priority Level	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**
Repair Expected	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**
Underground Structures															
Damaged Cover															
Number of Deficiencies	**66**	**30**	**100**	**16**	**5**	**5**	**2**	**12**	**24**	**11**	**3**	**8**	**10**	**2**	**19**
Repaired in Time Frame	66	30	100	16	5	5	2	12	24	11	3	1	10	2	5
Repaired - Overdue															
Not Repaired - Not Due												7			14
Not Repaired - Overdue															
Damaged Structure															
Number of Deficiencies	**116**	**-**	**-**	**16**	**-**	**-**	**1**	**-**	**-**	**2**	**-**	**-**	**5**	**-**	**-**
Repaired in Time Frame	116			16			1			2			5		
Repaired - Overdue															
Not Repaired - Not Due															
Not Repaired - Overdue															

Orange and Rockland Utilities, Inc.

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

As of 12/31/17															
Underground Facilities		**2013**			**2014**			**2015**			**2016**			**2017**	
Priority Level	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**
Repair Expected	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**
Underground Structures															
Congested Structure															
Number of Deficiencies	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Repaired in Time Frame															
Repaired - Overdue															
Not Repaired - Not Due															
Not Repaired - Overdue															
Damaged Equipment															
Number of Deficiencies	-	-	-	-	-	-	-	-	-	**1**	-	-	-	-	-
Repaired in Time Frame										1					
Repaired - Overdue															
Not Repaired - Not Due															
Not Repaired - Overdue															

Orange and Rockland Utilities, Inc.

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

As of 12/31/17															
Underground Facilities		**2013**			**2014**			**2015**			**2016**			**2017**	
Priority Level	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**
Repair Expected	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**
Conductors															
Primary Cable															
Number of Deficiencies	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Repaired in Time Frame															
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															

Orange and Rockland Utilities, Inc.

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

As of 12/31/17															
Underground Facilities		**2013**			**2014**			**2015**			**2016**			**2017**	
Priority Level	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**
Repair Expected	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**
Conductors															
Racking Needed															
Number of Deficiencies	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Repaired in Time Frame															
Repaired - Overdue															
Not Repaired - Not Due															
Not Repaired - Overdue															
Miscellaneous															
Other															
Number of Deficiencies		-	-	-	-	-	-	-	-	**1**	-	-	-	-	-
Repaired in Time Frame										1					
Repaired - Overdue															
Not Repaired - Not Due															
Not Repaired - Overdue															
Underground Facilities Total															
Total															
Number of Deficiencies	**183**	**30**	**100**	**32**	**5**	**5**	**3**	**12**	**24**	**16**	**3**	**8**	**15**	**2**	**19**
Repaired in Time Frame	183	30	100	32	5	5	3	12	24	16	3	1	15	2	5
Repaired - Overdue															
Not Repaired - Not Due												7			14
Not Repaired - Overdue															

Pad Mount Transformers

Orange and Rockland Utilities, Inc.															
Summary of Deficiencies and Repair Activity Resulting from the Inspection Process - Pad Mount Transformers															
As of 12/31/17															
Pad Mount Transformers		**2013**			**2014**			**2015**			**2016**			**2017**	
Priority Level	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**
Repair Expected	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**
Pad Mount Transformers															
Damaged Structure															
Number of Deficiencies	**1**	**-**	**-**	**-**	**-**	**-**	**11**	**-**	**-**	**2**	**-**	**-**	**3**	**-**	**-**
Repaired in Time Frame							11			2			3		
Repaired - Overdue	1														
Not Repaired - Not Due															
Not Repaired - Overdue															
Damaged Equipment															
Number of Deficiencies	**1**	**-**	**-**	**6**	**-**	**-**	**9**	**-**	**-**	**2**	**-**	**-**	**-**	**-**	**-**
Repaired in Time Frame	1			6			9			2			-		
Repaired - Overdue															
Not Repaired - Not Due															
Not Repaired - Overdue															

Orange and Rockland Utilities, Inc.															
Summary of Deficiencies and Repair Activity Resulting from the Inspection Process - Pad Mount Transformers															
As of 12/31/17															
Pad Mount Transformers		**2013**			**2014**			**2015**			**2016**			**2017**	
Priority Level	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**
Repair Expected	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**
Pad Mount Transformers															
Cable Condition															
Number of Deficiencies	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Repaired in Time Frame															
Repaired - Overdue															
Not Repaired - Not Due															
Not Repaired - Overdue															
Oil Leak															
Number of Deficiencies	-	-	-	-	-	-	-	-	-	-	-	-	**5**	-	-
Repaired in Time Frame													5		
Repaired - Overdue															
Not Repaired - Not Due															
Not Repaired - Overdue															

Orange and Rockland Utilities, Inc.															
Summary of Deficiencies and Repair Activity Resulting from the Inspection Process - Pad Mount Transformers															
As of 12/31/17															
Pad Mount Transformers		**2013**			**2014**			**2015**			**2016**			**2017**	
Priority Level	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**
Repair Expected	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**With in 3 year s**	**Within 1 week**	**Within 1 year**	**Within 3 years**
Pad Mount Transformers															
Off Pad															
Number of Deficiencies	**-**	**-**	**-**	**1**	**-**	**-**	**12**	**-**	**-**	**3**	**-**	**-**	**9**	**-**	**-**
Repaired in Time Frame				1			12			3			9		
Repaired - Overdue															
Not Repaired - Not Due															
Not Repaired - Overdue															
Lock/Latch/Pen															
Number of Deficiencies	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**10**	**-**	**-**
-Repaired in Time Frame													10		
Repaired - Overdue															
Not Repaired - Not Due															
Not Repaired - Overdue															

Orange and Rockland Utilities, Inc.															
Summary of Deficiencies and Repair Activity Resulting from the Inspection Process - Pad Mount Transformers															
As of 12/31/17															
Pad Mount Transformers		**2013**			**2014**			**2015**			**2016**			**2017**	
Priority Level	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**
Repair Expected	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**
Miscellaneous															
Other															
Number of Deficiencies	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Repaired in Time Frame															
Repaired - Overdue															
Not Repaired - Not Due															
Not Repaired - Overdue															
Pad Mount Transformer Total															
Total															
Number of Deficiencies	**2**	-	-	**7**	-	-	**32**	-	-	**7**	-	-	**27**	-	-
Repaired in Time Frame	1			7			32			7			27		
Repaired - Overdue	1														
Not Repaired - Not Due															
Not Repaired - Overdue															

Street Lights

Orange and Rockland Utilities, Inc.															
Summary of Deficiencies and Repair Activity Resulting from the Inspection Process – Streetlights															
As of 12/31/17															
Streetlights		**2013**			**2014**			**2015**			**2016**			**2017**	
Priority Level	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**	**I**	**II**	**III**
Repair Expected	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**	**Within 1 week**	**Within 1 year**	**Within 3 years**
Street Light															
Base/Light															
Number of Deficiencies	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Repaired in Time Frame															
Repaired - Overdue															
Not Repaired - Not Due															
Not Repaired - Overdue															
Handhole/Box															
Number of Deficiencies	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Repaired in Time Frame															
Repaired - Overdue															
Not Repaired - Not Due															
Not Repaired - Overdue															
Service Internal Wiring															
Number of Deficiencies	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Repaired in Time Frame															
Repaired - Overdue															
Not Repaired - Not Due															
Not Repaired - Overdue															

Orange and Rockland Utilities, Inc.

Summary of Deficiencies and Repair Activity Resulting from the Inspection Process – Streetlights

As of 12/31/17															
Streetlights		**2013**			**2014**			**2015**			**2016**			**2017**	
Priority Level	I	II	III	I	II	III	I	II	III	I	II	III	I	II	III
Repair Expected	Within 1 week	Within 1 year	Within 3 years	Within 1 week	Within 1 year	Within 3 years	Within 1 week	Within 1 year	Within 3 years	Within 1 week	Within 1 year	Within 3 years	Within 1 week	Within 1 year	Within 3 years
Street Light															
Access Cover															
Number of Deficiencies	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Repaired in Time Frame															
Repaired - Overdue															
Not Repaired - Not Due															
Not Repaired - Overdue															
Miscellaneous															
Other															
Number of Deficiencies	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Repaired in Time Frame															
Repaired - Overdue															
Not Repaired - Not Due															
Not Repaired - Overdue															
Street Light Total															
Total															
Number of Deficiencies	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Repaired in Time Frame															
Repaired - Overdue															
Not Repaired - Not Due															
Not Repaired - Overdue															

Level IV Conditions

Orange and Rockland Utilities, Inc.										
Summary of Deficiencies and Repair Activity Resulting from the Inspection Process – Level IV Conditions										
As of 12/31/17										
Level IV Conditions	**2013**	**2013**	**2014**	**2014**	**2015**	**2015**	**2016**	**2016**	**2017**	**2017**
	Number of Conditions Found	**Number of Conditions Repaired**	**Number of Conditions Found**	**Number of Conditions Repaired**	**Number of Conditions Found**	**Number of Conditions Repaired**	**Number of Conditions Found**	**Number of Conditions Repaired**	**Number of Conditions Found**	**Number of Conditions Repaired**
Overhead Facilities										
Pole Condition										
Pole Condition	992	27	2,147	45	909	27	2,594	60	1749	2
Grounding System	2,724	164	5,267	173	3,953	130	9,654	287	3,399	5
Anchors/Guy Wire	2,180	126	2,132	49	5,053	151	8,630	192	4,473	11
Cross Arm/Bracing										
Riser										
Conductors										
Primary Wire/Broken Ties										
Secondary Wire										
Neutral										
Insulators										
Pole Equip										
Transformers										
Cutouts										
Lightning Arrestors										
Other Equipment										
Miscellaneous										
Trimming Related										
Other										
Overhead Facilities Total	**5,896**	**317**	**9,546**	**267**	**9,915**	**308**	**20,878**	**539**	**9,621**	**18**

Orange and Rockland Utilities, Inc.

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

As of 12/31/17										
Level IV Conditions	**2013**	**2013**	**2014**	**2014**	**2015**	**2015**	**2016**	**2016**	**2017**	**2017**
	Number of Conditions Found	**Number of Conditions Repaired**	**Number of Conditions Found**	**Number of Conditions Repaired**	**Number of Conditions Found**	**Number of Conditions Repaired**	**Number of Conditions Found**	**Number of Conditions Repaired**	**Number of Conditions Found**	**Number of Conditions Repaired**
Transmission Facilities										
Towers/Poles										
Steel Towers	480	27	917	59	707	28	907	8	597	1
Poles	2,046	383	3,720	432	1,317	258	986	129	138	
Grounding System	135	31	22	10	11	3	6	2	7	
Anchors/Guy Wire	23	5	25	4	31	1	34	3	69	
Crossarm/Brace	195	65	447	48	314	23	252	10	282	4
Conductors										
Cable	2		1		4	1				
Static/Neutral										
Insulators			2		2				2	
Miscellaneous										
Right of Way Condition	468	108	582	149	144	47	152	17	161	6
Other										
Transmission Facilities Total	**3,349**	**619**	**5,716**	**702**	**2,530**	**361**	**2,337**	**169**	**1256**	**11**

Orange and Rockland Utilities, Inc.

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

As of 12/31/17										
Level IV Conditions	**2013**	**2013**	**2014**	**2014**	**2015**	**2015**	**2016**	**2016**	**2017**	**2017**
	Number of Conditions Found	**Number of Conditions Repaired**	**Number of Conditions Found**	**Number of Conditions Repaired**	**Number of Conditions Found**	**Number of Conditions Repaired**	**Number of Conditions Found**	**Number of Conditions Repaired**	**Number of Conditions Found**	**Number of Conditions Repaired**
Underground Structures										
Underground Structures										
Damaged Cover										
Damaged Structure	8				322	6	60		24	
Congested Structure										
Damaged Equipment										
Conductors										
Primary Cables										
Secondary Cable										
Neutral Cable										
Racking Needed										
Miscellaneous										
Other	20		4		4				4	
Underground Structures Total	**28**		**4**		**326**	**6**	**60**		**28**	
Pad Mount Transformers										
Pad Mount Transformers										
Damaged Structure	8				322	6	60		24	
Damaged Equipment										
Cable Condition										
Oil Leak										
Off Pad										
Lock/Latch/Penta										
Miscellaneous										
Other										
Pad Mount Transformer Total	**8**				**322**	**6**	**60**		**24**	

Orange and Rockland Utilities, Inc.										
Summary of Deficiencies and Repair Activity Resulting from the Inspection Process - Level IV Conditions										
As of 12/31/17										
Level IV Conditions	2013	2013	2014	2014	2015	2015	2016	2016	2017	2017
	Number of Conditions Found	Number of Conditions Repaired	Number of Conditions Found	Number of Conditions Repaired	Number of Conditions Found	Number of Conditions Repaired	Number of Conditions Found	Number of Conditions Repaired	Number of Conditions Found	Number of Conditions Repaired
Streetlights										
Street Light										
Base/Standard/Light										
Handhole/Service Box										
Service/Internal Wiring										
Access Cover										
Miscellaneous										
Other										
Street Light Total										
Total Level IV Conditions										
Overall Total	**9,281**	**936**	**15,266**	**969**	**13,093**	**681**	**23,335**	**708**	**10,929**	**29**

Summary

Orange and Rockland Utilities, Inc.							
Summary of Deficiencies and Repair Activity Resulting from the Inspection Process							
As of 12/31/17							
Year	Priority Level /Repair Expected		Deficiencies Found (Total)	Repaired In Time Frame	Repaired - Overdue	Not Repaired - Not Due	*Not Repaired – Overdue
2013	I	Within 1 week	197	194	3	-	-
	II	Within 1 year	298	275	23	-	-
	III	Within 3 years	898	881	10	-	7
	IV	N/A	9,254	619	-	-	-
2014	I	Within 1 week	53	53	-	-	-
	II	Within 1 year	207	207	-	-	-
	III	Within 3 years	1,938	1,889	28	-	21
	IV	N/A	15,263	702	-	-	-
2015	I	Within 1 week	109	106	3	-	-
	II	Within 1 year	121	120	1	-	-
	III	Within 3 years	955	637	-	318	-
	IV	N/A	12,607	361	-	-	-
2016	I	Within 1 week	92	85	7	-	-
	II	Within 1 year	480	479	1	-	-
	III	Within 3 years	1,358	356	-	1,002	-
	IV	N/A	23,245	169	-	-	-
2017	I	Within 1 week	124	124	-	-	-
	II	Within 1 year	689	132	-	557	-
	III	Within 3 years	621	193	-	428	-
	IV	N/A	10,890	11	-	-	-

**Note: O&R plans to complete the overdue repairs in conjunction with capital projects and scheduled facility outages.*

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Exhibit 1

CERTIFICATION
STRAY VOLTAGE TESTING

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

Francis W. Peverly, on this __ day of February 2018, certifies as follows:

1. I am the Vice President, Operations of Orange and Rockland Utilities, Inc. ("the Company"), and in that capacity, I make this Certification for the annual period ending December 31, 2017 ("annual period") based on my knowledge of the testing program adopted by the Company in accordance with the Public Service Commission's Orders issued and effective January 5, 2005, July 21, 2005, December 15, 2008, March 22, 2013 and January 8, 2015 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 publicly accessible metallic street light and traffic signal poles located in public thoroughfares in the Company's service territory ("Street Lights"), and (ii) publicly accessible electric facilities owned by the Company ("Facilities") in conjunction with the facility five year inspections, as identified through a good faith effort by the Company, for stray voltage ("Stray Voltage Testing Program").

3. 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 annual period. Except for untested structures that are identified as inaccessible in the Company's Annual Report, submitted herewith, the Company is unaware of any Facilities or Street Lights that were not tested during the annual period.

4. 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 Street Lights 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 Street Lights were known to exist or reasonably expected to be found.

F W Peverly

Francis W. Peverly

Sworn to before me this 13th day of February, 2018

Notary Public: Paula M. Jeck

PAULA M. JECK
Notary Public, State of New York
No. 01JE6366925
Qualified in Westchester County
My Commission Expires November 6, 2021

CERTIFICATION
FACILITY INSPECTIONS

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

Francis W. Peverly, on this __ day of February 2018, certifies as follows:

1. I am the Vice President, Operations of Orange and Rockland Utilities, Inc. ("the Company"), and in that capacity I make this Certification for the annual period ending December 31, 2017 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, 2005, July 21, 2005, December 15, 2008, March 22, 2013 and January 13, 2015 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 on a five-year inspection cycle all of its electric facilities ("Facilities"), as identified through a good faith effort by the Company, in accordance with the requirements of the Orders (the "Facility Inspection Program").
3. I hereby certify that, to the best of my knowledge, information and belief, the Company has implemented and completed its Stray Voltage Visual Inspection Program for the annual period. Except for structures that are identified as inaccessible in the Company's Annual Report, submitted herewith, the Company is unaware of any Facilities or Street Lights that were not inspected during the annual period.

F W Peverly

Francis W. Peverly

Sworn to before me this 13th day of February, 2018

Notary Public:

Paula M. Jeck

PAULA M. JECK
Notary Public, State of New York
No. 01JE6366925
Qualified in Westchester County
My Commission Expires November 6, 2021