



Orange & Rockland

**Preparation and Restoration Performance Report
Tropical Storm Isaias
(Matter 20-01633)**

August 4 – August 11, 2020

October 13, 2020
Pearl River, New York

Executive Summary

This Emergency Response Performance Assessment (“Report”) reviews Orange and Rockland Utilities, Inc.’s (“Orange and Rockland”, “O&R”, or the “Company”) emergency preparation and restoration efforts as a result of Tropical Storm Isaias (“Isaias”) that struck the O&R service territory on August 4, 2020. This Report is being submitted to the Public Service Commission (“Commission”) in accordance with 16 NYCRR Part 105.4(c).

At approximately noon on August 4, Isaias entered the O&R service territory causing widespread damage to residences, businesses, and O&R’s overhead (“OH”) electric transmission and distribution system. This fast-moving storm unexpectedly turned west just hours before reaching the O&R service territory, with the center passing 65 miles west of New York City at approximately 1500 hours on August 4. The resultant wind and rain disrupted electric service to approximately 138,000¹ customers, closed 158 roads and impacted 935 critical customer locations.²

The amount of tree damage sustained within the O&R service territory far exceeded what was forecast given the short duration during which Isaias passed through the area. Several factors combined to account for the increased damage level including:

- Storm track – the storm passed farther west than expected, exposing the O&R service territory to the right front quadrant of the storm, which is the area of the most damaging winds in any tropical cyclone.
- Wind direction – the prevailing wind direction for the O&R service territory is westerly. Winds from the southeasterly direction are extremely rare, occurring less than 7% of the time in the O&R service territory, and gusts from this direction that exceed 23 mph are even more infrequent. During Isaias, while strong winds were observed from multiple directions, numerous gusts exceeding 44 mph from the southeast were observed and sustained winds were predominately from this direction. This was significant given the level of damage to trees as is discussed in [Section 3.7](#) of this Report.
- Summer foliage – trees with full canopies acted like sails against the wind subjecting them to much greater wind loading.
- Hotter July than normal and very low rainfall year-to-date - hot July temperatures and lower than normal annual rainfall both contributed to weakened trees in the area, making them more brittle and likely to break under strong wind conditions.

¹ The content of this Report is based on O&R’s preliminary analysis of operational data associated with Tropical Storm Isaias. O&R reserves the right to update this Report once it has completed a full review of all data associated with Tropical Storm Isaias.

² Some critical customers had multiple locations affected. For example, Indian Point sirens accounted for 42 of the 935 locations mostly in the Haverstraw, Stony Point and Clarkstown areas, while United Water accounted for another 48 locations throughout Rockland County.

- Excessive rainfall immediately preceding the arrival of Isaias – between August 3 and 4, the area received a total of 2” - 4” of rainfall, which saturated the soil and loosened tree roots.

The strong wind gusts from multiple directions, combined with the preceding rainfall, summer foliage, hot July temperatures and 6” annual rainfall deficit would not by themselves have resulted in such significant damage to trees in the area. Isaias’s path and its effect on the wind direction (and the resultant peak southeasterly winds) played a major role in increasing the level of damage to trees and consequently, the overhead distribution infrastructure. These factors are discussed in greater detail in [Section 3.1](#) of this Report.

The majority of the damage to the O&R electric system, and the consequential outages, resulted from tree contacts, with trunk failure being the leading cause of contact between the trees and the Company’s infrastructure. Restoration efforts were difficult and time-consuming due to the significant amount of tree damage that occurred. Fallen trees on public roads and on O&R infrastructure preoccupied Company resources for the first four days of the event as crews worked with municipalities to clear the roads.

Despite the significant damage to the O&R distribution system resulting from Isaias, improvements such as ongoing infrastructure investments; the integration of Automated Metering Infrastructure (“AMI”) into the Company’s outage management system (“OMS”); lessons learned from previous major events; and organizational enhancements to its Incident Command System (“ICS”) allowed the Company to achieve its best customer restoration rate of any major event affecting greater than 100,000 customer in the past 20 years. The 1,063 customers restored/hour for Isaias exceeded the Company’s next best performance (Superstorm Sandy in 2012) by 26% and exceed its performance during last major event to hit the O&R service territory (Winter Storms Riley and Quinn in 2018) by 86% (see Figure 1 below).

Regardless of these efforts, the Company acknowledges that the information on customer outages and restoration timing provided to customers and municipal leaders did not meet their, or O&R’s, expectations. Many of O&R’s customers, already suffering from the effects of the Covid-19 pandemic, experienced additional personal hardship as O&R worked to restore power to those that had lost it. The Company also recognizes that accurate outage location and duration information is essential for customers and municipal organizations to plan for long and significant service disruptions. The Company has met with a number of municipal leaders and customers to hear, first-hand, their concerns about the storm restoration and to receive their suggestions and recommendations for improving its emergency storm response. The Company is scheduling additional meetings.

In light of the hardship caused by the power outages, O&R offered food and medical reimbursements to customers who were without power for more than two consecutive days. In addition, O&R customers who were without service for 72 consecutive hours received an adjustment to their bill that will reflect a one-time reduction to their monthly basic customer charge. All reimbursements were paid for from shareholder funds.

O&R also recognizes the value of assessing its performance after each storm to identify opportunities for improvement. This Report is an important step in O&R’s work with regulators, customers, and municipal partners to determine ways to strengthen future storm preparation and restoration efforts. The Company stands firmly committed to continually improving its storm response capabilities in order to better serve its customers. In addition, the Company plans to review all aspects of its response to this event to identify the drivers that propelled its customer restoration performance. Appropriate changes will be incorporated into its Electric Emergency Response Plan (“ERP”) and other policy guidelines or procedures to improve the Company’s preparation and restoration efforts when future weather events threaten the O&R service territory.

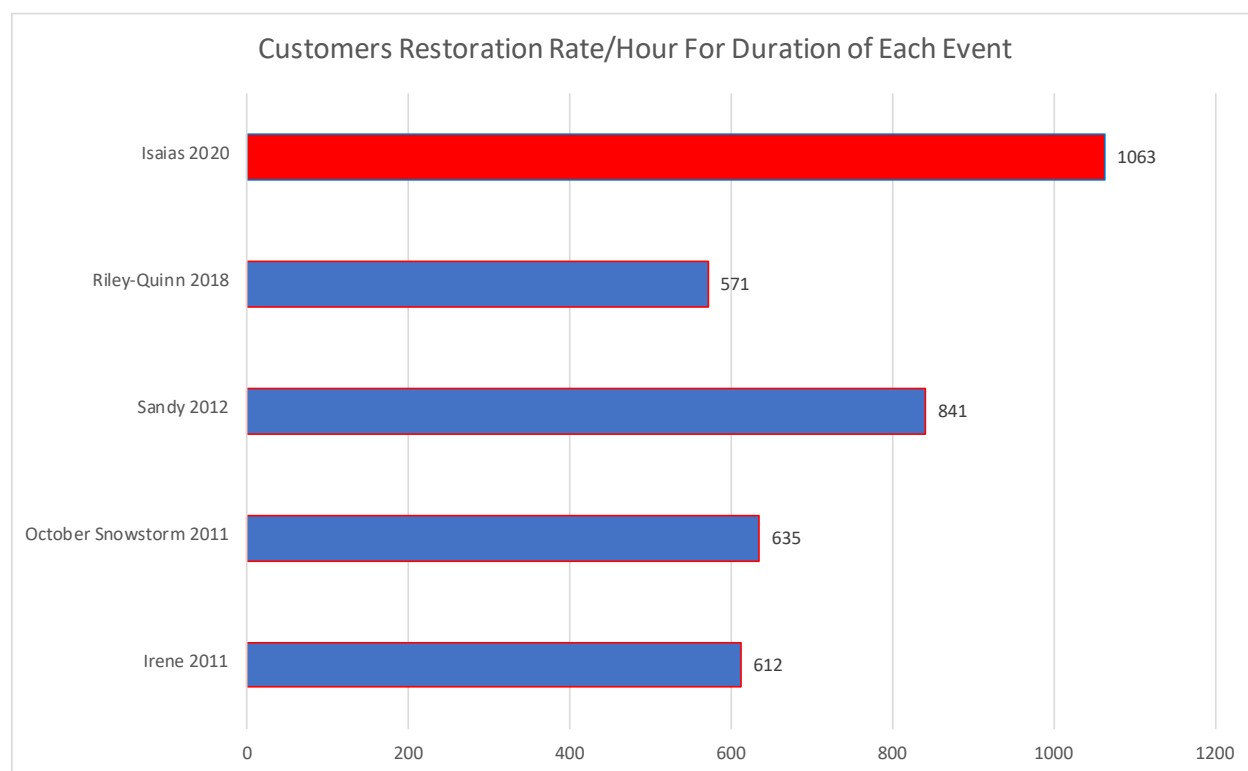


Figure 1 - Hourly Restoration Rates – Major Events Affecting Greater Than 100,000 Customers

Finally, it is important to note that the Company’s employees, contractors, and mutual assistance forces performed this work under adverse conditions without experiencing any significant injuries during the restoration. This point cannot be understated given the current COVID-19 environment affecting all aspects of both professional and personal life for every individual that contributed to the restoration of affected customers. The dedication of O&R’s entire storm response workforce in all capacities was exemplary.

Document Navigation

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List of Acronyms

Acronym	Term
AMI	Advanced Metering Infrastructure
AAM	After Action Meeting
CECONY	Consolidated Edison Company of New York, Inc.
CEI	Consolidated Edison, Inc.
CIMS	Customer Information Management System
CRT	Community Response Team
CSR	Customer Service Representative
DA	Distribution Automation
DCC	Distribution Control Center
DSCADA	Distribution Supervisory Control and Data Acquisition
EIC	Emergency Information Center
ERP	Emergency Response Plan
ETR	Estimated Time of Restoration
FTE	Full Time Equivalent
ICS	Incident Command System
IT	Information Technology
IVR	Interactive Voice Response Unit
LSE	Life Support Equipment
MPH	Miles Per Hour
NMS	Oracle Network Management System
NJ	New Jersey
NY/NYS	New York/New York State
NYCRR	New York Codes, Rules and Regulations
NYC	New York City
NWS	National Weather Service
O&R	Orange and Rockland Utilities, Inc.
OEM	Office of Emergency Management
OH	Overhead
OMS	Outage Management System
PCB	Polychlorinated Biphenyl
PRG	Priority Response Group
REV	Reforming the Energy Vision
ROW	Right-of-Way
RPM	Restoration Priority Matrix
SCADA	Supervisory Control and Data Acquisition
SERT	System Emergency Restoration Team
SMS	Short Message Service

Acronym		Term
SOR		Start of Restoration
SRT		Special Response Team
UG		Underground
VM		Vegetation Management

1. Introduction

1.1. Company Overview

Orange and Rockland is a wholly-owned subsidiary of Consolidated Edison, Inc. (“CEI”), and an affiliate of Consolidated Edison Company of New York, Inc. (“CECONY”), one of the nation’s largest investor-owned energy companies. O&R and its wholly owned New Jersey utility subsidiary, Rockland Electric Company, serve a population of approximately 740,000 through a fully integrated electric transmission and distribution system covering Rockland County; parts of Orange and Sullivan Counties in New York; and parts of Bergen, Passaic and Sussex Counties in New Jersey (collectively the “Orange and Rockland System”). Given the integrated nature of the Orange and Rockland System, certain information presented in this Report is available only on an Orange and Rockland System basis (and is designated as such).

O&R’s service territory is comprised of three distinct geographic areas. For purposes of reliability reporting, the Company apportions these areas into three separate operating divisions: Eastern Division, Central Division and Western Division. The Eastern Division encompasses all of Rockland County. The Central Division encompasses the southwestern portion of Orange County. The Western Division encompasses the northwestern portion of Orange County, as well as a section of southern Sullivan County.

Customers receive electric service primarily through an OH distribution system of primary and secondary conductors. A minority of customers receive electric service through an underground (“UG”) residential distribution system originating from an OH supply line. Extreme weather events such as heavy rain, lightning, high winds, heavy wet snow, ice or heat can adversely impact the integrity of the system, resulting in interruptions of electric service. Because electricity is a critical element in our customers daily lives, prompt restoration is a customer expectation and an Orange and Rockland priority.

1.2. Storm Hardening and Resiliency Measures

The Company has continued to expand on measures initiated after Superstorm Sandy that are designed to harden its infrastructure and enhance its resiliency to events such as Isaías. Specific measures that benefited customers during Isaías and that are discussed in greater detail below include:

- Tree trimming and vegetation management;
- Electric distribution system investments;
- Distribution automation (“DA”); and
- Automated Metering Infrastructure (“AMI”).

Tree Trimming and Vegetation Management

In order to provide the highest degree of electric system reliability for the benefit of its customers, O&R has developed a long-range vegetation management (“VM”) plan to manage and minimize power outages due to encroaching tree limbs or overgrown vegetation on its infrastructure. The single largest cause of electric power outages in the O&R service territory occur when trees, or portions of trees, grow or fall into OH power lines. O&R actively works to mitigate these threats by following established industry standards and best practices in the management of vegetation in and around its facilities. O&R’s plan supports an integrated approach to managing vegetation within a financially and environmentally prudent framework intended to maintain a high degree of reliability of the electric transmission and distribution system.

Subsequent to Superstorm Sandy, the Company retained a consultant³ to perform an Urban Tree Health Study. The study provided the Company with an overview of its tree populations and an evaluation of its Distribution VM program. The Company implemented recommendations from the study to enhance its existing Distribution VM program, including establishing new clearance standards for all distribution feeders. In addition, as an outgrowth of the Distribution VM program review, the Company instituted a branch reduction program. In this program, long limbs that cannot be removed are reduced in length to make the limbs both lighter and sturdier. This allows these limbs to better withstand snow/ice loading and be less likely to break, which reduces the potential for outages and infrastructure damage. The most visible change to the Company’s Distribution VM program was the expansion of its clearance zone to its current values of 15 feet under, 15 feet to each side, and 20 feet over top of its OH distribution system.

O&R uses a contractor workforce to execute its Distribution VM program. The Company incorporated the revised specifications discussed above into contracts awarded after 2013 (the Distribution VM program is based upon a three- to four-year cycle with contracts awarded to coincide with the cycle).

Concurrent with those specification enhancements, Orange and Rockland expanded communications with customers and municipalities. The Company’s VM group took part in many community outreach and information sessions with municipalities, Shade Tree Commissions, and Departments of Public Works, to explain the need for cooperation when the Company is performing scheduled distribution VM work in their communities. These information sharing sessions and community outreach meetings have been positively received and proven to be extremely beneficial in communicating the need for continual and proactive distribution VM.

³ BioCompliance Consulting, Inc. located in Redmond, WA is a consultant that focuses on utility operations, maintenance, and construction with emphasis on reliability and process efficiency.

The Company saw benefits from various components of its Distribution VM program enhancements, specifically a hazard tree removal program that was implemented after Winter Storms Riley and Quinn. The Company has removed a total of 2,138 hazard trees⁴ since the program's inception in August 2018.

Electric Distribution System Investments

Restoration efforts benefited from a number of programs the Company initiated after Superstorm Sandy and supplemented after Winter Storms Riley and Quinn to storm harden infrastructure, improve resiliency, and increase efficiencies in the storm restoration process. The efforts listed below have had a positive impact on both the total number of customers that experienced outages and the duration of service interruptions.

O&R has completed more than 50 storm hardening projects since Superstorm Sandy that have been very effective in eliminating or limiting outages in the locations where they have been implemented. The Company continues to identify areas that will benefit from hardening or resiliency projects, with one project currently in construction and another in the design phase and scheduled to be completed in 2021 (see the discussion below). The types of projects can include:

- Reducing circuit segment sizes through the addition of sectionalizing switches;
- Undergrounding a substation feeder exit (and eliminating double circuit pole lines);
- Establishing new circuit ties;
- Upgrading an existing line to mainline construction;
- Replacing open wire and aging poles with a new spacer cable (Hendrix) system; and
- Relocating poles to the street from off-road ROWs.

A specific storm hardening project that would have provided benefits during Isaias is the undergrounding of the double circuit pole line on the Congers Road causeway crossing over the Lake DeForest Reservoir in Rockland County. Due to the high winds that blew across the reservoir, 11 poles fell and needed to be reset (see Photo 1 and 2). In recent years, numerous poles along the $\frac{3}{4}$ mile causeway have been brought down at various times by strong winds crossing the reservoir, most recently during a thunderstorm at the beginning of July 2020. Each time a pole comes down along the stretch of roadway, over 2,000 customers in the Clarkstown/New City area are affected. The Company had plans to underground the two feeders in 2021, but with two incidents occurring within such a short timeframe, the Company accelerated this \$2.4 million project into the 2020 budget cycle. O&R began work on this project during the third week of August 2020.

⁴ Hazard trees are defined as trees that are in danger of falling into power lines. They are primarily, but not limited to, dead or dying trees. They can be either within or outside the Company's clearance right-of-way ("ROW").



Photo 1 – Pole down along causeway crossing Lake DeForest Reservoir

The Company is also finishing up the design of an express UG feeder from the Monroe Substation to the Kiryas Joel. In addition to providing redundancy and additional capacity to the area, the UG design will protect the feeder from the effects of weather events on the area.

Distribution Automation

The Company has continued to build out its distribution automation capability throughout its service territory. To date, O&R has installed over 1,000 Supervisory Control and Data

Acquisition (“SCADA”) controlled field devices including multiple recloser loops that allow for automatic fault isolation. These autoloop schemes reduce customer outages and provide the Distribution Control Center (“DCC”) with immediate notification of system issues. In addition, by employing advanced control systems in the DCC, the Distribution Supervisor has the ability to gain visibility into system statistics and field device status. The ability to communicate with the field devices also gives the Distribution Supervisor the ability to segment damage locations and restore customers without field personnel onsite.



Photo 2 - Contractor repairing double circuit pole line along the causeway over Lake DeForest.

During Isaías, the Company and its customers continued to see the benefits of this program. There was a significant reduction in the number of customers affected due to the Company’s distribution automation program. Having the ability to operate devices from the DCC allows field personnel to spend more time restoring the system and less time driving to switching devices. There were 656 truck rolls saved by the DCC either operating devices remotely to isolate faults and restore customers, or remotely enabling protection schemes for the safety of the Company’s line workers performing non-outage repairs. (See Table 1 below)

The Company plans to continue its distribution automation/smart grid deployment until fully deployed throughout its system. O&R will continue to incorporate and employ storm hardening principles in its standard electric distribution designs moving forward.

	NY
Remote Switching	301 switching steps 193 safety related steps
Truck rolls saved	494
Customer outages shortened via remote switching	162 switch steps shortening 65,850 customer outages.
Truck rolls saved	162
Customers outages avoided by Distribution Automation	43 auto loops operated saving 33,900 customers.
	21 sectionalizing reclosers operated saving 12,900 customers.
	Total 46,800

Table 1 - Distribution Automation Switching Summary

With the enhanced capability of the system to self-heal (auto loops) and the ability for the DCC to interface dynamically with and control switching devices, the reliability and storm resiliency of the O&R distribution system will continue to improve as the Company continues to build out its infrastructure.

1.3. AMI and Smart Meters

AMI became an essential aspect of service restoration activities during Isaias enabling the Company to boost the effectiveness of its outage management operations, as well contributing to a reduction in outage duration and costs. Smart meters automatically transmitted a “last gasp” notification when power to the meter was lost. This enabled automatic outage and restoration notification, which previously had to be verified by a phone or service call. Smart meters also transmitted “power on” notifications to the OMS when power was restored. The Company used this information effectively to manage service restoration efforts and helped to confirm partial restoration steps for larger outages.

O&R began deploying AMI in July 2017 and expected to have more than 99% of the meter installation work completed by October 1, 2020. As of August 4, 2020, the Company had deployed 223,000 electric smart meters of its total populations of 233,000 electric meters across Rockland, Orange and Sullivan Counties. The meters use a “mesh” communication network that provides resilient and redundant communication between the meters and the head end via 273 access points and 378 relays strategically deployed across the service territory.

The deployment plan for these devices requires that every AMI meter be able to communicate with at least two communication devices, each of which must be provisioned by a different

cellular network. The entire design uses this “checkerboard” approach to the cellular carriers. The network is self-healing such that the meters search for nearby active communications devices and establish connection when the devices normally used for connection suffer an outage. To maintain integrity of the system, each AMI communication device is deployed with eight-hour battery back-up to provide power when device’s electric service is interrupted. Because the batteries are fairly new, many have lasted longer than eight hours with some batteries lasting in excess of 24 hours during Isaias.

Prior to the event, the Company had deployed 813 AMI communication devices. From August 4 through August 5, 288 of 813 devices lost power at some point, 175 of which powered down after depleting their respective batteries. Despite the loss of this equipment, the Company was still able to maintain communication with no less than 75% of all smart meters throughout the event. These statistics confirm the strength and resiliency of O&R’s AMI communications infrastructure.

The Company currently has two computer systems in place for outage management functionality with AMI, STORM and an integration with the Company’s OMS. STORM is a standalone computer system that allows for analysis of customer energy usage by means of manually initiated pings (remote checking of meter) that can retrieve on-demand reads of voltage, energy consumption, reactive power consumption and events/alarms. STORM visualizes the data and allows an analyst to evaluate any single outage job in detail.

The integration of the AMI power off/on notification process directly into the OMS further enhances the Company’s outage tracking capability. The OMS receives inbound AMI messaging alarms for outages at the transformer level or higher. This information automatically produces outage incidents in the OMS in the same manner as customer calls except they are noted with an AMI trouble code.⁵ As customers are restored, the OMS receives inbound AMI messaging that the OMS uses to update automatically the status of active jobs with power up information and partial restoration. With more than 223,000 Smart Meters deployed across the O&R service territory at the time Isaias struck, the Company was able to understand the scope and volume of affected customers more rapidly than during large scale storms in the past.

During Isaias, O&R had an opportunity to conduct a real-time test of the redundancy built into the AMI system. The system’s battery solution, as well as extra communication device capacity and built in system redundancy, helped maintain communications with the individual meters throughout the duration of this event.

⁵ When incidents are created in the Company’s OMS, the incident includes a field with has trouble codes as to the nature of the incident. Typical trouble codes include, NP – no power; PP- partial power; WG – wire on the ground; FL – flickering lights; and AMI – AMI meter reported partial/no power condition.

Along with the alarming feature discussed above, integration of the AMI into the OMS allows individual meters and groups of meters to be pinged *en masse* through the OMS. The Company formally incorporated responsibility for use of the ping feature to confirm the power status of individual customers within the Restoration Analysis⁶ (“RA”) Branch of the Planning Section shortly after it was made available in the OMS in May 2020. Having the ability to “ping” the Smart Meters greatly improved the efficiency of the Company’s restoration process by eliminating unnecessary truck rolls and dispatching restoration crews only to actual outage locations.

The Company also used this process to verify quickly partial restoration steps on larger outages, allowing the Company to then communicate its restoration activities in a timelier manner than during previous events. The Company is working to develop a system to allow for AMI data to be used to identify automatically single service outages. Once in place, it will greatly reduce the need for analysts to ping individual meters manually with the STORM computer system.

During the course of the Isaias restoration, the Company “pinged” approximately 84,000 AMI meters associated with outages. Of those, approximately 54,000 responded to the “ping” with a “power on” message thus saving 2,286 truck rolls to investigate the incidents where customers already had power restored.

Beyond these two systems that interact with the AMI meters, O&R also had access to data obtained from the Company’s AMI Operations Control Center (“AOCC”). The AOCC worked with Information Technology (“IT”) specialists to produce a report every eight hours that combined active outages in OMS with a systemwide ping/voltage read job run directly in the AMI Head End System⁷ and summarized meters that returned a “power on” status. The AOCC forwarded the report to the RA group for review and close out.

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⁶ The Restoration Analysis Branch of O&R’s ICS organizational has the responsibility for collecting, and then providing a detailed analysis of, information from multiple sources to support the workforce planning process.

⁷ The meters pinged in the production of the eight-hour reports are not included in the total number of meters pinged as discussed above.

2. Pre-Storm Preparations

2.1. Weather Forecast – Tropical Storm Isaias

O&R's storm preparation begins with weather forecasts. The Company's meteorologists track storms from their inception and produce weather forecasts tailored to the Company's service territory. The forecasts rely on data from radar, satellite, and weather station sources; Numerical Weather Prediction models and CECONY's own internal impact model; the National Weather Service ("NWS"); and a paid weather service that provides forecast data to utilities and other companies.

The CECONY impact model estimates the number of job tickets (*i.e.*, outage jobs) that a storm will cause. The impact model relies on data from past storms and uses the current forecast as an input to predict job counts. The model also includes variables for peak wind gust, peak wind gust calibrated by direction and occurrence (*i.e.*, the number of days since the peak wind gust last occurred from a similar direction), rainfall, snowfall, snow-liquid ratio, foliage, soil moisture (derived from US Geological Survey streamflow data sensors), severe thunderstorms, flooding and "major storms." The models correlate these variables to daily overhead outage job information and adjust the number of overhead outage jobs to account for the increase in force resulting from an increase in wind speed. The Company updates the model annually to reflect recent storms and evaluate new variables. In 2019, the Company added a new variable – momentum – to account for strong winds over multiple days.⁸⁹

O&R uses its weather and impact forecasts as an input in its decision making for a storm. Among other things, the Company uses them to initiate planning, assign a category to the storm, mobilize Company and external resources to a range of pre-determined minimum staffing levels and as a trigger to initiate certain communications with customers, government officials, the media, and emergency response personnel.

The Company makes its final staffing decisions based on the weather and impact forecasts and other factors. The most important factor is the Company's goal to restore customers expeditiously following storms in order to meet increasing customer expectations for shorter outage periods. This typically results in the Company securing staffing above levels indicated by the weather and impact models, which is what the Company did for Isaias.

The National Hurricane Center issued its first public forecasts and advisories for Isaias on July 28, 2020 at 1500 UTC (11:00 a.m. EDT) and followed with updates throughout the day on

⁸ It should be noted that a little less than a month prior to Isaias, the model was on target. For Tropical Storm Fay, which hit the Company's service territory on July 10, 2020, the Company's impact model predicted between 15 and 100 outage jobs. The actual number was 70 outage jobs.

⁹ Momentum uses peak wind gusts from two consecutive days.

July 29 and 30 for areas in the South Atlantic and the east coast of Florida. Once a determination was made that there was a potential for the storm to impact the tri-state area, the NWS New York office began conducting daily online webinars, the first being on July 31, 2020. O&R began internal tracking on July 29 and preparation conference calls on July 30.

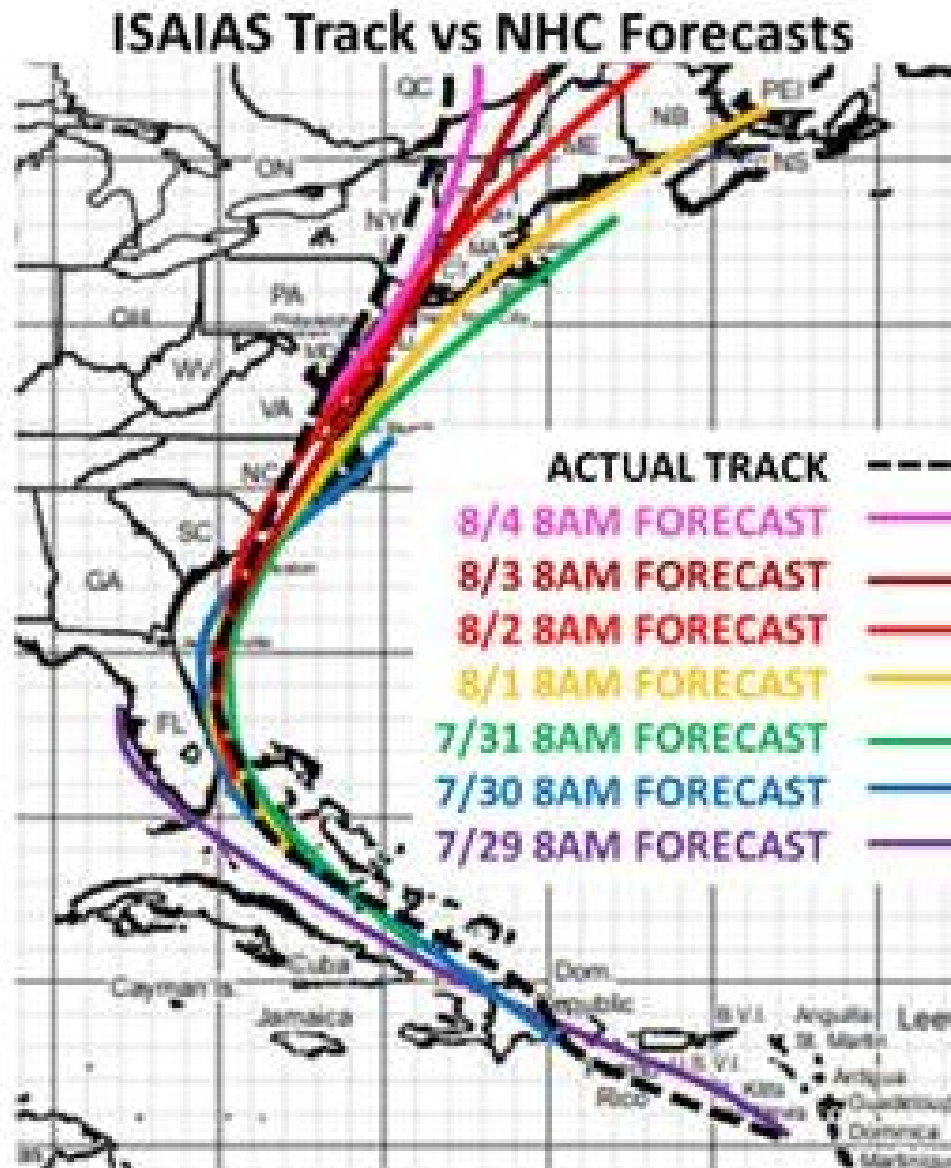


Image 3 - Isaias Storm Track

The NWS held subsequent webinars on August 1-3, 2020, as well as issuing daily weather forecast reports briefings. On the August 2, 2020, in Briefing #4 issued at 1800 hours, the NWS forecasted a 40-50% chance of tropical force winds to impact coastal areas of the region and only a 25-35% chance of tropical force winds to impact inland areas. The [morning weather forecast](#) issued the same day by CECONY's staff meteorologist concurred with the NWS forecast, as did the Company's paid subscription weather service.

The NWS issued a tropical storm warning for Rockland County and a tropical storm watch for Orange County at 0700 hours on August 3. The NWS issued no weather statements for Sullivan County at this time or at any subsequent times. On the NWS webinar at 1430 hours, there remained uncertainty as to the exact track of the storm; however, the greatest potential for damaging winds and rain remained to the east of the O&R service territory. Again, the [morning weather forecast](#) issued by CECONY's staff meteorologist concurred with both the NWS forecast and the Company's paid subscription weather service.

The NWS issued its final briefing prior to the arrival of Isaias at 0600 hours on August 4. As with previous weather briefings, there was no indication of the storm moving further westward from its forecasted track and confidence was moderate to high as to the timing and impact of the storm. As with the previous two days, the [morning weather forecast](#) issued by CECONY's staff meteorologist concurred with both the NWS forecast and the Company's paid subscription weather service.

2.2. Resource Mobilization

In the days leading up to Isaias, the Company began preparatory communication and mobilization measures for the storm in accordance with Section 3 of the ERP. As the storm approached, the Company advised customers to brace for possible outages as O&R mobilized crews, contractors, and storm emergency staff.

On August 4, at 0700 hours, the Company mobilized its ICS Organization, consisting of Command Staff, General Staff, and Branch Directors, along with key storm response and restoration teams. The ICS Organization remained mobilized through the end of the restoration period, *i.e.*, August 11. Once activated, the Company transitioned to storm mode with non-essential operational day-to-day activities suspended in lieu of storm response activities.

O&R's storm preparation activities included:

1. Beginning on July 30, the Company held operational and planning conference calls to discuss the forecasted weather, forecasted outage volumes, mobilization and resource/staffing plans.
2. Classification of the storm reflective of the expected impact on customers, the system, and estimated restoration duration.
3. Establishment of an ICS structure and mobilization of trained internal personnel to assume various roles within the ICS structure. This includes both employees in which emergency activities are the same as their normal job functions, and those whose emergency activities differ from their normal job functions. The establishment of an ICS structure provides a scalable storm management structure with dedicated functions

such as workforce and mutual assistance resource management, damage assessment, site safety, system restoration, logistics, and other supporting functions such as:

- a. Special Response Team (“SRT”) - Communication and assistance for escalated customer calls, life support equipment (“LSE”) and special needs customers, regulatory liaisons and reporting, and police and fire department calls;
 - b. Community Response Team (“CRT”) – Provision of direct, on-site assistance to municipalities as required throughout the event; and
 - c. Emergency Information Center (“EIC”) – Single source of storm restoration and recovery information.
4. The ICS organization further provides for the delegation of overall restoration responsibility to a System Emergency Restoration Team (“SERT”) responsible for the activities of:
- a. Overhead and underground restoration crews;
 - b. Service restoration crews; and
 - c. Mutual assistance and external resources (*e.g.*, damage assessment, site safety, line clearance).
5. Acquisition and allocation of mutual assistance/external resources by operating division to supplement and enhance restoration activities.

2.3. Event Classification

In accordance with Section 3 of the ERP, O&R commences pre-event preparations at the first indication of a potential impact to the O&R service territory. The Company further evaluates event classification (*e.g.*, Upgraded, Serious) in accordance with Section 3 of the ERP and the Storm Classification and Staffing Matrix, [Attachment 4](#). The Company uses this matrix for both pre-mobilization and recovery efforts. The matrix relates forecasted weather conditions with other parameters such as:

- Projected outage jobs;
- Number of customers projected out of service;
- Proposed restoration range; and
- Other variables such as wind, foliage condition, or ground saturation.
- Expected event duration

Once the initial storm classification is determined and the mobilization time is established, O&R officially activates the ERP. The Company conducts a continuous review regarding current resources, system status, and weather forecasts, so as to provide adequate response. If changing conditions require a re-classification of the storm, the Company reviews the Storm Classification and Staffing Matrix, and makes appropriate resource changes based upon the criteria listed for each classification level.

In classifying Isaias, the Company followed the requirements of its [Storm Classification and Staffing Matrix](#). The Company's meteorologists issued their first weather forecast indicating the potential impact of Tropical Storm Isaias on August 2, 2020. Based upon this forecast, the Company pre-classified Isaias as a Storm Category 2A – Serious event effective Tuesday August 4, 2020 at 0700 hours.

Over the weekend, had the direction and nature of Isaias been forecast to be a likely worst-case scenario, the Company would have acted then to secure additional restoration crews beyond those it had already sought. Once the storm track shifted, the Company's ability to obtain additional assistance was limited despite its diligent efforts. As noted in Section 2.4 below, given that Isaias caused significant damage to the areas surrounding the Company's service territory and affected almost five million customers from the Carolinas to Vermont, additional resources were simply not available.

2.4. Mutual Assistance / Contractors

As noted in Section 2.9 of the ERP, Mutual Assistance is a Shared Service provided by CECONY's Emergency Preparedness Department. The Emergency Preparedness Department followed its Acquisition and Allocation of Mutual Assistance and External Resources Guideline, as well as the Mutual Assistance Agreements in place. Throughout planning, mobilization, and restoration, the Emergency Preparedness Department continued to request resources through various available sources (e.g., North Atlantic Mutual Assistance Group ("NAMAG"), contractors) on behalf of O&R.

O&R System-Wide Mutual Assistance Request Acquisition Summary (Line Resources)			
Date Requested	FTEs Requested	FTEs Secured	Outstanding
2-Aug	50	58	-8
3-Aug	70	58	12
4-Aug	750	64	686
5-Aug	680	70	610
6-Aug	605	0	605
7-Aug	600	204	396
8-Aug	200	65	135
9-Aug	0	0	0
Total Line Contractors Secured:		519	

Table 2 - O&R Mutual Assistance Request/Acquisition Summary

Based upon the initial 2A storm classification, the number of external OH line resources were determined on an as needed basis. The 58 FTEs obtained by the Company prior to August 4 exceeded the requirements of a 2B classification.

Once the storm has passed, one of the challenges faced by the Company was the breadth of the storm and its regional impacts. The storm struck the Eastern seaboard of the United States travelling up the Interstate 95 corridor from South Carolina to Maine disrupting service to over 4.9 million electric customers. Because of the widespread impact from the storm, utilities that O&R would ordinarily rely on for mutual assistance were holding crews for their own needs. The Company sought, but did not receive, the full complement of resources needed at critical restoration times during the storm.

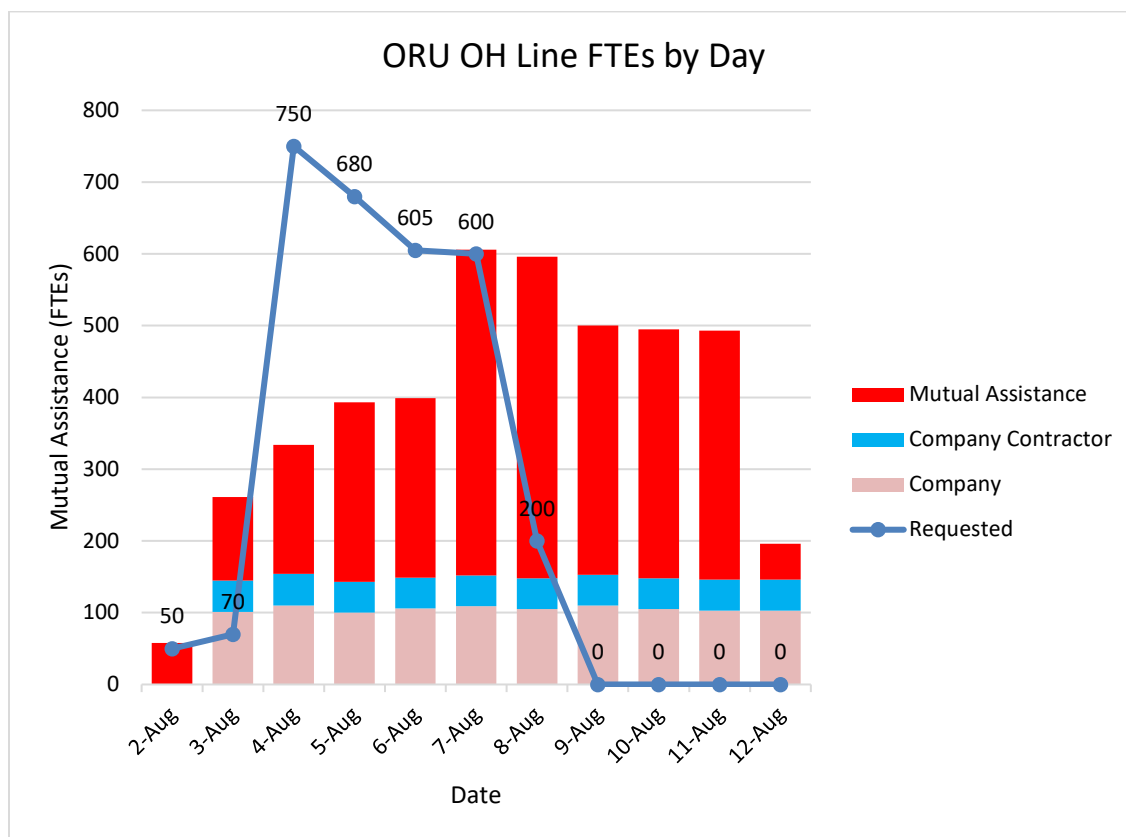


Figure 2 - Mutual Assistance Line FTE Summary

In total, the Company acquired 700 full time equivalents (“FTEs”) from 11 mutual assistance resources (519 line FTEs (as noted in Table 2 above), 142 Tree FTEs, and 39 service restoration FTEs).¹⁰ Figure 2 below summarizes the request and acquisition of mutual assistance line resources. Mutual assistance crews came from a variety of locations, including:

- Line
 - Grays Power (Florida, Atlantic City & Various)
 - Henkels & McCoy (Pittsburgh and Fishkill)

¹⁰ FTEs include support personnel – actual line personnel capable of performing restoration work is slightly less than shown.

- Quality Lines (Ohio)
- SPE Group (Michigan)
- National Grid (Albany)
- PDA Power Grid (Atlantic City)
- Center Phase (Philadelphia)
- Tree
 - Nelson (North Virginia)
 - Asplundh (South Carolina & Texas)
- Service
 - All Bright (local)
 - Welsbach (local)

2.5. Pre-Storm Communications

REGULATORS

On August 3, the Company communicated via e-mail with Department of Public Service Staff regarding its preparatory activities. The Company included its pre-storm mobilization and latest weather forecast (as of that time) in the e-mail.

MUNICIPAL LEADERS and COUNTY OFFICES OF EMERGENCY MANAGEMENT (“OEM”)

On August 3, 2020, in accordance with the ERP, Section 4.6, the CRT sent pre-event notifications to municipal leaders and to County OEMs regarding the anticipated weather forecast and preparation/mobilization activities. Additional information is provided in Section 3.9, External Coordination, and Section 4, Communications, of this Report.

LIFE SUPPORT EQUIPMENT (LSE) CUSTOMERS

On August 3, in accordance with ERP Sections 2.3 and 4.5, the SRT, in conjunction with the Customer Assistance Center, initiated an automated telephone call to contact LSE customers. The message (shown below in Figure 3) included instructions to prepare as needed for inclement weather and the possibility of a power outage. The message also reminded LSE customers of the confidential medical emergency hot-line available for their exclusive use. The number of LSE contacts the Company attempted and actual contacts made prior to the start of Tropical Storm Isaias is shown below in Table 3.

This is an important message from Orange and Rockland Utilities. O&R is preparing for Tropical Storm Isaias. This storm is expected to bring high winds and heavy rains beginning this evening and continuing through the day on Tuesday – August 4th. The severe storm activity may cause damage leading to widespread electric service interruptions. If you have medical equipment that needs to operate continuously, please take the necessary steps now to be prepared in case of a power interruption. If you lose power, we may need to call you, so please let us know if you are relocating.

If you need assistance, please call our Medical Emergency hot line at [REDACTED]. That number again is [REDACTED]. Thank you”

Figure 3 - Tropical Storm Isaias Pre-Storm LSE Message

First Call	Last Call	# of Attempts	# of Customers	Contacted	Answering Machine	No Contact
8/3/2020 8:56 AM	8/3/2020 9:10 a.m.	1,731	1,307	538	593	600

Table 3 - Tropical Storm Isaias Pre-Storm LSE Message Attempts/Contacts

CRITICAL FACILITIES CUSTOMERS

O&R designated critical facilities are defined by Section 2.5 of the ERP as those facilities that provide critical public health or services to the general public. They are designated in priority order as follows:

Critical Facility Level 1 includes facilities critical to public health and safety, including:

- Hospitals and Emergency Medical Facilities;
- Emergency Shelters and Cooling Centers;
- Fire, Police, Paramedics, and Rescue Facilities;
- Emergency Management Offices;
- Water and Wastewater;
- Critical Utility and Communications Facilities;
- Fuel Transfer and Fuel Loading Facilities (ports);
- Mass Transit (tunnels, bridges, ferry terminals, major rail facilities);
- Airports;
- Military Bases; and
- Critical Flood Control Structures.

Critical Facility Level 2 includes facilities that provide significant public services but are considered to some extent less critical by government agencies. These include:

- Nursing Homes and Dialysis Centers;
- Facilities to support other critical government functions;
- Prisons and Correctional Facilities; and
- Communications (*e.g.*, radio, TV).

Critical Facility Level 3 includes those facilities which provide public services but are considered to some extent less critical than Level 2 by government agencies.

- Event Specific Concerns;
- High-Rise Residential Buildings;

- Customers providing key products and services (food warehouse);
- Managed Accounts, Large Employers, and Other Key Customers; and
- Other Government Buildings, Schools, and Colleges.

On August 3, prior to the onset of Isaias, in accordance with ERP, Sections 2.3 and 2.5, the Company's Priority Response Group ("PRG") attempted to alert all critical facilities via outbound telephone calls, prior to the onset of the storm, with pre-storm messaging via outbound telephone calls.

O&R used the pre-storm message shown in Figure 4 below. The number of critical care contacts the Company attempted, and actual contacts made prior to the start of Isaias is listed in Table 4 below.

Hello, this is Orange and Rockland calling with an important message. The latest weather forecast calls for gusty winds and heavy rainfall to impact the O&R service area starting Tuesday August 4th into Wednesday August 5th. At Orange and Rockland, we are preparing to mobilize our crews at the first sign of storm-related damage to our system. We urge you to make preparations as well. Please take whatever steps are necessary for you to weather the possibility of experiencing a power outage. If you need guidance, please contact your Major Account Engineer for assistance. Thank you and please stay safe.

Figure 4 - Tropical Storm Isaias Pre-Storm Critical Facility Message

Summary											
First Call	Last Call	# of Customers	Network Error	Answering Machine	Call Answered	Busy Signal	Fax Machine	No Answer	Missing/Invalid Contact Number	Total Results	Total Attempts
8/3/2020 12:20 p.m.	8/3/2020 12:33 p.m.	388	19	157	95	18	7	73	19	388	388

Table 4 - Tropical Storm Isaias Critical Facility Message Attempts/Contacts

PUBLIC COMMUNICATIONS

In accordance with O&R's ERP, Sections 2.3 and 5.9, on August 3, 2020, O&R issued a press release advising customers of the potential effects of Isaias and how to report power outages. The Company provided tips to customers on how to stay safe and prepare for the storm. The Company updated its Twitter and Facebook pages, as well as the Company's Interactive Voice Response ("IVR") system and Customer Service Representative ("CSR") scripts to convey the same message, and also distributed an email message to customers.

The following are the Company's pre-storm communications for Isaias:

Date/Time	Medium	Content
August 3, 2020 @ 11:30 a.m.	Press Release	O&R Ready to Make Repairs, Restore Power as Tropical Storm Nears
August 3, 2020 @ 3:00 p.m.	Facebook/Twitter	Storm Preparedness Checklist
August 3, 2020 @ 5:00 p.m.	Customer Email	Before a Storm Strikes, Be Prepared
August 4, 2020 @ 8:45 a.m.	Facebook/Twitter	How to Report an Outage

Table 5 - Pre-Storm Communications for Tropical Storm Isaias

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3. Event Response

3.1. Weather Impact

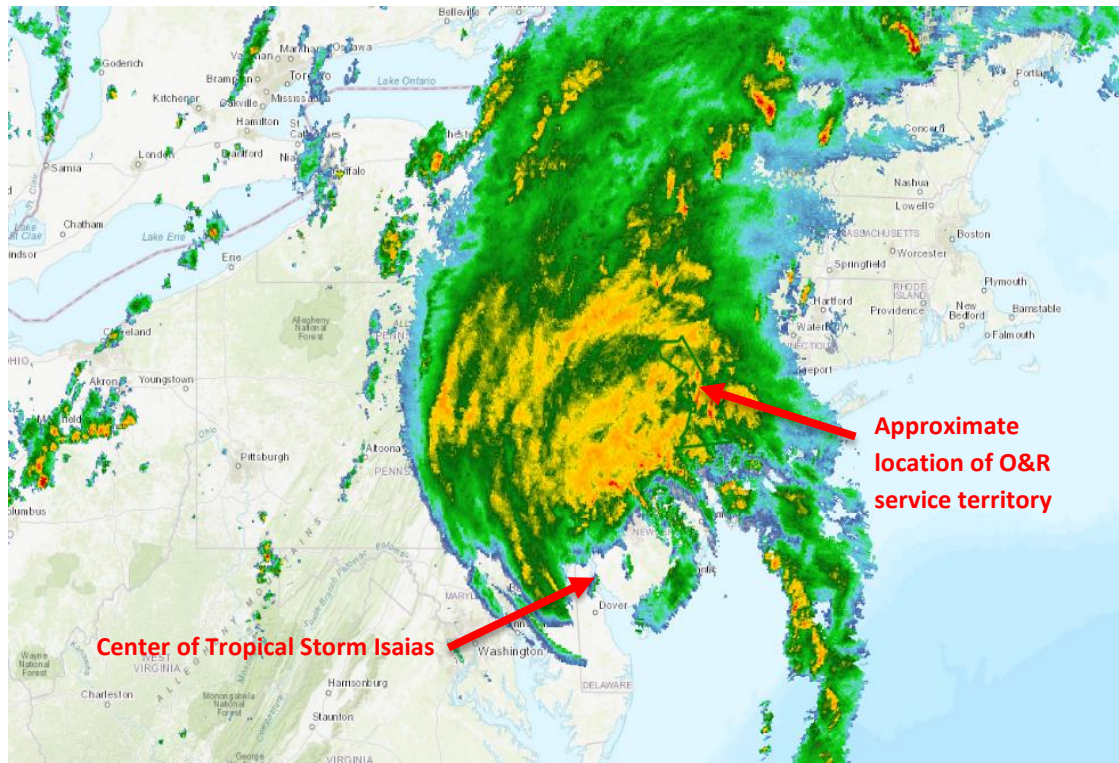


Image 4 - Tropical Storm Isaias 18:45 UTC (11:45 a.m. EDT)

On August 4, 2020 at approximately noon, Isaias arrived with an intensity much greater than forecast, knocking out power to 60% of O&R's electric customers. Approximately four hours before entering the O&R service territory and shortly after the morning weather forecasts were issued, the storm changed track unexpectedly, moving 30 miles west of its forecasted track. Isaias brought 1-2" of rain to the area, along with peak gusts across the O&R service territory of up to 52 mph. The storm's arrival was preceded by an additional 1-2" of rain from August 3-4. (see Table 6 below)

No weather model forecasted the westward shift in the storm's path and the August 4, 0600 NWS briefing made no mention of the unexpected shift. Slide No. 4 of the NWS 0600 briefing forecasted that *"Isaias will only slowly weaken as it accelerates and curves NE to near NYC as a moderately strong tropical storm by late afternoon."* Observed wind gusts and sustained winds as Isaias passed through the O&R service territory were both just slightly above forecast levels (see Table 7 below) but below tropical storm force levels (39 mph sustained winds).

Location	County	Source	Rainfall (in)	Sustained (mph)	Gust (mph)
Otisville	Orange	NY Mesonet	4.27	14	33.2
Warwick	Orange	NY Mesonet	2.85	28.8	49.8
Suffern	Rockland	NY Mesonet	1.61	13.6	42.9
Orange County Airport	Orange	NWS/ASOS	1.68	24	37
Teterboro Airport	Bergen	NWS/ASOS	1.25	34	55

Table 6 - Observed rainfall and wind speed data

A hotter than normal July also likely contributed to wind-related tree damage as extreme heat often weakens trees, making them more brittle and susceptible to failure. This was confirmed by the Davey Resource Group which revealed that 90% of the failed trees inspected had visible indicators of weakness.

Event	Customers Affected	Forecasted – 8/4/2020			Observed		
		Sustained Wind (mph)	Wind Gusts (mph)	Rainfall Total	Sustained Wind (mph)	Wind Gusts (mph)	Rainfall Total
Isaias	138,000 ¹¹	15-30	35-50 peak	1-4"	14-36	29-52 peak	1-4"

Table 7 - Tropical Storm Isaias Forecasted and Observed Weather¹²

The factors above alone do not explain the level of damage observed through Rockland and Orange Counties as the observed winds levels are not uncommon to the O&R service territory. There have been numerous days in the past when these wind levels have occurred with nowhere near the level of damage that occurred when Isaias struck.

Isaias was unique to the O&R service territory due to the track it followed as discussed above. Because it tracked farther inland than forecast, almost the entire O&R service territory was exposed to the storm's right-front quadrant where the worst weather conditions typically occur. No cyclone in more than 50 years tracked in such a manner as to expose the O&R service territory to this, the most devastating section of the storm.¹³ By comparison, Hurricane Irene tracked almost directly over NYC, resulting in very heavy rainfall (5-10") but the strongest winds missing the local O&R area.

¹¹ The customer outage totals are preliminary, as the Company continues to process the customer outages related to Isaias. The Company currently expects that final customer outage totals will be available in November 2020.

¹² Weather forecasted/observed is systemwide.

¹³ Wikipedia – List of New York Hurricanes.

A secondary factor resulting from the inland shift of the storm track was that it affected the wind direction. Strong westerly winds are the most common across the O&R service territory. The winds from Isaias were turbulent and from all directions but predominantly the southeast. Strong winds out of the southeast are extremely rare for the O&R service territory. Tropical storm force winds from this direction have not occurred since Hurricane Irene in 2011. Studies have shown that trees will adapt to their environment, and in the case of wind loading, alter their structure and their root system on both the windward and leeward sides to withstand winds from the prevailing direction.^{14,15} Trees in the O&R service territory are accustomed to westerly winds and have adapted accordingly.

The strong wind gusts coming from what would normally be the leeward (southeast) side of most trees in the area coupled with full summer foliage contributed to the extremely high level of tree damage observed throughout Rockland and Orange Counties (the effect of the wind loading on trees in the O&R service territory is discussed in greater detail in [Section 3.7](#) of this Report).



Photo 5 - Damaged transformer, downed trees, Fanley Avenue, Spring Valley

¹⁴ How does wind affect tree growth? and Acclimation of mechanical and hydraulic functions in trees: impact of the thigmomorphogenetic process Telewski, F.W.

¹⁵ The effects of wind speed and direction on radial growth of structural roots. In: Stokes A. (eds) The Supporting Roots of Trees and Woody Plants: Form, Function and Physiology. Developments in Plant and Soil Sciences, vol 87. Springer, Dordrecht, Nicoll, B.C. and Dunn, A.J.

Had Isaias stayed along its forecasted path resulting in westerly winds that the area is more accustomed to, the level of damage sustained by O&R's electric distribution system would have been significantly less and within expectations of the Company's pre-event mobilization level.

3.2. Event Classification

As the storm approached southern New Jersey and began to change its track, moving further inland, the Company raised the event classification to a Storm Category 2B - Serious on August 4, 2020 at 0930 hours. The Company again revised the storm classification to a Storm Category 4A Full Scale classification at 1400 hours as the number of damage locations significantly ramped up between the hours of 1200 and 1400. At 1700 hours, the Company raised the event classification a final time to a Storm Category 5 Full Scale classification, the second highest level on the O&R storm classification system. Concurrent with the event classification upgrades, each branch of the ICS response organization increased its staffing levels in accordance with the requirements of [Staffing Matrix](#).

3.3. System Impact

The devastation caused by Isaias ranks second only to that of Superstorm Sandy in 2012. Virtually all of the damage to the O&R electric distribution system, and the consequential outages, resulted from the impact of adjacent trees and tree limbs.

During the storm, as discussed in this Report, O&R followed its ERP. The ERP outlines O&R's protocols and procedures for managing major emergencies that may disrupt electric service to its customers. The foundation of the ERP is built on an ICS that the Company employs as the means for managing, coordinating, and deploying the resources necessary for its emergency response.

The number of downed trees and closed roads presented a challenge for O&R crews as they worked to restore the electric infrastructure while simultaneously helping municipalities clear roads and restore their respective infrastructure. Damage sustained by the O&R transmission and distribution system was unexpected given the pre-storm weather forecasts. In addition to distribution system damage, fallen trees knocked six transmission lines out of service.

When compared to other significant storms, during Isaias, O&R sustained nearly twice as many pole replacements as Hurricane Irene (288 vs. 151), an equal number of transformer replacements as compared to Hurricane Irene (322 vs. 336) and over twice as much wire replaced as Hurricane Irene (118,854 vs. 50,200). Road closures were on a par with Superstorm Sandy (238 vs. 225). As the high-level damage assessment became known through the afternoon of August 4, the Company elevated its pre-mobilization posture and increased its requests for emergency resources to address the substantial damage and outages.



Photo 6 - Lakes Road, Monroe – Approximately ten sections of primary conductor down.

3.4. Customer Impact

Isaias disrupted electric service to 60% of O&R's customers (or approximately 138,000 customers), making this the Company's second largest restoration effort, behind Superstorm Sandy.

Storm Characteristic	Aug. 2011 Irene	Oct. 2011 Snowstorm	Nov. 2012 Sandy	Mar. 2018 Riley/Quinn	Aug. 2020 Isaias
Restoration (days)	9	11	11	10	8
Customers Affected	120,000	135,000	250,000	127,800	189,500
Call Volume	207,000	276,000	295,000	132,500	143,500
OMS Damage Incidents	6,600	6,400	10,000	8,300	7,400

Table 8 - Storm Impact Comparison

Despite the damage sustained by the electric distribution system, the Company was able to make considerable progress in restoring affected customers in the wake of Isaias. The restoration curve for Isaias is shown in Figure 5 below. By comparison, the October 2011 snowstorm and Hurricane Irene resulted in only 6,400 and 6,600 OMS damage incidents,

respectively¹⁶ (see Table 8 above). Historically, the number of cases of trouble¹⁷, when taken in conjunction with the number of customers that have suffered a service interruption, provides a good indication as to the severity of the weather event.

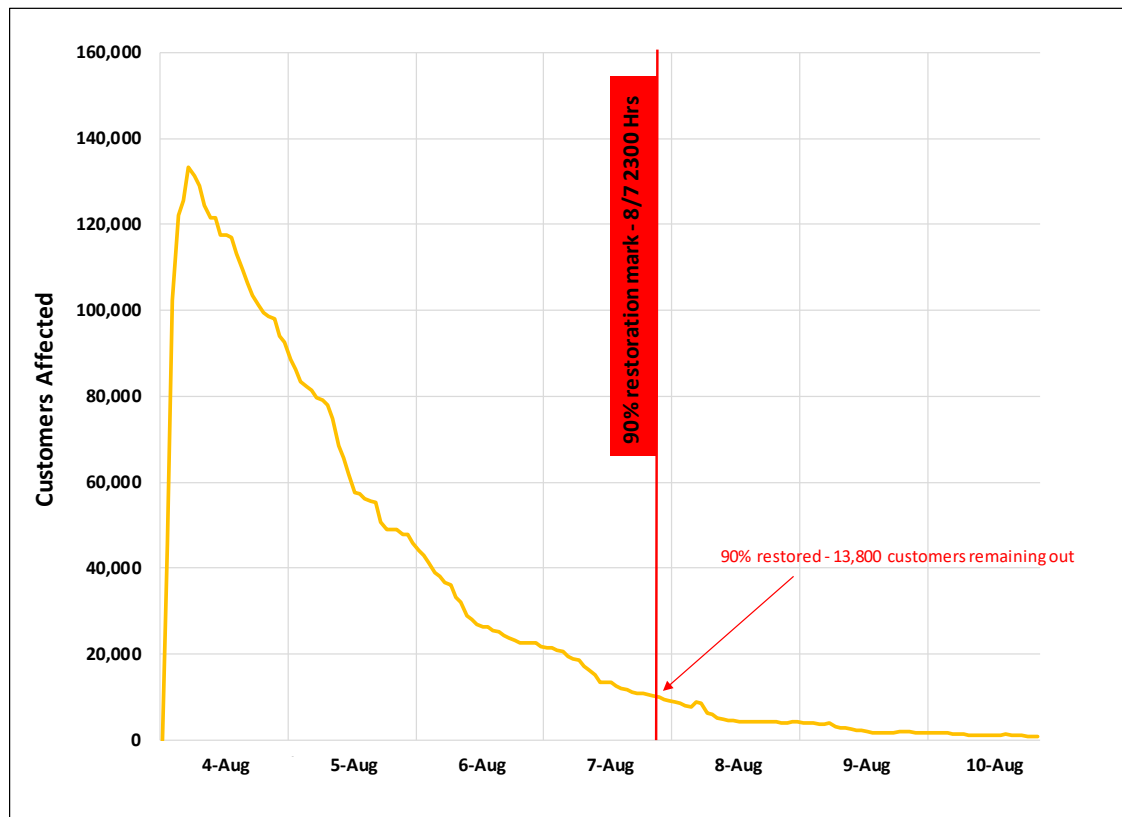


Figure 5 - Tropical Storm Isaias Customer Outage Restoration Curve

3.5. Damage Assessment

The damage assessment process is a mechanism O&R uses to determine the impact and magnitude of damage and the resulting resources needed to restore service to customers affected by individual outages. The Company’s Damage Assessment group is responsible for assessing and reporting damage on the OH and UG distribution system. Damage assessors, troubleshooters, line crews, line supervisors, and other responding employees, provide broad preliminary assessments of damages, record, and report their findings into the OMS using a mobile application.

¹⁶ These figures are for the entire Orange and Rockland System.

¹⁷ Cases of trouble refers to the individual incident “tickets” or trouble calls created in the OMS as a result of a system abnormality. In general, each ticket requires an investigation by a Company employee or one of its surrogates.

Once entered into the OMS, the damage assessment reports are integrated with customer trouble calls, distribution switching information, SCADA, and other relevant information as a means for the DCC or the SERT to make a reasonably accurate assessment of the event's system impact and the people, materials, equipment, and time necessary for restoration.

Damage assessment information is particularly important as the Company uses it to:

- Summarize trouble information;
- Identify material needs;
- Assign the proper crew to the proper job (*i.e.*, "right size" crew assignments)
- Combine specific crew types (*e.g.*, damage assessor with line crew contingent);
- Develop and prepare work packages; and
- Balance restoration workload across the crews so as to enhance their utilization and efficiency.

In accordance with ERP, Section 4.3, the Company mobilized the Damage Assessment Branch system-wide which consisted of Company and contractor damage assessor resources. The Company completed a system-wide preliminary damage assessment within 24 hours from the SOR for the event. O&R completed an initial assessment of mainline circuits based on SCADA readings, the OMS, and the mobilization and deployment of damage assessors (including line supervisors, crews and damage assessment spotters).

Damage assessment staffing levels, which included both Company and contractors, ranged from a low of 51 FTEs on August 4 to a high of 183 FTEs on August 7, as road clearing activities allowed the Company to deploy additional damage assessors. Damage assessment staffing is set forth in Table 9 below.

# of Damage Assessors	4-Aug	5-Aug	6-Aug	7-Aug	8-Aug
Company	33	30	24	23	19
Contractor	18	110	158	160	132
Daily Totals	51	140	182	183	151
# of Damage Assessors	9-Aug	10-Aug	11-Aug	12-Aug	13-Aug
Company	18	24	25	24	0
Contractor	94	74	134	134	0
Daily Totals	112	98	159	158	0

Table 9 - Tropical Storm Isaias Damage Assessment FTEs

3.6. Downed Wires / Site Safety

Site Safety's primary concern is to protect the safety of the public after a storm has damaged the OH distribution system. The Site Safety branch addresses public safety by restricting access,

posting applicable signage, and guarding locations with downed wires. The roles, responsibilities, and job functions of the Site Safety Branch are outlined in the ERP Section 4.3. Minimum staffing levels for site safety are guided by the storm classification and severity of the storm as outlined in the Restoration Matrix included as [Attachment 2](#).



Photo 7 - Site Safety location August 7 broken pole, wires across road – River Road, Stony Point

In accordance with ERP, Section 4.3, the Company mobilized the Site Safety Branch which consisted of Company personnel and contractor resources. For Isaías, the Company received a total of 439 unique downed wire tickets reported by Municipal Emergency officials. Total downed wires reports received daily are shown in Table 10 below.

Repair crews, damage assessors, or site safety personnel were dispatched to the downed wire locations to assess the situation, establish a safe zone around the potential hazard, and provide the information necessary for the SERT to prioritize the downed wire restoration.

	4-Aug	5-Aug	6-Aug	7-Aug	8-Aug	9-Aug	10-Aug	11-Aug
Customer Reports NY	3,173	2,177	1,017	493	248	175	219	99
Municipal Reports NY	369	269	117	54	37	46	20	7
Customer Reports NJ	1,846	988	633	505	290	149	75	54
Total Wires Down Reported	5,019	3,165	1,650	998	538	324	294	153

Table 10 - Site Safety Downed Wires Reports

During Isaias, O&R established staging areas where Company Site Safety personnel were assigned locations of downed wires and then dispatched to those locations. The staging areas were based in West Nyack, NY; Blooming Grove, NY; and Middletown, NY. Site Safety contractors were staged from the Blue Hill Plaza in Pearl River, NY, Local 17 headquarters in Newburgh, NY, and Local 754 in Spring Valley, NY. The total number of site safety personnel varied from day-to-day as set forth in Table 11 above.

Title		4-Aug	5-Aug	6-Aug	7-Aug	8-Aug	9-Aug	10-Aug	11-Aug
Site Safety Branch Director	AM	0	2	2	2	2	2	2	2
	PM	2	1	1	1	1	1	1	0
Site Safety Supervisors	AM	3	3	6	6	6	6	7	7
	PM	3	3	4	4	4	4	5	0
Site Safety Contractor Coordinator	AM	0	1	1	1	1	1	1	1
	PM	1	1	1	1	1	1	1	0
Site Safety Contractor Supervisor	AM	0	5	5	5	5	5	5	2
	PM	5	5	5	5	5	5	5	0
Site Safety Administrative Coordinator	AM	0	3	3	3	3	3	3	3
	PM	0	3	3	3	3	3	3	0
Company Site Safety Rep	AM	53	37	31	27	64	68	61	26
	PM	60	60	49	59	64	68	54	0
Contractor Site Safety Rep	AM	0	100	151	153	183	161	100	29
	PM	95	121	153	183	161	116	29	0
Total Staff/Shift	AM	56	151	199	197	264	246	179	70
	PM	166	194	216	256	239	198	98	0
Total Site Safety Staff/24 Hr.		222	345	415	453	503	444	277	70

Table 11 - Site Safety Staffing Levels by Category

3.7. Tree Damage

Tree damage proved to be the primary initiator for distribution system damage and customer outages during Isaias. The combination of saturated soils and high winds from the upper right storm quadrant produced the conditions for whole tree failures (trunk breakage and uprooting). This is significantly different than “typical” storm damage involving canopy damage (limb breakage). Tree failure brings down entire trees, generally outside of tree maintenance areas, causing utility infrastructure damage including broken poles, downed conductors, as well as blocked roads in areas where the utility infrastructure may not be affected.

As part its post-storm assessment, the Company retained the Davey Resource Group to conduct a survey of tree-related outages resulting from Isaias. This review covered six distribution areas and included 114 damage sites.¹⁸ The resulting impact/cause report defined the

¹⁸ The six distribution areas and 114 damage sites included locations in New York and New Jersey. The purpose of the report was to provide a comprehensive analysis covering the entire Orange and Rockland System including hard hit areas in both states.

predominant types of tree failure as they related to the distribution facilities of the Orange and Rockland System.

Five Davey Resource Group employees performed inspections of six substation areas using service distribution maps chosen by O&R vegetation management staff. When tree damage sites that likely caused electrical disruption were found, arborists investigated these sites to determine the cause of tree failure. Data collection included the following:

- Overhead line construction type present at the investigation site;
- Orange and Rockland System (*i.e.*, NY and NJ);
- Circuit and GPS Locations;
- Ownership (public, private);
- Tree species;
- Tree diameter at breast height (“dbh”);
- Tree trunk distance from closest conductor;
- Failure type (crown, trunk, root, or soil); and
- Evidence of pre-existing conditions that may have led to tree failure (*e.g.*, decay indicators, root restriction, included bark).



Photo 8 - Downed red oak tree from outside ROW – 345 kV Lines 67/68

As discussed previously, prevailing winds in the O&R service territory typically come from the northwest, but during Isaias, the prevailing winds came from the southeast. Windfirm is the

term used to describe a tree's ability to withstand strong winds and resist major breakage. Trees adapt over time to become windfirm and help manage stresses caused by wind. Tension wood is produced over time during the adaptation process a tree undergoes in response to bending/leaning. The tension wood located on the side of the tree under tension, (NW in this region), was not able to help the oaks due to the change in wind direction (from the SE).

The two major ways in which trees fail during wind events are windthrow (*i.e.*, root plate failure) and major stem/limb damage. Windthrow occurs when the overturning forces of the wind exceed the resisting forces of the root plate. Major stem/limb failure occurs when wind loads produce a localized stress that exceeds the strength of the wood material. The below figures for the oak species findings illustrate this situation as being present during this particular storm. Both root failure and trunk failure are the top failure types seen with strong, persistent winds. The oak species, as well as all trees investigated, displayed signs of root failure and trunk failure at over half of the sites investigated.

The Davey Resource Group report concluded that older, mature oaks with large and heavy canopies could not withstand the intense and varied wind loads produced by Isaias especially with the unusual SE winds. Without tree damping occurring to minimize tree sway, the load of the wind is felt greatly in the stem and the base of the tree. In short, the trees in the O&R service territory had not developed to withstand the conditions associated with Isaias.

Key findings from the Davey Resource Group report included:

- 94% of the failed trees were within 50 ft. of the conductors; the remainder were between 50 and 100 feet from the conductors;
- 88% of the failed tree were privately owned;
- Rare southeast winds added substantial dynamic wind loads to trees causing large amounts of windthrow and trunk/limb breakage to the trees identified, specifically oaks;
- 41% of the investigated tree failures were between 12 and 24 inches in diameter; 14% of the failed trees in the study were over 24 inches in diameter;
- Oaks (37%) and maples (21%) collectively caused the majority of the investigated outages;
- 90% of the failed trees had visible indicators of weakness;
- Damage observed during the investigation was characteristic of high winds with trunk breakage being the leading cause of failures observed; and
- Uprooting trees (soil failures) are almost impossible to predict because they are often a result of environment rather than tree condition; in wet conditions, soils are much weaker media for tree anchorage, often compounding the effects of wind loading.

According to this investigation, the species identified most often with tree failures was oak, with root failure being the primary cause. It is important to note that the oaks with a diameter

between 18 inches and 24 inches accounted for only 30% percent of oak failures (see Figure 6 below). Mature oak trees close to their full growth potential made up about 70% of the failure type, which helps to explain the large amount of damage caused by Isaias. The various oak tree failures by type are set forth in Figure 7 below.

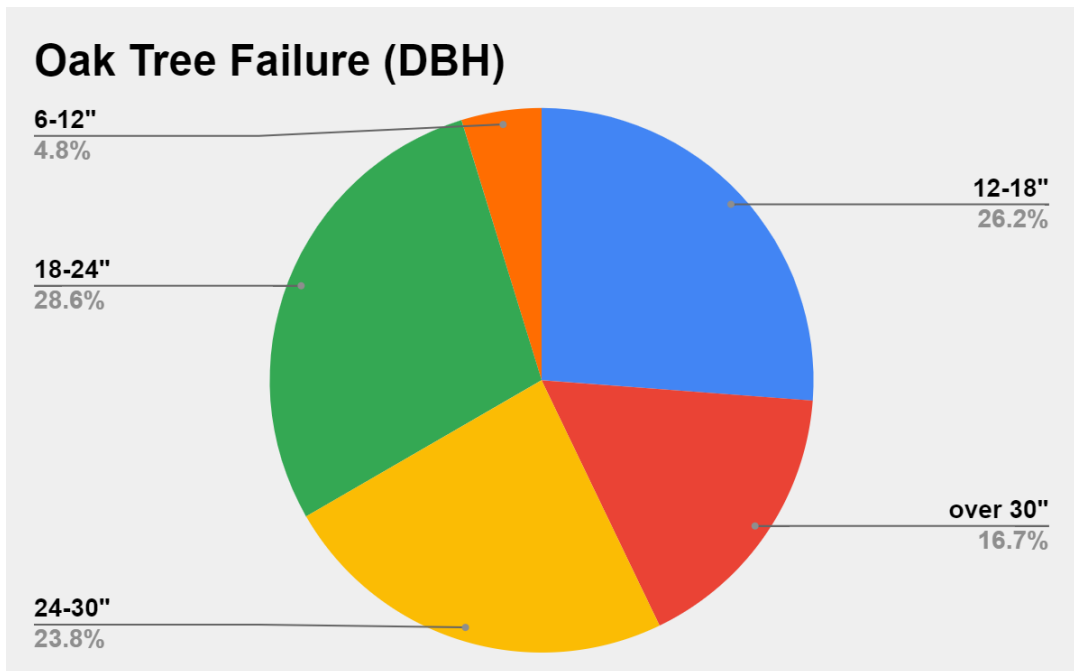


Figure 6 – Oak tree failures (70% > than 24" DBH indicating mature trees)

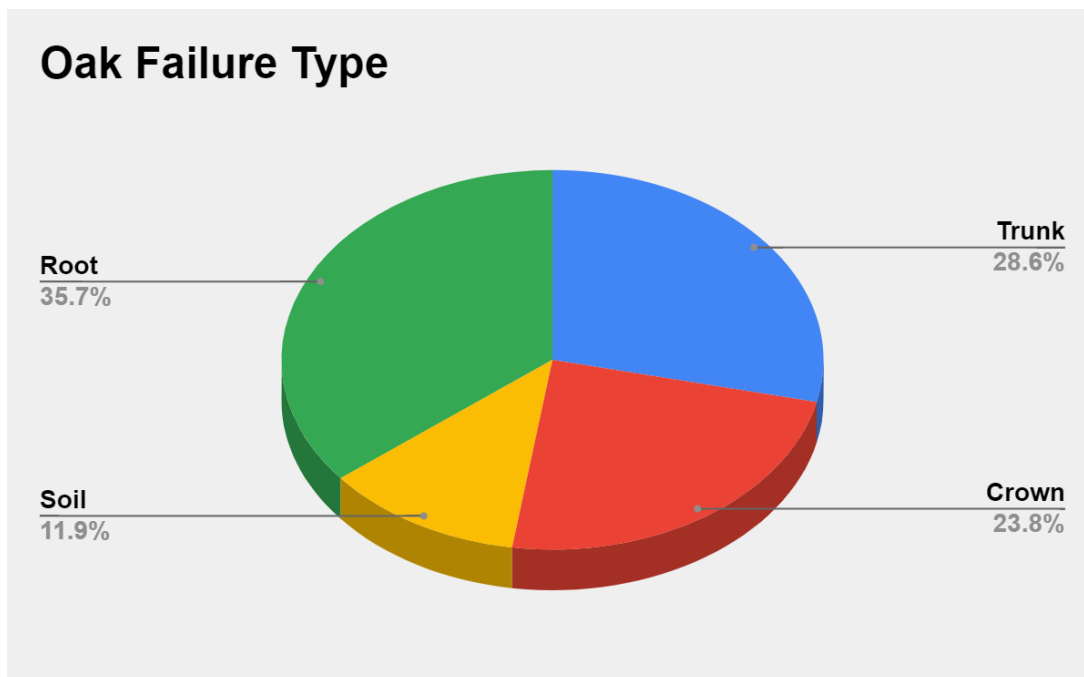


Figure 7 – Oak tree failures by type

3.8. Environmental Spills

During the period from August 4 through August 11, O&R responded to 89 environmental cleanup locations.¹⁹ All were the result of ruptured transformer tanks and none involved polychlorinated biphenyls (“PCBs”). Table 12 below compares the environmental spills of Isaias with those of other recent major storms.

Storm	Total spills	Reportable	Non Transformer	Confirmed PCB	Assumed PCB	Waterway Impact
Irene	63	61	6	0	0	1
Sandy	221	206	14	2	0	16
October Snowstorm	51	51	0	0	0	5
Riley/Quinn	32	23	1	0	0	1
Isaias	89	83	0	0	2 ²⁰	2

Table 12 - Environmental Spill Comparison

3.9. Restoration Strategy: Workflow and Priorities

The SOR is considered the point in time when the Company is able to dispatch field personnel without unacceptable safety risks from continued severe weather-related conditions. The potential of additional damage to the electric system from a storm are expected be low in proportion to the expected level of damage already sustained. The SOR for Isaias was August 4, 2020, 1900 hours.

Information of system conditions during Isaias came from a variety of sources including:

- Transmission system telemetry (SCADA);
- Distribution system telemetry (Distribution Supervisory Control and Data Acquisition (“DSCADA”));
- Customer outage information via the OMS;
- SRT (*e.g.*, police and fire phones);
- Damage assessment personnel;
- AMI meters; and
- Regional and community affairs.

¹⁹ These figures are for the entire Orange and Rockland System.

²⁰ Two small spills to asphalt were cleaned as PCB spills because of O&R’s inability to sample the oil or to sample impacted soil.



Photo 9 - Transmission tower 345 kV Lines 67/68

Outage and trouble-related contacts (*e.g.*, phone, website, CSRs) generate trouble tickets that are summarized and automatically analyzed by the OMS as they relate to feeder circuits and trouble locations. These tickets fall into the following five categories:

- Wires down;
- No lights (area or individual);
- Municipal problems;
- Wires burning; and
- Tree on wires.

Public safety is the primary concern during restoration. In accordance with Section 4.2 of the ERP, the Company mobilized the PRG at the onset of Isaias to support, coordinate, and work with municipalities and communities affected by the storm. The PRG was responsible for addressing community and municipality priorities including road clearing incidents, priority restorations for critical facilities, repairing critical infrastructure, and communicating with

elected officials. O&R initially dispatched Company crews to staff the PRG and transitioned them to other restoration activities as the number of emergency response jobs dropped.

Concurrent with the Company crews working to address emergency calls, O&R assigned work to contractor crews in accordance with the restoration priorities defined by the Company's Restoration Priority Matrix ("RPM") which is set forth as an attachment in the ERP. A copy of the RPM is included as [Attachment 2](#) to this Report. As a general guideline, the priority order of restoration starts with outages that affect transmission or substation facilities that serve large numbers of customers, followed by substation main-line circuit outages, other primary lines, transformer malfunctions, downed service wires, and finally non-essential services such as billboards or streetlights. If appropriate, temporary repairs were made during the initial restoration period in order to restore service more quickly, with permanent repairs being made at the conclusion of the storm.

The SERT worked in conjunction with the RA Branch and the ERT Branch to compile individual trouble tickets and/or locations into well-defined work packages for repair and restoration by Company and contractor field crews. As areas were restored, the RA Branch worked in conjunction with the SERT and the AOCC to ping meters as a means to confirm partial restoration steps being performed by restoration crews.

The following is a chronological high-level summary of the Company's restoration efforts following Isaias.

- On Tuesday, August 4, O&R deployed all available field crews and personnel to repair damage caused and restore electric service impacted by Isaias. O&R worked around the clock in overhead line operations, damage assessment, site safety, customer service, and the wide array of O&R activities that support these operations.
- In accordance with storm restoration priorities, work crews focused on public safety, road clearing, and critical infrastructure repairs including six transmission lines (See Photo 8 and Photo 9), two substations and 96 circuits (out of a total of 300 systemwide) knocked out of service. O&R retained additional contract OH line technicians to supplement the workforce's repair efforts due to the extent of damage incurred and the labor-intensive nature of the repair and restoration work.
- By the morning of Wednesday, August 5, O&R had restored electric service to approximately 34,000 customers. The Company continued with the strategy from the previous day working to restore its major infrastructure while also working concurrently with municipalities to clear roads.
- By Thursday, August 6, the Company narrowed its focus to the harder hit areas of the O&R service territory including:
 - Eastern Division: Orangeburg, New City, Airmont, Congers, Nanuet, Bardonia, Spring Valley, Allendale, Tallman, Suffern and Sloatsburg;
 - Central Division: Monroe, Highland Falls, Woodbury, Tuxedo; and

- Western Division: Otisville.
- On Friday, August 7, as the Company restored larger outages over the previous three days, O&R focused on the following areas:
 - Eastern Division: Clarkstown, Upper Nyack, Nyack, New Hempstead, Ramapo, Congers, Sparkill, Montebello, Stony Point;
 - Central Division: Tuxedo, Highland Falls, Monroe, Greenwood Lake, Warwick; and
 - Western Division: Crawford, Greenville, Unionville, Mamakating, Forestburgh, Lumberland, Pine Island and Westbrookville.
- Throughout the weekend and into the following week, the Company continued to work on successively smaller outages to restore the last of the customers that had lost service. Contract crews remained beyond the restoration period to assist in making permanent repairs to areas where temporary repairs had been made the preceding week.

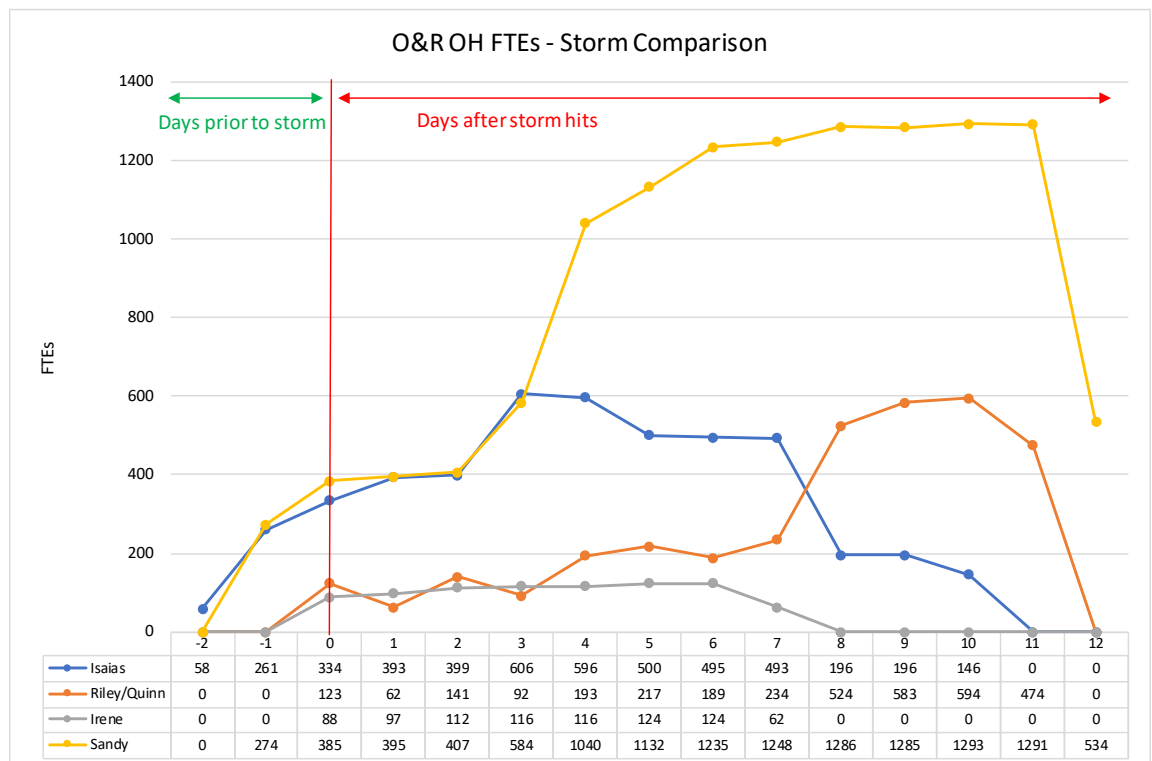


Figure 8 - Total Available OH Line FTEs (includes Company crews)

3.10. Restoration Crewing

Throughout Isaias, the Company deployed a variety of crew types including:

- **Overhead Line Troubleshooters** or Emergency Responders with OH training provided operational support.

- **Overhead Line Company crews** were assigned primarily to municipal response and road closures with complex operational concerns; the employees are qualified to repair and reconstruct overhead infrastructure.
- **Mutual Assistance Overhead Line crews** consisting of contractors, who are qualified to repair and reconstruct overhead infrastructure, were assigned to restoration efforts requiring major reconstruction.
- **Service Restoration crews** including Company crews from the UG department, and contractors targeted individual customer service restoration and repairs.
- **Line Clearance (tree trimming)** crews provided vegetation removal support by trimming and clearing trees to both clear roadways and facilitate customer outage restoration.
- **Damage Assessors** consisting of employees who patrol feeder runs assessed damages to facilitate work package development and material delivery. Damage Assessors were assigned on both daytime and nighttime shifts to identify specific circuit information and status

Total crewing resources throughout Isaias are set forth in Tables 13, 14 and 15 below.

In accordance with ERP, Attachment 12, the minimum staffing requirements for OH line, tree and service restoration, were met and committed to within 48 hours of the SOR for Isaias.

O&R System Mutual Assistance Received Summary (Non-Company Line Resources)					
Date Secured	Arrival	FTEs Secured ²¹	Contractor	Crew	Release
2-Aug	4-Aug	58	Grays Power #1	Line	8-Aug
3-Aug	4-Aug	58	Grays Power #2	Line	14-Aug
4-Aug	4-Aug	20	Henkels & McCoy	Line	10-Aug
4-Aug	5-Aug	28	Quality Lines	Line	13-Aug
4-Aug	6-Aug	16	SPE Group	Line	10-Aug
5-Aug	6-Aug	30	National Grid	Line	12-Aug
5-Aug	6-Aug	26	Grays Power #3	Line	12-Aug
5-Aug	7-Aug	14	Grays Power #5	Line	12-Aug
7-Aug	7-Aug	42	PDA -Power Grid 5 Star	Line	13-Aug
7-Aug	7-Aug	52	PDA -Power Grid Groves	Line	12-Aug
7-Aug	7-Aug	48	PDA -Power Grid Various	Line	13-Aug
7-Aug	7-Aug	7	PDA -Power Grid ProSource	Line	12-Aug
7-Aug	7-Aug	37	Grays Power #4	Line	13-Aug
7-Aug	8-Aug	18	Henkels & McCoy #2	Line	8-Aug
8-Aug	9-Aug	65	Center Phase	Line	9-Aug
Total Line FTE		519			

²¹ Excludes 161 FTEs originally acquired but re-routed to CECONY.

Table 13 - Mutual Assistance Line Contractor Arrival Summary

O&R System Mutual Assistance Received Summary (Non-Company Tree Resources)					
Date Secured	Arrival	Secured FTEs ²²	Contractor	Crew	Release
4-Aug	5-Aug	10	Nelson Tree	Tree	13-Aug
4-Aug	6-Aug	75	Asplundh Tree Experts	Tree	13-Aug
5-Aug	8-Aug	57	Asplundh Tree Expert, LLC.	Tree	12-Aug
Total Tree FTE		142			

Table 14 - Vegetation Management Contractor Arrival Summary

O&R System Mutual Assistance Summary (Non-Company Service Restoration Contractor Resources)					
Date Secured	Arrival	Secured FTEs	Contractor	Crew	Release
4-Aug	5-Aug	28	All Bright	Service	9-Aug
5-Aug	6-Aug	11	Welsbach Electric Corp.	Service	9-Aug
Total Service Restoration FTE:		39			

Table 15 - Restoration Contractor Arrival Summary

3.11. Crew Assignment and Work Packages

The Company prioritized restoration requirements, made crew assignments and developed work packages in accordance with the guidelines established in the ERP. In developing work packages, the SERT also considered and evaluated damage assessment information, repair material lists, outage duration, estimated restoration time, associated critical facilities, total customers served, buried facilities mark outs, and available crew resources.

Throughout the restoration, the Company employed crew guides to assist non-Company (mutual assistance) crews in navigating the O&R service territory, and act as Company liaisons to facilitate procurement of material, handle administrative matters, and manage crew productivity. Crew guides worked closely with the crews on the incidents assigned and reviewed the scope of work necessary to effect repairs. In addition, crew guides discussed instructions pertaining to operating and compliance requirements associated with the repairs on the electrical system.

Crew guides reported status to the SERT via telephone throughout the day. At the end of each shift, crew guides assisted mutual assistance crews in returning to assigned staging or lay-down areas and were responsible for updating work packages and returning them to SERT planners. The crew guide resource allocations listed in Table 15 below reflect generalized assignments

²² Does not include support staff.

during Isaias. Specific assignments may have changed within an operational period based on restoration plans.

# of Crew Guides	4-Aug	5-Aug	6-Aug	7-Aug	8-Aug	9-Aug
East	12	15	17	17	23	22
Central	4	4	5	5	5	5
Totals	16	19	22	22	28	27
# of Crew Guides	10-Aug	11-Aug	12-Aug	13-Aug	14-Aug	15-Aug
East	15	13	9	3	1	0
Central	9	10	6	4	1	0
Totals	24	23	18	7	2	0

Table 16 - Crew Guide Divisional Resource Allocation

3.12. Supplemental Workforce

Supplemental Company forces included Gas Operations personnel not performing emergency gas work. Approximately 58 Gas Operations employees and gas contractors provided storm restoration assistance in several areas including:

- Site safety;
- Service restoration;
- Groundman;
- Damage assessment support;
- LSE customer wellness visits;
- Crew guides;
- Dry ice distribution;
- Stores;
- Administrative support;
- Restoration analysis;
- PRG support;
- VM support; and
- Clean up / debris removal / material delivery / package runners.

The breadth of duties assigned to supplemental work force personnel during Isaias represents an expansion from their duties during Winter Storms Riley and Quinn and are a result of lessons learned from that event.

3.13. Estimated Time of Restoration (“ETRs”) Development

During blue sky days, the Company uses an automated ETR process, whereby the OMS generates ETRs and assigns them to each outage incident. During a storm event, once the

number of events exceeds available resources and/or system damage becomes extensive, the Company manually suspends the generation of automated ETRs. The ETR-Incident Action Plan functional group assumes responsibility for monitoring outage incidents and their respective ETRs. Once suspended, the only ETRs that are assigned to incidents are those where a crew has been assigned. The crew then gives an ETR once on site and the incident is evaluated. All other incidents will not receive ETRs until the SOR has been declared, and Global and Regional ETRs calculated.

In accordance with the ERP, Section 2.4 and Attachment 3, the ICS mobilizes an operations team, or “branch” dedicated to ETR management. The ETR Branch remains in close contact with the SERT, Electric Operations, Engineering, and Communications teams to provide a status of ongoing work, communicate expectations for ETR publications, and develop the actual ETRs.

Global ETR - The estimated time to restore at least 90% of the customers interrupted Company-wide. For a three to five day expected restoration period, the Company establishes a Global ETR 12 hours after the SOR. For restoration periods expected to be greater than five days, the Company establishes a Global ETR within 24 hours after the SOR.

The Company uses an in-house ETR calculation tool (“ETR Tool”) that uses historical data from the Company’s previous storm events to produce a statistical mean average model curve. The Company adjusts the curve (customers restored vs. time) based on the type of damage sustained, restoration conditions and available crewing. The ETR Tool is operated by the Company’s ETR Team. Because the ETR Tool uses the mean averages of past storms of similar size (customers affected), its accuracy is affected by the number of comparable data points available. Additional storms of similar magnitude provide a more accurate representation of average restoration times for storm event in question. Because there were only two storms in the ETR Tool’s database with a similar number of customers affected as Isaias, the restoration curve was more variable which adversely impacted the accuracy of the ETRs produced by the ETR Tool.

Regional ETR - Refinement of the Global ETR reflecting the estimated time to restore at least 95% of the customers interrupted in a county (*i.e.*, Rockland, Orange, Sullivan). The Company employs the ETR Tool to determine daily ETRs. These ETRs are then sorted by county to determine the Regional ETRs.

When determining the Regional ETRs, ETR and SERT personnel work together developing the daily work plans which dictate which incidents are completed on each day of the event. In order to do this, the Company uses the ETR Tool to determine how many customers need to be restored each day to achieve the Global ETR goal and then it will assign an ETR to each incident. Once all incidents are assigned an ETR, O&R calculates the time when 95% of customers are to be restored in each county. Those times become the Regional ETRs.

Local ETR – Refinement of the Regional ETR reflecting the estimated time to restore at least 95% of the customers interrupted in a municipality or community. These ETRs are system generated by the OMS based on the work plans used to generate the Regional ETRs. The local ETR represents the expected time the last customer in a specific municipality will be restored.

As discussed previously in this Report, Isaias caused significant damage to the transmission and distribution systems and multiple areas of the O&R service territory had experienced downed trees, power lines and broken poles. There were six transmission lines that were out of service which affected multiple substations in the O&R service territory. Given the high-level damage assessment and the number of customers affected, which is also a good indicator of a weather event's effect on the Company's infrastructure, the ETR team deemed the impact of Isaias to be severe.

In developing the Global ETR, a number of factors affected the Company's ability to estimate restoration rates accurately including:

- Limited Historical Comparisons – there have been very few storms to impact the Company that have been comparable in the number of customers affected and the level of damage.
- Restoration Resources - 24 hours after the SOR, there remained uncertainty regarding the actual crewing that would be available to O&R. There were approximately 393 Line FTEs on the property or in route. More important, the Company had an open request for 680 mutual assistance line FTEs, and no assurance as to if or when they might become available.
- Distribution Automation ("DA") - prior to Isaias, the positive impact of DA installed on the system had not been tested to this magnitude. The Company used DA devices to restore customers more quickly than in prior storms, thereby providing improved restoration rates.
- AMI - Like DA, the availability of AMI verification of customer outages had not been tested to this level in previous storms and thus was not completely accounted for in the ETR model. As discussed below, AMI had a significant positive impact on the restoration process.

Based upon the known damage and using past events with a similar number of customers affected (which as noted above was limited) as a basis to generate the Global ETR, the ETR team anticipated that the restoration of all customers would be in the 7-10 day time frame. This is consistent with the expectation of a Class 5 event as outlined in the Company's ERP and [Storm Classification and Staffing Matrix](#). The Company expected that the level of damage from Isaias would be comparable to that of Superstorm Sandy.

ETR Type	SOR	Publication of ETR
Global	4-Aug – 19:00	5-Aug 20:44
Regional/County	4-Aug – 19:00	6-Aug 16:20
Local/Municipal	4-Aug – 19:00	6-Aug 16:20

Table 17 - Published ETRs

The Company provided the Global ETR to Staff in a report at 1900 on August 5 with a broadcast to the general public occurring at 20:44 on August 5. Publication times for the various ETRs are shown in Tables 17 above.

When the Company published the Regional ETRs, it had a better understanding of Isaías' impact on the O&R service territory, as 60% of the incidents in the OMS had damage assessment reports available.

O&R considered the following factors in developing the Regional ETRs:

- The damage sustained was less compared to that of Superstorm Sandy than the Company originally projected.
- The RA group had begun to confirm outage restoration status of some customers by pinging AMI meters.
- The DCC was updating the geographic information system model which was translated to the OMS and provided a more accurate look at the impact of Isaías.
- Both affected substations (*i.e.*, the Franklin Lakes and Oakland Substations) had been restored from transmission lines returning to service.
- There were approximately 400 line FTEs on the property or in route and O&R had an open request for 608 more mutual assistance FTEs.
- The Company's cut and clear (public safety) process had isolated and restored about 50% of impacted customers shortly after the issuance of the Global ETR.

ETR publications for Isaías are summarized in Tables 18 below.

ETR Type	ETR Target	Timestamp at 90% Restored
Global (90%)	11-Aug 23:00	8-Aug 08:32
Regional/County–Rockland (95%)	10-Aug 23:00	8-Aug 19:28
Regional/County–Orange (95%)	9-Aug 23:00	9-Aug 13:53
Regional/County–Sullivan (95%)	9-Aug 23:00	8-Aug 17:17
Local/Municipal (95%)	Incident specific	

Table 18 - Tropical Storm Isaías ETR Publications

3.14. External Coordination

Providing accurate and timely information to municipal and government officials is a crucial component of O&R's storm response, as they are the on the front-line of communication between sources of event information (such as the Company) and their constituents, who are also O&R's customers.

The Regional and Community Affairs Branch of the ICS was responsible for maintaining close working relationships with local municipal officials and school leaders and providing the County and local OEMs with pertinent information regarding O&R's restoration activities. This Branch was also responsible for activating and deploying in-person and remote CRT representatives to those municipalities that requested these resources. For Isaias, six pre-designated CRT municipal emergency locations were staffed in-person or remotely.

The CRT provided restoration status updates, coordinated with the SERT and PRG for wires down blocking roads, provided updates on the status of outages at critical infrastructure (*e.g.*, well pumps, sewer pumps, schools) and site safety concerns. The Company's CRT Command Center expedited issues raised by the County OEMs to the PRG and SERT groups for attention. As outlined in the ERP, Section 4.6, the Company assigns a CRT representative to specific, pre-designated municipal locations throughout the areas impacted by the storm event. At the request of the leadership at the municipalities and OEMs, the Company staffed (in-person or remotely due to the Covid-19 pandemic) 31 CRT representatives across six municipal locations and the CRT Command Center during Isaias. The locations included:

- Rockland County OEM;
- Orange County OEM;
- Police Departments in the Towns of:
 - Ramapo;
 - Clarkstown;
 - Orangetown; and
 - Warwick.

For municipalities that indicated they did not need a CRT representative, the Company provided all municipalities in its service territory with the CRT Command Center telephone number via blast e-mail prior to and during the storm events, as well as during each municipal conference call (described below). CRT representatives responded to well over 1,000 inquiries to the Command Center on a 24/7 basis from August 4 through August 10. The CRTs provided municipalities with the Company's work plan for the operational period, used the Municipal Information Packet specific to that municipality, and referred to the CRT Share Point site for critical infrastructure and LSE customer information.

In accordance with ERP, Section 4.6, O&R conducted municipal conference calls at least daily until 90% restoration was achieved. On Tuesday, August 4, 2020, the CRT scheduled operator assisted municipal conference calls for Wednesday, August 5 at 11:30 a.m. for Rockland County, and at 1:00 p.m. for Orange/Sullivan Counties. O&R sent blast e-mail invitations for these calls on August 4 at 4:38 p.m. for Rockland County and at 6:00 p.m. for Orange/Sullivan Counties.

O&R held operator assisted calls daily from August 6 through August 9 at 12:45 p.m. for Orange/Sullivan Counties and 1:45 p.m. for Rockland County. The day before each call, O&R sent a blast e-mail to elected officials with the call-in information and detailed agenda. The Company updates the database of municipal and elected officials used for the e-mail invitations semi-annually for accuracy.

All conference calls were operator assisted and moderated by an O&R Incident Commander and member of the O&R Regional and Community Affairs department. The Incident Commander followed a structured script that provided an update on the forecasted weather, storm impact, a system status update (hardest hit areas), the ETRs (Global, Regional and Local), the work plan for the operational period, location of tree and line crews, road clearing status, wet and dry ice locations and emergency shelter locations. O&R encouraged the elected officials to share information on critical infrastructure outages with their respective County OEMs. Each municipality was also given an opportunity to voice any questions or concerns, as well as to contact the CRT Command Center with questions requiring details follow-up.

From the onset of, and throughout the duration of Isaias, the Company's PRG worked closely with County OEM personnel to coordinate and prioritize post-storm restoration response efforts. The Company provided municipalities and OEM Centers with a notification of PRG mobilization in advance of the day, a reminder on how to access the team center, documentation for submittal of their information, as well as means of prioritization of incidents submitted. In addition, the Company provided municipal officials with an MS Excel template to use as a means of notifying the Company of locations that require immediate attention (*e.g.*, road closures due to downed trees and wires). Municipal officials emailed completed worksheets to the Company.

3.15. Utilities

During and after Winter Storms Riley and Quinn, the Company received customer complaints regarding the delay in restoring service to certain residential borderline customers in Sullivan County. These customers are located just inside the border of the New York State Electric and Gas service territory, but are supplied by O&R. To address this situation prospectively, the Company flagged the customer accounts for these customers. In addition, the Company's CSRs were trained how to deal with these customers and the RA Branch of the ICS organization was given responsibility for handling these accounts during service interruptions. During Isaias, the

Company is not aware of any borderline customers being affected by a service disruption. The Company received no calls from these customers.

Throughout the storm, the Company coordinated as needed with neighboring telephone, cable and electric/gas utilities regarding any potential or actual impacts to their facilities from the storms. O&R's Joint Use Facilities department throughout Isaias also coordinated with telephone and cable company personnel to address any concerns and for pole setting availability. Joint Use Facilities personnel reported downed telephone and or cable issues and provided information on restored areas for telephone/cable follow up. Likewise, telephone and cable companies provided information to O&R regarding downed or low hanging wires, as well as damaged poles.

Frontier Telephone provided a contractor crew while Warwick Valley Telephone used their own crews to assist the Company in setting poles.

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4. Communications

4.1. Public Communications

Communication between the Company and the public is among the most important elements of storm response. During Tropical Storm Isaias, O&R was staffed 24 hours a day as a means of keeping in close contact with customers, Police and Fire departments, elected officials across the O&R service territory, the Commission, and the media.

The Company issued daily communications to the public throughout Isaias to chart restoration progress, provide estimated service restoration times, inform customers of dry ice/wet ice availability and locations, and offer storm-related tips.



Image 10 - O&R Facebook page post

For external communications, the Company issued 31 press releases (plus two correction releases) from August 3 through August 10, 2020. During the same time period the Company also distributed seven emails to approximately 90,000 customers, featuring information ranging from outage numbers to crew counts to wet and dry ice distribution locations and safety tips

during the event. These releases also served as the source material for numerous social media posts on the Company's Facebook and Twitter sites, as well as the IVR and CSR scripts. The Company also helped many customers via social media communications on Facebook and Twitter ([Attachment 8](#)).

Press releases also served as the basis for public advisories on the ORU.com website, and daily messages to customers on O&R's Customer Service IVR. This information was issued by O&R Public Information and Media Relations representatives working closely with those managing the storm response and with other key O&R executives.

Media Relations personnel were interviewed by local media, including: The Journal News, The Times Herald Record, The Bergen Record, News 12/Westchester and News 12/New Jersey, Spectrum Cable, WCBS-TV, WNBC-TV, WABC-TV, WRCR Radio, WINS Radio, WCBS-Radio, WAMC Radio and Mid-Hudson News Network.

From August 3 through August 10, Regional & Community Affairs sent 22 blast e-mails based on the press releases mentioned above to elected officials, police, offices of emergency management, highway department personnel and school officials. In addition, the Company held a total of ten operator assisted municipal conference calls (five for Rockland County and five for Orange/Sullivan Counties).

4.2. Critical Facility Customers

As described in Section 2.4, Pre-Storm Communications, the Company's PRG sent a pre-storm message via outbound telephone calls alert to all customers accounts coded as being critical facilities. The message provided the critical facility customers with a notification of the Company's awareness of the upcoming event and advised each customer to make necessary preparations.

In accordance with the ERP, Sections 2.3 and 2.5, the Company continuously monitored critical facilities throughout the storm. The Company made direct contact and follow-up contacts for any facilities identified as having an outage. Included among the customers with critical facilities affected were Tilcon Quarry, Aluf Plastics, UPS Data Center, Nice Pak & Intercoast, Elite Pharmaceutical, Suez Water Company, Rockland County Sewer District, Rockland County OEM, North Rockland Central School District, Nyack School District, Suffern School District, Rockland Psychiatric Center, and Good Samaritan Hospital (whose administration building was without power). Members of the PRG team were in contact with each of these critical facility customers assessing their direct input and incorporating such data in restoration efforts.

4.3. Life Support Customers (“LSE”)

In accordance with the ERP, Sections 2.3 and 4.5, the Company continued to make daily outbound calls to all LSE customers and to monitor individual LSE customer accounts during Isaias. The Company made personal, daily telephone communication with 518 LSE customers affected by an outage until they were restored. After two unsuccessful attempts to make contact, the Company referred the account for a wellness visit.

During a wellness visit, a Company employee knocks on the customer’s door to verify if the customer has back up equipment if necessary, and if the customer plans to relocate. If no customer contact is made, the Company employee leaves a door hanger on the customer’s front door. This door hanger includes relocation tips and O&R’s confidential medical emergency hotline number available only to LSE customers. O&R referred 114 LSE customers for a wellness visit and made contact with 63 of those customers; O&R left the door hanger with the remaining 51 customers. At the conclusion of Isaias, O&R solicited the remaining 51 customers for updated contact information via a mailing.

Description	
Total out	518
80% contacted within 12 hours	56%
At least two attempts within 12 hours	81%
Contacted/referred within 24 hours	63%

Table 19 - Tropical Storm Isaias - LSE Contacts

In addition, Special Needs and Medical Emergency customers affected by outages received an automated telephone call daily from the Company. This phone call provided the most recent restoration information, as well as the location of shelters and wet and dry ice distribution centers, when applicable.

Although the Company was able to contact all of its LSE customers that experienced an outage, it failed to meet internal, as well as the regulatory expectations for making timely contacts. These failures were the result of three technology issues as discussed below.

1. Outage map – as a result of updating issues with the outage map, O&R made telephone contact attempts without the most up to date customer outage information. This resulted in the Company contacting 69 customers who never lost power. This issue is discussed further in [Section 6](#) of this Report.
2. Customer Information Management System (“CIMS”) – this system maintains all customer contact information and is used extensively by the CSRs. Due to a database constraint issue affecting this system’s functionality, certain transactions including automated calling were unavailable from 19:00 hours to 21:30 hours on August 4. SRT

personnel made manual calls, which, while successful, was time consuming. This issue is discussed in [Section 6](#) of this Report.

3. Unavailable cellular telephone service – the LSE program allows for up to six contact numbers (inclusive of two for an alternate emergency contact person). Many customers and their alternate emergency contacts use cell phones as one or more their contact numbers. The lack of cellular service in some areas coupled with multiple cellular numbers as contact points for these customers further hindered the Company’s ability to reach all of its LSE customers (approximately 70 cell towers lost service during Isaias. The Company is unaware of how many of these towers had some form of backup service available).

4.4. Outbound Calls and Text Messaging

The Company continuously updated outgoing messages on the telephone lines or IVR system throughout Isaias. All updates were made within one hour from the release of a new communication release.

O&R has 185,000 customers enrolled in its proactive texting program. The Company used text messaging services as another means of communicating with customers its customers. The texts communicated the information set forth below (sample message script included for each).

- **Initial ETR:** “O&R PWR UPDT: Outage detected @08/04 @ 01:32PM for *Address*. Assessing damage. Next message to provide update.”
- **Updated ETR:** “Cause Determined. Estimated restoration 08/10 @ 10:00 AM.”
- **Restored:** “O&R PWR UPDT: Area service restored @ 08/05 @ 02:07am. Reply OUT if you are still out or call 877-434-4100. Reply HELP for HELP.”
- **Mass Text:** “O&R PWR UPDT: Customers still experiencing an outage, please reply STAT or go to oru.com/outage to get an update on your estimated restoration time. Reply STOP to cancel.”

On August 6, at the height of its restoration activities, the Company suspended proactive outgoing text messaging. Up until that time, customers were receiving a text each time the OMS incident associated with their account was updated.²³ Several customers complained of receiving an excessive number of text messages in a short timeframe. Suspending the process prevented customers from receiving multiple updates as the status of individual outages changed.

Customers were still able to report their outages and receive requested ETRs through text messaging application even though the proactive part of text messaging was suspended. In lieu

²³ Incident updates occurred as different response crews such as damage assessment, tree, service and line were assigned, completed their work and a new work queue was engaged in the effort.

of proactive texting, on August 7, O&R sent a mass text to approximately 21,000 customer who were still without power advising them by typing STAT they would get their updated ETR. Over the next 12 hours, almost 13,000 customers used this to get their restore time.

4.5. E-mail

The Company worked closely with CECONY and its vendor Questline to develop storm-related information for customer emails. These emails were approved by Corporate Communications staff for both the Company and CECONY. Customer information email messages do not allow for customer responses. Within the email, customers are provided a link to the ORU.com website and social media sites (Facebook and Twitter) for submission of written responses.

The Company has approximately 90,000²⁴ email addresses on file. Customers do not enroll to receive email alerts. During Isaías, the Company sent emails to all customers that have provided their email address, unless they have unsubscribed from receiving emails. Details (*e.g.*, date, topic, number sent, open rate, full text) for each of the seven emails sent to customers during Isaías are provided below. The distribution number for the emails varied because some customers unsubscribe from further emails when they receive one. If the numbers increased, that meant that the Company received a new email list file through CIMS with updated email addresses. See [Attachment 7](#) for actual emails.

- **August 3, 2020, 5:00 p.m.:** Before a Storm Strikes, Be Prepared (90,930 customer emails – 41.51% open rate)
- **August 5, 6:30 p.m.:** Your Outage Recovery Guide (90,871 customer emails – 38.12% open rate)
- **August 6, 2020, 8:00 p.m.:** When You Can Expect to Get Service Back (90,865 customer emails – 39.71% open rate)
- **August 7, 2020, 5:45 p.m.:** Get Daily Info About Your Outage (90,853 customer emails – 24.27% open rate)
- **August 8, 2020, 5:00 p.m.:** Get Daily Info About Your Outage (90,836 customer emails – 22.54% open rate)
- **August 9, 2020, 5:00 p.m.:** Get Daily Info About Your Outage (90,809 customer emails – 25.26% open rate)
- **August 10, 2020, 3:30 p.m.:** Our Crews Continue to Restore Power (91,012 customer emails – 29.64% open rate)

4.6. Social Media and Website

As stated in Section 2.4 of this Report, the Company began issuing pre-storm communications to customers regarding Isaías on August 3, 2020. The Company issued daily communications to

²⁴ Including New Jersey customers of Rockland Electric Company.

the public throughout Isaias to chart restoration progress, provide ETRs, inform customers of dry and wet ice availability and locations, and offer storm-related tips. The Company used social media channels - Facebook and Twitter – to disseminate important information quickly to customers or help address individual customer requests and concerns.

During Isaias, the Company fielded 4,168 customer messages/inquiries and proactively posted 96 times on Social Media including:

- **Facebook:**
 - 1,364 Private messages;
 - 1,309 comments on O&R Posts; and
 - 40 individual customer posts on the O&R Facebook page.
- **Twitter:**
 - 981 direct messages to O&R; and
 - 474 tweets on O&R page.

A list of Isaias customer communications is provided in the table below.

Date/Time	Medium	Content
August 3, 2020 @ 11:30 a.m.	Press Release	O&R Ready to Make Repairs, Restore Power as Tropical Storm Nears
August 3, 2020 @ 3:00 p.m.	Facebook/Twitter	Storm Preparedness Checklist
August 3, 2020 @ 5:00 p.m.	Customer Email	Before a Storm Strikes, Be Prepared
August 4, 2020 @ 8:45 a.m.	Facebook/Twitter	How to Report an Outage
August 4, 2020 @ 12 noon	Press Release	O&R Mobilizes Crews to Repair Damage from Storm, Restore Service
August 4, 2020 @ 12:45 p.m.	Facebook/Twitter	Severe Weather Warning
August 4, 2020 @ 7:00 p.m.	Press Release	Damaging Storm Knocks Out Power to Over 150,000 O&R Customers
August 4, 2020 @ 10:00 p.m.	Press Release	Damaging Storm Knock Out Power to Over Half of O&R Customers
August 4, 2020 @ 10:45 p.m.	Facebook/Twitter	Outage Numbers
August 5, 2020 @ 12:15 a.m.	Facebook/Twitter	Full-Scale Restoration, Second Only to Sandy
August 5, 2020 @ 2:45 a.m.	Facebook/Twitter	Images of the Damage
August 5, 2020 @ 3:15 a.m.	Twitter	Don't Go Near Downed Wires
August 5, 2020 @ 7:00 a.m.	Facebook	Don't Go Near Downed Wires
August 5, 2020 @ 8:15 a.m.	Facebook/Twitter	Restoration Efforts Under Way
August 5, 2020 @ 1:00 p.m.	Press Release	O&R Restores Power to 80,000 Customers as 117,000 Remain Out; Transmission System Repairs, Major Road Openings Key Today
August 5, 2020 @ 2:15 p.m.	Facebook/Twitter	Current Outage Numbers

Date/Time	Medium	Content
August 5, 2020 @ 5:30 p.m.	Facebook/Twitter	Ice Distribution
August 5, 2020 @ 6:45 p.m.	Customer Email	We're Working 24/7 to Restore Your Power
August 5, 2020 @ 6:45 p.m.	Press Release	O&R Plans to Finish Vast Majority of Isaia's Restoration Tuesday
August 5, 2020 @ 8:45 p.m.	Facebook/Twitter	Current Outage Numbers
August 5, 2020 @ 10:00 p.m.	Press Release	O&R Restores Powers to Over 120,000 Customers; Plans are to Finish Vast Majority of Isaia's Restoration by Tuesday Night
August 6, 2020 @ 12:00 a.m.	Facebook/Twitter	Current Outage Numbers
August 6, 2020 @ 3:15 a.m.	Facebook/Twitter	Mobilized 1,100-Person Workforce
August 6, 2020 @ 9:00 a.m.	Press Release	O&R Distributes Ice at Locations in Orange, Rockland Counties
August 6, 2020 @ 9:30 a.m.	Facebook/Twitter	Ice Distribution
August 6, 2020 @ 1:00 p.m.	Press Release	O&R Restores More than 70% of Storm Isaia's Power Outages; Vast Majority of Service to be Returned by Tuesday Night
August 6, 2020 @ 2:15 p.m.	Facebook/Twitter	Current Outage Numbers
August 6, 2020 @ 2:30 p.m.	Press Release	O&R Delivers Dry Ice for Customers at Mamakating Town Hall
August 6, 2020 @ 3:30 p.m.	Facebook/Twitter	Ice Distribution
August 6, 2020 @ 7:30 p.m.	Press Release	O&R – Service Restoration Times Now Posted for Each Outage
August 6, 2020 @ 8:00 p.m.	Customer Email	Power Restoration Update
August 6, 2020 @ 8:15 p.m.	Facebook/Twitter	Current Outage Numbers
August 6, 2020 @ 10:00 p.m.	Press Release	Over 79% of Customers Restored; Individual Restoration Times Are Available Via O&R's Outage Map
August 7, 2020 @ 12:30 a.m.	Facebook/Twitter	Nearly 80% of Customers Restored
August 7, 2020 @ 6:30 a.m.	Facebook/Twitter	Safety: Downed Wires
August 7, 2020 @ 10:00 a.m.	Facebook/Twitter	Dry Ice Distribution
August 7, 2020 @ 10:30 a.m.	Press Release	O&R Distributes Free Ice Today in Old Tappan
August 7, 2020 @ 10:30 a.m.	Facebook/Twitter	Generator Safety
August 7, 2020 @ 1:30 p.m.	Press Release	O&R Continues to Restore Power to Customers' Storm Outages; Individual Restoration Times are Available via O&R's Outage Map
August 7, 2020 @ 2:30 p.m.	Facebook/Twitter	Outage Map
August 7, 2020 @ 4:30 p.m.	Facebook/Twitter	Image Gallery (Storm Damage)
August 7, 2020 @ 5:45 p.m.	Customer Email	Power Out? Get Info from Orange & Rockland
August 7, 2020 @ 7:30 p.m.	Press Release	O&R Distributes Free Dry Ice Saturday in New City
August 7, 2020 @ 7:30 p.m.	Press Release	O&R Distributes Free Dry Ice Saturday in West Haverstraw
August 7, 2020 @ 7:30 p.m.	Press Release	O&R Distributes Free Dry Ice Saturday in Pomona

Date/Time	Medium	Content
August 7, 2020 @ 10:30 p.m.	Press Release	O&R Has Restored 90% of Customers; Individual Restoration Times are Available via O&R's Outage Map
August 7, 2020 @ 10:45 p.m.	Facebook/Twitter	Dry Ice Distribution
August 8, 2020 @ 12:00 a.m.	Facebook/Twitter	O&R Has Restored 90% of Customers
August 8, 2020 @ 9:30 a.m.	Press Release	CORRECTION on New City Time – O&R Distributes Ice on Saturday August 8, 10 – 1 p.m. in New City
August 8, 2020 @ 11:00 a.m.	Facebook/Twitter	If someone knocks on your door claiming to be from O&R or a contractor traveling to service our area, please request ID. (Scam Awareness)
August 8, 2020 @ 2:00 p.m.	Press Release	O&R – More Mutual Aid Helping Restore Storm Outage Today
August 8, 2020 @ 2:30 p.m.	Facebook/Twitter	We urge our customers to bear with us as hundreds of contractors with our crews continue to repair damage and restore power throughout our service territory.
August 8, 2020 @ 5:00 p.m.	Customer Email	Power Out? Get Info from Orange & Rockland
August 8, 2020 @ 7:00 p.m.	Press Release	O&R's Providing Food, Medicine Spoilage Reimbursements for Storm Isaias Customers Who Lost Power for 2 Days or More
August 8, 2020 @ 7:30 p.m.	Press Release	O&R Distributes Free Dry Ice Sunday in Warwick
August 8, 2020 @ 8:45 p.m.	Press Release	CORRECTED ADDRESS – O&R Distributes Free Dry Ice Sunday in Warwick
August 8, 2020 @ 10:00 p.m.	Facebook/Twitter	Dry Ice Distribution
August 8, 2020 @ 10:00 p.m.	Press Release	O&R Reports on Remaining Customer Restorations Due to Tropical Storm Isaias
August 8, 2020 @ 11:30 p.m.	Facebook/Twitter	O&R Reports on Remaining Customer Restorations
August 9, 2020 @ 9:45 a.m.	Facebook/Twitter	We're getting closer to restoring everyone's power, and we appreciate your patience. You can view your individual ETR on our Outage Map
August 9, 2020 @ 10:00 a.m.	Facebook/Twitter	Current Outage Numbers (Rockland)
August 9, 2020 @ 10:15 a.m.	Facebook/Twitter	Current Outage Numbers (Sullivan)
August 9, 2020 @ 12 noon	Press Release	O&R Adds More Resources to Storm Outage Restoration Effort
August 9, 2020 @ 1:45 p.m.	Facebook/Twitter	More contractors are joining our crews today to continue repairs for our 5,870 customers who remain without power.
August 9, 2020 @ 3:30 p.m.	Facebook/Twitter	Current Outage Numbers (Orange County)
August 9, 2020 @ 3:45 p.m.	Facebook/Twitter	Current Outage Numbers (Rockland County)
August 9, 2020 @ 5:00 p.m.	Customer Email	Get Info from Orange & Rockland
August 9, 2020 @ 10:00 p.m.	Press Release	O&R Closing in on Restoring Majority of Customers
August 9, 2020 @ 11:00 p.m.	Facebook/Twitter	O&R Closing in on Restoring Majority of Customers
August 10, 2020 @ 9:45 a.m.	Facebook/Twitter	Current Outage Numbers (Orange)
August 10, 2020 @ 10:00 a.m.	Facebook/Twitter	Current Outage Numbers (Rockland)

Date/Time	Medium	Content
August 10, 2020 @ 10:15 a.m.	Facebook/Twitter	Current Outage Numbers (Sullivan)
August 10, 2020 @ 12 noon	Press Release	O&R Pushing Hard to Repair All Power Outages from Tropical Storm; Expects to Restore the Vast Majority of Customers by 11 p.m. Today
August 10, 2020 @ 1:45 p.m.	Facebook/Twitter	We are pushing hard to repair all the remaining power outages from Tropical Storm #Isaias and expect the vast majority of our customers to have their power back by 11 p.m. today.
August 10, 2020 @ 3:30 p.m.	Customer Email	Power Restoration Status
August 10, 2020 @ 4:00 p.m.	Facebook/Twitter	It's a hot one today and it will remain this way through the week. If you are still without power, we are aware of your frustration, and our crews are working tirelessly to complete restorations.
August 11, 2020 @ 9:15 a.m.	Facebook/Twitter	Storm Restoration Video
August 14, 2020 @ 4:45 p.m.	Customer Email	After Isaias

Table 20 - Sample of Isaias Customer Communications

In accordance with the ERP, Section 2.3, the Company website contained the following storm related information for Isaias:

- Safety tips;
- Outage recovery guide;
- Outage map of affected areas;
- Outage counts and ETRs by region and municipality;
- How to report an outage/check status of an outage;
- How to contact the Company;
- Locations and times of dry ice distribution; and
- All press releases issued by the Company.

4.7. Call Center

Customers may report electric service problems by calling and speaking with a CSR. Customers may also self-initiate a trouble report or obtain an ETR for electric service by talking with a CSR, through the IVR, texting, or through the trouble reporting application on oru.com/outage using any web-enabled device. Over 90% of all outages were reported via some self-serve option (*i.e.*, IVR, web, or texting).

To customers who would like to speak to a CSR during an event, the Company developed call center staffing levels based on the classification of the event. When operating conditions cause inbound customer lines to approach full capacity, calls are routed to O&R's High Volume Call Answering service. During the period from August 4 at 0700 hours through August 11 at 0700

hours, O&R CSRs answered 16,493 phone calls, of which 80.6% were answered within 90 seconds (see Table 21 below).

Date	No. of Calls Answered By an Agent	No. of Calls Answered Within 90 Seconds	Percent of Calls Answered Within 90 Seconds
4-Aug	3,162	712	22.5%
5-Aug	4,132	4,052	98.1%
6-Aug	3,315	3,224	97.3%
7-Aug	2,315	2,315	100.0%
8-Aug	1,178	1,178	100.0%
9-Aug	633	633	100.0%
10-Aug	1,732	1,162	67.1%
11-Aug	26	25	96.2%
Totals	16,493	13,301	80.6%

Table 21 – Isaias Call Answer Rates

During normal business, escalated customer calls are handled by supervisors in the customer assistance center. During an event when call volumes warrant, the SRT supports the customer assistance center by responding to customer concerns that need to be addressed at an escalated level by mobilizing the escalated customer calls function. During Isaias the escalated calls team answered approximately 419 escalated telephone calls.

4.8. Police and Fire Departments

During Isaias, the SRT was staffed 24 hours/day from August 4 through August 11 and handled approximately 912 police and fire telephone calls. O&R received and processed emergency conditions communicated from the county OEMs, local police and fire departments into the OMS.

4.9. Reimbursements and Bill Credits

O&R has acknowledged that extended outages were a major challenge for its customers during the COVID-19 pandemic given the number currently working from home. On August 8, O&R announced that it would reimburse customers for food and prescription medicine spoilage, if customers lost power for 48 consecutive hours. Those reimbursements for eligible residential customers would amount to \$235.00 without receipts or up to a maximum of \$540.00 with receipts/proof of purchase. Commercial customers are eligible for food spoilage reimbursements up to \$10,700.00 with an itemized list and supporting documentation. These reimbursements would be paid for solely from shareholder funds. The application period ended on September 8, 2020. The Company received 6,824 reimbursement claims.

Pursuant to a Commission order,²⁵ customers who were without service for 72 consecutive hours will receive an adjustment to their bill reflecting a one-time reduction to their monthly basic customer charge. Customers will receive this credit on their bill within 75 days after the end of the outage. Residential customers will receive a credit of approximately \$2.60 to \$5.85 to their customer charge, depending on the length of their outage. Small and medium business customers will receive a credit of approximately \$2.27 to \$8.17 to their customer charge. Larger commercial customers will receive credits based upon their service classification. The Company issued a press release announcing the bill credit on September 18, 2020 (see [Attachment 8](#)).

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²⁵ Case 13-M-0061, *In the Matter of Customer Outage Credit Policies and Other Consumer Protection Policies Relating to Prolonged Electric or Natural Gas Service Outages*, Order Establishing Policies (issued November 18, 2013).

5. Logistics

5.1. Staging Areas

The Company established material laydown areas at its Spring Valley Operations Center and at the Sheraton Crossroads Hotel in Mahwah, New Jersey to support its restoration efforts. Both locations had similar materials on hand for the work crews including:

- Poles (45' and 50');
- Transformers (various sizes);
- Cross-arms;
- Wire (various sizes);
- Guy wire;
- Insulators;
- Sleeves;
- Anchors, pins, rods, braces; and
- Minor items (*e.g.*, bolts, pole hardware).



Photo 11 - Materials Staging Area – Spring Valley Operations Center

5.2. Wet/Dry Ice

The Company worked with local community leaders when choosing wet/dry ice distribution sites. The sites chosen were easily accessible and centrally located in areas where there were high concentrations of customers without service.

The distribution of wet and dry ice began on Thursday, August 6.²⁶ The Company used press releases posted to O&R's internet and social media sites, distributed to local media outlets, e-mail blasts to all Town Supervisors, Mayors, Building Inspectors, Highway Superintendents, Police Chiefs, and OEMs to advise of the availability of wet and dry ice. All distribution sites were located at one of Company's pre-established ice distribution locations or at a location specifically requested by municipal leadership.

Wet and dry ice distribution locations and the days of distribution were as follows:

- Rockland County
 - New City: Street School Community Center (Thursday, 8/6; and Saturday, 8/8)
 - Pomona: Boulders Stadium (Thursday, 8/6; and Saturday, 8/8)
 - West Haverstraw: West Haverstraw Town Hall (Saturday, 8/8)
- Orange County
 - Middletown: Toys R Us (Thursday, 8/6).
 - Monroe: Provided Town with two dry ice bins (Friday, 8/7)
 - Warwick: Warwick Town Hall (Friday, 8/7; and Sunday, 8/9)
 - Town of Highlands: Provided Town with one dry ice bin (Saturday 8/8)
- Sullivan County
 - Mamakating: Mamakating Town Hall (Thursday, 8/6)

5.3. Materials

The Company maintains an adequate supply of materials on hand at its workout locations, including pre-packed storm kits supplied to contractors and mutual assistance crews performing service restoration or line work. Despite the high volume of materials used in restoration activities as a result of the damage caused by Isaías, the Company experienced no shortages during the storm. Likewise, there were no material shortages in the days after all customers were restored and O&R focused on making repairs permanent and returning the transmission and distribution system to its normal configuration.

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²⁶ Typically, the Company would distribute dry ice during major events such as Isaías. However, due to disruptions in the supply chain, the availability of dry ice was limited. The Company distributed wet ice as an alternative when dry ice was unavailable.

6. Technology

6.1. Summary

As discussed earlier in this Report, Isaias had a significant impact on the O&R service territory and its customers. In addition to its effect on O&R's electric distribution system, the Company's key IT systems, including the customer communication channels supporting infrastructure and the OMS, saw considerable volume. In almost all cases the volume resulted in new peak loads on these systems with no issues experienced at any of the Company's data centers. A summary of key system peaks is set forth in Table 22 below.

System	Unit Of Measure	Tropical Storm Isaias	Previous Peak
Outage Management System (OMS)	Tickets per hour	31,359	~6,300 – Superstorm Sandy
Outage Map	Page views	281,141	~20,000 – Riley/Quinn
Site Safety System	Tickets generated	11,630	5,538 – Riley/Quinn
Damage Assessment System	Assessments	3,550	3,414 – Riley/Quinn

Table 22 - Information technology systems peaks achieved during Isaias

Despite the volume of traffic on its systems, the Company experienced no issues at its data centers. The Company designs and tests its various IT systems and supporting infrastructure to levels of traffic associated with major events and prepares for contingencies such as infrastructure failure. The performance of these systems and infrastructure during the unprecedented demands of Isaias provided a robust validation of the Company's system design and testing.

6.2. Key Systems

Customer communication – The Company's customer communication systems are a collection of technology which allow customers to exercise their preference as to how they communicate with the Company. During Isaias, these systems generally performed well and allowed customers to communicate with the Company via a channel of their preference. The Company's CIMS experienced a database space issue and was not able to process transactions from approximately 7:00 p.m. – 9:30 p.m. on August 4. The Company successfully addressed this issue allowing CIMS to recommence normal processing at 9:30 pm on August 4. The Company has implemented a change in the monitoring protocol for the database in order to mitigate such an event in the future.

The Company's website reached its highest volume recorded to date, *i.e.*, 60,000 unique user sessions per hour, during Isaias. The Company's IVR system experienced a peak volume of 813 calls in an hour during Isaias. In addition, the Company received 13,884 outage notifications via text, accounting for approximately 10% of customer outage reports. The Company sent an

additional 61,626 text messages to customers indicating an outage detected at their location, providing updates on crew assignment and ETRs, and informing when restoration had been completed. The largest volume of texts sent during a one-hour period was 30,192.

OMS – The Company uses the OMS for the overall management, tracking, and resolution of outages on its electric distribution system. O&R uses the OMS on both blue-sky days and during storm events. The Company uses the Oracle Network Management System (“NMS”) for the OMS. This platform is a best of breed industry leader in outage management and is used by over 50 electric utilities in the U.S. This platform affords the Company many capabilities and is continuously updated by Oracle.

The OMS includes several input sources:

- **Customer reported outages** – A customer can report outages via several channels – speaking with a CSR or via the automated IVR, text messaging, the O&R mobile app or the ORU.com website. Municipal officials can use a form available on ORU.com.
- **Damage Assessment** – The OMS has an interface to the damage assessment system used by the Company’s field forces during storm events. The interface records and updates outage events in the OMS based on feedback from the field.
- **AMI** – As described in Section 1.3, the OMS receives inbound AMI messaging alarms automatically initiating outage incidents in the OMS in the same manner as customer calls except they are noted with an AMI trouble code. As customers are restored, the OMS receives inbound AMI messaging that the OMS uses to update automatically the status of active jobs with power up information and partial restoration.

A high-level outage management process flow is shown in Figure 9 below:

The OMS has rules in place to manage the various data streams described above. Customer reported outages are logically grouped into outage events based on a number of factors including location in the electric distribution system model, conditions reported by the customer, timing of the outage report, and other outage events on the system. The OMS affords the Company a number of tools to manage the outage or storm event to completion, including:

- **Crew management** – Crews of various types can be managed in the OMS. They can be assigned, dispatched, and marked onsite at outage events in the system. The outage event statuses are reflective of these workflows.
- **Switching** – The OMS has electronic switching capabilities which allow the DCC to develop switching plans to isolate and restore outages on the electric system.
- **ETR Management** – The OMS provides tools to manage the ETRs for outage events. OMS can use algorithms to generate ETRs for outage events, suspend auto-generation of ETRs, and set a Global ETR at various levels. It also allows operators to manage the ETRs for each outage event.

- **Issue Resolution** – The OMS provides the capability for the operators to enter various details regarding the resolution and completion of outage events. These details include the following: outage cause, weather, cause location, effects/impacts, and outage type.

The OMS data described above is provided to downstream systems for various reporting purposes including:

- Outage Management dashboard (internal);
- Outage Map (external) on ORU.com and O&R mobile app; and
- Proactive texting program for customers.

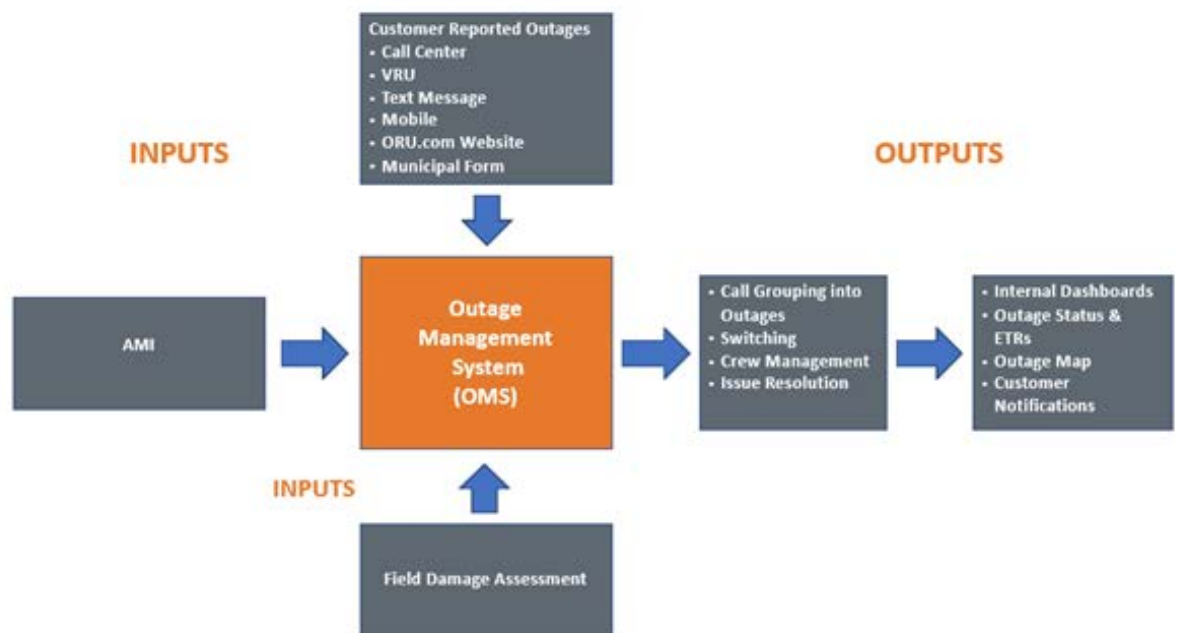


Figure 9 - Outage Management System Process Flow – Inputs and Outputs

During Isaías and the restoration period following Isaías, the OMS processed 215,673 calls (*i.e.* inputs from various customer facing channels, including AMI) and generated 9,085 jobs for 189,500 customers affected. As noted in Table 23 below, the OMS recorded an all-time hourly peak of 31,359 calls on August 4 at 1:00 pm. This peak was five times the prior peak experienced during Superstorm Sandy. For reference the following are the peak calls experienced for recent major events.

Sandy	Riley/Quinn	Isaías
6,377	3,165	31,359 ²⁷

²⁷ This number includes customer contacts and AMI meter last gasps.

Table 23 - Comparison of peak number of hourly calls processed by the OMS

OMS and AMI – The OMS processed 102,235 last gasp (outage) events during Isaias. This provided the Company with a more accurate assessment of customer outages than during prior major events. The ability to validate customer outages via the AMI platform allowed the Company to avoid dispatching crews to 3,300 jobs.

Site Safety System – The Company’s site safety system experienced a new peak level of usage with 11,630 site safety tickets generated. This is a 110% increase from the previous peak during Riley/Quinn of 5,538.

Damage Assessment – The Company uses a third-party application called Electric System Damage Assessment (“ESDA”) for damage assessment. The application suite includes a desktop application, a native mobile application and a module that allows for tracking and managing the damage reports received from the field. The application also interfaces directly with the OMS.

During Isaias, over 100 users processed damage tickets through ESDA. An average of 25 damage tickets were processed an hour with a peak of 99 damage tickets processed in a single hour. A new total event volume of 3,550 damage tickets was reached, exceeding the Riley/Quinn total event volume of 3,414 damage tickets.

Overall, ESDA performed well. However, the Company’s Damage Assessment team did experience some difficulties with the ESDA back office application between August 4 and August 6, while the system experienced unprecedented volume. Sporadically during the day on August 4, users received messages advising that they could not log into the ESDA back office, which impacted their ability to approve contractor registration requests.²⁸ Once this issue was identified, the Company discovered that damage reports were not being processed into the OMS. During this period, damage assessors followed the Company’s back-up procedure by calling in the damage reports to their coordinators who entered them directly into the OMS. The Company’s IT team worked closely with the vendor to provide a solution by 9:00 pm on August 6.

The Company resolved the technical issues with ESDA in a timely manner. These issues did not impact field restorations as the SERT used the damage reports on the overnight shift each day to produce work packages. ESDA will be reviewed for the potential to improve system resiliency and additional operational/testing capacity by moving the product to a cloud environment.

²⁸ Mutual assistance damage assessment contractors need to register and obtain credentials to use the ESDA mobile app. The process includes downloading the app, filling out a registration form and submitting unique storm code. Once their request is submitted, an O&R DA coordinator will approve (or reject) their request. Upon approval, the contractor is provided credentials and can log in and receive job assignments.

Outage Map - Use of the Outage Map reached a page view peak of approximately 281,000 page views on August 5. The peak was a fourteen-fold increase on the prior page view peak but still considerably less than the prior tested level of 500,000 page views. The Company's Outage Map displayed outage data during all 180 map hours over the restoration period. The Company updated the Outage Map for 9,840 of 10,800 total Outage Map minutes throughout the restoration period (91.1%). During eight instances, the Outage Map did not update in 60 minutes. In six of the eight instances, the Outage Map did update within the subsequent 60-minute period. These performance issues were caused by unprecedented system demand that drove capacity constraints on technology components responsible for compiling, producing and transferring outage data to systems that provide data to the Outage Map.

The Company remediated these technical issues by increasing database capacity and adding monitoring to detect pre-emptively such issues in the future. In addition, the Company intends to design a new testing protocol which will allow the Company to continue to evolve its end-to-end testing program. This approach will help the Company to identify and mitigate capacity driven issues in the future.

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7. Covid-19 Pandemic Impact

The ongoing COVID-19 pandemic has presented a unique set of challenges to the safe maintenance and operation of the Company's electric transmission and distribution system. However, because O&R modified its day-to-day operations in response to the pandemic prior to the arrival of Isaias, the Company was prepared to respond to the damage that it left in its wake. With many administrative and support personnel already working from home when Isaias hit, as they transitioned to their respective storm duties, they continued working from home. Essential operational and field personnel reported to their storm assignment locations and worked while observing all applicable Company and mandatory safe distancing policies and protocols.

Regarding out of state contract employees that came to assist O&R in restoration activities, the Company put in place a number of safety protocols to protect the contract employees, and Company employees and customers, during the execution of those restoration activities. To date, the Company is not aware of any instances of the transmittal of the COVID-19 virus as a result of its restoration activities during Isaias.

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8. Lessons Learned

The Company's ability to plan, prepare, mobilize, and restore service to customers during a pandemic and major storm event represents a significant achievement that should not be discounted. Those factors notwithstanding, the Company continues to work to improve its major event response through continuous review of its ERP, training, drills and the adoption of industry best practices.

O&R executed its pre-storm preparations, mobilization, and restoration activities for Isaias in accordance with provisions and guidelines set forth in the Company's ERP. The Company's evaluation of these activities after the conclusion of the storm highlighted several areas where the Company performed very well and several areas where improvements are warranted.

The Emergency Preparedness Department conducted After Action Meetings ("AAM") with a broad range of employees who held critical roles in the Isaias response. In the AAMs, strength areas and lessons learned were discussed.

This section highlights specific areas of focus, and identifies initial lessons learned and, in some cases, options being considered. The Company has already implemented certain improvements. In most cases, however, the Company is still developing more specific longer-term actions.

8.1. Safety and Safety Record

Safety is a primary focus during the Company's storm restoration efforts. The Company's employees, contractors, and mutual assistance forces worked thousands of hours under adverse conditions and only experienced one recordable illness and one recordable motor vehicle collision during Isaias. The dedication of O&R employees and contractors in all capacities was exemplary. In addition, to date, the Company is not aware of any instances of the contraction or transmittal of the CONVID-19 virus as a result of its restoration activities.

8.2. Plans and Procedures

O&R refers to its many plans and procedures for storm and emergency response, and the operation and maintenance of its energy systems. These documents provide guidance to employees on how to respond to specific situations; who is responsible for what actions; and what needs to be documented for future reference. Plans and procedures were the foundation of the Isaias response. One item that worked well and that will be considered for updating in the plans was the use of the Spring Valley Operations Center as a material laydown area.

Some additional improvements shared and to be considered in the current plans and procedures are set forth below.

1. Adding phases of event restoration to provide greater guidance and clarity for scaling down staffing/resources and a staged demobilization model as restoration activities are nearing completion.
2. Clarifying storm response roles and functions for various ICS organization branches such as the PRG. There was some misperception on responsibilities of this branch including incident updates and completion in the OMS as the work in the field was completed.
3. Moving the Resource Unit Leader into the Planning Section to better manage the personnel available.
4. Reviewing and updating the dry ice procedure of the ERP. Prior to Isaias, the Dry Ice Branch Director role was disbanded, and its responsibilities transferred to Logistics. This led to communication and coordination issues on the distribution and management of dry ice during Isaias. No pre-determined dry ice locations and inaccurate information led to multiple re-issues of press releases and incorrect dry ice distribution addresses provided to customers.
5. Including a procedure on bucket truck rentals that provides specifications on the trucks that meets ORU's testing standards.
6. Updating the onboarding document for mutual assistance crews to include transformer and debris removal guidance.

8.3. Communications and Coordination

Communications is a crucial part of any storm response. A clear and transparent communications plan will provide needed information to Company crews, response organizations and customers. An efficient flow of information will enhance resource tracking, accountability, and accurate documentation.

Several groups spoke positively on the internal communications, as well as certain external communications, throughout the Isaias response including those noted below.

1. Tactics Meetings - the Operations and Planning Branches of the ICS organization conducted twice daily tactics meeting to review progress during the current operational period and to develop plans for the upcoming operational period.²⁹ These meetings facilitated the sharing of storm response related information, and attendance expanded beyond the Planning and Operations Branches as other Branches obtained valuable information regarding restoration activities.
2. Incident Action Plans ("IAP") - one output of the tactics meeting was the 6:00 a.m./6:00 p.m. daily IAP which provides information regarding restoration activities during the upcoming operational period.

²⁹ During major events, the O&R ICS organization divides calendar days into two operational periods, 7:00 a.m. to 7:00 p.m. and 7:00 p.m. to 7:00 a.m.

3. The Company established new lines of communications with participating agencies such as the DOT and update on key contact information with Department of Public Works (“DPW”) personnel.

The Company experienced challenges in communications, both internal and external, which can be improved upon to reduce duplication of efforts, enhance resource management issues and increase stakeholder relations. These included those described below.

1. Morning Press Releases – currently, the morning press release coincides with the operational period change. However, because all releases need to be reviewed and approved by individuals that are in the midst of scheduled transfer, the releases can and have been delayed as they await approval. Shifting the release schedule time will allow for an orderly operational period transition after which the release can be reviewed and approved.
2. Information Flow Improvement – expand the attendee list to operational and tactics meetings to improve the flow of information. This includes:
 - a. Vegetation Management in CRT and PRG meetings - to improve the information flow and coordination efforts with municipalities and DPW staff; and
 - b. Logistics inclusion in the daily operations meetings to assist with planning meals, materials needs, lodgings, etc. especially for mutual assistance personnel.

Coordination is another important aspect of storm restoration, establishing and maintaining a unified and coordinated approach that integrates all responding groups and critical stakeholders is vital to the success of a restoration. Coordination, overall, was positive between groups and external agencies, but the following suggestions were discussed:

1. Command and General Staff aligning more with Operations on the overnight shift to prepare the work plan for the next day/shift; and
2. Improve coordination between the PRG and the CRT on where crews should be assigned.

8.4. Information Technology

The Company uses multiple computer systems and applications for a variety of purposes during a storm response. Specific operational issues identified and discussed in the Technology section of this Report are not repeated in this section.

1. Microsoft Teams - this storm response presented a unique challenge given the limitations on in-person staffing associated with the ongoing COVID-19 pandemic. In order to overcome these limitations, the Company used Microsoft Teams as a

platform for meetings and communicating regularly among storm response personnel. As an example, the RA Branch took advantage of the Teams' chat function to maintain communications and improved interactions between the various sections in the Branch. The team also develop processes to remotely:

- a. Coordinate AMI meter pings among multiple team members improving the overall restoration process;
 - b. Streamline the incident close out process; and
 - c. Communicate damage assessment information from the Damage Assessment group to the SERT.
2. AMI – in addition to improving the ability to verify power restoration and help with restoration analysis as discussed above, the AMI functionality also aided the LSE process as CSRs were able to ping LSE coded customers and confirm the status of their electric service.

Users experienced some issues with the OMS during this storm response and have identified areas for improvement.

1. Insufficient detail on damage assessment or site safety notes resulted in calls to the SERT for information. In addition to the benefits internally from increasing the amount of information captured in these notes, the information is valuable in providing updates to customers, stakeholders and elected officials.
2. Develop a new status in the OMS, specifically for work requiring follow-up. The absence of such a status resulted in jobs that could have been closed out remaining open and unassigned in the OMS. The development of a follow-up status would allow for determining the resources required to return the distribution system to its normal state upon the completion of restoration activities.
3. Develop an enhancement that links related jobs/tickets to prevent the loss of existing comments or notes if one of the tickets is closed out.

Other system considerations/improvements discussed included the following.

1. The OMS team should consider developing a standard process to release all crews from all incidents in the system at the conclusion of their shift. The jobs can then be reassigned once a crew is made available. Aside from providing inaccurate documentation of actual crew locations, it hindered the RA Branch's ability to close out incidents (the system will not allow a user to close a job until all crews are released from it).
2. Consider an application whereby a responding police officer can identify a downed wire down on a map that feeds the OMS.
3. Develop a process to update Site Safety and Tree crew queues and remove these crews from active OMS incidents when their activities on the incidents are completed. This recommendation is related to item 2 above in that RA could not close out the

incidents until confirmation was received that there were no crews working and no site safety personnel standing by on the incidents.

4. Damage Assessment currently uses a standalone application for data entry and retention that is independent of the OMS. Integrating the ESDA system and the OMS will allow notes and comments to be interchanged between the two systems. Currently, all information transferred between the two systems is done manually.
5. Review the logic/code in how incidents are grouped in the OMS. Early into Isaias, as the Company was restoring incidents, several customers called to report an outage. An incident would be produced in the OMS. However, if the customer was in an area that had been recently restored, the new incident would automatically be grouped to the closed or restored incident.

8.5. Training

Training and exercises emerged as a vital topic in the After Action meetings. Training is an important element of Company preparedness and equips employees for storm and other emergency assignments. Exercises are a crucial part of training and provide valuable practical experience prior to real emergency activations. During the After Action meetings, participants stated partaking in earlier storm exercises, this year, greatly helped expedite their response, especially considering the COVID-19 considerations. A large-scale tabletop exercise was suggested for early June to prepare for hurricane season.

During the After Action process, employees identified a broad range of training opportunities that will improve the Company's storm response and individual performance. This feedback also revealed that enhanced training coupled with realistic, scenario-based exercises will further improve Company preparedness and response to future incidents.

To better prepare individuals serving in a new emergency capacity for the first time, additional training and exercise can be used to identify gaps and improve knowledge base. Training can also help:

1. Standardize the response efforts; participants of the meetings stated there was no consistency in the reporting by different Damage Assessors and many were lacking specificity, such as pole number or explanation of what was needed (*e.g.*, 45' pole, cross arms or other pole hardware);
2. Validate the plans and procedures for each of the storm response roles and help personnel understand their responsibilities and position; and
3. Generate depth on roles and positions in the storm response; participants stated there were not enough branch directors, crew guides, trained support for social media inquiries or CRT staff for this response.

In addition, conducting seminars on plans and procedures will increase general familiarity of content and use. This is especially useful when plans are revised and/or when personnel change assignments. Development of 'How To' guides should also be considered.

8.6. Resources

During the response there were materials and equipment used and personnel mobilized to support the restoration efforts. Logistics stated they were able to move material and equipment with the help of Gas Operations CDL drivers. O&R was also able to obtain additional personnel (*i.e.*, Mutual Assistance).

The following should be considered when Mutual Assistance is received:

1. Additional EH&S personnel at the staging areas for onboarding of multiple crews. Due to COVID-19 pandemic related constraints, indoor onboarding capacity was limited to 25 persons. This slowed down the onboarding process.
2. Additional qualified crew guides. Operations supervisors were taken to be crew guides due to the number of Mutual Assistance personnel.

8.7. Other Opportunities for Improvement

The Company identified the following additional issues outside of the AAMs.

1. Proactive Text Messaging – as discussed in Section 4.4 of this Report, on August 6, at the height of its restoration activities, the Company suspended proactive outgoing text messaging. Several customers complained of receiving an excessive number of text messages in a short timeframe. Suspending the process prevented customers from receiving further updates as the status of individual outages changed.

Although a popular means of communicating with customers, the Company recognized that proactively sending multiple text messages could become a nuisance to already frustrated customers. Until O&R implements a permanent solution, when the Company transitions to storm mode and automatically generated ETRs are suspended, the Company will suspend proactive texting as well.

2. LSE Customer Communication and Follow-Up - O&R will investigate alternative communications channels in an effort to make contact with its LSE customers under all scenarios. The Company was challenged with the timing of the event as it was elevated from a Classification Serious (2A) to a Full Scale (5) as a result of the unanticipated weather shift. The speed with which these changes occurred, along with other contributing factors, hindered the Company's ability to attempt two contacts within a 12-hour period.

During Isaias, O&R attempted to contact impacted LSE customers via telephone until midnight and conducted wellness visits until 1:00 a.m. Historically, the Company has not attempted telephone contact with its LSE customer base past 11:00 p.m. nor conducted a wellness visit past midnight. Looking ahead, O&R will consider conducting both the first attempt and second attempt during the overnight in order to meet the 12-hour timeframe.

O&R will increase its LSE staffing by using a supplemental work force to make personal telephone attempts to LSE customers with no power. SRT will retain 13 additional employees to deploy during a storm classification that warrants personal contact with our impacted LSE customer base.

O&R will increase the amount of leads currently trained in the LSE storm function. Although training is currently ongoing, the revamped training will focus on the leads ability to assist the LSE team with meeting timely, regulatory requirements. O&R Staff who were previously cross trained on multiple storm functions will be trained exclusively to support the LSE storm function.

Due to the COVID-19 pandemic, employees working the LSE function worked remotely. This was the first time in the Company's history where the LSE function was deployed and functioned remotely. Despite planning accordingly and exercising on this scenario (*i.e.*, working remotely), the reality brought unanticipated challenges that the Company will look to improve upon. The LSE function recognizes pros and cons to working remotely during a storm. The benefit of a remote workforce was the ability for staff to mobilize without a significant loss of time (*e.g.*, in lieu of traveling to a location, setting up equipment to begin a storm response). The telephone software required necessitated an additional refresher training on the use of the software. We anticipate this as a one-time issue and will incorporate this refresher into our training in the future.

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Attachments

Attachment 1 - Weather Reports

August 1, 2020 at 1000 hours:

Weather Forecast for 8/1/2020

MAIN POINTS:

1. Hurricane Isaias is expected to track near or over the area Tuesday into early Wednesday morning:
 - a. Tropical Storm force winds are not expected in the ConEd or O&R areas at this time.
 - b. Biggest threat will be very heavy rainfall, 1-4" by Wednesday morning.
 - c. Gusty winds up to 35 mph are expected, but only along the coast.
 - d. Confidence is medium in this system's exact track and intensity.
 - e. Confidence is low in peak winds at this time due to uncertainty in the system's structure as it crosses the area.

Day	Morning Low	Afternoon High	Winds (mph)	Clouds/Weather
Today	-	83-88	5-15 gusts to 20	Increasing clouds.
Sunday	O&R: 67-72 NYC: 72-77	85-90	O&R: 5-15 gusts to 25 NYC: 10-20 gusts to 30	Mostly cloudy skies with scattered showers and isolated thunderstorms.
Monday	O&R: 65-70 NYC: 70-75	85-90	5-15 gusts to 25	Increasing clouds with isolated showers and thunderstorms, mainly after 1600.
Tuesday	O&R: 65-70 NYC: 70-75	73-78	O&R: 5-15 gusts to 25 NYC: 15-25 gusts to 35	Cloudy with periods of rain and embedded thunderstorms. Rainfall will be heavy at times.
Wednesday	O&R: 62-67 NYC: 67-72	80-85	5-15 gusts to 20	Cloudy with periods of rain in the morning, then decreasing clouds. Storm total rainfall 1 – 4".
Thursday	O&R: 60-65 NYC: 65-70	78-83	5-15 gusts to 20	Increasing clouds.
Friday	O&R: 60-65 NYC: 65-70	78-83	5-15 gusts to 20	Mostly cloudy.

August 2, 2020 1000 hours:

Weather Forecast for 8/2/2020:

**** STRONGER WINDS ARE MORE LIKELY COMPARED TO YESTERDAY'S FORECAST, SEE BELOW****

MAIN POINTS:

1. Tropical Storm Isaias is expected to track across the area Tuesday into early Wednesday morning:
 - a. Tropical Storm force winds are possible in the NYC area, not expected for O&R.
 - b. Gusty winds are becoming more likely, peaking 1200 TUE – 0600 WED:
 - i. O&R: Sustained 10-25 mph, gusting 25-40 mph.
 - ii. NYC: Sustained 25-40 mph, gusting 40-55 mph.
 - iii. Confidence in the wind forecast is low at this time.
 - c. Heavy rainfall is expected with 1-4" of rain by Wednesday morning.
 - d. Confidence is medium in this system's exact track and intensity.

Day	Morning Low	Afternoon High	Winds (mph)	Clouds/Weather
Today	-	85-90	O&R: 5-15 gusts to 25 NYC: 10-20 gusts to 30	Mostly cloudy skies with scattered showers and isolated thunderstorms.
Monday	O&R: 65-70 NYC: 70-75	85-90	5-15 gusts to 25	Increasing clouds with isolated showers and thunderstorms, mainly after 1600, becoming a steady rain late.
Tuesday	O&R: 65-70 NYC: 70-75	73-78	Peaking after 1200 O&R: 10-25 gusts 25-40 NYC: 25-40 gusts 40-55	Cloudy with periods of rain and embedded thunderstorms. Rainfall will be heavy at times.
Wednesday	O&R: 62-67 NYC: 67-72	80-85	Peaking before 0600 O&R: 10-25 gusts 25-40 NYC: 25-40 gusts 40-55	Cloudy with periods of rain in the morning, then decreasing clouds. Storm total rainfall 1 – 4".
Thursday	O&R: 60-65 NYC: 65-70	78-83	5-15 gusts to 20	Increasing clouds with scattered showers in the afternoon and evening.
Friday	O&R: 60-65 NYC: 65-70	78-83	5-15 gusts to 20	Mostly cloudy with scattered showers.
Saturday	O&R: 60-65 NYC: 65-70	78-83	5-15 gusts to 20	Mostly cloudy with scattered showers.

August 3, 2020:

Weather Forecast for 8/3/2020:

MAIN POINTS:

1. Tropical Storm Isaias is expected to track across the area Tuesday into early Wednesday morning:
 - a. Tropical Storm force winds are possible in the NYC area, not expected for O&R.
 - b. Gusty winds are becoming more likely, peaking 1200 TUE – 0600 WED:
 - i. O&R: Sustained 15-30 mph, gusting 30-45 mph.
 - ii. NYC: Sustained 30-45 mph, gusting 45-60 mph.
 - iii. Confidence in the wind forecast is low at this time.
 - c. Heavy rainfall is expected Tuesday, heaviest 1200 TUE – 0000 WED:
 - i. O&R: 3-6” of rainfall
 - ii. NYC and Westchester: 1-4” of rainfall.
 - d. Minor coastal flooding is possible Tuesday night in flood prone areas:
 - i. Peak water levels of 6-5 – 7.5 feet above MLLW at Battery Park.
 - e. Confidence is high in this system’s exact track and intensity.

Day	Morning Low	Afternoon High	Winds (mph)	Clouds/Weather
Today	-	85-90	5-15 gusts to 25	Increasing clouds with isolated showers and thunderstorms, mainly after 1600, becoming a steady rain late.
Tuesday	O&R: 65-70 NYC: 70-75	73-78	Peaking 1400 - 0000 O&R: 15-30 gusts 30-45 NYC: 30-45 gusts 45-60	Cloudy with periods of rain and embedded thunderstorms. Rainfall will be heavy at times 1200 - 2300.
Wednesday	O&R: 62-67 NYC: 67-72	80-85	Peaking before 0600 O&R: 10-20 gusts 20-30 NYC: 15-25 gusts 30-40	Cloudy with rain tapering off through the early morning, then decreasing clouds. Storm total rainfall 3-6” O&R, 1 – 4” for NYC and Westchester.
Thursday	O&R: 60-65 NYC: 65-70	78-83	5-15 gusts to 20	Increasing clouds with scattered showers in the afternoon and evening.
Friday	O&R: 60-65 NYC: 65-70	78-83	5-15 gusts to 20	Mostly cloudy with scattered showers.
Saturday	O&R: 60-65 NYC: 65-70	78-83	5-15 gusts to 20	Mostly cloudy with scattered showers.
Sunday	O&R: 60-65 NYC: 65-70	82-87	5-15 gusts to 20	Decreasing clouds.

August 4, 2020:

Weather Forecast for 8/4/2020:

MAIN POINTS:

1. Tropical Storm Isaias is expected to track across the area Tuesday into early Wednesday morning:
 - e. Tropical Storm force winds are expected in the NYC area and coastal Westchester, not expected for O&R and rest of Westchester.
 - f. Gusty winds are becoming more likely, peaking 1200 – 1700 today:
 - i. O&R and northern Westchester: Sustained 15-30 mph, gusting 35-50 mph.
 - ii. NYC and southern Westchester: Sustained 30-45 mph, gusting 50-65 mph.
 - iii. Confidence in the wind forecast is low at this time.
 - g. Heavy rainfall is expected today, heaviest 1200 – 1700 today:
 - i. O&R: 3-6" of rainfall
 - ii. NYC and Westchester: 1-4" of rainfall.
 - h. Isolated minor coastal flooding is possible tonight in flood prone areas:
 - i. Peak water levels of 6-5 – 7.5 feet above MLLW at Battery Park.
 - i. Confidence is high in the forecast.

Day	Morning Low	Afternoon High	Winds (mph)	Clouds/Weather
Tuesday	-	75-80	Peaking 1200 - 1700 O&R: 15-30 gusts 35-50 NYC: 30-45 gusts 50-65	Cloudy with periods of rain and embedded thunderstorms. Rainfall will be heavy at times, especially 1200 – 1700 as a rain band crosses the area. Storm total rainfall 3-6" O&R, 1 – 4" for NYC and Westchester.
Wednesday	O&R: 62-67 NYC: 67-72	82-87	Peaking before 0600 O&R: 10-20 gusts 20-30 NYC: 15-25 gusts 30-40	Decreasing clouds.
Thursday	O&R: 60-65 NYC: 65-70	78-83	5-15 gusts to 20	Increasing clouds with scattered showers in the afternoon and evening.
Friday	O&R: 60-65 NYC: 65-70	78-83	5-15 gusts to 20	Mostly cloudy with scattered showers.
Saturday	O&R: 60-65 NYC: 65-70	78-83	5-15 gusts to 20	Mostly cloudy with scattered showers.
Sunday	O&R: 60-65 NYC: 65-70	82-87	5-15 gusts to 20	Mostly cloudy.
Monday	O&R: 60-65 NYC: 65-70	82-87	5-15 gusts to 20	Mostly cloudy with isolated showers and thunderstorms

Attachment 2 - Restoration Priority Matrix ("RPM")

Orange & Rockland

Restoration Priorities Matrix

Last Reviewed: 11/26/2019

Safety, Municipality Identified and Work Priorities		
	PRG	SERT
Priority Band 1	WD1 or RC1	
Priority Band 2	WD2, RC2, CF1	
Priority Band 3	WD3, RC3	CKLO
Priority Band 4	SERT priorities are identified and sorted by highest customer count. PRG priorities continue to be sorted by municipality identified CF2 and CF3 priorities.	

RC1 - Road Closure Priority 1

State and emergency service road (PD/FD/EMS/P1) incidents managed by the Operations Section Chief and PRG Branch.
Road closures with no ingress/egress (i.e., cul-de-sac) will be coded in OMS as "RC" and treated as an RC1 priority.

RC2 - Road Closure Priority 2

County roads and critical municipal identified incidents managed by the Operations Section Chief and PRG Branch.

RC3 - Road Closure Priority 3

Road closure incident that is not a RC1 or RC2 generally managed by the PRG Branch.

WD1 - Wire Down Priority 1

Primary/Secondary conductor wire down incidents where wire is burning, arcing/sparking, or there is an immediate hazard or energized primary or secondary wires down in heavy pedestrian areas such as communities, schools, etc.

WD2 - Wire Down Priority 2

Primary/Secondary conductor wire down incidents where fire departments, police departments, or other municipal agencies are standing-by on the downed wire location or has been reported by municipal officials.

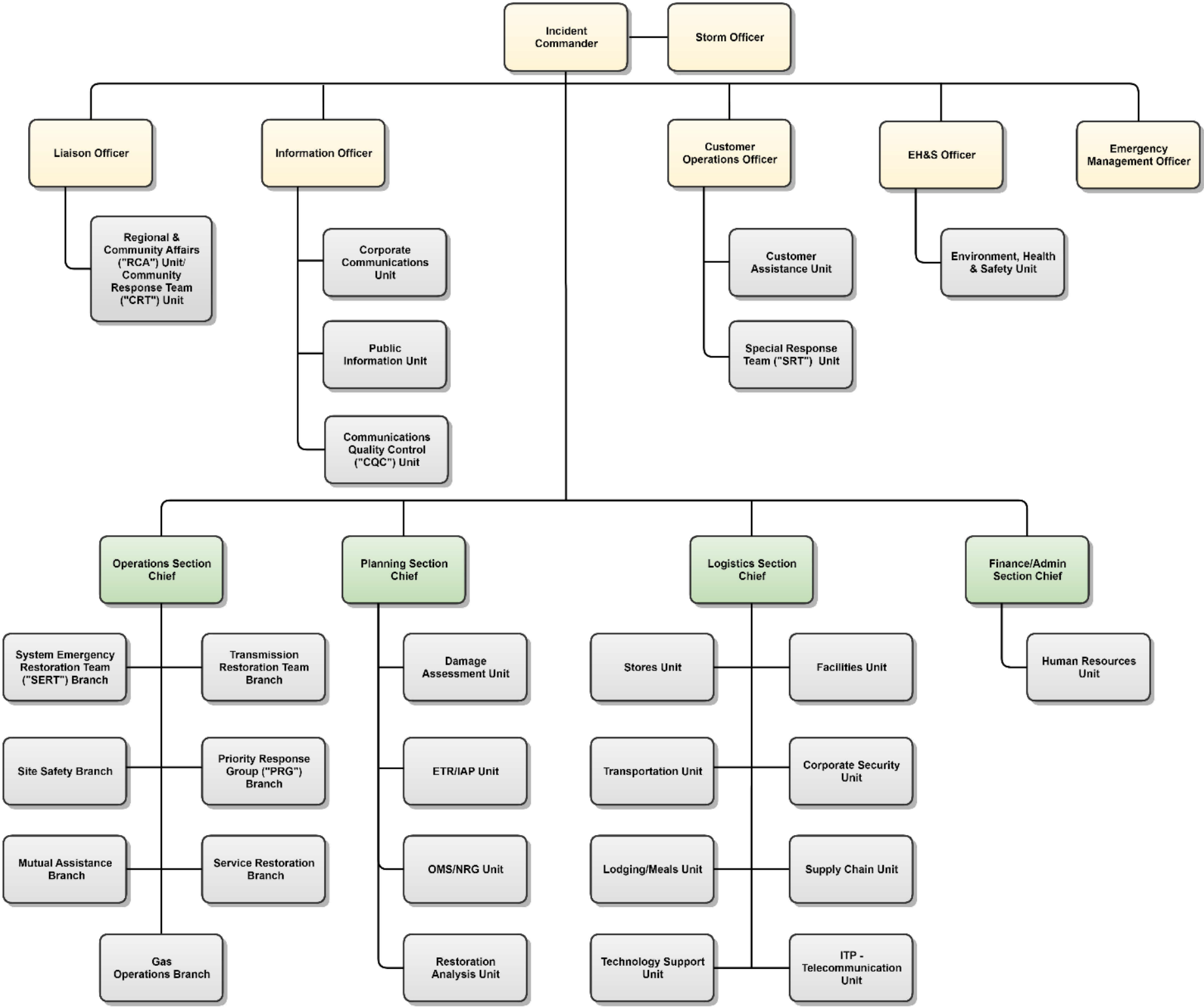
WD3 - Wire Down Priority 3

Primary/Secondary conductor wire down incident that is not a WD1 or WD2 generally managed by the PRG Branch

CF1-CF3 - Critical Facility Priority 1-3

System generated incidents based on customer needs and categorized in the "CF" column of OMS.

NOTE: Regardless of the source, reports of a wire down in a high pedestrian area will be treated as a Priority 1.
 See Sections 2.5, 2.6 and 2.7 of the Plan.

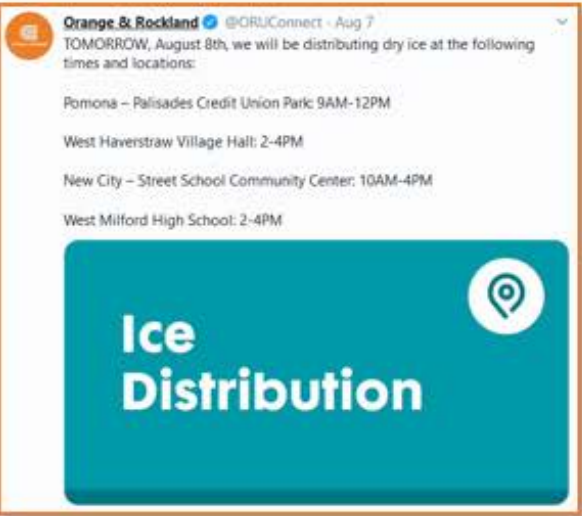
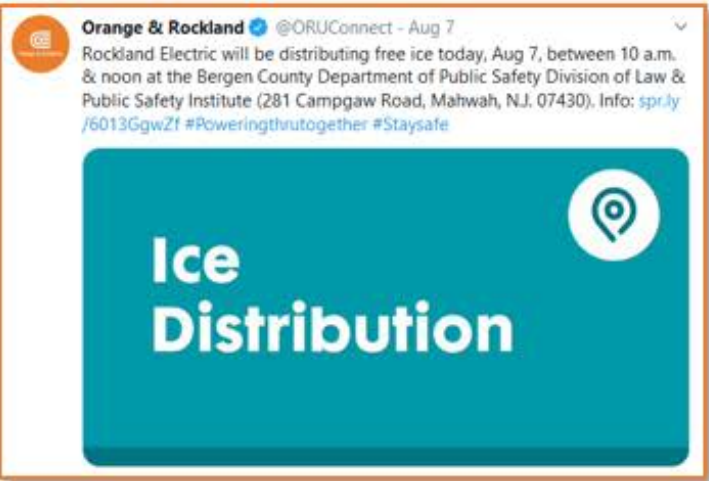


Updated November 2019

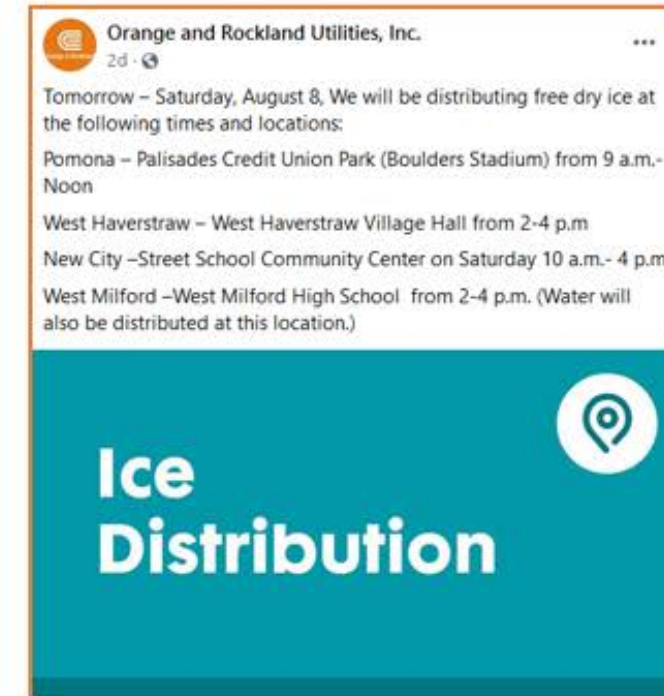
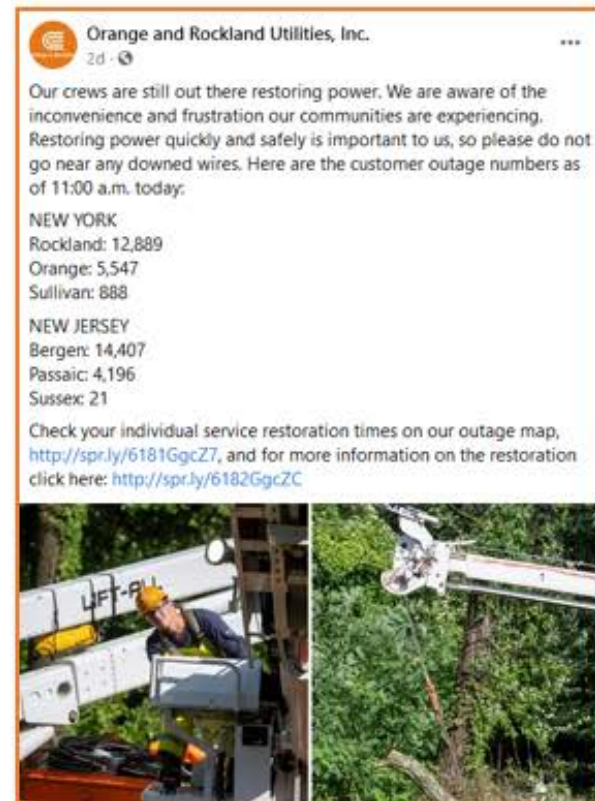
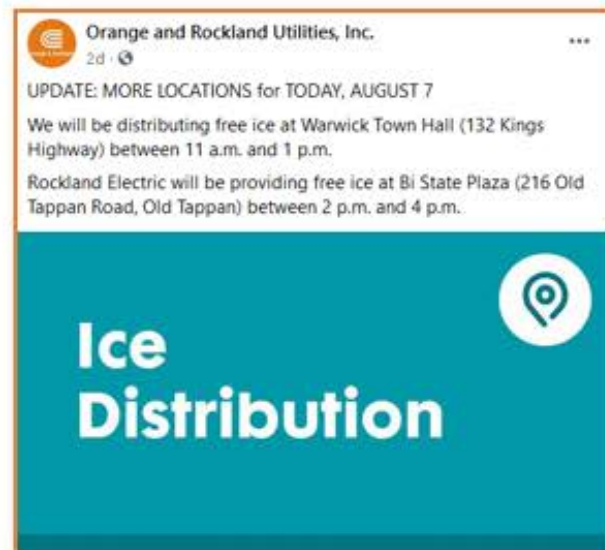
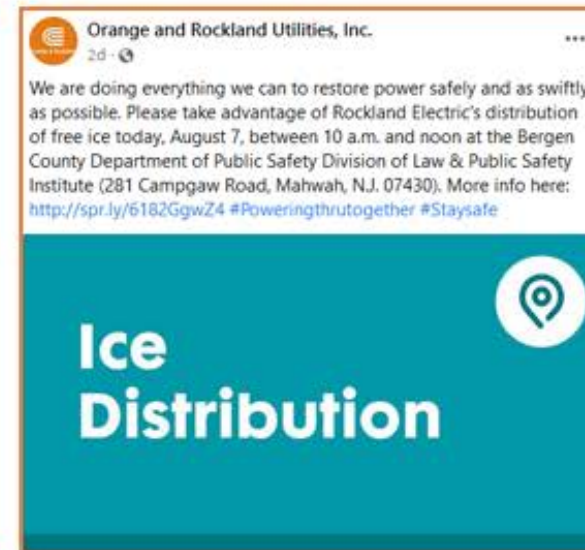
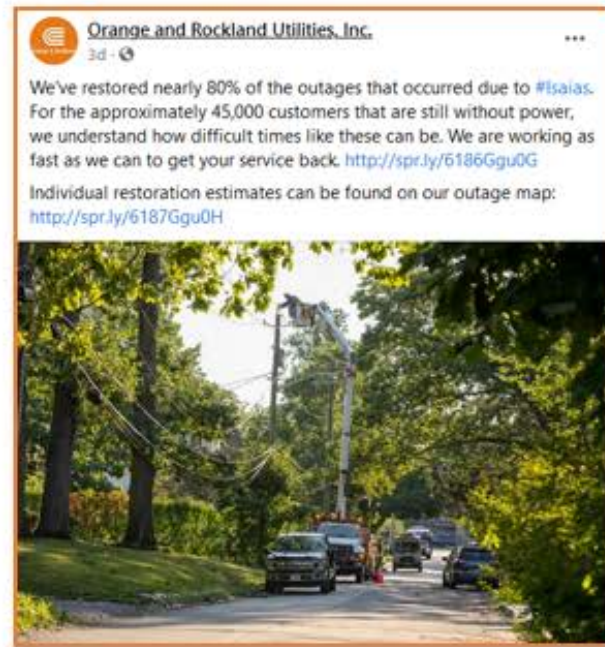
Attachment 4 - Storm Classification and Staffing Matrix

O&R Storm Classifications						O&R Storm Staffing Matrix (minimum staffing levels) - Revised 12/2019 (over a 24 operational period; numbers shown reflect FTEs)																																					
						Operations Section										Planning Section						Command Staff (i.e., Officers)										Logistics Section										Finance/Admin Section	
						System Emergency Restoration Team (SERT) Branch					Site Safety Branch			Priority Response Group (PRG) Branch		Damage Assessment Unit				Customer Operations			Information			Liaison																	
Storm Category/ICS Classification		Typical Weather Conditions & System Impact		Projected Outage Jobs* <small>*Per the Overhead Impact Model from the Weather Risk Assessment</small>	Projected # Of Customers Out of Service	Proposed Global Restoration Range (Days)	Administrative Positions *	Internal Line FTEs	External Line FTEs*	Service Restoration FTEs*	Tree FTEs*	Administrative Positions	Internal Site Safety (Wire Guards)	External Site Safety* (Wire Guards)	Administrative Positions	PRG Line FTEs*	PRG Tree FTEs*	Damage Assessment Administrative Positions* (e.g., Coordinators, Clerks)	Damage Assessors* (1 or 2-person crew)	OMS/NRG Support Unit	Restoration Analysis Unit	ETR/IAP Unit	Special Response Team (SRT) Unit	Customer Assistance Unit (i.e., CSRs)	Environmental, Health & Safety (EH&S) Unit	Corporate Communications Unit	Public Information Unit	Special Communications Quality Control Unit	Regional & Community Affairs Unit	Community Response Team (CRT) Unit	Transportation	Telecommunications	Technology Support*	Stores *	Facilities	Lodging/Meals *	Supply Chain	Corporate Security *	Human Resources	Finance/Admin Section Support (inclusive of Section Chief)			
1 – Upgraded (Locally assigned crewing and contractors)	1	• Isolated severe thunderstorms • Peak sustained winds greater than 25 mph • Peak wind gusts greater than 35 mph • Light damage to electric distribution system		40 – 80	4,000 - 8,000	0.5 - 1.5	16	60	As Needed	As Needed	10	4	12	As Needed	1	As Needed	As Needed	As Needed	As Needed	2	2	1	8	7	1	2	2	1	3	As Needed	4	1	As Needed	2	As Needed	1	As Needed	6	As Needed	As Needed			
2 - Serious (O&R internal resources and contractors)	2A	• Scattered to widespread severe thunderstorms • Peak sustained winds greater than 35 mph • Peak wind gusts greater than 40 mph • Localized heavy to moderate damage to electric distribution system		80 - 120	8000 - 12,000	1 - 2	10-17	80	As Needed	As Needed	10	4	16	As Needed	1	As Needed	As Needed	3	12	4	4	1	8	9	1	2	2	2	4	As Needed	6	2	2	2	2	1	As Needed	6	As Needed	1			
	2B			120 - 160	12,000 - 17,000	1.5 - 2.5	13-23	80	30	As Needed	20	6	24	As Needed	1	As Needed	As Needed	4	20	4	4	2	10	13	1	2	2	2	5	As Needed	6	10	2	2	2	1	As Needed	6	As Needed	1			
	2C			160 - 200	17,000 - 22,000	2 - 3	17-27	80	54	20	32	8	32	As Needed	2	As Needed	As Needed	4	25	4	6	2	12	17	3	5	4	2	6	8	8	12	2	2	2	1	As Needed	7	As Needed	2			
3 – Serious (All O&R resources and localized Mutual Assistance)	3A	• Widespread severe thunderstorms • Heavy rainfall with strong winds ,Tropical Depressions • Peak sustained winds greater than 40 mph • Peak wind gusts greater than 45 mph • Moderate to heavy damage to electric distribution system		200 - 240	22,000 - 26,000	2.5 - 3.5	23-38	80	60	20	40	16	64	40	19	10	6	7	40	8	8	4	15	26	5	5	4	4	7	16	10	12	4	4	4	6	1	9	3	2			
	3B			240 - 280	26,000 - 30,000	3 - 4	37-53	80	70	20	50	24	64	80	23	16	10	8	50	8	8	4	20	35	5	5	4	4	7	24	10	12	4	4	4	6	1	16	3	3			
	3C			280 - 330	30,000 - 45,000	3.5 - 4.5	45-63	80	100	30	60	30	64	100	29	20	12	9	60	8	8	5	20	43	5	5	4	4	7	30	12	12	4	4	4	6	1	25	3	3			
4 – Full Scale (All O&R resources and extensive Mutual Assistance Resources)	4A	• Heavy rainfall with strong winds, (Tropical Storms) • Extreme weather events • Peak sustained winds greater than 45 mph • Peak wind gusts greater than 50 mph • Greater than 25% damage to electric distribution system		330 - 1100	45,000 - 75,000	4 - 5	60-81	80	140	30	80	30	64	150	37	30	14	11	80	12	12	7	20	52*	9	5	4	4	7	40	12	12	4	6	9	12	1	25	5	4			
	4B			1100 - 1800	75,000 - 100,000	5 - 7	77-96	80	160	50	100	30	64	175	43	40	20	13	100	12	12	7	25	69*	9	5	4	4	7	44	14	15	4	8	9	12	1	30	5	4			
	4C			1800 - 2500	100,000 - 125,000	6 - 8	81-111	80	180	90	120	32	64	200	50	50	30	16	125	16	12	7	26	87*	10	5	4	4	7	46	14	15	6	12	12	12	1	35	5	4			
5 - Full Scale (All O&R resources and extensive Mutual Assistance Resources)	5	• Extreme weather events (Tropical Storms, Ice) • Peak sustained winds greater than 50 mph • Peak wind gusts greater than 55 mph • >50% damage to electric distribution system • Limited mobility due to damaged infrastructure		2500 - 3300	125K - 175K	7 - 10	130-166	80	460	120	200	34	64	300	58	54	34	18	150	16	16	8	36	152*	15	5	4	6	7	56	16	15	6	16	12	15	1	35	5	4			
Disaster Response (All company and contractor resources; extensive mutual assistance)	6	• Catastrophic weather events, (Heavy Wet Snow, Severe Icing) • Hurricanes 1-5 • >75% damage to electric distribution system • Limited communications & mobility due to infrastructure damage • Potential casualties		> 3,300	>175,000	9 - 12	160-206	80	580	140	200	36	64	400	60	60	40	23	200	16	16	8	38	260*	15	5	4	6	7	60	16	15	6	20	12	15	1	40	5	4			
Other Weather Considerations						Weather Notes - Customers affected and restoration times can be impacted by many external conditions including but not limited to: storm stalling over service territory; heavy rain for more than 8 hours and/or saturated soil conditions; 3 inches heavy, wet snow with wind																																					
• Storm stalls over the operating area						* Staffing Notes: Staffing levels in these functions use contractors or can be supplemented by CECONY or the NAMAG (for external Mutual Assistance). Generally this is the case in Category 3 or greater events.																																					
• Heavy rain and/or saturated soil conditions						"As Needed" = Staffing decisions are evaluated on a case by case basis and are dependent upon conditions and seasonal considerations. The Storm Officer, Incident Commander or Operations Section Chief has full discretion in requesting the mobilization of a function and/or increasing the minimum staffing levels at any time and regardless of declared ICS category.																																					
• Wet snow with foliage																																											
• More than ¼ inch of ice with wind and foliage																																											
• More than a ½ inch of ice																																											
• Full foliage exists																																											
• On-going restoration activities from recent/prior storms																																											

Tropical Storm Isaias 8/7: Communications on Twitter



Tropical Storm Isaias 8/7: Communications on Facebook



Report all outages. Tell us even if you think we already know about a problem. [View Online](#)

Orange & Rockland

Before a Storm Strikes, Be Prepared

Make sure you know what to do if you lose power.

[Report an Outage](#) →

Stay away from downed power lines. Always assume they are live.



As Tropical Storm Isaias approaches, we're preparing for heavy rain and gusty winds that may cause service problems. Extra crews are standing by. We want you to be ready, too.

When you report an outage at your home or business, you'll get regular updates automatically about your address. Give us a cell phone number, and you'll get text alerts. Or we can call you with updates. It's your choice when you report a problem.

Our crews continue to practice social distancing to keep everyone safe from the coronavirus. [Get Updates](#).

Power Problems?

Report outages at [oru.com](#), download our [mobile app for iOS or Android devices](#), text "OUT" to 69678 (myORU), or call 1-877-434-4100.

[Report Now](#)

You may receive emergency text alerts from us. If you no longer wish to receive these text communications, text "STOP" to 69678 (myORU). Message and data rates may apply for text messages.

Plan Ahead

Get a pre-storm checklist to see how you should prepare before possible outages. Meter readings may be canceled; avoid an estimated bill by submitting your own meter reading.

[Learn More Now](#)

If you or someone in your household uses life-support equipment, make sure we know.

Make Sure Your Contact Information is Up to Date

Moved? Got a new phone number? It's important to keep your information up-to-date so we can reach you in an emergency.

[Learn More Now](#)

Check the Status of Reported Outages

Check the status of outages you've reported or view our [outage map](#) to see what's happening in your area.

[Check Status](#)

Manage your account on the go. Download the Orange & Rockland app.

[Download on the App Store](#) [Get it on Google Play](#) [Twitter](#) [Facebook](#) [Instagram](#) [LinkedIn](#) [YouTube](#)

Subj: Storm Alert - Let us know if you lose power

Date: 8/3/2020

Customers Emailed: 90,930

Open Rate: 41.51%

We're working 24/7 to restore power. [View Online](#)

Orange & Rockland

Your Outage Recovery Guide

Report all power problems. Tell us even if you think we already know.

[Report an Outage](#) →

Stay away from downed power lines. Always assume they are live.



We're working around the clock to get the lights back on. About 200,000 Orange & Rockland customers lost power as Tropical Storm Isaias struck the area, causing the second largest number of outages in company history.

Restoration for all customers will take multiple days, as crews safely restore power to thousands of sites, replace poles, wires and transformers knocked down by winds that gusted up to 73 miles per hour.

As our personnel work, they follow the U.S. Centers for Disease Control and Prevention guidelines to help keep everyone safe from the coronavirus.

[Get Updates](#)

Power Problems?

- Report outages at [oru.com](#) or [reportoutage](#)
- With our mobile app for [iOS](#) or [Android devices](#)
- Text "OUT" to 69678 (myORU)
- Call 1-877-434-4100

When you report an outage at your home or business, you'll get regular updates automatically about your address. Or, you can sign up to receive text alerts about outages affecting your area at [oru.com/impacts](#).

[Report Now](#)

Check the Status of Reported Outages

Check the status of an outage you've reported or view our [outage map](#) to see what's happening in your area and to get the latest estimate for when power will be restored.

[Outage Map](#)

While Your Power Is Out

- If you or someone in your household uses life-support equipment, make sure we know.
- Use flashlights rather than candles or gas lanterns to minimize the risk of fire.
- Turn off lights and unplug appliances to prevent damage to the appliances when service is restored. Leave on only a single lamp so you'll know when power is restored.
- Keep refrigerator and freezer doors closed as much as possible. Food will stay frozen up to 48 hours with the doors closed.

[Learn More](#)

Repairs After Damages

If your home's electric service is damaged, it's important to know what equipment is our responsibility, and what is yours.

[Get Details](#)

Manage your account on the go. Download the Orange & Rockland app.

[Download on the App Store](#) [Get it on Google Play](#) [Twitter](#) [Facebook](#) [Instagram](#)

Subj: We're working 24/7 to restore your power

Date: 8/5/2020

Customers Emailed: 90,871

Open Rate: 38.12%

Track and report your outage status. [View Online](#)

Orange & Rockland

When You Can Expect to Get Service Back

Power Restoration Update.

[VIEW OUTAGE MAP](#)

While Orange & Rockland has restored electric service to more than 70 percent of the 220,000 customers affected by Tropical Storm Isaias, we're now posting individual service restoration times for each of the remaining 52,300 customers out of service.

This information will help you better plan your daily life as you await service restoration.

We're working around the clock to get everyone's power back safely, as quickly as possible. Thanks for your patience.

[VIEW OUTAGE MAP](#)

Manage your account on the go. Download the Orange & Rockland app.

[Download on the App Store](#) [Get it on Google Play](#) [Twitter](#) [Facebook](#) [Instagram](#) [LinkedIn](#) [YouTube](#)

Subj: Power Restoration Update

Date: 8/6/2020

Customers Emailed: 90,865

Open Rate: 39.71%

Track and report your outage status. [View Online](#)

Orange & Rockland

Get Daily Info About Your Outage

Here's the latest on your restoration status.

Being without power this long, even in normal times, is incredibly difficult. Our crews will not stop until everyone's power is restored as quickly and safely as possible.

BE SAFE

- Stay away from downed wires. Assume they are live.
- Tell us if you or someone in your household uses **life-support equipment**.

WHEN YOU CAN EXPECT YOUR POWER BACK

We're now posting individual service restoration times for each of the remaining customers out of service. This information will help you better plan your daily life as you await service restoration.

REPORT YOUR OUTAGE TO GET YOUR SPECIFIC UPDATE

If you still haven't done so, report your outage so you can get specific information for your home or business. Reach out to us:

- on [oru.com/reportoutage](#)
- or with our mobile app for [iOS](#) or [Android](#) devices
- or text "OUT" to 69678 (myORU)
- or call 1-877-434-4100

EXTENSIVE DAMAGE

Tropical Storm Isaias caused widespread destruction, bringing down thousands of trees and entangling power lines. Additional crews have joined our workforce already out there working to restore power. Of the approximately 220,000 O&R customers who lost their power, more than 75% have been restored already.

[VIEW OUTAGE MAP](#)

Manage your account on the go. Download the Orange & Rockland app.

[Download on the App Store](#) [Get it on Google Play](#) [Twitter](#) [Facebook](#) [Instagram](#) [LinkedIn](#) [YouTube](#)

Subj: Power Out? Get Info from Orange & Rockland

Date: 8/7/2020

Customers Emailed: 90,853

Open Rate: 24.27%

How do I report a branch hanging from an overhead wire the wire did not come down but it seems dangerous to me

Aug 5, 2020, 9:20 AM

Can you provide the address?


Aug 5, 2020, 9:54 AM ✓

At the top of the driveway

Aug 5, 2020, 10:34 AM

The issue has been reported at your address. Please be safe.

Aug 5, 2020, 2:55 PM ✓



Hi ORU We have power but a branch fell on our service drop from the line to our house and so a live wire is on the ground. It ripped our meter halfway off the house. I need to know if it is dangerous to remain on the property. We know not to go near the wire. We obviously need someone to remedy this. Here's an image:

Aug 6, 2020, 2:06 PM

You accepted the request

Hi can you please provide the address?

Aug 6, 2020, 3:01 PM ✓

- the utility pole is on the side of the house between the properties (not parallel to the street), it's a private road

Aug 6, 2020, 3:05 PM

Please let me know if it's safe to be there

Aug 6, 2020, 3:17 PM

Hi I updated your outage to include the tree and wires on the ground. Based on the picture you will need an electrician for the service wire detached from your home. Please stay aware from the wires until all repairs are made. Please call 877-434-4100 if you require more information.

Aug 6, 2020, 9:55 PM ✓

Please stay away* from the wires.

Aug 6, 2020, 9:57 PM ✓

Please stay away* from the wires.

Aug 6, 2020, 9:57 PM ✓

Hi thank you so much for your message -- so is what you're saying O&R does not service wires connecting the utility pole to the house? It doesn't appear that it actually detached because it would have knocked out our power if it did. The downed tree impacts your meter (though it's still running) will a private electrician be able to service the meter? Thanks in advance.

Aug 6, 2020, 10:38 PM

Can we have a representative call you to further discuss? If it's too late in the evening I can put a request in for an outbound call tomorrow.

Aug 6, 2020, 10:44 PM ✓

I actually called the number and am on the line with a representative now who is being very helpful and has explained the whole thing to me and now I understand. When I am done speaking with him I'll send you his name - he's doing a great job!

Aug 6, 2020, 11:04 PM

I spoke with JP - He did a great job, thank you.

Aug 6, 2020, 11:09 PM

Excellent. It was too much to explain through a direct message. I am happy you got to speak to JP live! I will forward the information!

Aug 6, 2020, 11:13 PM ✓

Thank you so much!

Aug 6, 2020, 11:16 PM

Have a great night

Aug 6, 2020, 11:16 PM

Attachment 9 – Bill Credit Press Release



Media Relations
845-577-2430 (24 hours)

Orange and Rockland Utilities, Inc.
One Blue Hill Plaza
Pearl River, NY 10965
www.oru.com

FOR IMMEDIATE RELEASE

Contact: Media Relations
Mike Donovan, 914-329-1999

O&R: ONE-TIME BILL CREDIT FOR 72-HOUR OR LONGER ISAIAS OUTAGES

PEARL RIVER, NY September 18, 2020 4:00 p.m. – Orange & Rockland (O&R) customers who lost power for three consecutive days (72 hours) or more due to Tropical Storm Isaias will receive a one-time credit, resulting in a reduction on bills issued between October and November 2020, the company announced today.

This one-time credit will offset fixed-monthly customer charges based on 30 days of service. Credit will be based on a pro-rata reduction in 30-day fixed charges based on customers' average outage duration. Additionally, lower energy consumption due to the outage also will result in reduced charges.

Residential customers will receive a \$2.60 to \$5.85 credit against the \$19.50 monthly customer charge depending on outage length, while small- and medium-size business customers will receive \$2.27 to \$8.17 against the \$21.00 monthly charge. Larger commercial customers will receive similar credits based on service classification.

The monthly delivery-charge reductions are in addition to company reimbursements announced on August 8 for food and prescription medicine spoilage for those enduring a two-day-or-more power loss because of Tropical Storm Isaias.

Orange and Rockland Utilities, Inc. (O&R), a wholly owned subsidiary of Consolidated Edison, Inc., one of the nation's largest investor-owned energy companies, is a regulated utility. O&R provides electric service to approximately 300,000 customers in southeastern New York State (where its franchise name is Orange & Rockland) and northern New Jersey (where it's Rockland Electric Company) and natural gas service to approximately 130,000 customers in New York.

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