

United Westchester

August 2020

Storm Response Report



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**State Assemblymember Amy R. Paulin, Co-Chair
Westchester County Executive George Latimer, Co-Chair**

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Introduction

The United Westchester group was originally formed in 2018 following the aftermath of storms Riley and Quinn. United Westchester is a voluntary group in which every mayor/supervisor of local municipal governments in Westchester was invited to participate, along with every Westchester County-level elected official and State Assemblymember, State Senator and Congressmember who represents Westchester. In 2018, the group's work focused primarily on a review of the performance of the county's two electric utility companies, Con Edison (sometimes referred to as "Con Ed") and New York State Electric and Gas (NYSEG), but also included some analysis of the performance of the County's telecommunications companies, Altice, Verizon, Spectrum, and Comcast, as well as the Public Service Commission (sometimes referred to herein as "The Commission"). The group's efforts culminated in the release of a Storm Response Report in March of 2018, which was used by the State Legislature and the Public Service Commission to guide their review of the utilities.

This year, in response to what was seen as continued failures in the aftermath of Tropical Storm Isaias in August of 2020, United Westchester reconvened to examine the failures of the County's electric utility and telecommunications companies in response to the storm. This report covers a summary of responses included in feedback questionnaires that were circulated by United Westchester among Westchester government officials in the weeks after the storm. The municipal leaders and elected representatives who participated represent every level of government serving the people of Westchester. We have attempted to use quotes and cite responses with minimal editing. Some edits were needed to make this document as clear as possible.

In addition to the information that was collected through these surveys, United Westchester's Executive Committee members also formed seven subcommittees to examine in detail the performance of Con Edison, the performance of NYSEG, the performance of the telecommunications companies, the crew management practices of the electric utility companies, the use of weather forecasting by the electric utility companies, the storm hardening and system resiliency strategies of the electric utility companies, and the relationship of emergency services between the County and municipal governments. These seven subcommittees each held multiple meetings where they discussed these topics and met with relevant individuals to understand further the activities of those entities involved in storm response efforts in Westchester County. Included among the individuals who met with these subcommittees were personnel from Con Edison and NYSEG. In addition, the subcommittees received information from a variety of other sources, including Central Hudson Gas & Electric and the Congressional Research Service via the office of Congresswoman Nita Lowey.

While this document was not prepared solely for the Public Service Commission, we believe the feedback and research on the topics included will inform the Commission's work. This document will also be shared with other government officials, the electric utility and telecommunications companies serving Westchester, and the public.

We recognize that many people are interested in immediately drawing conclusions about how to prevent extended power outages. We share that interest and expect to work with our partners in government to develop further action items, but we also believe it is important to lay out our experience as elected representatives, executive officials, and other leaders who served the people of Westchester during and after this storm. In identifying problems that need to be addressed, it is our hope that solutions will be developed, whether by the electric utility or telecommunications companies or through government intervention. Where a municipality or other government leader has provided in their comments an idea for how to solve an issue, those thoughts are recorded in this report.

The ideas and proposals contained in this report, while generally reflective of the broader opinions of government leaders in United Westchester, do not necessarily reflect the opinions and views of every official. In addition, the contents of this report are based on the observations and experiences of only a subset of all municipal leaders, County leaders, and elected representatives serving Westchester. We encourage the electric utility and telecommunications companies not only to consider the recommendations contained herein but also to engage with a broader range of government leaders to find the best path forward. In any case, this report is not intended to preclude other perspectives or initiatives that may come to bear on the issues or entities on which we have focused.

We value feedback and welcome comments to this report. Please submit them via email to Westchester County Executive George Latimer (ceo@westchestergov.com) and State Assemblymember Amy R. Paulin (PaulinA@nyassembly.gov).

Note on Electric Utility and Telecommunications Service Areas in Westchester County

For reference, the following communities are in NYSEG's service area: Bedford (in part), Lewisboro, North Salem, Pound Ridge, Somers and Yorktown (in part). The rest of Westchester falls within Con Edison's service area.

In terms of cable providers, the City of Mount Vernon is served by Charter Communications (Spectrum), and the Town of Somers is served in part by Comcast (Xfinity). All other municipalities in Westchester receive cable service from Altice. The Optimum brand is used for the cable television, internet, and phone services provided by Altice, and many of the quotes from municipal leaders and elected representatives throughout this document refer to Altice and Optimum interchangeably. Verizon offers wireline and landline phone service throughout Westchester. In addition, Verizon offers its Fios internet and television services throughout most of the County, but these services are not available everywhere. For the parts of the County where Verizon does not offer its Fios service, located within sections of North Salem, Somers, and Lewisboro, Altice is the only option for internet access and television service.

Note on Report Preparation

This report was written collaboratively with significant involvement from the following individuals:

Elected Officials

Assemblymember David Buchwald
Scarsdale Village Trustee Jonathan Lewis

Members of the Office of Assemblymember Amy Paulin

Stephanie Amann
Dale Barbaria
Cathy Draper
Madeline Smith

United Westchester Committee Members

United Westchester Co-Chairs

Westchester County Executive George Latimer
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United Westchester Executive Committee

County Officials

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Westchester County Legislator Margaret Cunzio
Westchester County Legislator MaryJane Shimsky
Westchester County Assistant Director of Intergovernmental Relations Ellen Hendrickx
Westchester Department of Emergency Services Deputy Commissioner Susan Spear

Municipal Officials

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Supervisor Kevin C. Hansan, Town of Pound Ridge
Supervisor Warren Lucas, Town of North Salem
Supervisor Rick Morrissey, Town of Somers
Supervisor Peter Parsons, Town of Lewisboro
Supervisor Ivy Pool, Town of New Castle
Mayor Tom Roach, City of White Plains
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State Assemblymember Steve Otis
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State Assemblymember Kevin Byrne
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United Westchester Emergency Services Subcommittee

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Deputy Town Supervisor Jaine Elkind Eney, Town of Mamaroneck

Supervisor Kevin C. Hansan, Town of Pound Ridge

Supervisor Warren Lucas, Town of North Salem

Westchester Department of Emergency Services Deputy Commissioner Susan Spear

Evaluation of 2018 Recommendations

2018 United Westchester Recommendation	Con Edison	NYSEG
Recommendation #1: The Public Service Commission as well as ConEd and NYSEG should perform an analysis of their ability to forecast the severity of future storms and their process of preparation given the variability in forecasts (or the likelihood of worst-case scenarios).	Not Achieved	Achieved
Recommendation #2: Utility companies should invite county, state and federal elected officials to participate in pre-storm conference calls when they are held.	Achieved	Not Achieved
Recommendation #3: Utility companies must fully integrate the contact information they receive from elected officials into their emergency response outreach.	Partially Achieved	Partially Achieved
Recommendation #4: ConEd should reassess its intergovernmental conference calls. The current municipality by municipality alphabetical (or reverse-alphabetical) roll call of local governments, not only doesn't clearly indicate when county, state or federal officials should participate, but also is inefficient compared to alternatives like grouping the discussion by sub-region in Westchester. In addition, the ConEd participants on these calls need to be better prepared to accurately answer questions that can be reasonably anticipated.	Not Achieved	N/A
Recommendation #5: Utility companies should forswear the practice of using robocalls to inform customers that their power is back on when the utility is not actually certain that electric service has been restored. More broadly, the utilities should make a strong commitment to provide accurate information in all circumstances, including with government officials and the public.	Partially Achieved	Achieved
Recommendation #6: The utility companies need to significantly improve their internal communication processes during storm emergencies, so that all relevant employees and contractors, especially those dealing with the public, are well-informed and convey relevant, accurate information. Those charged by a utility with communicating with public officials should be fully supported by the utility with accurate information on damage and restoration, and should either have authority to commit the utility to action or clearly convey the limits of their authority.	Not Achieved	Achieved
Recommendation #7: The utility companies and the Public Service Commission should rigorously reevaluate the functioning and reliance on the mutual aid system for power outage restorations, as it seems designed for failure for storms that have a region-wide impact.	Partially Achieved	Achieved
Recommendation #8: The lack of accurate and consistent information of crew placement significantly hampered coordination of public services and utility-government relations. Electric utilities should devise a better approach for providing government officials information as to how many and what kind of crews are providing services to each municipality (or circuit, in the case of NYSEG).	Not Achieved	Achieved
Recommendation #9: NYSEG should commit to providing liaisons to municipalities at the start of storm restoration work, rather than days later. Con Ed should strongly consider strengthening its municipal liaison program, with both broader training and a more active role in providing support to Con Ed on its deployments and having full access to information that could be of use to a locality.	Partially Achieved	Achieved
Recommendation #10: Utility companies should endeavor to engage all government partners to identify an up-to-date and comprehensive list of critical facilities that are in immediate need of attention when their power goes out. By the time of a storm, there should be no question as to where all of the critical facilities are.	Not Achieved	Achieved
Recommendation #11: A dialogue should be initiated between governments and utilities about whether it is possible to better help vulnerable customers that do not rely on life support equipment.	Not Achieved	Not Achieved

Note on 2018 Recommendations

The evaluation of each 2018 recommendation as “achieved,” “partially achieved,” or “not achieved” for Consolidated Edison, Inc. (Con Edison) and New York State Electric and Gas (NYSEG) reflect the collective view of the United Westchester Executive Committee. For recommendations marked as “not achieved” or “partially achieved,” the United Westchester Executive Committee believes that the utility company either did not address the recommendation at all since 2018 or has room to improve.

Although several NYSEG recommendations were evaluated as “achieved,” the United Westchester Executive Committee does not intend for this to mean that NYSEG has no room for improvement. Instead, the Executive Committee wanted to acknowledge the substantial efforts that NYSEG has taken to address those recommendations and would like NYSEG to continue working collaboratively with municipal leaders and elected representatives to improve in those areas of concern.

On the following pages, United Westchester has listed a series of recommendations. These include adapted versions of 2018 recommendations that United Westchester believes were not fully addressed, while others are new recommendations derived from observations specific to Tropical Storm Isaias.

Ratings from United Westchester Questionnaire

Summary of Responses from Municipal Leaders and Elected Representatives based on Evaluation of Response Efforts Following Tropical Storm Isaias

Question	Average	Median
Con Edison overall storm response rating, 1 = Poor, 10 = Excellent (sample size: 17)	4.00	4
NYSEG overall storm response rating 1 = Poor, 10 = Excellent (sample size: 5)	8.20	8
Altice overall storm response rating, 1 = Poor, 10 = Excellent (sample size: 20)	2.25	2
Verizon overall storm response rating, 1 = Poor, 10 = Excellent (sample size: 16)	2.32	2
Acceptable timeframe for electric utility restoration to 90% of customers (sample size: 18)	2.89 days	3 days
Acceptable timeframe for electric utility restoration to 100% of customers (sample size: 17)	4.41 days	5 days

Public Service Commission (PSC)

Recommendations

Recommendation #1: The Public Service Commission should audit the weather forecasts and, where applicable, the impact models or predictions based on those weather forecasts used by electric utility companies. The Public Service Commission should assess the process used to make operational decisions based on those methods and models.

Recommendation #2: The Public Service Commission should audit the process and methods by which electric utility companies manage communication with municipalities and other government officials, including but not limited to the utilities' use of municipal portals for coordination between the municipalities and the utility, the use of municipal liaisons to coordinate recovery efforts with the municipalities, and the use of conference calls. The Public Service Commission should work with electric utility companies to establish best practices for the management of communication with municipalities and other government officials.

Recommendation #3: The Public Service Commission should audit the process that electric utility companies use to acquire, coordinate, and manage foreign crews, including mutual aid and contractors. Further, the Public Service Commissions should develop best practices for the electric utility companies to use as a model to follow for coordinating these foreign crews.

Recommendation #4: The Public Service Commission should investigate the amount of time it takes for electric utility companies to proceed with turning power back on (re-energizing) after crews in the field complete their work at each site.

Recommendation #5: The Public Service Commission should require electric utility companies to submit storm hardening and system resiliency plans that cover the immediate ten-year period, and the Commission should approve, modify, or deny such plans no later than eleven months from submission. The Commission should require the strategies in these plans to include but not be limited to: management of vegetation; improvements to system management practices; replacement of obsolete cables, wires, and poles; use of aerial cable where possible; automation and circuit reconfiguration; fortification of critical steam production facilities; and selective undergrounding, with a particular focus on high-capacity feeders with a history of disruption that are in proximity to current underground service. At least every three years following approval of the first storm hardening and system resiliency plans, the Commission should require each

electric utility company to file an updated storm hardening and system resiliency plan for review. The Commission should conduct an annual proceeding to determine the costs of each such storm hardening plan, separate from rate cases, and allow each electric utility company to recover such costs through a separate charge.

Recommendation #6: The Public Service Commission should provide clear guidelines to the electric utility companies regarding standards for food and medicine spoilage reimbursement.

Recommendation #7: The Public Service Commission should revise its storm classification levels, similar to the levels used in Connecticut, to require uniformity among electric utility companies and add tiers to differentiate among storms which result in more than 25% of customers losing power. This will make it easier to hold electric utilities accountable in more severe events.

Recommendation #8: The Public Service Commission should set benchmarks for restoration times to push electric utility companies to restore power to all customers in a reasonable amount of time following severe storms. The Commission should set specific benchmarks for each storm classification level that cover the period of time required for make-safe efforts, assessment of damage, setting of Estimated Time of Restoration (ETR), and completion of restoration efforts. The Commission should require the electric utility companies, in their Emergency Response Plans, to include a plan that details availability of staffing and equipment and the utility's ability to meet targeted time restoration standards for each benchmark as established by the Commission.

Recommendation #9: The Public Service Commission should approve the Proposed Gas Tariff Revisions related to Emergency Electric Generator Provisions filed by Con Edison on November 5, 2020, which will eliminate the requirements for a separate service line, a second meter and interruptible service. The additional requirements, currently in place for residential customers who request gas service for an emergency electric generator in the area subject to a moratorium on new gas connections, are unduly burdensome and cost prohibitive.

Recommendation #10: The Public Service Commission should use all of the tools it has available, including the Commission's current fine structure, to hold electric utility companies accountable.

Recommendation #11: Department of Public Service regulation 890.65 should be strengthened to clarify that cable television companies must provide a credit to customers for service outages when the customer is unable to use the services they purchased when the outage is not the customer's fault.

Recommendation #12: The Public Service Commission should strive to increase oversight of broadband internet providers to ensure timely response and restoration of services after widespread outages.

Federal Communications Commission (FCC)

Recommendations

Recommendation #1: The Federal Communications Commission should consider increasing regulation of broadband internet providers to hold them accountable for poor service and/or provide clear guidance to states as to what aspects of broadband internet service the states have jurisdiction to regulate.

Recommendation #2: The Federal Communications Commission should consider increasing regulation of wireless cellular communications providers to hold them accountable for proper maintenance of cell towers and for provision of backup generation for those cell towers in the event of power outages.

Electric Utility Recommendations

Recommendation #1: Each electric utility company should analyze the weather data it utilizes (regardless of whether the data is proprietary or sourced from a vendor like DTN) to determine the accuracy of that data. To the extent an electric utility uses data and forecasts that differ from those of the National Weather Service, the process for making the decision to use that data and the resources and staffing applied to it should be explained in an annual report. That report should be made public and sent to the Public Service Commission. Con Edison, in particular, should utilize a more collaborative, multilayered, process-driven approach when assessing the output of its weather forecasts and impact models.

Recommendation #2: On an ongoing basis and in advance of future storms, Con Edison and NYSEG should provide all of their storm-related weather forecasts, weather risk assessments, and impact conclusions that are Westchester specific to the appropriate Westchester County leaders and members of the County Emergency Operations Management team, enabling both the utility company and the County to make preparations using consistent data to best meet the needs of Westchester customers and residents.

Recommendation #3: Electric utility companies should benchmark the accuracy of their weather forecasts to those of the National Weather Service as well as the forecasts used by the other utilities. As part of this analysis, all utilities should analyze sources of error and generate process improvement plans explaining how models have been revised to address errors in prediction. Those plans should be included in the annual report mentioned in **Electric Utility Recommendation #1**.

Recommendation #4: NYSEG should invite state and federal elected officials to participate in pre-storm conference calls. Guidelines should be created to indicate when these calls should occur and for what types of circumstances. These calls should be held on a consistent basis.

Recommendation #5: As proposed when Con Edison began installing smart meters in Westchester, Con Edison should accelerate full implementation of the use of smart meters to assess outages, and Con Edison should use this information to provide live updates to the company's publicly available outage map. Con Edison should provide details to elected leaders, county level officials, and municipalities on the status of smart meter deployment in Westchester County, including the percentage of smart meters installed in each municipality and a specific timetable as to the integration of smart meters into the company's outage assessment system and outage map.

Recommendation #6: Con Edison should reassess methods of communication with municipalities and other government officials, including implementation of a municipal portal for damage assessment and two-way communication, improvement of the municipal liaison program, and refinement of intergovernmental conference calls. Con Edison should provide municipalities and other government officials with timely and accurate information regarding preparation in advance of a storm and update municipalities on a regular basis as to the status of damage assessment, make-safe, and repair crew activity in their municipalities throughout a storm and recovery event. The company should maintain staffing and technology necessary to provide accurate and timely information to local governments for these purposes.

Recommendation #7: Con Edison should regularly share and update lists of critical facilities with municipalities and elected officials. By the time a storm hits, both Con Edison and the municipalities should be aware of all critical facility locations.

Recommendation #8: Electric utility companies should review their procedures for monitoring and maintaining service, or facilitating alternate service, for individuals dependent on electric service to maintain life support equipment or otherwise dependent on electricity to meet medical needs. Electric utility companies should review procedures to facilitate the companies' cooperation with local governments and medically dependent individuals, procedures to make such services known to customers on a regular basis, and procedures for keeping lists of such individuals up-to-date.

Recommendation #9: Con Edison should provide an updated map of its grid to each municipality.

Recommendation #10: Electric utility companies should make a strong commitment to providing accurate information when communicating via text message, website, or phone communication to customers regarding status, response, and restoration of service. These companies should maintain technology and staff resources to provide accurate information and provide methods for customers to readily reply to the company in the event that the information sent to the customer is inaccurate.

Recommendation #11: Con Edison should improve management of and communication with Con Edison employed personnel in the field and with foreign crews, including mutual aid and contractors. NYSEG should reevaluate its methods of communication with outside contractors in areas with poor cell service.

Recommendation #12: In order to ensure sufficient availability of staffing, electric utility companies should create a utility reserve corps recruited from utility worker retirees and other qualified individuals.

Recommendation #13: Electric utility companies should coordinate the securing of damaged wires and cables with telecommunications companies, thereby ensuring safety and allowing streets to be reopened. Electric utility companies should improve their real time communication with telecommunications companies regarding scheduling of utility repair crews so that telecommunications repairs can be coordinated with electric repairs in a timely manner.

Recommendation #14: Electric utility companies should adequately acquire and distribute dry ice. To facilitate distribution, the electric utility companies should be prepared to have more distribution centers, to rotate locations, and to provide notice of locations farther in advance.

Recommendation #15: Electric utility companies should develop ten-year storm hardening and system resiliency plans that consider multiple strategies to reduce restoration costs and outage times and enhance infrastructure reliability. The strategies in these plans should include but not be limited to: management of vegetation; improvements to system management practices; replacement of obsolete cables, wires, and poles; use of aerial cable where possible; automation and circuit reconfiguration; fortification of critical steam production facilities; and selective undergrounding, with a particular focus on high-capacity feeders with a history of disruption that are in proximity to current underground service. At least every three years following the development of the first set of plans, each electric utility company should update its storm hardening and system resiliency plans. The electric utility companies should make their storm hardening and system resiliency plans publicly available.

Recommendation #16: NYSEG should work with the Public Service Commission to accelerate the installation and implementation of NYSEG's smart meter program. Once smart meters are fully integrated into NYSEG's network, NYSEG should ensure that they are used for assessment of outages.

Recommendation #17: Electric utility companies should strive to restore power to all customers in a reasonable amount of time following severe storms. The electric utility companies should adopt benchmarks for restoration times for each storm classification level that cover the period of time required for make-safe efforts, assessment of damage, setting of Estimated Time of Restoration (ETR), and completion of restoration efforts. In their Emergency Response Plans, the electric utility companies should include a plan that details availability of staffing and equipment and the utility's ability to meet targeted time restoration standards for each benchmark.

Telecommunications Recommendations

Recommendation #1: Telecommunications companies should coordinate the securing of damaged wires and cables with electric utility companies, thereby ensuring safety and allowing streets to be reopened. Telecommunications companies should improve their real time communication with electric utility companies regarding scheduling of utility repair crews so that electric repairs can be coordinated with telecommunications repairs in a timely manner.

Recommendation #2: Altice and Verizon should improve their customer support management tools as well as their communication with municipalities and elected officials. Altice and Verizon must provide a method for customers to communicate with customer support through a variety of methods year-round, and those communication methods must be overhauled and vastly improved to ensure that their full customer base has the ability to contact support.

Recommendation #3: Altice and Verizon should provide municipalities with operational contacts and network layouts.

Recommendation #4: The telecommunications companies should invite county, state and federal elected officials to participate in conference calls in the immediate aftermath of storms and throughout storm recovery. Guidelines should be created and made public to indicate when these calls should occur and for what types of circumstances. The calls should be held on a consistent basis.

Recommendation #5: The telecommunications companies should engage with municipalities and other government officials regarding storm response plans and strategies. The telecommunications companies should organize annual meetings with the municipalities to discuss emergency planning and preparedness.

Recommendation #6: Altice should power its network nodes during power outages.

Recommendation #7: Altice should provide details to elected leaders, county level officials, and municipalities on the state of its Fiber to the Home (FTTH) program in Westchester County. Since traditional coaxial cable used for the last mile does not function when electric power is lost to cable nodes, but fiber-optic cable could still function in certain circumstances during widespread power outages, Altice should ensure that this program is implemented efficiently and in a way that is available to as many customers as possible. If Charter and Comcast, the other cable television companies operating in Westchester County, have plans to install fiber for the last mile, those companies should implement those plans efficiently and in a way that is available to as many customers as possible.

Recommendation #8: Altice should assess and upgrade its infrastructure and network topology in Westchester, with attention paid to aging copper lines, potential splitting of nodes to improve performance, and ring topology to provide higher availability as outlined in the Public Service Commission's *Order Granting Joint Petition of Altice N.V. and Cablevision* dated June 15, 2016.

Recommendation #9: Altice and Verizon should increase staffing and purchase the proper equipment in order to perform proper ongoing maintenance, to adequately support storm response efforts, and to have the ability to restore services in a timely fashion. Both companies should establish benchmarks and targets for restoration of service following outages and maintain staffing and equipment to meet those benchmarks.

Recommendation #10: Cable television companies should provide a credit to customers for service outages when the customer is unable to use the services they purchased when the outage is not the customer's fault.

Recommendation #11: Altice and Verizon should clearly explain their current reimbursement policies to customers. Further, Altice and Verizon should enhance and improve their reimbursement policies to cover outages of all services, including internet, television, and phone services, whenever a customer experiences a service outage, regardless of the cause of the outage.

Weather Forecasting

Introduction and Key Points

Weather forecasting and the proper use of weather data, by private sector and government actors alike, are critical components of successful emergency management. Weather data and accurate weather forecasts are the essential inputs to a system of emergency management that depends on successful collaboration between the private sector and the public sector. An accurate forecast, including projections for wind speed, wind direction, quantity of rain, and duration of storm, combined with an analysis of tidal patterns, allows private and public sector actors to evaluate the resources that need to be deployed to respond properly to weather induced emergency events.

Tropical Storm Isaias revealed that when weather forecasts are not accurate, or when weather data is not properly processed, the consequences can be severe. Westchester County was severely battered by this storm, and residents were out of power for too many days during a pandemic that required many of them to be able to work from home. Lives were endangered, and livelihoods were challenged by the loss of power and connectivity. This appeared to occur in large part because the severity of the storm was misjudged, and, as a result, the resources to accelerate recovery were not properly deployed in a timely manner.

Through research and meetings with relevant parties, United Westchester learned that misjudgments can occur in a variety of forms that amplify errors. For example, an erroneous weather forecast, utilized in an improperly calibrated impact model, can lead to critical misjudgments regarding the severity of an event and the need to deploy resources and crews to respond to it.

It is readily apparent that weather forecasting and related planning is an essential component of utility emergency preparedness. Yet, the quality control of these processes differs markedly between utilities, and there appears to be no best practice that is applied across the companies studied for this report. There is no regulatory standard set for these practices, nor is there any regulatory evaluation or audit of these processes which are critical to public safety. This policy and regulatory gap must be closed.

In United Westchester's analysis of Con Edison's weather practices, there were inherent contradictions in how the company described the event and an absence of clarity, consistency, and care in its references to Westchester County. The casual and

imprecise language used by Con Edison implies a management and organizational structure that is incompatible with the utility's responsibility to sufficiently serve its customers in Westchester County.

Review of Prior Recommendation

United Westchester's 2018 Recommendations included:

[2018] Early Recommendation #1: The Public Service Commission as well as Con Ed and NYSEG should perform an analysis of their ability to forecast the severity of future storms and their process of preparation given the variability in forecasts (or the likelihood of worst-case scenarios).¹

Based on interviews with utility companies, the Department of Public Service rarely inquires about the weather forecasting procedures of electric utility companies.

Forecasting Process and Concerns

In the lead up to and during Tropical Storm Isaias in Westchester, electrical utility companies did not use any one standard forecast to frame discussions about the storm and planning for the event, nor was there a shared agreement about the severity of the storm and how it would impact resource mobilization and deployment. This dispersion of forecasts and storm preparation activities by private sector actors highlights the need not only for better coordination but also for a shared framework for discussing these matters. A set of standard definitions, with clear levels of resource and staff deployments commensurate with the definition of the weather event, would facilitate regional planning and coordination between public and private sector collaborators.

Discussion of the Event

National Hurricane Center

On July 30, 2020 at 5 pm, the National Hurricane Center released a report that for the first time placed New York within the "cone" of the potential path of Tropical Storm Isaias. At this time, the center of the cone proceeded from the outer banks of North Carolina and then out to sea (towards Cape Cod). All of New Jersey and southeastern New York was within the cone of uncertainty. The cone is designated such that roughly two-thirds of the time a storm will track within the area covered by the cone, implying

¹ <https://nyassembly.gov/mem/Amy-Paulin/story/94778>

that one-sixth of the time storms proceed to the west of the edge of the cone and one-sixth of the time past the eastern edge of the cone.² In the July 30 report, the timing of the storm, if it were to hit Westchester, was projected to be early afternoon on August 4. The National Weather Service in New York contemporaneously relayed this information from the National Hurricane Center.

On August 2, at 5am, the National Hurricane Center predicted that Isaias' track would take it west of New York City and cross over Westchester County sometime late in the day on August 4.

At 11am on August 3, the National Hurricane Center accurately projected that Isaias would cross over northwestern New Jersey and then New York State's Hudson Valley, though it would be centered well to the north and west of Westchester County. That positioning of the tropical storm implied that the strongest winds of the storm would be over areas including Westchester located to the east of the storm's path.

National Weather Service³

In its forecast of 5:17 am on August 2 the National Weather Service (NWS) first predicted significant August 4, 2020 winds for White Plains⁴ (specifically, 28 MPH sustained winds and gusts of 43 MPH at 8pm on the 4th) combined with over 2½ inches of rainfall.^{5,6} 12 hours later, at 5:50 pm that evening, the forecast had increased to 42 MPH sustained winds and gusts of 57 MPH, along with a total of 3⅓ inches of rainfall.⁷ The threshold for a tropical storm is maximum sustained winds of 39 MPH. Accordingly, at 7:13 pm on August 2, the National Weather Service issued a Tropical Storm Watch,

² See National Hurricane Center, "Definition of the NHC Track Forecast Cone," <https://www.nhc.noaa.gov/aboutcone.shtml>.

³ We are grateful to Congresswoman Nita Lowey's office and the Congressional Research Service for assisting in compiling the National Weather Service forecasts in the days leading up to the arrival of Tropical Storm Isaias.

⁴ The National Weather Service provides point forecasts at its Automated Surface Observing Systems (ASOSs), one of which is at Westchester County Airport, which the NWS (and this report) designates as "White Plains" forecasts. Another ASOS is located at Montgomery, New York, in Orange County. This report relies on the White Plains forecasts.

⁵ In the 8/2 5:17am forecast for 8/4 in White Plains, 0.38 inches of rain were expected to fall in the 12-hour period around 8am and 2.24 inches in the 12-hour period around 5pm.

⁶ In its Interim Investigation Report on Tropical Storm Isaias, the New York State Department of Public Service laid out the history of NWS Situational Awareness Briefings for New York related to Isaias from July 30 onwards. See

<http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={B7BCDA40-2075-4231-A208-702C436893C0}>, pp. 7-9.

⁷ In the 8/2 5:50pm forecast for 8/4 in White Plains, 0.31 inches of rain were expected to fall in the 12-hour period around 8am, 1.37 inches in the 12-hour period around 5pm, and 1.66 inches in the 12-hour period around 8am the following morning.

signaling tropical storm conditions within 48 hours for both northern and southern Westchester County in connection with Tropical Storm Isaias.⁸

The following morning, at 5:13 am on August 3, the NWS prediction of the storm's intensity had not significantly changed, apart from a shift in the expected arrival time of the peak storm, adjusted to a slightly earlier time of approximately 5 pm on August 4, and a change in the highest forecasted wind gusts, now predicted to be 62 MPH (with sustained winds of 44 MPH). At 6:11 am, the NWS initiated a Tropical Storm Warning for southern Westchester, indicating that tropical storm conditions would arrive within 36 hours. Northern Westchester remained under a Tropical Storm Watch at that time, but 6½ hours later, at 12:41 pm on August 3, the entire county was under a Tropical Storm Warning, which remained in place until 8:49 pm on August 4, after the storm had passed.

By the day the storm hit Westchester, the NWS forecast that the storm would arrive slightly earlier, with the greatest impact sometime between 2 pm and 5 pm, and with lower sustained winds (of about 29 MPH), gusts (up to 49 MPH), and rainfall (about 0.56 inches) than earlier forecast for White Plains. Nevertheless, the NWS maintained its Tropical Storm Warning. So, the final forecast from the NWS predicted a reduction in the intensity of the storm compared to prior NWS forecasts. This contrasts with some of the electric utility companies that asserted surprise at what they said were last-minute increases in the storm's intensity.

In addition, much of the New York metropolitan area, including Westchester County, was under a Tornado Watch from 7:24 am to 3:17 pm on August 4.⁹

Analysis of Con Edison Weather Practices

Con Edison began to track Tropical Storm Isaias in its weather forecasts on July 30.¹⁰ The company's meteorologist¹¹ continued to provide daily updates on the status of the storm. The updates were shared internally with company personnel each morning in the 9:00 am-10:15 am time frame.

⁸ See <https://www.weather.gov/okx/IsaiasHLS> for a list of all of the Hurricane Local Statements from the National Weather Service in connection with Isaias.

⁹ See <http://mesonet.agron.iastate.edu/vtec/#2020-O-NEW-KOKX-TO-A-0416/USCOMP-N0Q-202008041120>.

¹⁰ Con Ed's forecasts are contained in Appendix 1.1A of its Emergency Response Performance Scorecard Report relating to Tropical Storm Isaias, which was submitted to the Public Service Commission, and is available for download at <http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId=%7b862DDE97-C00D-4A6D-862E-914C4738197E%7d>.

¹¹ Con Ed apparently typically has a team of two weather forecasters, but at the time of Tropical Storm Isaias was down to one. They have recently hired a second forecaster to bring the team back up to its regular complement.

A downside of this once-a-day approach is that it does not seem to provide an opportunity to comprehensively alert company decision-makers to significant changes in the storm's forecast.¹² For instance, Con Edison's forecast the morning of August 2 was consistent with the National Weather Service in predicting high but non-tropical storm force sustained winds and elevated gusts. However, it was not until the daily update at 9:10 am on August 3, nearly 14 hours after the Tropical Storm Watch was issued for Westchester and New York City that Con Edison's forecaster relayed that "Tropical Storm force winds (>39 mph sustained) are likely across the NYC area, but still not expected inland."

Con Edison's forecasts are also notable for one additional reason – they frequently did not mention Westchester County. For example, Con Edison's August 2, 10:11 am forecast email made the statement: "Tropical Storm force winds (>39 mph sustained) are now possible across the NYC area, but still not expected inland." The same email said, "Tropical Storm force winds ARE POSSIBLE across NYC, not expected inland." It was not clear how Con Edison managers overseeing Westchester interpreted this information. Westchester is not part of New York City, and though it is part of the NYC area, so too are Orange and Rockland Counties (those two counties are served by Orange and Rockland, Con Edison's sister company, which uses the same forecasting), and yet those, presumably, are the "inland"¹³ areas relevant to the Con Edison forecast. Westchester is left out of the latter statement that refers to just "NYC" and "inland." There should not be ambiguity in forecasts – and Westchester, a county of nearly a million people, should not be forgotten in Con Edison's forecasts. Numerous Con Edison forecasts specified the peak winds and gusts predicted for New York City, and for Orange/Rockland, but did not reference Westchester.

Similarly, Con Edison's color-coded weather risk assessments provide information for "NYC" and for "O&R," but neither of these territories include Westchester.¹⁴ This is all despite the fact that the physical size of Con Edison's Westchester territory is seemingly

¹² Con Ed's forecaster informed us that he had frequent contact with individual Con Ed officials and that they therefore had no unanswered questions about the forecasts. We are skeptical that this approach ensures that non-forecasters know which questions they should be asking, and we note that none of this information has been provided to the Public Service Commission for their, or the public's, analysis. However, here we make a separate point, namely that, in the context of a rapidly moving storm with many variable components, a single daily broad-based email to a company's storm response personnel/management will invariably mean that operational decisions will be made based on stale and, therefore inevitably at times, inaccurate information.

¹³ The phrase "NYC area" should probably be banned in Con Ed weather forecasting and storm management reports. It is inherently confusing.

¹⁴ Con Ed's "overhead impact models," in the same reports, do include a "Bronx/Westchester" breakdown, but the underlying forecast basis for the impact in Westchester is not made clear, and so a reader may dismiss it and/or not recognize any unique challenges or vulnerability a storm poses for Westchester.

larger than its entire New York City territory. **Please see Electric Utility Recommendation #2 which is designed to address this issue.**

Even when specific storm forecasting information was provided by Con Edison for Westchester County, it was often both out of sync with the National Weather Service forecast and proved to be inaccurate. The August 3, 9:10 am Con Edison forecast update¹⁵ predicted the following Isaias wind speeds:

- i. O&R and northern Westchester: Sustained 15-30 mph, gusting 30-45 mph.
- ii. NYC and southern Westchester: Sustained 30-45 mph, gusting 45-60 mph.

As already mentioned, northern Westchester was under a Tropical Storm Watch at that hour. New York City and southern Westchester were under a Tropical Storm Warning. The Watch vs. Warning distinction is one of timing (within 48 hours or 36 hours, respectively), not one of intensity. Con Edison's forecast was inconsistent with the Tropical Storm Watch for northern Westchester and, to some degree as well, with the Tropical Storm Warning for Southern Westchester. This inconsistency carried into Con Edison's discussion of wind speed and direction, which directly relates to the force and impact of the weather event. Con Edison's own communications about this factor were at times ambiguous or sufficiently inconsistent to lead to bad planning and the increased probability of misinterpretation by policymakers.

In all cases, the NWS predicted sustained winds north of 39 MPH. Con Edison's own prediction, stated elsewhere in the same August 3, 9:10 am forecasting email was for tropical storm force winds, specifically sustained winds above 39 MPH. To predict the sustained winds for NYC and southern Westchester at 30-45 MPH in the same email, while not wholly inconsistent with a tropical storm, conveys to personnel in the company that the maximum sustained winds could be as low as 30 MPH. Since electric utility companies must balance pre-deployments in response to forecasted damage with the expense those preparations entail, understating the magnitude of a storm can have serious consequences.

Before the Arrival of Tropical Storm Isaias State Assemblymember David Buchwald used a Con Edison municipal conference call to raise the issue of Con Edison's forecasts, including in northern Westchester, predicting significantly lower wind speeds than the National Weather Service's publicly available predictions. Assemblymember Buchwald and the other Westchester municipal officials on the call were told that the NWS forecasts are typically too "conservative," meaning, presumably, that when storms

¹⁵ Available in Appendix A of Con Ed's Part 105 Report, available at <http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={5A535E04-D48C-4AA4-85BF-22D9DD47720C}>

are relatively unpredictable, the NWS tends to err on the side of caution by overstating storm intensity to ensure that the forecasts successfully get the public's attention. At least with regard to the wind speeds of Tropical Storm Isaias in Westchester, forecasts of the NWS underestimated the wind speeds of the actual storm, meaning that Con Edison's decision to infer that the NWS was erring on the side of caution led the utility to exacerbate the inaccuracies in its predictions for Tropical Storm Isaias. Importantly, in discussions with Con Edison, United Westchester learned that the company does not analyze its predictions in a systematic manner, nor does the company compare its forecasts to the National Weather Service for accuracy in a process driven fashion. This means that the statements made to Assemblymember Buchwald by Con Edison were not fact based but rather were speculation.

Furthermore, Con Edison's forecasts did not mention wind direction, at least not on any consistent basis. This is a distinct shortcoming of any forecast used to predict the likelihood of trees to fall and to damage utility infrastructure. Given that trees can develop a tolerance over time for winds from certain, more typical, directions, when a storm, like Isaias, brings strong winds to a territory from a direction different than historical trends, trees are more vulnerable. The forecasts obtained by other companies, including Central Hudson and NYSEG, also did not mention wind direction. The contracted forecasts obtained by PSEG Long Island, another electric utility company, did contain maps of the entire eastern seaboard that showed wind direction, but the reports containing these forecasts did not discuss implications of wind direction for its service territory. NWS forecasts did include wind direction. The absence of information on predicted wind direction should give storm impact modelers pause in conveying certainty in their predictions, as it is a factor of significant import.

The following morning, the morning of Isaias' arrival, at 9:33 am on August 4, Con Edison's final forecast had not changed significantly:

- 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.

The Con Edison meteorologist communicated "high confidence" in both of these predictions with an 80% possibility of a "serious" impact on the Bronx/ Westchester division and only a 10% possibility of a "full scale" impact on that territory. That level of certainty was not warranted. In our discussions with this meteorologist after the event, members of United Westchester were impressed by his passion for his work, but also deeply concerned by the absence of process or quality control to support his decision making.

Con Edison forecasted 1 to 4 inches of rainfall across Westchester, including in the forecast released the morning of Isaias.

Con Edison acknowledged that “the storm was more severe than forecasted and its impact significantly exceeded predictions.”¹⁶ While appreciated, this acknowledgement underscores that the role of weather forecasting and impact model evaluation is too important to be left to the utility companies alone. There is a deep and urgent need for regulation and oversight in this area.

Analysis of NYSEG Weather Practices

NYSEG obtains its forecasts from outside meteorological services that it contracts with, while also consulting with New York Mesonet (part of the New York State Early Warning Weather Detection System), the National Weather Service, and the University of Connecticut (presumably for its sister company in Connecticut). The company received broad reports on Isaias starting July 31, 2020 from private forecaster ATMOS and a “Day 6-10” outlook forecast produced by another company, DTN, as of July 31, but targeted forecast reports for its service territory, produced by DTN, were not available until two days later.

The more localized Isaias forecasts from DTN provided by NYSEG started at 6:00 am on August 2, with a predicted forecast for Westchester County of storm wind gusts of 30 to 45 MPH. (DTN’s forecasts covered NYSEG’s entire Brewster Division, which includes parts of Dutchess and Putnam Counties in addition to Westchester.) By that afternoon’s 3:00 pm forecast, the forecast conveyed DTN’s own wind/gust advisory for August 4 for this territory with predicted wind gusts of 35 to 45 MPH. 2 inches of rain were forecast for the Brewster Division with higher amounts of 3 inches possible. The following morning’s (August 3, 6:00 am) DTN forecast still relayed only the “advisory” level of attention, rather than the “watch” level that would have been more consistent with the National Weather Service, which by that time had issued a Tropical Storm Watch for all of Westchester. This was still the case by the 3:00 pm August 3 forecast used by NYSEG, despite a recognition that Isaias was a combined wind, wind gust, and flooding event.

The morning of August 4, with Isaias about to arrive, DTN conveyed that the Brewster Division that includes Westchester would be subject to sustained winds of 18 to 28 MPH (still below tropical storm levels), gusts up to 60 MPH, and ¾ to 2 inches of rain between noon and 5 pm. Whereas the NYSEG’s sister company in Connecticut was

¹⁶ Con Edison Scorecard Report, available at <http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId=%7b862DDE97-C00D-4A6D-862E-914C4738197E%7d>, p. 3.

placed under a “watch” condition, its Brewster Division remained under just an “advisory.”

NYSEG could consider asking DTN, its primary private forecast provider, for an after-action analysis of its forecasts in the hope of future improvement so that a bigger flag is raised when its forecast deviates significantly from those of the National Weather Service.

Most importantly, however, NYSEG’s Director of Emergency Preparedness conveyed that each forecast the company receives is just one factor in the company’s decision-making process. NYSEG does not rely solely on the formal forecasts. In addition to weather forecasts, the company stressed the role of experience and local knowledge. As a result, NYSEG came to a consensus view that the storm might well be more dire than the forecasts, and they made a decision, after a conference call on July 31, to ramp up for a “Level 3” event, its highest category of preparedness.

NYSEG ran a “damage prediction model” on at least August 3 and August 4 (before the storm’s arrival),¹⁷ but the model was not up for the task, not least because it was only capable of doing predictions two days in advance of any storm’s arrival, and therefore, perhaps thankfully given its inadequacies, it did not play a role in NYSEG’s preparation for the storm. The August 3 “DPM” predicted 1,056 customers in the Brewster Division would be “interrupted” based in part on average sustained winds of 9.6 MPH and maximum wind gusts of 25 MPH. On August 4, NYSEG’s DPM predicted 18,945 customers in the Brewster Division would be “interrupted” based in part on average sustained winds of 8.0 MPH and maximum wind gusts of 36 MPH. Clearly, all of these predictions were far short of the mark. It is, however, our understanding that NYSEG already has plans to develop a new prediction model.

Non-Westchester Electrical Utilities

In response to questioning by the New York State Assembly Committee on Corporations, Authorities and Commissions, a number of utilities that do not serve Westchester were asked questions about its approach to weather forecasting. Central Hudson, which services a territory to the north and west of Westchester in the Hudson Valley, reported that they contract with a vendor that provided “similar information regarding Tropical Storm Isaias’s potential impact as the NWS [National Weather Service].”

¹⁷ NYSEG-RGE Tropical Storm Isaias Part 105 Report, Appendix B, pp. B-57 to B-58, available at <http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={B5FFEB0C-E6DB-4B05-9B43-84D3F86004DC}>.

PSEG Long Island likewise contracts for weather forecasting services, using DTN, which was also used by NYSEG. However, the forecasts provided to PSEG Long Island were focused on Isaias, and items like its path and strength, rather than its Long Island service territory. These “Active Storm Advisories” are therefore not quite as useful, it would appear, in making storm impact predictions.

Telecommunications Companies

Altice was relatively opaque in describing its forecast work, simply saying that its “staff researches potential storms and provides critical information by region including rainfall and wind speed forecasts.” Nonetheless, the company accurately recognized, after the fact, that Isaias “resulted in wind gusts between 60-70 miles an[] hour and rain totals of 1-3” ... in New York.”

Questions about forecasting were supposed to be directed to Verizon, but for a reason not the company’s fault, those questions were not conveyed to the company. Accordingly, members of United Westchester do not have insights into Verizon’s forecasting procedure.

The Actual Storm

Although rainfall began in the early morning hours of August 4 (about a third of an inch at Westchester County Airport/White Plains between about 5:20 and 5:35 am), the rainfall then died down, and wind and rain did not begin to particularly pick up until closer to noon. Winds were then in the vicinity of 20 MPH, with gusts to about 26 MPH. For the next three to four hours, winds continued strong (sustained winds reaching a high of 35.65 MPH at 1:56 pm) and gusts increased (reaching a peak of 58.65 MPH at 2:03 pm, though they remained high at 42.55 MPH at 4:45pm). NYSEG acknowledges that across its Brewster Division, wind gusts were often above 40 MPH and approached 60 MPH in multiple areas. In Somers, the Mesonet operated weather station recorded wind gusts up to 57 MPH.

In total, Isaias does not appear to have been a significant rain event for Westchester County, in part because the storm moved through quickly but also because the more significant rains of 2-4 inches fell to the west of the County. At White Plains, only approximately 0.71 inches of precipitation were recorded, and in Somers the figure was 0.7 inches.

Comparison of Utility Approaches

Con Edison is the only utility in New York State that has a company meteorologist.¹⁸ Con Edison is also investing significantly in its weather data collection resources (albeit in Queens, not Westchester).¹⁹ NYSEG had a series of varied external sources, both private-sector and public-sector, used to understand the Isaias weather forecast. As conveyed above, some of those sources were not necessarily reliable. While it could be assumed that Con Edison's extra in-house expertise would lead to better forecasting and storm preparation compared to other utilities, Con Edison seemingly relied solely on its internal forecast. Even if its raw forecast was in some ways "better" than other forecasts, including those used by NYSEG, the broader skepticism and reliance on intuition and experience at NYSEG positioned the company to better prepare for the storm.

As mentioned earlier, Con Edison's forecast underestimated Isaias' severity compared to contemporaneous National Weather Service forecasts. In addition, Con Edison appeared unwilling to admit problems in the way the company uses and evaluates its weather forecasts. While Con Edison takes pride in being the only utility company in New York State with an in-house meteorologist, the company could benefit from questioning its approach and examining best practices related to the use of weather forecasts. At the very least, Con Edison could more fully take note of other forecasts, particularly those of the National Weather Service, and operational decision-makers within the company could more effectively incorporate the company's own forecasts, as well as outside forecasts, into pre-storm planning. Con Edison's use of a single forecast likely created a false sense of certainty at the company.

NYSEG, conversely, prides itself on its collaborative approach to integrating forecasts into its preparations. It is a group decision-making process that recognizes that forecasting models do not always agree (though when they do, they provide added confidence). It appears that the lack of consistent information coming into NYSEG about Isaias, combined with past experience – which the residents of northeastern Westchester have much knowledge of – led to NYSEG preparing for a bigger storm than its weather-centric model would have suggested.

Con Edison's meteorologist emphasized that a bigger problem than its raw forecast (inputs) error was the impact model (output) that predicts the amount of storm damage

¹⁸ Source: United Westchester Con Edison Subcommittee Zoom meeting with representatives of Con Ed, October 23, 2020.

¹⁹ Kaye, Jacob, "Con Edison to install eight weather stations in Queens to better track climate trends," QNS, 14 Sept. 2000, <https://qns.com/2020/09/con-edison-to-install-eight-weather-stations-in-queens-to-better-track-climate-trends/>

and work orders that would be created by the storm. There is no doubt that the Con Edison's impact model significantly underestimated the likelihood of severe damage caused by Isaias. Con Edison relayed that its storm impact model would have predicted approximately 940 outage jobs in its Bronx/Westchester territory had they known the true strength of Isaias, compared to the over 4,000 outage jobs that actually occurred. Based on the less-intense forecast predicted by Con Edison, its outage model said that only 250 (or an outside bound of 350) outage jobs would result. Accordingly, Con Edison concludes that the greater error on its end was in the impact model than in the weather forecasting itself. The even greater fault lies in believing that weather forecasting and storm preparations can be made dependent on a single prediction that obscures uncertainty. Somewhat by contrast, given that NYSEG's Damage Prediction Model does not produce results until 48 hours before a storm hits, NYSEG recognized that it was not an especially useful tool for determining what level of preparations to make.²⁰

Con Edison takes pride in utilizing about 20 years of data as part of its in-house weather forecasting model, but this may provide the company a false sense of comfort in its forecasting ability. In an era of climate change, the assumption should not be stability and repetitive predictability, but rather the pattern appears to be more one of unprecedented storms. Since at least Superstorm Sandy, Westchester residents have experienced the unprecedented nature of storms firsthand; they serve utility companies that adjust accordingly. Utility companies would be well advised to evaluate the impact of climate change on their weather and impact models. Con Edison has committed to doing so, namely, "refining its impact models for each operating region to better account for the effects and uncertainty caused by climate change."²¹

Con Edison's Part 105 Report to the Public Service Commission²² makes clear how much Con Edison's operational decisions are dependent on the accuracy of its weather forecast. Con Edison, in defending its performance, says that it prepared for the storm that was forecast. What Con Edison does not readily acknowledge is that what it means is that the company prepared for the storm that it itself forecast, not the forecast(s) available from others. Con Edison's lack of use of other forecasts is not based on cost. National Weather Service forecasts are provided publicly on the NWS website.²³ The

²⁰ As mentioned above, NYSEG is preparing to launch a new predictive impact model in the first quarter of 2021.

²¹ Consolidated Edison Company of New York, Inc., Report on Preparation and System Restoration, p. 34, *available at* <http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={8C1D13CCE868-4F4E-8026-9E55DB483008}>

²² *See id.*

²³ The more detailed text-based "point forecast matrices" are available online at <https://forecast.weather.gov/product.php?site=NWS&product=PFM&issuedby=OKX>.

Con Edison Part 105 Report identifies some weather and prediction focused action items that the company plans to take. In addition to trying to better incorporate climate change impacts, “At a minimum, the Company will evaluate adding a variable to account for overall tree health (impact of high and low soil moisture) instead of just soil saturation, investigate using a higher impact weighting to account for high winds from directions that are uncommon in the Company’s service territory, and revisit storm surge as a predictor of storm strength.”²⁴

Weather Forecasting Conclusion

Weather is inherently unpredictable, especially with storms that have few close precedents. Accordingly, it is essential to have a storm preparation process that recognizes uncertainties. While it may be difficult to take into account the “most likely forecast” and the implications of what the impact will be if a storm is worse than forecast, the public interest requires (or at least should require) that be done. The national standard for weather forecasting is the National Weather Service. If a private or public sector actor diverges from that standard, such a decision should be backed up by discussion and explanation. It may for some purposes be reasonable for private sector organizations to have their own weather experts on staff. This scientific background is important for private sector strategic planning when building infrastructure for the longer-term given the important context of climate change. Yet, for weather forecasting and analysis related to planning for an emergency event, the use of internally generated forecasts may be less advisable, especially if they lead to idiosyncratic predictions that are relied on to the exclusion of other forecasts and factors.

For example, Con Edison’s forecast was meaningfully different from the National Weather Service. Con Edison’s forecast suggested Westchester would be less impacted by Tropical Storm Isaias compared to contemporaneous NWS predictions. Con Edison seems to be in basic denial of this fact. More than two months after the storm, a Con Edison representative said he “doesn’t think they diverged meaningfully from the National Weather Service.”²⁵

The divergent forecasts seemingly had negative consequences for the residents of Westchester County, as this inaccurate forecast contributed to Con Edison’s failure to properly prepare for the storm and adequately pre-deploy resources. Conversations

²⁴

<http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={8C1D13CCE868-4F4E-8026-9E55DB483008}> at p.35

²⁵ Source: United Westchester Con Edison Subcommittee Zoom meeting with representatives of Con Ed, October 23, 2020.

with Con Edison revealed that Con Edison does not benchmark its forecasts against the National Weather Service to evaluate the accuracy of its internal capabilities. Indeed, Con Edison has gone so far as to say, “The National Weather Service is a weather service just like every other weather service out there.”²⁶

If in addition to the National Weather Service, utility companies are desirous of understanding which alternative or private forecasters are reliable, the New York State Public Service Commission (PSC), or perhaps a university in New York State, could perform an external review, keeping company-provided forecasts confidential, to determine the accuracy of forecasts compared to actual storms. It would be worth exploring if the PSC can mandate a shared framework for utilities both for the sourcing of weather data and weather forecasting, as well as the creation of a standard definition of storm types with linkages to requirements for pre-deployment and recovery plans. More broadly, the PSC may be able to play a greater role during a weather-related emergency, serving as a clearing house for the exchange of information about weather and emergency management information.

Finally, it is important that public sector actors have the ability to challenge private sector assumptions, and the Westchester County Office of Emergency Management and Emergency Operations Center may benefit from retaining a weather consultant who can advise them in advance of storms. This would help level the playing field in dialogue with utilities about their own assumptions and the impact this has on resiliency and recovery planning.

²⁶ *See Id.*

Public Service Commission Recommendation #1: The Public Service Commission should audit the weather forecasts and, where applicable, the impact models or predictions based on those weather forecasts used by electric utility companies. The Public Service Commission should assess the process used to make operational decisions based on those methods and models.

Electric Utility Recommendation #1: Each electric utility company should analyze the weather data it utilizes (regardless of whether the data is proprietary or sourced from a vendor like DTN) to determine the accuracy of that data. To the extent an electric utility uses data and forecasts that differ from those of the National Weather Service, the process for making the decision to use that data and the resources and staffing applied to it should be explained in an annual report. That report should be made public and sent to the Public Service Commission. Con Edison, in particular, should utilize a more collaborative, multilayered, process-driven approach when assessing the output of its weather forecasts and impact models.

Electric Utility Recommendation #2: On an ongoing basis and in advance of future storms, Con Edison and NYSEG should provide all of their storm-related weather forecasts, weather risk assessments, and impact conclusions that are Westchester specific to the appropriate Westchester County leaders and members of the County Emergency Operations Management team, enabling both the utility company and the County to make preparations using consistent data to best meet the needs of Westchester customers and residents.

Electric Utility Recommendation #3: Electric utility companies should benchmark the accuracy of their weather forecasts to those of the National Weather Service as well as the forecasts used by the other utilities. As part of this analysis, all utilities should analyze sources of error and generate process improvement plans explaining how models have been revised to address errors in prediction. Those plans should be included in the annual report mentioned in **Electric Utility Recommendation #1**.

Electric Utility Preparation in Advance of the Storm

Municipal officials throughout the County believed that Con Edison's inadequate weather forecasts and outage predictions, which underestimated the severity of Tropical Storm Isaias, caused the utility to be underprepared and understaffed for the aftermath of the storm. One town supervisor commented that "Con Ed held prep calls indicating there were preliminary plans in place to bring in municipal aid crews, but they did not believe the weather reports were as dire as some of the predictions. Therefore, based on the greater damage that was done due to wind, they did not have enough crews on the ground at the time of all the damage." Con Edison did hold pre-storm conference calls with municipal, county, and state leaders and began implementing pre-storm plans. While those activities were appreciated, municipal officials felt that the inadequate forecasting caused Con Edison to be underprepared. It is unclear whether Con Edison deployed sufficient resources or requested sufficient staffing in advance of the storm.

Regardless of the adequacy of Con Edison's pre-storm preparation actions, the utility did not inform the municipalities of the extent of the utility's work. The Village of Scarsdale noted, "We are unaware of any advance resource deployments, including such strategies as pre-placing poles, transformers, etc., in each sub-area of the county, perhaps within each municipality. It seems that doing so would be prudent, as invariably crews arrived mid-event without access to the resources necessary to complete the repair/restoration task."

NYSEG pre-staged equipment, material, resources, and personnel throughout the Brewster Division before the storm hit. The Town of Lewisboro reported that NYSEG accepted the Town's invitation to park utility trucks in the Town Park, and NYSEG also put a local command post there. NYSEG provided contact information for relevant NYSEG personnel to local highway superintendents in preparation of coordinating make-safe efforts. NYSEG provided municipal officials with management phone numbers for the Brewster Division office, including cell phone numbers of NYSEG personnel responsible for storm damage repairs. According to Rick Morrissey, Supervisor of the Town of Somers, "NYSEG was very prepared. They assigned crews to the town and staged extra trucks in anticipation of unpredictable requirements."

NYSEG held pre-storm calls, a concern that United Westchester requested to be addressed in the 2018 report, but NYSEG did not include all of the relevant officials. State and County level elected representatives were not invited to participate in the calls.

Electric Utility Recommendation #4: NYSEG should invite state and federal elected officials to participate in pre-storm conference calls. Guidelines should be created to indicate when these calls should occur and for what types of circumstances. These calls should be held on a consistent basis.

Electric Utility Damage Assessment

Con Edison performed damage assessment throughout the County following the storm, but municipal leaders observed minimal engagement between the utility and municipal governments during the process. For some municipalities, Con Edison appeared to complete damage assessment immediately. For others, municipal leaders' only knowledge of the extent of Con Edison's damage assessment was through reports during the daily municipal conference calls.

Communities in the NYSEG service area reported that damage assessment was generally completed within the first 24 to 48 hours following the storm. At least one town reported that NYSEG was about one day behind in starting damage assessment. The town commented that this was due to NYSEG having seven transmission lines down that feed that town. Those transmission lines needed to be repaired before NYSEG could proceed with restoration efforts for that town. While that municipality reported an above average delay in damage assessment, the municipalities in the NYSEG service area had consistent communication with the utility and a clear understanding of the cause of any delays that may have existed. The Town of Lewisboro stated that NYSEG "deployed personnel to obtain situational awareness rapidly after the storm and once it was safe to do so, rapidly deployed "make safe" crews to assist and support the highway department to expedite road clearing operations, [and] communicated situational awareness to the various stakeholders in a timely/scheduled methodology."

Con Edison told municipal leaders and elected representatives that one of the primary functions of smart meters would be to efficiently assess and monitor outages. That was not the case following Tropical Storm Isaias. Multiple municipal leaders and elected representatives raised concerns about the apparent underutilization of smart meters by Con Edison to assess outages and to aid in storm recovery efforts. "Smart meters were sold by ConEd in large part based on their ability to inform the company of outages without the customer making a report. It therefore came as quite a surprise that ConEd had not yet initiated this feature despite having installed the smart meters at the location of almost every Westchester customer," stated Assemblymember David Buchwald.

In statements included in the Department of Public Service's responses dated September 1, 2020 to questions from Assemblymember Buchwald, the Department of Public Service stated that "Con Edison is still in the deployment stage of installing smart meters in their territory and is capable of manually pinging meters. Con Edison has reported to the Department that AMI-OMS integration is currently being tested in a parallel production environment. The Department expects AMI will be integrated into OMS only after all testing is complete and the system is properly vetted. Con Edison

expects AMI to be fully deployed in 2022.” These statements indicated that Con Edison’s smart meter program had not yet been fully implemented, and the utility may not have been in a position to utilize the smart meters in the manner to which they were advertised to Westchester officials.

Con Edison elaborated on its use of smart meters in the utility’s *Report on Preparation and System Restoration*²⁷ dated October 13, 2020 saying, “The Company’s smart meter program also helped produce a more efficient storm response. The Company used information from its 2.6 million smart meters to assess the scope of the outages. Later, the Company used the smart meters to validate that 18,000 customers had been restored which helped the Company avoid unnecessarily dispatching crews to approximately 3,500 jobs. The Company is working on integrating smart meter data into its outage management system and Outage Map as part of its overall smart meter deployment plan.” These statements from Con Edison ignored and obfuscated the information that had been provided by the Department of Public Service in early September. Con Edison’s statements in the company’s *Report on Preparation and System Restoration* implied that the smart meter program was almost fully implemented and that the integration of the smart meters into the utility’s outage management system was nearly complete. These statements did not accurately reflect the use by Con Edison of the smart meter program during storm recovery. If the smart meters were used by the utility, then that use was not effective in assessing the number and location of the vast majority of outages. The Village of Scarsdale questioned, “What role, if any, do ConEd’s Smart Grid investments play in damage assessment, or do they still rely upon reports from customers and municipal officials?” In his August 20 testimony to the Joint Senate And Assembly Public Hearing On Power And Communication Failures From Tropical Storm Isaias, County Executive George Latimer discussed the insufficient use of smart meters, stating “We were told that the large investment in “Smart Meters” would help to alleviate these problems, by providing real time, customer specific information to the electric companies. Clearly that did not happen.”²⁸

United Westchester members were disturbed by the false and misleading information provided by Con Edison in regard to the company’s usage of smart meters to assess post-storm outages.

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<http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={8C1D13CC-E868-4F4E-8026-9E55DB483008}>

²⁸ <https://www.westchestergov.com/images/stories/pdfs/2020isaiastestimony.pdf>

Electric Utility Recommendation #5: As proposed when Con Edison began installing smart meters in Westchester, Con Edison should accelerate full implementation of the use of smart meters to assess outages, and Con Edison should use this information to provide live updates to the company’s publicly available outage map. Con Edison should provide details to elected leaders, county level officials, and municipalities on the status of smart meter deployment in Westchester County, including the percentage of smart meters installed in each municipality and a specific timetable as to the integration of smart meters into the company’s outage assessment system and outage map.

From the feedback received from municipalities throughout Westchester, there was no consistent standard for municipal engagement in damage assessment in Con Edison’s service area. Some municipalities did their own damage assessment, which their police department or department of public works reported to Con Edison through a municipal dashboard. The Village of Pelham was one municipality that relayed that its police department played a role in damage assessment. Chance Mullen, the Mayor of Pelham, stated that “The police department reports the initial damage (wires down, utility pole down, transformer on fire, wires sparking) to Con Edison directly in their municipal dashboard system and with our liaison.” Alternatively, many municipalities reported playing no role in damage assessment. For example, the Town of Mamaroneck shared that “The Town was not actually involved with the utilities on this [damage assessment].” This will be discussed further in our section on communication between the electric utilities and the municipalities.

A few municipalities, bothered by the inconsistent standards for the role of municipalities in damage assessment, put forth recommendations that Con Edison should follow the protocols of the National Incident Management System (NIMS) outlined by the Federal Emergency Management Agency (FEMA). The Village of Scarsdale commented that “It seems that ConEd relies heavily upon municipal personnel to report conditions requiring their attention. However, a NIMS-oriented structure is needed to efficiently survey conditions and assign them for corrective action.” This sentiment was echoed by other municipalities.

Electric Utility Communication

Electric Utility Communication with Municipalities

The municipalities in the NYSEG service area were pleased with NYSEG's communication efforts, and the municipalities had no problems communicating with operational staff during the recovery from Tropical Storm Isaias. Peter Parsons, Supervisor of Lewisboro, said that "NYSEG did very well. When they needed help reaching a trouble spot they worked with our Highway Dept. or on occasion the Town Supervisor." The Chair of Lewisboro's Emergency Management Committee further elaborated that "[Lewisboro had access to] additional contacts within the Incident Command/Management System – all were excellent - and all personnel were accessible day/night/weekend." Another town supervisor said that NYSEG "provided their management phone numbers for the Brewster office that covers our area. This included cell phones of the people responsible for storm damage repair." And the Supervisor of Somers declared that "NYSEG was excellent. NYSEG had operations management staff assigned to the Highway Department and the Supervisor's Office." The municipalities in Westchester served by NYSEG were in agreement that the flow of information between the towns and NYSEG's operational staff and crews was efficient and unimpeded.

One common practice across the two electric utility companies that municipal leaders and elected representatives consistently appreciated was the conference calls that the utilities used to keep participants up to date during the recovery period following the storm. Senator Shelley Mayer shared her appreciation for this practice, saying "It was notable and appreciated that ConEd and NYSEG provided daily calls and opportunities to hear from public officials, as well as designated points of contact for our offices to submit concerns."

Those who participated specifically in Con Edison's daily municipal conference calls appreciated the opportunity to share information and learn the status of restoration efforts. However, many felt that the calls were inefficiently formatted and were an improper forum for participants to voice complaints and share lengthy updates. Municipal leaders and elected representatives expressed varying degrees of frustration concerning the format and inefficiency of the municipal conference calls. Assemblymember Sandy Galef shared her thoughts, saying "Instead of getting right to the useful information the call regularly began several minutes late, delaying assistance to residents. After that the call began with ridiculous updates that seemed designed to be uninformative. Once we proceeded to hearing from municipalities the Con Edison folks seemed incapable of having the appropriate data in front of them." The Village of

Scarsdale noted that “Information [provided on Con Edison’s conference calls] was very general and of limited value on the Village level.” Another criticism came from County Legislator MaryJane Shimsky who pointed out that “There were still issues with getting on the call list for Con Ed in the beginning. We went through this in 2018, too. What I still don’t understand, is that Con Ed regularly asks our office to update our contact info -- but somehow the Con Ed employees who set up the calls seem to have little idea whom to invite, and how to reach out to them.”

Chance Mullen, the Mayor of Pelham, provided a suggestion, saying that “[Con Edison should] find ways to streamline and focus the muni calls by having 1 municipal representative address immediate concerns. General information about weather that does not affect recovery efforts is not very useful. Also, not particularly useful are basic health tips that are not specific or germane to a population directly impacted by outages.”

The Village of Scarsdale pointed out that “ConEd communications were challenging. The routine status calls were ineffective and inefficient, constituting a huge time investment with little return. The calls were little more than extended complaint sessions with some brief weather insights and high-level storm metrics.” These comments exemplify the feeling of many municipal leaders who rely on the conference calls as their only consistent line of communication with operational personnel but who also feel that the calls should be modified. While the conference calls are not the most expeditious way of handling timely issues for the municipalities, until there is an acceptable alternative, the consensus among municipal leaders and elected representatives is that Con Edison should continue holding these conference calls in their current format.

Since these conference calls are not the optimal method for municipal officials to request operational support, there should exist a regular line of communication or point of contact that allows municipal leaders to work with Con Edison to solve problems with restoration efforts in the communities the company serves.

Almost all municipalities praised Con Edison on the assignment of municipal liaisons to each municipality. One Village Manager noted that “Our liaison, as all our previous liaisons have been, was professional and worked many hours to help us.” While most municipalities appreciated the support offered by the liaisons, many municipal leaders voiced frustration with the lack of information, authority, and resources provided by Con Edison to the liaisons.

A few municipal officials commented specifically on their liaisons’ inability to access up-to-date information about restoration efforts. The Village of Bronxville commented

that the Village's "liaison did arrive and was kind but was unable to get accurate information from Con Ed [personnel] who had the information." Paul Feiner, Supervisor of the Town of Greenburgh, said that "Liaisons that were provided to our EOC were very helpful but communications directly with Con Ed were not effective. It was frustrating to ascertain accurate information even with the benefit of a liaison with respect to status updates on work to be done, work being performed and when work was completed."

The Town of Mamaroneck provided details about the Town's interactions with municipal liaisons, saying "The Town had a terrific experience with the utility liaisons. However, the liaisons were often unable to obtain proper information regarding restoration crews working in the Town. Also, in previous storms the liaisons had the authority to move the cut and clear crews to those areas specified by the Town as priorities. The liaisons however lost this authority during this event, so the cut and clear process did not always follow the Town's priorities for road clearing."

The City of New Rochelle explained the problems with communication between the City's municipal liaison and ground crews, saying that "the one cut and clear crew did not communicate with liaison or with DPW crews. There was a noticeable lack of communication between the municipal liaison and ground crews. In some instances, it took over 24 hours to learn whether wires had been de-energized." The lack of operational authority afforded to municipal liaisons was echoed by other municipalities, including the Village of Pelham, which stated that the "Con Edison Liaison in the municipality should be able to coordinate efforts of Con Edison crews in consultation with emergency response personnel. Company liaisons should be able to communicate directly to company planning and designated staff."

The two-fold failure of the municipal liaison program, the inability of these liaisons to access information and to direct restoration efforts, was summarized by the Village of Scarsdale, which noted that "the Con Edison Municipal Liaison was good to work with. However, he was not provided with sufficient information regarding restoration targets, crew deployments, or other operational details that a person in his capacity should reasonably have access to. The individual had no field coordination authority, either, even in scenarios where crews were sitting idle while awaiting their next assignment(s). It is unclear what charge Con Edison has provided the Municipal Liaisons, apart from assuming the role of a customer phone rep or in-person customer service contact – a person with little useful insights and no operational authority is not what is needed during a weather emergency, even if s/he is nice to interact with." The Village of Scarsdale went on to say that "municipalities need more than a sympathetic ear during an emergency event."

Most of this criticism is predicated on the experience of the vast majority of municipalities that were able to easily get in contact with their municipal liaisons and were then frustrated with the limitations of the liaison's role, but some municipalities had difficulty with the first step of contacting their liaisons. One of the cities in Westchester stated that "It seemed inappropriate how much effort it took to identify, then make contact with my liaison... After the connection was made it was frustrating how uninformed and confused around the movements of the utility teams the liaison was." Once again, when the municipality finally did get in contact with its liaison, they experienced the same problems that persisted throughout the majority of municipalities.

These broad communication failures forced municipal leaders to invest their own time and resources in investigating the status of restoration efforts. The Village of Bronxville said "There is never accurate information on where crews are. It's always best to just drive the Village if you want the right information." This sentiment was shared by an official from the Village of Scarsdale who said that "No information about daily assignments or restoration targets was shared with municipal officials. Unless municipal personnel located a crew in-town, we would have had no other way to know they were here. ConEd promises of crew counts almost always fell short and no information about daily restoration targets ever materialized." If Con Edison created more effective avenues of communication, municipal officials would have access to necessary details concerning restoration efforts in their communities.

As an example of one way that Con Edison could improve the municipal liaison program, Paul Feiner, Supervisor of the Town of Greenburgh, said "I recommend a Con Ed field crew leader be part of the liaison program so our liaison and the Public Works Commissioner can have a more direct line to know where a Con Ed crew is, what capabilities the crew has and when they will be working (9 to 5 / overnight)... The best productivity occurs when a Con Ed work crew is attached to a Town crew so we can support each other's efforts." Another example came from County Legislator Margaret Cunzio, who suggested that "there needs to be a more transparent way to track the location of crews with a map for elected officials or an app to see how long they are in an area and where they are headed next."

If Con Edison were to institute more effective means of communication, municipalities would be able to focus on their own responsibilities during post-storm recovery efforts. Mayor Chance Mullen of the Village of Pelham stated that "Con Edison should immediately notify police/fire and public works that an area has been de-energized. This will allow public works crews to cut and clear any village trees from the roadway. Con Edison should notify other utilities that wires have been de-energized. This responsibility and liability should not be placed on the municipality."

It also appears that those directing Con Edison's restoration operations lack knowledge that is vital to communicating with the appropriate elected officials. The City of Rye noted that "statements of repair crew presence were frequently inaccurate as a result of Con Ed ignorance of municipal boundaries. Restoration crews were on site that our liaison was unaware of." In addition, the Village of Scarsdale provided an example of where Con Edison could have made its operation more efficient had they been aware of resources that the Village could have offered to the utility, stating that "Con Edison did not provide an in-field contact to coordinate activities with municipal employees, despite such coordination being essential. To illustrate but one issue with cut and clear activities, many municipalities have tree crews and heavy equipment to expedite road clearing operations; however, ConEd did not capitalize on this opportunity and it resulted in inefficient clearing of roadway hazards." Without a two-way flow of information, Con Edison was left unaware of opportunities in which municipalities could have aided restoration efforts.

These concerns with shortcomings in Con Edison's communication efforts, including the lack of consistent standards or methods for municipalities to report damage, the inefficient format and use of the utility's conference calls, the lack of information and authority provided to municipal liaisons, and the inability for municipalities to get up-to-date reports on the activities of restoration crews, provide Con Edison with the opportunity to re-evaluate its methods of communication with municipalities in Westchester.

In its *Isaias Task Force 90-Day Report Briefing*²⁹ dated November 18, 2020, the Long Island Power Authority (LIPA) outlined the functions and effectiveness of the municipal portal used by PSEG Long Island to communicate with municipal leaders. The report mentioned that "The Municipal Portal provides the following functions and features:

- Password-protected restricted access to key information about critical facilities within an authorized user's community.
- An ability to enter outage information which flows directly to the OMS when the outage affects a "make safe to clear" condition, such as wires down, public safety condition, or a critical facility need.
- The ability to add detailed information about an outage they report.
- An ability to see their community's critical assets on a map and any outages affecting them.
- The ability to use selected condition codes to flag certain conditions about a reported situation to inform PSEG Long Island's dispatch and restoration teams

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<https://www.lipower.org/wp-content/uploads/2020/11/4.-Discussion-of-90-Day-Report-from-Isaias-Task-Force.pdf>

about the need to potentially escalate a response or direct certain resources to a particularized need.

- The ability to receive updates by email, text, or phone as the condition they reported is addressed and resolved.”

The municipalities in Con Edison’s service area lack access to a similar municipal portal with most of these functions. If Con Edison were to introduce a municipal portal similar to that of PSEG Long Island, many of the communication concerns from Westchester municipalities could be addressed. In the same way that LIPA evaluates PSEG Long Island’s municipal coordination strategies, the Public Service Commission could play a productive role in evaluating Con Edison’s and other electric utility companies’ efforts to communicate with municipal leaders.

Electric Utility Recommendation #6: Con Edison should reassess methods of communication with municipalities and other government officials, including implementation of a municipal portal for damage assessment and two-way communication, improvement of the municipal liaison program, and refinement of intergovernmental conference calls. Con Edison should provide municipalities and other government officials with timely and accurate information regarding preparation in advance of a storm and update municipalities on a regular basis as to the status of damage assessment, make-safe, and repair crew activity in their municipalities throughout a storm and recovery event. The company should maintain staffing and technology necessary to provide accurate and timely information to local governments for these purposes.

Public Service Commission Recommendation #2: The Public Service Commission should audit the process and methods by which electric utility companies manage communication with municipalities and other government officials, including but not limited to the utilities’ use of municipal portals for coordination between the municipalities and the utility, the use of municipal liaisons to coordinate recovery efforts with the municipalities, and the use of conference calls. The Public Service Commission should work with electric utility companies to establish best practices for the management of communication with municipalities and other government officials.

Critical Facilities

Critical facilities is a broad term for locations given priority for electric power restoration. These locations include hospitals, emergency services buildings, DPW facilities, waterworks, schools (public and private), large residential buildings (particularly those that house seniors), and locations with significant numbers of life support aided residents. In its *Emergency Response Plan*, NYSEG defines Critical Facilities as “Those “facilities” from which essential services function for the continuation of public health and safety, and disaster recovery are performed or provided (such as hospitals, water and sewage treatment plants, and fire stations). Critical Facilities plan for continuous electric service to ensure business continuity or continuity of government. Critical Facility owners are responsible for their own backup generation and appropriate fuel. Electricity service should be maintained through uninterrupted utility service or a momentary interruption followed by a transfer to backup generation. A critical facility is given a restoration priority based on the Plan.”³⁰ In Con Edison’s *Emergency Response Plan*, the company states, “In Westchester County, the company currently coordinates with each municipality to prioritize the restoration sequence of critical facilities, on a structured time schedule, so it can be considered when creating work packages for the next day.”³¹

Municipalities in the NYSEG service area generally thought that NYSEG did a good job in prioritizing restoration to critical facilities. As far as these towns are aware, NYSEG appropriately used the critical facility lists that had been devised in coordination with municipal leaders. The towns in the NYSEG service area also reported a positive experience in the way that NYSEG collaborates with the towns to identify locations to include on critical facility lists. NYSEG shares its current lists with the towns in NYSEG’s service area and allows municipal officials to identify and submit any necessary amendments. When questioned by Assemblymember Buchwald as to whether NYSEG would be willing to share up-to-date lists of critical facilities with the elected officials who participate in NYSEG’s municipal conference calls, NYSEG responded affirmatively that the utility would make lists of critical facilities available “to any elected official upon request.”

The experience of municipalities in the Con Edison service area was more varied. The Village of Croton-on-Hudson talked about problems with power restoration to the

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<https://www.nyseg.com/wps/wcm/connect/fa4ee952-e70c-41b7-b860-7857a44ec155/NYSEG+and+RGE+Electric+Emergency+Plan.pdf?MOD=AJPERES&CACHEID=ROOTWORKSPACE-fa4ee952-e70c-41b7-b860-7857a44ec155-me787A7>

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<http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId=%7BB3E13205-807F-48E8-9C9A-53E458C9751F%7D>

Village's critical facilities, saying that "Numerous critical facilities (including the municipal building, DPW garage and one of our pump stations) were without power for six days. Many areas of the village had their power restored before these facilities. It makes no sense to us to have facilities designated as critical, and then put them at the bottom of the list to be restored." The Town of Greenburgh faced similar issues, with Paul Feiner, the Town Supervisor, stating that "Our Police Headquarters was without power for approximately (7) days."

In addition to the problem of slow restoration times for critical facilities, municipal leaders and elected representatives in the Con Edison service area did not know whether Con Edison was prioritizing these locations at all. The Village of Scarsdale had doubts about Con Edison's prioritization of critical facility restoration, saying that "While the municipality's water tower and municipal garage were listed in ConEd's storm planning document as critical facilities, power restoration to these locations did not appear to have been appropriately prioritized."

Municipal leaders and elected representatives found Con Edison's process for accepting updates to critical facility lists especially frustrating. Since Con Edison does not share its current critical facility lists with municipal officials, the municipalities are forced to speculate as to what is on Con Edison's lists, and the municipalities must then provide updates blindly. If Con Edison has out-of-date locations on its lists, the municipalities have no way of knowing. Legislator Margaret Cunzio summarized this frustration, saying "There is still work that needs to be done - a list of critical facilities should be listed and available for all to see and a way to monitor the status of these facilities." When asked by Assemblymember Buchwald if Con Edison would "give consideration to expanding elected official access to information about critical facilities," the company responded "It is our understanding that some critical facility customers do not want such information public. However, Con Edison will consider additional ways to ensure the Company's list of critical facilities is accurate and complete." Absent a legal requirement preventing the utility from sharing the list of locations with municipal leaders and elected representatives, storm recovery efforts would significantly benefit from a more transparent collaboration between the utility and elected officials.

Without knowing the content of Con Edison's critical facility lists in advance of the storm, elected officials and municipal leaders have no way of verifying or auditing Con Edison's prioritization of those facilities and customers. The municipalities cannot know whether the slow restoration time for the most important municipal buildings was a product of severe damage caused by the storm or whether Con Edison lacked accurate or up-to-date critical facility information. Further, the municipalities provided Con Edison with new critical facility locations just before Isaias hit and during the recovery period,

and municipal leaders cannot confirm whether Con Edison added these facilities to their lists for use during the response to Isaias or for use during future storm responses.

Electric Utility Recommendation #7: Con Edison should regularly share and update lists of critical facilities with municipalities and elected officials. By the time a storm hits, both Con Edison and the municipalities should be aware of all critical facility locations.

Vulnerable Customers

Municipal leaders and elected representatives had concerns about the electric utility companies' protocols for handling vulnerable customers. County Legislator MaryJane Shimsky discussed the issues in restoring power to facilities with elderly customers, saying that "There were senior citizens over the age of 90, or slightly younger with serious medical issues, who were out of power 3-6 days." Assemblymember Sandy Galef discussed the impact of power outages on vulnerable residents in her district, saying that "Chapel Hill, a neighborhood in Peekskill has limited cell phone service. When the power goes out it takes the phone and internet out as well. This leaves the predominantly older community with no means of communication. Literally and figuratively in the dark. Such sites should be made a priority or made candidates for supplemental energy systems." According to Senator Shelley Mayer, "In most cases, communication with elderly and the most vulnerable was very good, but it did little to help provide power for those who needed electric power. There was little attention to the fact that we are in a pandemic and unable to shelter with others or go to other locations." The municipal leaders and elected representatives who attempted to assist the most vulnerable residents in the aftermath of Isaias made a point that even when they were able to provide the locations of these customers to the electric utility companies, those elected leaders could not ascertain how that information was used.

In 2018 United Westchester recommended that "A dialogue should be initiated between governments and utilities about whether it is possible to better help vulnerable customers that do not rely on life support equipment." The consensus from United Westchester was that the electric utility companies did not engage in this dialogue. With problems still apparent in the way that Con Edison and NYSEG work with vulnerable customers, the utility companies, municipal leaders, and elected representatives could still benefit from a discussion about how best to support those customers. That conversation should occur before the next major event.

Electric Utility Recommendation #8: Electric utility companies should review their procedures for monitoring and maintaining service, or facilitating alternate service, for individuals dependent on electric service to maintain life support equipment or otherwise dependent on electricity to meet medical needs. Electric utility companies should review procedures to facilitate the companies' cooperation with local governments and medically dependent individuals, procedures to make such services known to customers on a regular basis, and procedures for keeping lists of such individuals up-to-date.

Maps of Electric Grid

In addition to lists of critical facilities, NYSEG also shares maps of their electric grid with municipal officials to promote successful collaboration during storm response and recovery. The maps provided to each municipality cover the area of that municipality, and these maps help officials and leaders assist the utility in damage assessment and promote understanding during storm response efforts.

The municipalities in the Con Edison service area stated that Con Edison does not share these maps. This lack of transparency hampered the municipalities' efforts to engage collaboratively and efficiently in the damage assessment process. Without access to these maps or knowledge of Con Edison's grid within the municipality, municipal leaders could never be fully aware of the status of recovery efforts within the municipalities. Leaders in these towns, cities, and villages should have a basic understanding of the infrastructure within their community.

Electric Utility Recommendation #9: Con Edison should provide an updated map of its grid to each municipality.

Electric Utility Communication with Customers

The communication efforts by Con Edison with customers had multiple issues. Customers and residents received inaccurate or out-of-date messages, and the information on Con Edison's website and outage map were not always updated

appropriately. Further, customers had difficulty both reaching relevant staff at Con Edison and contacting customer support.

From direct observation, customers noticed that updates to the outage map on Con Edison's website did not always reflect the reality on the ground. Paul Feiner, Supervisor of the Town of Greenburgh, said, "Speaking personally, my family had no power for almost a week. The Con Ed map of outages claimed there were only a few outages when more than 150 homes were out. It also sent incorrect text messages as to restoration times." The inaccuracies in the Con Edison outage map, including the Estimated Times of Restoration, forced residents to make decisions and plans that were ultimately not in their best interest. The Village of Rye Brook noted, "At times the restoration times would change (from one day to the next) too late in the evening for the residents to make alternative plans."

Con Edison personnel would also provide customers with incorrect explanations as to the process for power restoration. The City of New Rochelle detailed one such scenario, stating that "Con Ed representatives continue to inaccurately tell residents that the wait to clear situation (wires in tree limbs) was due to municipality inaction when in fact removing wires from trees is a utility company responsibility." When Con Edison provided customers with inaccurate information, municipal leaders were put in the position of having to correct this information for residents. The Village of Scarsdale said that "Municipal staff were heavily burdened with resident contacts because ConEd was not sharing adequate information, as well as sharing incorrect or unreliable information. To compound the problem with ConEd's direct customer messaging, their field personnel continued to provide residents with incorrect or misleading information in one-on-one interactions." Without a reliable source of facts and data coming directly from Con Edison, municipal officials had to inform Con Edison's customers as best they could. This created a trust issue between customers and Con Edison. The municipalities should not have had the responsibility of clarifying Con Edison's incorrect messages since these calls and corrections take up significant time that could be better used to assist in restoration efforts.

One of the common complaints from municipal leaders and elected representatives related to Con Edison's communication failures with customers centered on the utility's use of text messages. The Village of Croton-on-Hudson outlined the problem, saying that "As in previous storms, text messages were sent erroneously stating that power was restored, and it was not, as well as saying power would not be restored for days, and was promptly restored." The City of Rye agreed with this sentiment, stating that "Con Ed did provide estimated repair times if registered for text messages but the estimates were often wrong (i.e., they promised return to power sooner than they could provide it)."

Con Edison's failure to provide accurate information in text message updates was further compounded by the methods they used to correct those text messages. Assemblymember David Buchwald detailed one of these incidents, "They did have an erroneous text message sent to many New Castle residents and then only sent correct information and an apology via email and messages delivered to town officials (for them to disseminate). As a general rule, companies should not send information via an automated message (whether by robocall, text, email, or otherwise) that the company does not have the ability to correct via a message sent in the same format, as that is the only way to ensure that people who got the wrong information have easy access to the right information." Senator Shelley Mayer emphasized the level of frustration felt by residents, saying, "Too often consumers received messages that inaccurately reflected their current situation. They received messages that misled them about estimated time of restoration or inaccurately suggested their service had been restored when in fact it had not been restored. These inaccuracies might have been more frustrating than not receiving communication at all."

Electric Utility Recommendation #10: Electric utility companies should make a strong commitment to providing accurate information when communicating via text message, website, or phone communication to customers regarding status, response, and restoration of service. These companies should maintain technology and staff resources to provide accurate information and provide methods for customers to readily reply to the company in the event that the information sent to the customer is inaccurate.

Electric Utility Crew Management and Internal Communication

Municipal leaders and elected representatives spoke positively about their experience with the way NYSEG managed its crews. The Town of Somers declared that “NYSEG did an excellent job.” The only criticism from municipal leaders was the feeling that NYSEG could have had more crews working on restoration efforts and started those restoration efforts sooner. For example, the Town of Lewisboro said that “NYSEG did very well. When they needed help reaching a trouble spot they worked with our Highway Department or on occasion the Town Supervisor,” and the Town pointed out that “We could have used an extra crew or two but understand that the storm damage was significant and wide-spread.” Across the board, the municipal leaders in NYSEG’s service area found no problems with the way NYSEG managed its crews during the Isaias recovery period.

Municipalities in the Con Edison service area were dissatisfied with the way Con Edison managed its crews and found numerous areas in which Con Edison could have more efficiently and effectively directed and utilized its personnel.

During storm recovery, municipalities noticed that Con Edison’s operations usually require at least partial completion of cut-and-clear activities before crews can proceed with restoration. Municipal leaders observed that Con Edison appears to be understaffed for cut-and-clear efforts, and this apparent shortage slows down the utility’s overall recovery operation. The Village of Irvington discussed this problem, saying, “As a municipality, we stand ready to move trees, open roads and assist Con Edison in any way they need us. But we can’t do anything unless their cut-and-clear crews come to make the lines safe. We wasted an entire day waiting to reopen roads and help address the damage, but there wasn’t a single cut-and-clear crew in our village the entire day. Based upon past experience, there are NEVER enough cut-and-clear crews available...when entire neighborhoods are cut off from the world because of downed trees, it seems like an eternity waiting for a cut-and-clear crew.” Aside from delaying restoration, Con Edison’s apparent inefficient make-safe efforts also pose a safety risk for residents with many downed wires. County Legislator MaryJane Shimsky pointed out that “It can still take several days to get the all clear on downed wires. And unless you’re in a high-density residential area, you may need to wait weeks to get your utility pole fixed.”

Senator Shelley Mayer spoke more broadly on the problems caused by apparent insufficient staffing, saying, “The employees on the ground worked incredibly hard. It

seemed quite clear they simply did not have enough people to do all the work necessary in a timely fashion.”

Elected officials also noticed the apparent breakdown in management and internal communication among Con Edison personnel. Referencing experiences from Con Edison municipal conference calls, Assemblymember Sandy Galef said that “People on the phone calls had no idea what was happening on the ground and what information they had was hours late.” Supervisor Paul Feiner discussed the problems he faced with Con Edison personnel not being kept apprised of restoration efforts, saying, “Multiple Roads (35) throughout the Town were impassable and closed with many residents trapped with no egress for emergency vehicles. Con Ed was unable to provide ETA on cut-and-clear teams, making it difficult for police and EMS personnel to respond to emergencies.” Repeatedly, municipal leaders and elected representatives found that the Con Edison staff who had the responsibility of communicating with public officials did not know the location of Con Edison’s crews, nor did they know the status of restoration efforts. This breakdown in communication indicates either a failure in Con Edison’s management of restoration efforts or an ineffectual organizational structure that prevents municipal leaders from gaining necessary insights about utility operations within their own communities.

Municipal officials also observed that Con Edison crews had to wait for assignments to be relayed from a centralized source. It appeared that Con Edison did not empower enough supervisors on the ground with the necessary authority that would have given them the ability to direct crews, leading to long wait times before crews received their next assignments. The Village of Rye Brook stated that “crews in field were often ready to work/standing around for hours but cannot start until assigned by the central dispatch office. Decision making should be decentralized by assigning a dedicated supervisor and dedicated crew to each municipality.” Assemblymember Sandy Galef found that this problem extended to foreign crews that arrived in the area to assist with restoration efforts. The Assemblymember said, “Mutual Aid crews sat around waiting for assignment. They stuck with their home utility trucks and were not being deployed efficiently. Crews were not housed locally, delaying start times.” The Village of Scarsdale described a specific example of this problem, saying that there were “multiple trucks in a parking lot awaiting their next assignment after having completed their initial assignment faster than ConEd anticipated. After hours of doing nothing while awaiting their next job, they reported their assignment was to return to Rye Playland, where they would presumably get their next assignment. Meanwhile, significant issues remained in the community where the trucks sat idle for hours.”

Once Con Edison provided crews with assignments, it appeared to municipal leaders and elected representatives that those assignments were not efficiently or logically sequenced. “They send crews on circuitous paths, resulting in lost hours per day per crew, further slowing down power restoration. I received one report of a crew working in Hastings being sent to Mount Kisco and then back to Hastings,” according to County Legislator MaryJane Shimsky. Another comment about the ways in which Con Edison crews inefficiently used the time provided for their assignments came from Chance Mullen, the Mayor of Pelham, who said “The village had one cut and clear crew that worked approximately to 8pm. In other emergencies crews would work around the clock to bring back power. Each municipality should have at least one cut and clear crew and one restoration crew dedicated to local work until all outages have been resolved.” The Village of Scarsdale elaborated further, saying that “ConEd’s field crew structure seems disorganized and their tactical response suffers as a result. Staff observations include ConEd operating without adequate direction or supervision, resulting in massive amounts of wasted time. Meanwhile, municipal personnel are busy trying to call attention to local issues needing ConEd’s attention.” Con Edison’s poor management of each crew’s time and resources appeared to create a situation where restoration efforts were far less efficient than they could have been. Crew members were put in a position where they had to wait long periods to receive their assignments, and once they did have their assignments, Con Edison’s decisions on where to assign crews and how to supervise those crews further exacerbated the inefficiency inherent in the company’s restoration efforts. Con Edison’s apparent management failures were widespread but not universal. One Village administrator noted that “When we had the same dedicated supervisor in the field for three days straight it worked great. When crew personnel changed day to day it was less efficient.” This experience implies that if Con Edison were to streamline the utility’s workflow during storm recoveries, then restoration efforts could proceed more efficiently.

The City of Yonkers summarized the sentiments of most municipal leaders in regard to Con Edison’s apparent problems with crew management, commenting “All Utilities were caught short with this storm. Cut and clear crews were not staged and ready to go, mutual aid was eventually brought in but not in a timely manner. Number of crews was insufficient in the earlier stages of the recovery, and became more appropriate for the severity of the storm impact much later. Westchester’s municipalities understood that the degree of damage caused by the storm was unexpected, but the numerous examples of mismanagement imply that Con Edison’s failures go beyond a miscalculation of the expected number of outages.”

There was a perceived absence of leadership which extended all the way to Con Edison’s Chief Executive Officer, who interacted minimally if at all with municipal

leaders and elected representatives in the County. Assemblymember David Buchwald questioned Con Edison, asking “Where was ConEd President and CEO John McAvoy in the days after Tropical Storm Isaias? Was he in touch with any elected officials? If so, who and when? Was Mr. McAvoy made aware of the request of the Supervisor of the Town of Cortlandt for him to participate in one of the ConEd/Westchester municipal calls?” Con Edison has yet to provide the Assemblymember with a response to this question.

NYSEG faced far fewer accusations of poor management of crews, but the company did run into problems when it came to communicating with foreign crews during the storm recovery. The extensive damage caused by the storm affected cell service throughout the County, and this included limiting NYSEG’s ability to stay in touch with foreign crews assisting the restoration effort in the utility’s service area. We have included this problem in our recommendation on crew management.

<p>Public Service Commission Recommendation #3: The Public Service Commission should audit the process that electric utility companies use to acquire, coordinate, and manage foreign crews, including mutual aid and contractors. Further, the Public Service Commissions should develop best practices for the electric utility companies to use as a model to follow for coordinating these foreign crews.</p>
<p>Electric Utility Recommendation #11: Con Edison should improve management of and communication with Con Edison employed personnel in the field and with foreign crews, including mutual aid and contractors. NYSEG should reevaluate its methods of communication with outside contractors in areas with poor cell service.</p>

After further investigation, several municipal leaders mentioned that one of the reasons that Con Edison crews had to wait to leave one site before proceeding to their next assignment was because the crews needed authorization to re-energize power lines. If this problem was widespread, then these situations may have had the effect of delaying the utility’s overall restoration effort. Restoration crews would be able to work more efficiently if they had direct and constant access to individuals with the authority to re-energize parts of the utility’s grid.

Public Service Commission Recommendation #4: The Public Service Commission should investigate the amount of time it takes for electric utility companies to proceed with turning power back on (re-energizing) after crews in the field complete their work at each site.

Electric Utility Staffing and Reserve Corps

United Westchester members consistently raised the concern that one of the biggest reasons for extended power outages and delays in restoration of electric utility service was due to a lack of sufficient personnel. These concerns were directed towards NYSEG and Con Edison, with a particular emphasis on Con Edison. In his August 20 *Testimony to the Joint Senate and Assembly Public Hearing on Power and Communication Failures from Tropical Storm Isaias*, County Executive George Latimer said that the electric utility companies, “do not have sufficient, permanent and available workforce to put enough “boots on the ground” in the first 48 hours after a weather incident.”³²

Electric utility companies need more workers to be available at the front end of post-storm recovery. Before local departments of public works can remove fallen trees or poles, electric utility cut-and-clear crews must first arrive at each site and complete make-safe operations. Only when that process is completed can the electric utility crews proceed with power restoration. When there are not enough cut-and-clear crews, it slows down the first stage of the recovery process and causes delays in restoration of service. Later in the process, there can be further delays if the electric utility companies do not have enough linemen and other required personnel for restoration crews.

Following storms with severe outages, the electric utility companies supplement their permanent cut-and-clear and restoration crews with additional foreign crews, which include workers called in either through contractors or as mutual aid. For mutual aid, the electric utility companies participate in and rely on networks that include other utility companies throughout the country. When there are emergencies in one area, electric utility crews from other areas are directed to assist the companies that require additional personnel. Major problems can occur if an electric utility company does not have enough crews on staff and therefore relies heavily on foreign crews to get started and complete restoration operations. Often, the electric utility companies do not know the

³² <https://www.westchestergov.com/images/stories/pdfs/2020isaiastestimony.pdf>

potential extent of damage from a storm until shortly before or shortly after the storm hits, forcing requests for mutual aid to be sent too late to ensure timely arrival of those foreign crews. When a storm causes extensive damage and foreign crews do not arrive until multiple days after the storm hits, customers can experience lengthy delays in restoration of electric utility service if their electric utility company relies too heavily on assistance from foreign crews or does not effectively manage those foreign crews once they arrive.

In his August 20 testimony, County Executive Latimer proposed the creation of an electric utility reserve corps, which could include retired utility workers and other individuals who would receive an annual stipend and training. According to County Executive Latimer, those reserve corps members could, “receive an annual stipend and receive annual updated training a week per year. This “reserve corps” will be called upon to provide immediate emergency deployment much the same way the National Guard or Army Reserve works.”³³

In creating an electric utility reserve corps, the electric utility companies could draw ideas from and build on the retiree programs already in use. These programs include the “Services from Retirees” system used by National Grid, an electric utility company that operates throughout parts of Upstate New York, and the “Retiree Emergency Activation Program” used by Con Edison. As mentioned in National Grid’s *Emergency Response Plan*, “In instances when the knowledge and skills of retirees are necessary to provide restoration support, they will be hired as contractors via a third party.”³⁴ According to Con Edison’s *Emergency Response Plan*, “To supplement the management of mutual assistance crews, the company has a *Retiree Emergency Activation Program*, which is an Emergency Preparedness-led initiative to maintain a roster of qualified retired personnel (CECONY and O&R) to support restoration efforts during major events.”³⁵ Con Edison primarily uses these retirees as crew guides for foreign crews, but the company could consider an expanded program that would further supplement storm response operations.

United Westchester members understand that details would need to be addressed before most electric utility companies could implement a reserve corps, including compensation, union status, the specific circumstances that would require reserve corps members to be activated, and financing of the reserve corps. At the same time, many

³³ *See Id.*

³⁴

<http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId=%7B65C295C3-A611-4DE1-930D-D237CB23B66D%7D>

³⁵

<http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId=%7BB3E13205-807F-48E8-9C9A-53E458C9751F%7D>

electric utility companies, including Con Edison, continue to rely on inadequate strategies to address staffing requirements that accompany significant storms, and those companies should be open to considering alternative solutions.

Electric Utility Recommendation #12: In order to ensure sufficient availability of staffing, electric utility companies should create a utility reserve corps recruited from utility worker retirees and other qualified individuals.

Coordination Between Electric Utility and Telecommunications Crews

Another persistent problem noticed by municipal leaders was the lack of coordination between the electric utility companies and the telecommunications companies. It appeared to the municipal leaders that each electric utility and telecommunications company would rarely handle the lines, cables, and equipment of other companies, leaving damaged sites without fully clearing or securing lines. Paul Feiner, the Greenburgh Town Supervisor, shared his thoughts, saying “[Con Edison, Altice, and Verizon] should be responsible for working together to inspect the entire overhead wire system.” Peter Parsons, the Supervisor of Lewisboro, echoed this sentiment, saying “This coordination needs improvement; sites where NYSEG completed repairs, including downed Telecom lines, had to be reported separately as they were still on the ground days/weeks later.” Not only was the lack of coordination between the companies a repair and safety concern, municipal leaders, who relied on the completion of make-safe operations to open roads, had to use their time and resources to coordinate the clearing of remaining downed wires and damaged equipment. Chance Mullen, the Mayor of the Village of Pelham, discussed this problem, saying, “Time to open up roads is impacted when there is not proper communication between [electric utility companies and telecommunications companies]. Con Edison should have the authority to temporarily re-hang cable wires in an effort to open up roads.”

The Village of Scarsdale summarized its experiences with the lack of coordination between the electric utility and telecommunications companies, saying “With both Optimum and Verizon, it was exceptionally difficult to find out status for specific problems, estimated restoration times, etc. Where problems involved more than one entity, i.e., any combination of ConEd, Verizon, and Optimum, the issues were particularly resistant to timely resolution – it seemed there was little, if any, effort to coordinate. To that point, we often found ourselves needing to establish the responsible entity, as one would point to the other while a known condition was allowed to continue

unabated. Such scenarios necessarily involved municipal staff speaking to field personnel (that we had to find in the field, not on a scheduled basis) in order to move them toward resolution. Municipal personnel endeavored to bridge their lack of coordination, but that was an unnecessarily time-consuming task, taking time away from local emergency response and tactical coordination of municipal field personnel.” Peter Parsons, the Supervisor of Lewisboro, made a suggestion in response to the lack of coordination, saying “Altice damage assessment took too long and was not well coordinated between utilities. The first utility on-site should log, into a central system, damage of other utilities’ infrastructure.”

These coordination efforts between electric utility and telecommunications companies could play a critical role in storm restoration efforts, and as far as municipal leaders and elected representatives were aware, there has been almost no coordination on the securing of downed cables and wires or on restoration efforts more broadly. Any efforts made by these companies to coordinate in the future would greatly improve the efforts by municipalities to guarantee safety and timeliness of restoration following severe weather events.

Electric Utility Recommendation #13: Electric utility companies should coordinate the securing of damaged wires and cables with telecommunications companies and municipalities, thereby ensuring safety and allowing streets to be reopened. Electric utility companies should improve their real time communication with telecommunications companies and municipalities regarding scheduling of utility repair crews so that telecommunications repairs can be coordinated with electric repairs in a timely manner.

Telecommunications Recommendation #1: Telecommunications companies should coordinate the securing of damaged wires and cables with electric utility companies and municipalities, thereby ensuring safety and allowing streets to be reopened. Telecommunications companies should improve their real time communication with electric utility companies and municipalities regarding scheduling of utility repair crews so that electric repairs can be coordinated with telecommunications repairs in a timely manner.

Dry Ice and Bottled Water Distribution

Municipal leaders and elected representatives were dissatisfied with the distribution of dry ice and bottled water by both Con Edison and NYSEG. The two primary criticisms from municipal leaders and elected representatives focused on the inadequate supply of dry ice and the significant distance many residents had to travel to reach the distribution locations.

NYSEG did not have sufficient clarity on the distribution times for dry ice, which was not available immediately following the storm. Once dry ice was available, the municipalities that were able to receive it appreciated the dry ice, but because access was first come, first served, some residents and towns were consistently unable to receive any dry ice. Assemblymember Sandy Galef commented on NYSEG's distribution procedure, saying it left one of the towns in her district "without Dry Ice to provide to residents."

In the Con Edison service area, the dry ice distribution locations were too far for some municipalities. Con Edison did not provide information about the daily distribution locations far enough in advance or in a well-publicized manner, and some locations only had wet ice at first. Municipal leaders think that the dry ice distribution is helpful if the information is provided early. The Village of Ossining commented that Con Edison is "always slow on this. If it doesn't happen quickly, it's not too helpful." Expressing concerns that the distribution sites were too far away for the residents in her district, County Legislator MaryJane Shimsky stated, "All of the usual distribution centers were at least a 25-30 minute drive from communities in my district. I periodically received complaints from constituents who made the effort but were too late to get anything -- which really does add insult to injury." County Legislator Margaret Cunzio discussed concerns about the limited number of distribution sites, saying "My district had a site - but there is a consensus that there needs to be more sites or a rotation of sites throughout the county." Senator Shelley Mayer noted that it was unacceptable that the distribution site in Yonkers was not open daily, saying "I was extremely disappointed that in Yonkers, Westchester's largest city, dry ice was not distributed every day and in multiple sites." The City of Rye described the problem simply, stating "Too far, too long of a wait, ice and water ran out."

Electric Utility Recommendation #14: Electric utility companies should adequately acquire and distribute dry ice. To facilitate distribution, the electric utility companies should be prepared to have more distribution centers, to rotate locations, and to provide notice of locations farther in advance.

Preventative Maintenance & Storm Hardening

Officials across Westchester County continue to see an aging electric distribution system deteriorating due to insufficient preventative maintenance. This was noted in the 2018 United Westchester report and continues to be the case. The Village of Scarsdale outlined this problem, saying “If one considers adequate maintenance of ConEd infrastructure a category of advance preparation – which it is – ConEd failed in that regard. Persistent conditions throughout the County involving things like poles secured with rope, tree branches atop wires, etc., increase the likelihood of more severe storm impacts and longer duration restorations... It seems there is no ConEd effort to survey and fix conditions that contribute to future failures. Rather, such conditions are allowed to persist as monuments to past – and continuing – failures.” A few municipalities did note efforts undertaken by Con Edison to improve system resiliency, including the Town of Mamaroneck which stated, “In the Town, Con Edison since 2018 have installed more resilient and what they call smart transformers to limit the power outages in the community.”

Municipal leaders who interact with the electric grid in their communities also provided comments about how Con Edison’s storm hardening efforts do not involve maintenance on telecommunications’ system components on shared infrastructure. The Greenburgh Town Supervisor, Paul Feiner, said, “Con Ed, Verizon & Altice need to have a joint agreement or emergency arrangements for the removal and pruning of trees that have the potential to impact their lines. The way it works now is Con Ed puts out contracts for tree work and it then cuts what impacts its infrastructure while branches that impact the same run of wires right below its wires remain untouched. [Con Edison, Verizon, and Altice] need to work together during blue sky days to improve the condition of the existing infrastructure.”

In NYSEG’s service area, municipal leaders had fewer comments about the necessity of storm hardening, but there were several comments and recommendations. The Town of North Salem stated that “NYSEG has been doing a significant amount of work in our Town since 2018,” and Peter Parsons, Supervisor of Lewisboro, suggested that NYSEG needs “to consider below ground installation especially of transmission lines running along state roads.”

Senator Shelley Mayer made a point about the effect that inadequate storm hardening, in addition to insufficient staffing, may have had on post-storm outages, saying that “It is difficult for residents or elected leaders to know whether lack of maintenance, inadequate mutual aid or too few employees cause the widespread and prolonged outages. All of these pieces seem to come together to create a model in which utilities

have a perverse incentive to delay these essential investments, and residents end up paying the price.” Senator Mayer’s assertion that maintenance is one of the factors that likely plays a role in prolonging outages gets at a failure in the way that the State evaluates the storm hardening efforts of electric utility companies.

Recommendation 88 in the Department of Public Service’s *2018 Winter and Spring Storms Investigation* required all electric utilities “to submit an actionable plan by July 1, 2019, which details future storm hardening measures including a budget, timeline, and major performance benchmarks.” To date, the Public Service Commission has not approved these plans and has instead considered storm hardening plans only as part of utility rate cases.

By approving storm hardening plans as part of utility rate cases, the money drives the plan. A certain amount of money is agreed upon by the utility and the PSC for storm hardening and the utility then decides what storm hardening projects can be completed within that budget. There is no independent assessment of the merits of the submitted storm hardening plan, nor is there an evaluation of what is required to meet overall storm hardening needs of the utility’s service area. Separating the storm hardening plan from the rate case would correct this.

Legislation has been introduced in the Assembly (A.11115 of 2019-2020), which would require utilities to create and implement ten-year storm hardening and system resiliency plans and require the Public Service Commission to approve, modify, or reject the plan within eleven months of submission. At least every three years thereafter, the utility would be required to file an updated plan for review. Lastly, the legislation would require the Public Service Commission to conduct an annual proceeding, separate from a utility rate case, to determine the costs and allow the utility to recover such costs through a separate charge.

Finally, regarding undergrounding, public-private partnerships should be explored which would potentially qualify undergrounding projects for federal funds.

Public Service Commission Recommendation #5: The Public Service Commission should require electric utility companies to submit storm hardening and system resiliency plans that cover the immediate ten-year period, and the Commission should approve, modify, or deny such plans no later than eleven months from submission. The Commission should require the strategies in these plans to include but not be limited to: management of vegetation; improvements to system management practices; replacement of obsolete cables, wires, and poles; use of aerial

cable where possible; automation and circuit reconfiguration; fortification of critical steam production facilities; and selective undergrounding, with a particular focus on high-capacity feeders with a history of disruption that are in proximity to current underground service. At least every three years following approval of the first storm hardening and system resiliency plans, the Commission should require each electric utility company to file an updated storm hardening and system resiliency plan for review. The Commission should conduct an annual proceeding to determine the costs of each such storm hardening plan, separate from rate cases, and allow each electric utility company to recover such costs through a separate charge.

Electric Utility Recommendation #15: Electric utility companies should develop ten-year storm hardening and system resiliency plans that consider multiple strategies to reduce restoration costs and outage times and enhance infrastructure reliability. The strategies in these plans should include but not be limited to: management of vegetation; improvements to system management practices; replacement of obsolete cables, wires, and poles; use of aerial cable where possible; automation and circuit reconfiguration; fortification of critical steam production facilities; and selective undergrounding, with a particular focus on high-capacity feeders with a history of disruption that are in proximity to current underground service. At least every three years following the development of the first set of plans, each electric utility company should update its storm hardening and system resiliency plans. The electric utility companies should make their storm hardening and system resiliency plans publicly available.

NYSEG does not currently have smart meters, but the utility is planning to install smart meters in the near future. This plan has been proposed in NYSEG's rate cases, and the plan has been approved by the Public Service Commission. Assemblymember David Buchwald asked the question, "When NYSEG installs smart meters, is it your plan to integrate them from the outset with your outage detection system (and online outage map/list)? If for any reason not, why not?" NYSEG's response was "Yes, this is our plan." In the interest of improving system resiliency and outage detection following future storms, this smart meter integration plan should be implemented as soon as possible.

Electric Utility Recommendation #16: NYSEG should work with the Public Service Commission to accelerate the installation and implementation of NYSEG's smart meter program. Once smart meters are fully integrated into NYSEG's network, NYSEG should ensure that they are used for assessment of outages.

Reimbursements for Spoiled Food and Medicine

In Westchester, the two electric utility companies have different policies for reimbursing customers for food and medicine that is spoiled due to power outages. NYSEG does not provide any reimbursements to its customers. In the words of the Town of North Salem, “NYSEG does not reimburse for any damage or loss, ever.” Con Edison does offer reimbursements for spoiled food and medicine, but customers have found it incredibly difficult to get reimbursed, and the amount reimbursed to customers for similar spoilage appears to be inconsistent.

The Town of Mamaroneck, in reference to Con Edison’s reimbursement process, noted that “The utility company did provide reimbursement to residents for lost food and medicine. In some cases, there was a dispute over the reimbursement.” Several of the customers who requested reimbursements had their requests rejected, or the customers unexpectedly did not receive the full reimbursement despite filing what they thought were adequate records and receipts.

A clearly stated standard put forward by the Public Service Commission for each electric utility could help customers who lose food or medicine during future power outages. Senator Shelley Mayer stated that “Many residents have received reimbursements for lost food and medicine, but this should not be left to the discretion of the utility.” If a set minimum outage length automatically forced electric utility companies to reimburse customers, then those customers would have more realistic expectations and be able to plan accordingly. Assemblymember Sandy Galef directly connected inaccurate estimated times of restoration to the impact of customers losing food and medicine, commenting that “Constituents made decisions to stay in their homes under the illusion that the restoration times would be accurate. Food and medicine were stored with the understanding that restoration would happen as predicted.” Assemblymember David Buchwald further connected the inconsistent or nonexistent food and medicine reimbursement policies to Con Edison and NYSEG’s inadequate dry ice distribution efforts, saying that “The policies should be tied to the ready availability of dry ice. When (as with NYSEG) a nationwide shortage prevents getting dry ice out to towns/customers, the cost should be borne by NYSEG, not its customers. When (as with ConEd), the company makes procuring dry ice difficult because only two distribution sites are used and no municipal distribution is coordinated, the losses should be borne by ConEd, not its customers.” The electric utility companies have multiple options to consider when setting reimbursement standards, but without any consistent formula or rule, customers will continue to bear the cost of lost food and medicine during extended power outages.

Public Service Commission Recommendation #6: The Public Service Commission should provide clear guidelines to the electric utility companies regarding standards for food and medicine spoilage reimbursement.

Restoration of Service

All of the recommendations proposed in this report reflect a concern that slow restoration efforts, inconsistent work quality from electric utility companies, and haphazard communication have a detrimental impact on customers and residents.

Accuracy of Estimated Times of Restoration (ETR)

One of the consistent problems noted by municipal leaders and elected representatives was the use of inaccurate Estimated Times of Restoration (ETR) put forward by the electric utility companies. Assemblymember Sandy Galef described this problem, saying that “Restoration times were routinely delayed, giving residents a false sense of hope and preventing them from making informed decisions regarding food and shelter.” The inaccurate ETRs affected customers by causing them to formulate plans and make decisions under the assumption that power would be restored in a timeframe reasonably close to the ETR, but customers could be left in inconvenient and sometimes unsafe situations when restoration did not materialize at a time remotely close to the ETR. The Village of Bronxville stated that “Restoration times were inaccurate at best and kept changing at least every 24 hours resulting in only more frustration and calls to the Village from residents.” Inaccurate ETRs additionally created a problem for municipal governments that had to explain to customers why power was not restored.

ETR information shared with the public and local governments should be as accurate as possible, avoiding the complaints heard by United Westchester members, that posted ETRs were:

1. Unrealistically optimistic, especially early in storms; and
2. Unrealistically pessimistic; after failing to meet early projections, revised ETRs were so far in the future that the revised ETR would have been easy to meet.

Ultimately, accurate ETRs required adequate staffing for damage assessment. It would appear that delays in producing accurate ETRs may have been related to delays in damage assessment. Further comment from electric utilities on the cause of inaccurate ETRs is welcome.

Not only were ETRs often inaccurate, but the methods used by the electric utility companies to adjust those ETRs also often created additional confusion. The Village of Croton-on-Hudson described this by saying “There were still issues with the restoration times, as in previous storms. Con Edison would wait until the time passed and then post a message, “More Work Required,” before adding a new time (usually another 24 hours).” County Legislator Margaret Cunzio provided an example of the difficult situations that customers found themselves in due to Con Edison’s shifting ETRs,

saying that “The restoration times were not correct, changed and showed times restored and then backtracked to show outages. This was a problem for those who were staying in hotels and checked out assuming the power was back on due to the app - only to find out that the power was not and giving up their room.”

The communities in NYSEG’s service area spoke more positively about the utility’s ETRs, and complaints centered more on the amount of time it took NYSEG to post the ETRs. One town commented “[NYSEG was] not aggressive at setting restoration time. They were "assessing" too long but did a very good job.”

The City of New Rochelle provided a series of ideas on how ETRs could be improved to help communities and residents plan appropriately, stating that “All estimated times for restoration were still too optimistic (off by 24 hours in general). The assignment of restoration work packages should be based on a clear, transparent algorithm or scoring framework, that is displayed in a fashion accessible to and understandable by municipal officials and the general public and updated in real time. It should be possible for anyone to easily determine where restoration work is underway, what restoration work is planned, and how assignments are prioritized.”

The Village of Scarsdale provided additional suggestions, saying that “Restoration targets need to be accurate so as to manage public expectations and to aid in municipal emergency planning – continual shifts in the target are harmful on many levels. Perhaps there needs to be a revision to the manner in which ConEd’s regulatory performance metrics are defined... Consideration should also be given to reporting regulatory metrics for Westchester County as a discrete reporting geography rather than blended with NYC.”

The inconsistent and ever shifting ETRs cause such a significant problem for the municipalities and residents that the municipal leaders find it necessary to recommend solutions like those from New Rochelle and Scarsdale.

Storm Classification System

One issue that has become apparent is that the storm classification levels used in New York are insufficient for storms as severe as Isaias, which are becoming more common. This makes it difficult to hold utilities accountable for meeting ETR estimates and other benchmarks.

The Public Service Commission requires utilities to classify storm events in their emergency response plans and, “Specify the criteria or guidelines used for determining

the severity of electric emergencies and their classification. The guidelines should include, but need not be limited to, the geographical scope of the emergency, the estimated time required to restore general service, the type of expected damage to the electric system, i.e., from a storm or other storm-like emergency, and an indication of whether company personnel alone or company and supplementary, non-company personnel will be needed to repair system damage.”³⁶ The PSC requires that storms are classified into three levels, increasing in severity.

The utilities vary in what criteria are used and in how they divide the three levels, making it difficult to compare them. For example, NYSEG considers a “Class III Emergency” an event that “generally requires more than 72 hours to restore and/or affects 25 percent or more of customers in a given operating area.”³⁷ Con Edison, however, subdivides the third level into 3A and 3B, with a range of “up to 80,000 to “over 200,000” customers losing power and does not indicate an estimated time for restoration associated with each of the three levels.³⁸

The Connecticut Public Utilities Regulatory Authority requires uniform levels of incident classification for all utilities, based on the National Incident Management System (NIMS). NIMS was created to enable all levels of government nationwide, including the Federal Emergency Management Agency (FEMA), to respond to emergencies in a coordinated and consistent way. There are five incident types in NIMS, with Type 5 being the least severe and Type 1 being the most severe.³⁹ Accordingly, five classification levels are used in Connecticut to align to NIMS. Event levels 1-4 in Connecticut address storms which would all be encompassed in New York’s highest level, providing much more nuanced benchmarks. For example, Event Level 4 in Connecticut occurs when 10-30% of customers are affected and when the ETR is two to five days.⁴⁰

Storms are increasing in severity and in frequency. The three storm classification levels used in New York do not take this into account and further tiers above the current third level are needed. Aligning the classification levels with NIMS would also promote consistency in emergency response and promote a coordinated response.

³⁶ 16 NYCRR 105.4.

³⁷ New York State Electric & Gas Corporation and Rochester Gas and Electric Corporation Electric Utility Emergency Plan Updated May 6, 2020.

³⁸ Consolidated Edison Company of New York Electric Emergency Response Plan (ERP) July 10, 2019.

³⁹ See, http://www.dhses.ny.gov/training/NIMS/documents/NIMS_training_guidance.pdf.

⁴⁰ See, The United Illuminating Company Emergency Response Plan July 1, 2020.

Time-based Benchmarks for Restoration of Service

In this report, United Westchester proposes the use of time-based benchmarks for restoration times to push electric utility companies to restore power to all customers in a reasonable amount of time following severe storms. Discussions will continue with the Public Service Commission, electric utility companies and the public on how to accomplish the goal of linking restoration targets to utility company readiness, emergency planning, and maintenance of manpower and equipment to meet the restoration needs of the public.

Assemblymember Steve Otis commented, “The establishment of a system for time-based targets for restoration is needed so that the planning process incorporates the availability of resources necessary to restore service within a reasonable period of time after a major storm event. Residential and business customers need a system that restores service in a timely manner in most storm events.”

Public Service Commission Recommendation #7: The Public Service Commission should revise its storm classification levels, similar to the levels used in Connecticut, to require uniformity among electric utility companies and add tiers to differentiate among storms which result in more than 25% of customers losing power. This will make it easier to hold electric utilities accountable in more severe events.

Public Service Commission Recommendation #8: The Public Service Commission should set benchmarks for restoration times to push electric utility companies to restore power to all customers in a reasonable amount of time following severe storms. The Commission should set specific benchmarks for each storm classification level that cover the period of time required for make-safe efforts, assessment of damage, setting of Estimated Time of Restoration (ETR), and completion of restoration efforts. The Commission should require the electric utility companies, in their Emergency Response Plans, to include a plan that details availability of staffing and equipment and the utility's ability to meet targeted time restoration standards for each benchmark as established by the Commission.

Electric Utility Recommendation #17: Electric utility companies should strive to restore power to all customers in a reasonable amount of time following severe storms. The electric utility companies should adopt benchmarks for restoration times for each storm classification level that cover the period of time required for make-safe efforts, assessment of damage, setting of Estimated Time of Restoration (ETR), and completion of restoration efforts. In their Emergency Response Plans, the electric utility companies should include a plan that details availability of staffing and equipment and the utility's ability to meet targeted time restoration standards for each benchmark.

Generators

Following the prolonged power outages from Isaias, many Westchester residents sought to install emergency natural gas generators. However, residents in the natural gas moratorium area face heavy financial and physical burdens to connect such generators.

Under current requirements, residential customers in the moratorium area must install a separate service line and a second meter and agree to interruptible service to connect a generator to natural gas. The additional costs of installing an exclusive service line and meter make this cost prohibitive for the majority of customers.

Because the small number of customers using emergency generators during a power outage would be far fewer than the number of customers unable to run natural gas-powered heat without electricity, any concerns about insufficient gas load are unwarranted. Therefore, there is no reason for these burdensome requirements.

In addition, the moratorium is slated to end December 2023, so this exception is only needed for the very short time until the moratorium is lifted.

On November 5, 2020, Con Edison filed Proposed Gas Tariff Revisions related to Emergency Electric Generator Provisions with the Public Service Commission to eliminate the requirements for a separate service line, a second meter, and interruptible service. Eliminating these unnecessary requirements would significantly reduce the cost for Westchester County residents to install emergency natural gas generators.

Public Service Commission Recommendation #9: The Public Service Commission should approve the Proposed Gas Tariff Revisions related to Emergency Electric Generator Provisions filed by Con Edison on November 5, 2020, which will eliminate the requirements for a separate service line, a second meter and interruptible service. The additional requirements, currently in place for residential customers who request gas service for an emergency electric generator in the area subject to a moratorium on new gas connections, are unduly burdensome and cost prohibitive.

Measures for Electric Utility Accountability

Currently, most electric utility companies only take recommendations seriously when those recommendations are tied to a financial incentive or deterrent. The Public Service Commission imposes fines in response to failures of electric utility companies and to encourage the companies to achieve specific goals.

United Westchester members have observed that the fines levied by the Public Service Commission did not have a significant impact on deterring electric utility companies from engaging in practices that led to inadequate storm response efforts. These fines are often levied months or years after storms hit and do not function as a direct reaction to the electric utility companies' storm response failures. In order for the fines to be effective, the electric utility companies must view the fines as a substantial penalty rather than as just a cost of doing business.

In his August 20 *Testimony to the Joint Senate and Assembly Public Hearing on Power and Communication Failures from Tropical Storm Isaias*, County Executive George Latimer discussed one alternative fine structure along these lines, saying that "I propose an upfront fine structure by the Public Service Commission that is simple, straightforward and may finally provide the real financial incentive that these utility companies need and understand. The formula is this – take the total number of customers without power times the number of outage days and multiply that by \$1,000. Meaning, 10 customers out of power for 10 days would levy a fine of \$100,000. The fines would be directly tied to the community impact, would not correlate with a rate increase, and have some teeth."⁴¹

Public Service Commission Recommendation #10: The Public Service Commission should use all of the tools it has available, including the Commission's current fine structure, to hold electric utility companies accountable.

⁴¹ <https://www.westchestergov.com/images/stories/pdfs/2020isaiastestimony.pdf>

Telecommunications Company Communication

The telecommunications companies did not post alerts and updates on their storm response efforts in readily available places. Assemblymember David Buchwald said that “Neither Altice nor Verizon provided information on its website homepage specific to Tropical Storm Isaias outages.”

When residents could not find the information they needed online, they would attempt to call their telecommunications provider to notify them of their service outage and get more information, but residents did not have an easy time connecting with customer service via phone. County Legislator Margaret Cunzio said, “Altice and Verizon [had] no phone number to talk to anyone, emails were not timely and often incorrect.” One town supervisor explained that “Every one of my constituents who have had problems has spent many hours online waiting in queues to get support. If you call up to order something, you can get someone, otherwise they have no system for reporting problems and minimal internal systems that track work done and number of customers still out.”

When residents could not successfully make contact with customer support, the residents would call their municipal government to get assistance and information. The Village of Scarsdale commented on this, saying that “Neither Optimum nor Verizon adequately communicated with their customers, leaving residents to flood municipal personnel with requests for support and assistance, again unnecessarily consuming time better allocated to local emergency response and coordination.” Municipal leaders were especially frustrated with Altice’s lack of accurate information provided not only to customers with outages but also to municipal leaders who tried to coordinate with the company. The Supervisor of the Town of Somers, Rick Morrissey, stated that “Altice’s communication with the public was infuriating. They had unrealistic hold times, incorrect information, could not process repair requests and could not provide an ETA on restoration.”

Assemblymember David Buchwald asked Altice, “Your customer support phone lines were virtually inaccessible for many days following Tropical Storm Isaias. When did your company realize this? Please walk us through the cause, and what your company plans to do to ensure this failure does not occur again.” In response, Altice said, “While we have multiple avenues for customers to access information about our services and restorations efforts, we recognize that there were problems accessing key care tools for periods of time during the [sic] led to frustration for our customers. We experienced a significant error in our Information Technology systems that required us to take some of those resources down for approximately two days to add additional capacity to handle

the increased demand. As part of the post storm recap, we are doing an assessment of the overall channels for customers to reach us, and are committed to addressing any issues.” While customers in Westchester encountered serious issues when attempting to contact customer support during the aftermath of Tropical Storm Isaias, it is encouraging that Altice has stated its commitment to improving customer service where possible, and ideally these problems would be addressed before a future storm with prolonged outages.

In response to a question from Assemblymember David Buchwald about access to Verizon’s customer support, Verizon said, “Regarding your suggestion that our call centers were “virtually inaccessible” following the storm, this is not accurate. Our call centers remained operational. There can be periods of congestion, which we manage appropriately through call routing in conjunction with our contracted labor agreements. We have robust call centers across the state, staffed by thousands of union-represented New Yorkers fielding our customer calls daily. We did not see any failures as you have suggested, but we are constantly monitoring these centers and will make adjustments as appropriate.” Despite these comments from Verizon, this was not the experience of many Westchester County residents, including municipal leaders and elected representatives. In addition, United Westchester received reports from Verizon customers who were either placed on hold for unreasonable amounts of time or who were entirely unable to contact Verizon’s customer support. Verizon’s dismissiveness towards customers who had difficulty connecting with customer service, describing these problems as merely “periods of congestion,” is disconcerting. Customers relied on services from the company and should have been able to receive assistance and timely information when they lost service.

Telecommunications Recommendation #2: Altice and Verizon should improve their customer support management tools as well as their communication with municipalities and elected officials. Altice and Verizon must provide a method for customers to communicate with customer support through a variety of methods year-round, and those communication methods must be overhauled and vastly improved to ensure that their full customer base has the ability to contact support.

Prior to the storm and throughout the recovery period following Isaias, municipal leaders and elected representatives attempted to get in contact with and coordinate response efforts with the telecommunications companies in the County, primarily Altice and Verizon. More often than not, coordination efforts were unsuccessful. Peter Parsons, the Supervisor of the Town of Lewisboro, said, “There were no calls in advance of the storm and no outreach from Verizon at all.” The Village of Bronxville commented that

“No communication [was] provided by Verizon or Altice; Village had to send multiple emails with issues to both providers and received little information in return...Verizon and Altice joined the process much later (days into the event). Both did not convey the extent of damage, resources being deployed or recovery times. Both did not know the extent of customer outages (or if they did, they did not convey to the Village).”

Several municipalities commented specifically on their challenges communicating with Altice. For example, the Village of Croton-on-Hudson stated that “Optimum/Altice was absolutely impossible to get in touch with - even 5-6 days after the storm.” The City of Rye said “Altice did a very poor job communicating with municipalities. It was very difficult to get information from them. Their response time was incredibly slow.” The Village of Scarsdale discussed its attempts to notify Altice of problems in the Village, saying that “Day-to-day coordination and information sharing was not good, with emailed requests for support going unanswered, though problems seemed to eventually get addressed after such requests, either as a result of the referral or simply by happenstance and/or our direct contact with field personnel we found in the area.”

Municipal leaders had fewer comments directed specifically at Verizon, but municipal leaders did express frustration with the lack of direct access to Verizon personnel for the purposes of coordinating storm recovery efforts. The Village of Scarsdale elaborated on its communication issues, saying that “Verizon was unresponsive and seemingly indifferent, having refused to provide outage information or display any effort whatsoever to coordinate. Their email communications were terse and unhelpful. Requests for outage status were rebuffed, with Verizon having cited no regulatory or franchise-oriented obligation to communicate such information.”

While neither telecommunications company started recovery efforts with any planned conference calls with municipal leaders or elected representatives, Senator Shelley Mayer successfully coordinated with Altice to have a series of conference calls set up starting about one week after the storm. The Senator shared her experience communicating with the telecommunications companies on this effort, saying “It was incredibly difficult to communicate with Verizon and Altice. It took my contacting the Albany lobbyist to begin regular conference calls with Altice... We were never able to get timely and regular communication with Verizon at all. The initial [Altice] calls were chaotic and reflected telecommunications companies’ lack of basic knowledge of the communities in which they provide service. While the calls improved a bit over the course of the service interruptions, they revealed structural flaws in the telecommunications companies, and were not as productive as they needed to be.” In reference to the Altice conference calls, the Town of Mamaroneck said, “The call moderator did not have very much information to share that allowed municipal officials to communicate with residents or predict service restoration.” Similarly, the City of Rye

noted that “[Altice’s] first restoration call wasn’t until Aug 10th and they could not provide sufficient data on ETRs or the extent of the outages.”

Verizon did not hold any municipal conference calls during the aftermath of superstorm Isaias. Assemblymember David Buchwald said, “Verizon should be much more affirmatively forthcoming with information, and should hold public official conference calls when any outages approach this magnitude.” When the Assemblymember asked Verizon about holding municipal conference calls, Verizon responded, saying “We were in active communication with any community leader that reached out to us in response to the storm.” Despite this, the Village of Irvington commented that “Verizon had virtually no interaction with public officials.”

Some municipal leaders did not receive notice that Altice had set up a municipal conference call and were under the impression that neither of Westchester’s primary telecommunications companies held conference calls, including the Village of Bronxville which said they were “unaware of any conference calls being offered by Verizon or Altice.” Conference calls held by the telecommunications companies can be a beneficial resource during storm response efforts, and it is important that municipal leaders are made aware of these calls if and when they are held.

Once Altice set up its municipal conference calls, the company did make an effort to provide municipal leaders on those calls with information about outages and the company’s service restoration plans. Unfortunately, the information provided was not always precise and accurate, with one county legislator stating that the outage maps “shared with Westchester municipal officials which showed the outages within the communities was incorrect. I knew this because they continually showed no outages in [my city]...and I had no service.”

Several municipal leaders provided feedback on the municipal coordination practices of the telecommunications companies, and some of those comments include suggestions for ways that the companies can improve. The Town of Mamaroneck stated that “At no time did the Town have any idea of whether telecommunication crews were working in the community.” This problem could be remedied by creating protocols for the telecommunications companies to notify municipal leaders of activities and outages within their municipalities, limiting the frequency of events in which municipal leaders are kept in the dark about restoration efforts within their own cities, towns, and villages. The City of Yonkers said that “Altice does not communicate repair schedules in a reliable way to their customers or municipalities. [It’s] almost impossible to reach a human for a response.” Altice could provide at least some form of preliminary repair schedule to municipalities, and in addition, the company could consider assigning

operational contacts through which municipalities could coordinate directly. The Village of Pelham put forward an idea along these lines, suggesting that “A designated telecommunication liaison should work with municipalities to help coordinate efforts.” Additionally, the City of New Rochelle expressed concern that Altice does not notify municipal leaders about major outages, saying that “There were entire blocks in our downtown core without service that were revealed to commercial customers after power was restored. Then, after further days of waiting and frustration, we finally heard of it. We would like Altice to alert the City of outage areas, especially in urban centers.” On the topic of telecommunications companies communicating with municipalities, several towns “requested the network layout be made available as it is now from [NYSEG].” If Altice, Verizon, and the other telecommunications companies in the County were to provide municipal leaders with maps of their system and equipment, municipalities would have the ability to play a more effective role in supporting post-storm restoration.

Telecommunications Recommendation #3: Altice and Verizon should provide municipalities with operational contacts and network layouts.

Telecommunications Recommendation #4: The telecommunications companies should invite county, state and federal elected officials to participate in conference calls in the immediate aftermath of storms and throughout storm recovery. Guidelines should be created and made public to indicate when these calls should occur and for what types of circumstances. The calls should be held on a consistent basis.

Telecommunications Recommendation #5: The telecommunications companies should engage with municipalities and other government officials regarding storm response plans and strategies. The telecommunications companies should organize annual meetings with the municipalities to discuss emergency planning and preparedness.

Telecommunications Company Storm Management

In the immediate aftermath of the storm, it appeared that the telecommunications companies did not actively engage in damage assessment or service restoration. Assemblymember David Buchwald commented that “The telecommunications companies need to re-evaluate how they determine the extent of damage on their networks even before electrical service is restored. Given that these companies have so many days between the storm and the bulk of their restoration work, the time they have should be better spent doing damage assessment.” The apparent lack of preparation by the telecommunications companies likely slowed the service restoration efforts. These companies did not need to wait during the period where the electric utilities were still restoring power to most areas in order to begin damage assessment.

Even once Altice fully activated its restoration efforts, some customers fell through the cracks. County Legislator MaryJane Shimsky discussed the experience of some of these residents, saying “I have a long string of emails from a customer...in Irvington, who was out of internet service for close to 3 weeks. Part of that stemmed from not sending the appropriate crews to deal with a downed utility pole.”

The slow service restoration efforts by Altice in particular left many without internet and phone service during a pandemic where a large portion of Westchester residents worked or attended school from home. As Assemblymember David Buchwald pointed out, “Phone and internet services are essential to public health and safety, let alone the functioning of the economy, especially in the midst of a pandemic.” One county legislator further elaborated that “Local residents, dependent now more than ever on their Internet access as a result of the ongoing pandemic and need to work and school from home, were without Internet access for an uncomfortably long amount of time.”

During storm recovery efforts, the electric power used for Optimum (the cable, internet, and phone brand currently owned by Altice) services was historically supplemented by generators attached to nodes during power outages. The power consumption by these nodes was minimal, such that the batteries on the nodes could be recharged using a portable generator, and the battery would then last for a few hours before needing to be recharged. When nodes with dead batteries were recharged, this had the effect of restoring Optimum services to households and businesses that either had not lost electric utility power or whose electric utility power was supplemented by a generator. At some point in the past decade, this stopped being a standard practice of the crews responsible for the post-storm restoration of Optimum services. This practice of

powering nodes using handheld generators could have helped provide an essential service to customers following recent severe storms with prolonged outages.

An example of a situation where Altice's decision not to power its nodes affected municipal operations came from Ossining, which stated that "The Village and Town internet were knocked out for a number of days, even though the building didn't lose power." If the municipal building had electric utility power but did not have Altice internet and phone service, then the local node that provided service to the building must have lost power. If the right circumstances were present, and Altice had chosen to place a generator on the node for even part of the period following the storm, then the Town/Village Hall building in Ossining could have retained internet and phone service during that critical period.

Even if Altice chose not to power its nodes, the company could have notified the electric utility companies of the critical nature of restoring power to the nodes. Senator Shelley Mayer commented on this: "While the employees on the ground worked incredibly hard, it seems there was a real lack of coordination between utility crews and telecommunication crews. This seemed particularly stark when critical nodes did not have their electricity restored, which hampered restoration of telecommunications service." Altice did this to some degree after Isaias, but they chose not to do so immediately. In response to a question from Assemblymember David Buchwald, Altice said "5 Days Post Storm: We escalated nodes without power to utilities, and it took on average 48 hours for power companies to respond."

Telecommunications Recommendation #6: Altice should power its network nodes during power outages.

Telecommunications Company Preventative Maintenance and Storm Hardening

Municipal leaders and elected representatives commented on several areas for improvement related to preventative maintenance and storm hardening, mostly in reference to Altice. Peter Parsons, Supervisor of the Town of Lewisboro, provided comments on the state of Altice's Fiber to the Home (FTTH) program, saying "Altice needs to share what their plans are especially with hardening of current infrastructure and rollout of Fiber to the Home (FTTH) which they plan to start in [the fourth quarter of 2021]. Current Altice infrastructure does not work when utility power goes out and is undersized and not able to support increased bandwidth demands." Integration of fiber-optic components used for the last mile in Altice's network would decrease the frequency of outages due to nodes that lose power. This is because a fiber-optic network is a passive optical network that could still function in certain circumstances where coaxial cables currently used by Altice for the last mile from the node to home do not. For example, Altice's Lightpath service and Verizon Fios, which use fiber-optic cables for the last mile, continued running in many places in the County even after power was lost, including at municipal buildings in North Salem and Lewisboro. As far as the municipal leaders in Westchester are aware, Altice has not implemented FTTH in most of the County, and it would be helpful if Altice were to provide the timeline for this program.

Telecommunications Recommendation #7: Altice should provide details to elected leaders, county level officials, and municipalities on the state of its Fiber to the Home (FTTH) program in Westchester County. Since traditional coaxial cable used for the last mile does not function when electric power is lost to cable nodes, but fiber-optic cable could still function in certain circumstances during widespread power outages, Altice should ensure that this program is implemented efficiently and in a way that is available to as many customers as possible. If Charter and Comcast, the other cable television companies operating in Westchester County, have plans to install fiber for the last mile, those companies should implement those plans efficiently and in a way that is available to as many customers as possible.

Numerous suggestions were provided by municipal leaders and elected representatives on other storm hardening and system resiliency efforts that could be undertaken by Altice. One town supervisor said, "Their tech folks told me that some of the copper lines

along the poles were 20 years old, had oxidized, and were causing problems.” Altice could have avoided certain system failures if they had addressed the degradation of aging parts of its system, including the copper lines necessary to deliver service to customers. Municipal leaders and elected representatives also expressed a desire for Altice to increase the splitting of nodes in its network. Without adding additional nodes to its network, splitting nodes has had the effect of increasing the bandwidth available for all of the customers attached to a node. When nodes are not split, customers connected to overtaxed nodes have had to deal with slow internet speeds and have sometimes lost connectivity during work calls and virtual classes. In the Public Service Commission’s *Order Granting Joint Petition of Altice N.V. and Cablevision*⁴² dated June 15, 2016, Altice agreed to maintain ring topology. A ring network is a network topology in which each node connects to exactly two other nodes, forming a single continuous pathway for signals through each node. This would create a topology where a cable break or failure of an individual component will not cut off services. Since Altice already agreed to implement ring topology when they acquired ownership of Cablevision and its Optimum services, Altice should continue to implement and maintain this network structure to improve resiliency.

Telecommunications Recommend #8: Altice should assess and upgrade its infrastructure and network topology in Westchester, with attention paid to aging copper lines, potential splitting of nodes to improve performance, and ring topology to provide higher availability as outlined in the Public Service Commission’s *Order Granting Joint Petition of Altice N.V. and Cablevision* dated June 15, 2016.

Telecommunications Recommendation #9: Altice and Verizon should increase staffing and purchase the proper equipment in order to perform proper ongoing maintenance, to adequately support storm response efforts, and to have the ability to restore services in a timely fashion. Both companies should establish benchmarks and targets for restoration of service following outages and maintain staffing and equipment to meet those benchmarks.

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<http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId=%7B432349AA-B17A-4341-98FE-98C7F0BE1A97%7D>

Telecommunications Company Credits for Lost Service

Peter Parsons, the Supervisor of Lewisboro, described the reimbursement policies of the telecommunications companies as “a major issue with their customers... [the telecommunications companies] need to do more here.” Senator Shelley Mayer commented that “Many residents complained about not receiving an automatic credit, but in most cases, when we brought it to the telecommunications company’s attention, the consumer received a credit. Because so many people were working from home, I believe credits should include the possibility of lost income claims.” County Legislator MaryJane Shimsky summarized the thoughts of many municipal leaders and constituents by saying, “If ratepayers are not getting service, they should not be held responsible for service they never received. Maybe the electric companies should reimburse the telecoms. Or the telecoms should be required to install proper generators.” With internet service rapidly becoming more essential to everyday life, providers must find a way to decrease the duration of outages where possible and to provide adequate reimbursements when not. If customers do not receive the service they paid for, then either the telecommunications or the electric utility company should reimburse the customer. Alternatively, if the cable companies, either proactively or through regulatory requirements, powered their network nodes during outages, then in some cases customers could retain access to their essential cable internet and television services, and reimbursements would not be necessary.

Regardless of the reimbursement policies of the telecommunications companies, those companies have an obligation to clearly explain the policies to their customers. The City of New Rochelle made a note about the confusion caused by the way Altice explained its reimbursement policy, saying that “There was a public expectation that credit would be given for the entire span of the outage, not just from the day power was restored.” The Village of Ossining agreed with this sentiment, adding that “it seemed like Altice had a clause that they would only give credit if the outage wasn’t due to a power outage. This was of course confusing.” Rick Morrissey, the Supervisor of Somers, stated simply that Altice “does not have a consistent and meaningful policy for credits.” In a press release dated August 17, 2020, Altice stated that “Altice USA has announced that Optimum customers who lost service during the recent Tropical Storm Isaias will receive a credit on their next bill.” The company provided additional details in a message sent to municipal leaders and elected representatives on August 12, 2020 which stated that customers would receive “a credit for the time that [their] Optimum services were not available when power was restored.” The message from Optimum implied that only customers who had their power "restored" would receive a credit, but it is our understanding that the message should have also explicitly included customers

who never lost power but who had an Optimum service outage due to a system failure other than a loss of electric utility power. While Altice's messages clarified that customers would not necessarily receive a credit for the entire duration of their service outage, Altice implied that customers would receive a credit for the entire time they were out of service while they had electric utility power at their premises. This would not have been an accurate interpretation since when Altice referred to "power," the company intended the word to refer to electric utility power to its system, including the nodes that provide service to the company's customers, as opposed to the power to the customers' own premises. This unnecessary confusion caused by inadequate explanations frustrated municipalities and customers.

While telecommunications companies do not have a requirement to provide a credit to customers during all service outages, the New York State *Consumer Rights Regarding Cable Television Service*⁴³ states: "Every cable television company shall give credit for every service outage not caused by a subscriber in excess of 4 continuous hours to any subscriber who applied for it either by written or oral notice." Even when not obligated to, the cable television companies, like Altice, should strive at a minimum to fulfill the guidelines outlined in the Department of Public Service's Consumer Rights Regarding Cable Television Services.

At present, Public Service Commission requirements for reimbursements for telecommunications service only apply to cable television service. In Westchester County, this reimbursement requirement only applies to the television services offered by Altice, Charter, and Comcast. Those companies are not required to reimburse for phone or internet service, and non-cable companies, like Verizon, do not have any reimbursement requirements at all. Many customers believed that they should receive reimbursements for any and all internet, phone, and television service outages, and many customers expected reimbursements for all of their lost services during Tropical Storm Isaias. In most cases, customers do not receive reimbursements for any of those services during electric power outages. As discussed earlier, internet service is rapidly becoming essential to everyday life. Not only should these companies adequately explain their reimbursement policies for service outages, but the telecommunications companies must also recognize the necessity of restoring this service to their customers in a timely manner. Although the Public Service Commission has no requirements for cable companies to reimburse for internet and phone service and no reimbursement requirements for other telecommunications companies, it is our strong recommendation that all telecommunications companies reimburse customers for all internet, television, and phone service outages.

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<https://www3.dps.ny.gov/W/PSCWeb.nsf/ArticlesByTitle/0E2474A06D5A31AC85257687006F3960?OpenDocument>

Public Service Commission Recommendation #11: Department of Public Service regulation 890.65 should be strengthened to clarify that cable television companies must provide a credit to customers for service outages when the customer is unable to use the services they purchased when the outage is not the customer's fault.

Telecommunications Recommendation #10: Cable television companies should provide a credit to customers for service outages when the customer is unable to use the services they purchased when the outage is not the customer's fault.

Telecommunications Recommendation #11: Altice and Verizon should clearly explain their current reimbursement policies to customers. Further, Altice and Verizon should enhance and improve their reimbursement policies to cover outages of all services, including internet, television, and phone services, whenever a customer experiences a service outage, regardless of the cause of the outage.

Telecommunications Regulation Changes

Broadband Internet

Senator Shelley Mayer said, “One of residents’ biggest frustrations is a sense that utilities, and especially telecommunications companies, are not held accountable for their poor service. After previous storms, there were claims that the utilities and telecommunications companies would improve their services, but for consumers on the ground, service has not improved and the periods of outages, even during relatively small storms, have grown longer and more often.”

One reason for this lack of accountability is that internet service providers are regulated at the federal level, by the Federal Communications Commission (FCC). Historically, the FCC has only lightly regulated internet providers, and there has been no statutory direction for the FCC to increase regulation over internet providers or subject them to any specific service standards.⁴⁴ The current FCC has taken the position of substantially de-regulating internet providers, most notably with the goal of reversing “net neutrality” provisions enacted in 2015. In Mozilla v. FCC,⁴⁵ the court ruled that the FCC could not broadly pre-empt all state laws on net neutrality, which has been viewed by some as a possible opening for increased state regulation of at least some areas of internet service.

Should the FCC choose to subject broadband providers to more stringent oversight in the future, that would increase the likelihood that state laws would be preempted. Given the uncertainty in this area, clear direction by FCC action or by federal statute as to what areas of internet service states have jurisdiction to regulate could be helpful.

The Public Service Commission has exerted some oversight of broadband provided by cable-television companies, by including broadband expansion requirements as a condition of its approval of recent cable company mergers.

The PSC should consider other ways within its current regulatory abilities to increase oversight of broadband internet providers.

⁴⁴ See, Congressional Research Service, Regulating Internet Access: Lessons from COVID-19, Legal Sidebar, July 20, 2020.

⁴⁵ Mozilla Corp. v. Fed. Commc’ns Comm’n (D.C. Cir. 2019).

Public Service Commission Recommendation #12: The Public Service Commission should strive to increase oversight of broadband internet providers to ensure timely response and restoration of services after widespread outages.

FCC Recommendation #1: The Federal Communications Commission should consider increasing regulation of broadband internet providers to hold them accountable for poor service and/or provide clear guidance to states as to what aspects of broadband internet service the states have jurisdiction to regulate.

Wireless Cellular Communications

Supervisor Peter Parsons of the Town of Lewisboro said, “The three wireless companies failed to either put generators at those cell towers where they had equipment or, if they did, forgot to supply them with fuel. Some relied on batteries with a four-hour life!” Cell service was essential to Westchester residents in areas that lost power following Tropical Storm Isaias. For many residents, cell phones were the primary method for communication during emergencies. This was especially true in parts of the County that have no Verizon fiber-optic network and relied solely on Altice’s service for broadband internet access. Throughout towns in northern Westchester, including Lewisboro and North Salem, fiber-optic cable for internet service was not present. Following storms like Isaias, residents frequently lost power, which was usually accompanied by a loss of Altice internet and phone service, and the copper wiring used by Verizon was frequently unreliable. When cell towers lost power in these circumstances, residents lost their cell phone service as well, cutting off their last line of communication.

In some cases, minor maintenance would have fixed most of the cell tower problems. Cell towers could have had generators in place with extra fuel. In incidences where towers relied on batteries, those towers should not have been relying on batteries with short life spans. In addition, cellular service providers did not maintain access to cell towers, and the wires leading to them became entangled in underbrush. Addressing any of these issues could have decreased the number of customers who lost cell phone service following Isaias.

In other cases, long term planning and regulation could have addressed the problems that led to extended cell service outages. During Tropical Storm Isaias, several cell

towers that had been equipped with generators lost power because the backbone networks for these towers relied on digital landlines that connected to the tower. If cellular service providers had been required to equip all new cell towers with a backup network plan, fewer cell towers may have lost power when digital ground links went down.

The FCC regulates wireless cellular providers and has jurisdiction over cellular towers. New York Public Service Law section 5(6)(a) makes it clear that the Public Service Law does not apply to cellular telephone services and cellular providers are not subject to Public Service Commission oversight.

FCC Recommendation #2: The Federal Communications Commission should consider increasing regulation of wireless cellular communications providers to hold them accountable for proper maintenance of cell towers and for provision of backup generation for those cell towers in the event of power outages.

Ideas for County Office of Emergency Management (OEM) Collaboration and Planning with Municipalities

The United Westchester Executive Committee circulated a questionnaire amongst leaders and elected officials from the municipalities in the County. The consensus from the 25 municipalities that responded to the United Westchester emergency management questionnaire is that they feel largely supported by the OEM and the County Emergency Operations Center (EOC) and appreciate the County's involvement in responding to emergencies. Of the 25 municipalities that responded to the questionnaire, 22 municipalities felt that the County EOC has been responsive to their needs and met their expectations during past disasters and during Tropical Storm Isaias.

Due to the perceived effectiveness of the OEM's involvement, many municipalities would like to see an enhanced role for the OEM and additional planning and training activities throughout the year in preparation for future storms and emergencies. There is a broad recognition that rapid climate change has created a new operating environment that remains to be fully addressed, and enhanced planning and training activities could help improve resiliency. The Village of Scarsdale suggested that "Following county-wide incidents, the County should convene discussions with first responders and municipal leadership to undertake an after-action analysis – what worked, what didn't, and how can we improve? We remain concerned that the typical response has been a flurry of state level regulatory inquiries and actions that mostly fail to yield improved outcomes going forward." The Village of Scarsdale also suggested that emergency response personnel throughout the County should become more familiar with the National Incident Management System (NIMS), saying "We believe that a focus on driving NIMS throughout the County is important, but does not seem to be an existing initiative, and undertaking appropriate scheduled exercises, as the County has done from time-to-time, should be continued and perhaps expanded." The Town of Pound Ridge voiced support for more training sessions, saying that "The County should coordinate more intermunicipal and regional tabletop exercises specifically for the types of events that occur. Planning on an intermunicipal level in Northern Westchester would allow us to develop a better response plan to assist all communications and emergency services by identifying road closures, utility infrastructure damage, power outages, and determining more realistic ETRs from the power companies."

There is overwhelming support from municipalities for the County to lead and coordinate the development of a County-wide Comprehensive Emergency Management Plan. Of

the 25 municipalities that responded to the United Westchester questionnaire, 24 support the creation of a Comprehensive Emergency Management Plan. Municipalities appreciated support from the County in the procurement and distribution of resources during emergencies, and the municipalities felt that this topic could be examined during the formulation of an emergency management plan. The Village of Port Chester commented: “The County Executive did such great outreach during the pandemic including mask deliveries, and other PPE assistance. This went a long way in easing fears and PPE shortages. Without that assistance all jurisdictions are forced to compete for the same resources driving up costs and leading to scarcity.” Municipalities expressed interest in the consideration of a common web-based incident management system. The City of New Rochelle said, “This could also aid in coordination with adjacent local communities. Additionally, mapping and mobile data terminals for dispatch information and auto vehicle locating would be very helpful.” The Village of Tarrytown commented that a web-based incident management system could improve coordination, but plans would need to have redundancy “for situations if and when the system failed during an emergency, as such things happen.” These opportunities for County and municipal collaboration could be discussed further during the drafting of an emergency management plan.

Recommendations for County Emergency Management Plan

Emergency Management Plan Recommendation #1: In conjunction with the creation of the comprehensive plan, the County should consider designing a year-round training program to support the development of the skills and shared knowledge necessary to the execution of the plan.

Emergency Management Plan Recommendation #2: There is widespread interest among Westchester municipalities for OEM to play a larger role in the procurement and distribution of resources needed to respond to and recover from disasters. Of the 25 municipalities that responded to the United Westchester questionnaire, 22 expressed interest in OEM playing a larger role in the procurement and distribution of resources.

Emergency Management Plan Recommendation #3: There is interest in the creation of a common web-based incident management system to facilitate responsiveness and resilience. There are divergent views on this subject, but support is sufficiently broad-based to merit exploration of this topic. Of the 25 municipalities that responded to the United Westchester questionnaire, 9 support and 11 would consider the creation of a common web-based incident management system.

Emergency Management Plan Recommendation #4: The County should consider putting in place standard protocols to facilitate County-wide coordination in response to County-wide emergency events, including specific circumstances in which municipalities should activate their emergency operation centers, whether those EOCs should be fully or partially activated, and whether municipalities should have a single point of contact for emergency management. Of the 25 municipalities that responded to the United Westchester questionnaire, 7 municipalities fully activated their EOCs, 11 municipalities partially activated their EOCs, and 7 municipalities did not activate their EOCs during the response to Tropical Storm Isaias.