CASE 25-E-0031 - In the Matter of 2024 Electric Reliability Performance in New York State

2024 ELECTRIC RELIABILITY PERFORMANCE REPORT

Office of Resilience, Utility Security, Nuclear Affairs and Emergency Preparedness
June 2025

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EXECUTIVE SUMMARY

This report presents the Department of Public Service (Staff) assessment of electric reliability performance in New York State for 2024. The Public Service Commission (Commission) primarily relies on two metrics commonly used in the industry to measure reliability performance: the System Average Interruption Frequency Index (SAIFI or frequency) and the Customer Average Interruption Duration Index (CAIDI or duration).[1] Frequency is influenced by factors such as system design, capital investment, maintenance, and weather. The impacts of decisions made by utilities today on capital expenditures and maintenance policies, however, can take several years to be fully reflected in the frequency measure. Duration, on the other hand, is affected by work force levels, management of the workforce, and geography.

The Commission has established several means to monitor the level of service provided to New York State customers. First, the Commission requires that utilities submit detailed monthly interruption data to the Commission.[2] The utilities group interruption data into 10 categories that delineate the cause of the interruption (cause code).[3] Analysis of the cause code data enables the utilities and Staff to identify areas where increased capital investment or maintenance is needed. As an example, if outage data shows that a circuit is prone to lightning-caused interruptions, the utility could install arrestors on that circuit to minimize the effect of future lightning strikes. In general, utility interruptions typically result from major storms, equipment failures, tree contacts, and

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1 SAIFI is the average number of times that a customer is interrupted for five minutes or more during a year. CAIDI is the average interruption duration time in hours for those customers that experience an interruption during the year.

2 The regulated electric utilities consist of Consolidated Edison Company of New York, Inc. (Con Edison), Central Hudson Gas & Electric Corporation (Central Hudson), New York State Electric & Gas Corporation (NYSEG), Niagara Mohawk Power Corporation, d/b/a National Grid (National Grid), Rochester Gas and Electric Corporation (RG&E), and Orange & Rockland Utilities, Inc. (Orange & Rockland). PSEG Long Island LLC (PSEG LI) provides interruption data that Staff used to calculate statewide performance in this report.

3 Sixteen NYCRR §97.5, specifies and defines the following ten cause codes that the utilities use to reflect the nature of the interruptions: major storms, tree contacts, overloads, operating errors, equipment failures, accidents, prearranged interruptions, customer equipment, lightning, and unknown. Con Edison exclusively uses an additional seven cause codes for its underground network system.

accidents.[4] Staff maintains interruption data from 1989 to the present in a database, which enables the observation of trends.

Next, the Commission adopted Service Standards, which among other things, set minimum performance levels for both the frequency and duration of service interruptions for each major electric utility's operating divisions.[5] The Commission also adopts Reliability Performance Mechanisms (RPMs) as part of each utility's rate plan. The RPMs include company-wide targets for outage frequency and duration[6]; some RPMs have additional measures to address specific concerns unique to an individual company. Pursuant to the RPMs a utility will incur negative revenue adjustments if it fails to meet the electric reliability targets established in its rate plan.[7] Unlike the investor-owned utilities, PSEG LI, as the operator of the Long Island Power Authority's electric system, does not have Commission-established RPMs, however, PSEG LI may receive incentive compensation by meeting performance metrics associated with reliability pursuant to its Operating Service Agreement.[8]

Prior to Staff's review, the utilities must perform an annual reliability analysis. Each utility is required to submit an annual report by March 31 of each year containing detailed assessments of performance, including historical performance for the preceding five years, outage trends in the utility's various geographic regions, reliability improvement projects, analyses of worst-performing feeders, and, where needed, corrective action plans. Each utility must also compare recent data with historical performance to identify positive or negative trends.

By compiling the interruption data provided by the individual utilities, the average statewide frequency and duration of interruptions present a picture of the overall

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4 The accident cause code covers events not entirely within in the utilities' control including vehicular accidents, sabotage, and animal contacts. Lightning is reported under a separate cause code.

5 There are no revenue adjustments for failure to meet a minimum level under the electric service standards; utilities are, however, required to include a corrective action plan as part of the annual report.

6 The targets exclude the impacts of outages caused by major storms.

7 Negative revenue adjustments are paid by shareholders and not by ratepayers.

8 Second Amended and Restated Operations Services Agreement between Long Island Lighting Company d/b/a LIPA and PSEG Long Island LLC, Dated as of April 1, 2022. (https://www.lipower.org/wp-content/uploads/2022/04/2nd-AR-OSA-in-effect-on-4-1-2022.pdf).

reliability of electric service in New York State. Excluding major storms, the statewide interruption frequency performance for 2024 was 0.59.[9] This is slightly worse than performance in 2023 but better than the statewide five-year average (as shown in Figure 1, page 7). The 2024 frequency performance for all utilities other than Con Edison was 0.97, which is also slightly worse than performance in 2023 but better than the five-year average. Statewide, the three major causes for interruptions, excluding storms, were equipment failures, tree contacts, and accidents. These three categories combined account for approximately 77 percent of all interruptions.

Excluding major storms, the statewide interruption duration performance was 1.94 hours. This is worse than the 2023 duration index by approximately 1.2 minutes, but better than the five-year average by 0.5 minutes (as shown in Figure 2, page 9). The statewide interruption duration index performance, excluding Con Edison, was 1.86.[10] This is better than both the 2023 performance and the statewide five-year average by approximately 1.2 minutes and 0.5 minutes, respectively.

The state experienced 42 separate storm events that qualified as major storms in 2024, 15 more events than occurred in 2023. As a result, customers affected by major storms increased by approximately 109 percent and customer hours of interruption due to major storms increased by 162 percent.

Central Hudson, Con Edison, National Grid, Orange & Rockland, and RG&E met their reliability targets in 2024. In 2024, PSEG LI did not meet its frequency incentive target of 0.67. Its actual frequency was 0.72, which is worse than its five-year average of 0.71. PSEG LI also did not meet its availability incentive target (System Average Interruption Duration Index or SAIDI) of 56.5. Its actual availability performance was 59.3, which is worse than its five-year average of 58.5. Equipment failures were the

[9] Sixteen NYCRR §97.1 defines a Major Storm as any storm which causes service interruptions of at least ten percent of customers in an operating area, or if the interruptions last for 24 hours or more. To balance between service interruptions under a utility's control, such as equipment failures, and those which a utility's control is more limited, such as an ice storm, Staff reviews reliability data both including and excluding severe weather events.

[10] Con Edison's underground system is less prone to interruptions than overhead systems and Con Edison serves approximately a third of the state's electric customers. This combination can skew the statewide metrics.

leading cause of system interruptions for PSEG LI in 2024, resulting in approximately 48 percent of all interruptions. NYSEG failed to meet its frequency target for the sixth consecutive year. NYSEG recorded frequency of 1.30, which is above the five-year average of 1.20, incurring a negative revenue adjustment of 3.5 million dollars. In 2024, and similar to previous years, tree contacts continued to be the single largest contributor to system interruptions for NYSEG, accounting for 43 percent of interruptions and affecting approximately 520,000 customers. This is approximately 14 percent, or 64,000 customers, more compared to last year's performance, indicating the significant impact of the 2024 weather season on NYSEG's service territory in conjunction with its sub-optimal vegetation management practices. In recognition of the impact that a well-executed vegetation management program has on reliability performance, the Commission, as part of the 2023 NYSEG Rate Order, authorized an expanded distribution vegetation management budget for NYSEG to continue its Reclamation and Danger Tree programs and perform system-wide routine trimming on a six-year cycle.[11] NYSEG predicts that as it continues to reclaim its system and clear its rights-of-way to specification, it will not only halt degradation of unreclaimed circuits' reliability performance, but also improve system reliability. Since the issuance of the 2023 NYSEG Rate Order, NYSEG has provided monthly updates on its progress towards meeting its six-year cycle plan. Despite these efforts, NYSEG has not demonstrated the necessary vegetation management improvements to address its ongoing challenges in delivering reliable electric service. Due to its slow ramp-up and ongoing challenges in implementing an effective distribution vegetation management plan, NYSEG's reliability continues to suffer. In addition, NYSEG has underspent its electric capital budget in the key categories of asset condition and reliability in calendar year 2024. Staff will continue to monitor NYSEG's vegetation management progress and key capital program expenditures throughout 2025, as addressing these performance issues remains a critical focus of the Department.

[11] Case 22-E-0317, NYSEG – Electric Rates, Order Adopting Joint Proposal (issued October 12, 2023) (2023 NYSEG Rate Order), p. 40.

On April 15, 2025, both NYSEG and RG&E filed petitions requesting the Commission to authorize the Companies to exclude certain outages from the calculation of SAIFI and CAIDI performance in their RPMs for calendar year 2024.[12] NYSEG and RG&E report that these outages resulted from causes such as Ash Tree Decay and Emerald Ash Borer infestation, Loss of Supply from a Foreign Utility, Customer or Customer Contractor Fallen Tree, and Required Make Ready Work. NYSEG requested to exclude a total of 1,437 unique outage events from its year-end reliability performance calculations and RG&E requested to exclude a total of 322 unique outage events from its year-end reliability performance calculations. For NYSEG, if the Commission were to authorize all proposed exclusions, NYSEG would still fail to meet its frequency target and would incur a negative revenue adjustment. RG&E met both its frequency and duration performance targets and the proposed exclusions would not impact its exposure to a negative revenue adjustment. The petition is subject to a comment period, after which the Commission will have the opportunity to take action at a later date. As such, Department Staff will not address the merits of the petition in this report.

[12] Cases 22-E-0317 and 22-E-0319, NYSEG and RG&E – Electric Rates, Petition For Exclusions from SAIFI and CAIDI (filed April 15, 2025) (NYSEG and RG&E Exclusion Petition).

2024 RELIABILITY PERFORMANCE

The following sections provide a summary discussion of the reliability performance statewide and for each of the major utilities. Sections regarding individual companies identify issues or actions that influenced that company's performance in 2024 and indicate company-specific trends where applicable. Each year, Staff prepares an Interruption Report summarizing the monthly interruption data submitted by New York's utilities. The 2024 Interruption Report contains detailed interruption data for each utility and statewide statistics for the past five years. The Interruption Report for 2024 is attached as an Appendix to this report.

This report presents interruption data in two ways – including and excluding major storms. Staff excludes major storm interruptions from the data used in calculating performance levels for service standards and reliability performance mechanisms. This exclusion achieves a balance between service interruptions under a utility's control, such as equipment failures and line maintenance, and those over which a utility's control is more limited, such as a severe ice storm or a heavy wet snowstorm. Reliability performance data inclusive of major storms reflects the overall customer experience during a year.

STATEWIDE - Excluding Major Storms

For many years, Staff has combined individual utility performance statistics into overall statewide statistics. By doing so, Staff can evaluate the level of reliability provided statewide and identify statewide trends. Since Con Edison's system includes many large, highly concentrated distribution networks that are generally less prone to interruptions than overhead systems, its interruption frequency may be extremely low (better) compared to that of the other utilities. This, combined with the fact that it serves the largest number of customers in the state, typically results in a skewing of the performance measures. As a result, Staff examines and presents aggregated data both including and excluding Con Edison's data.

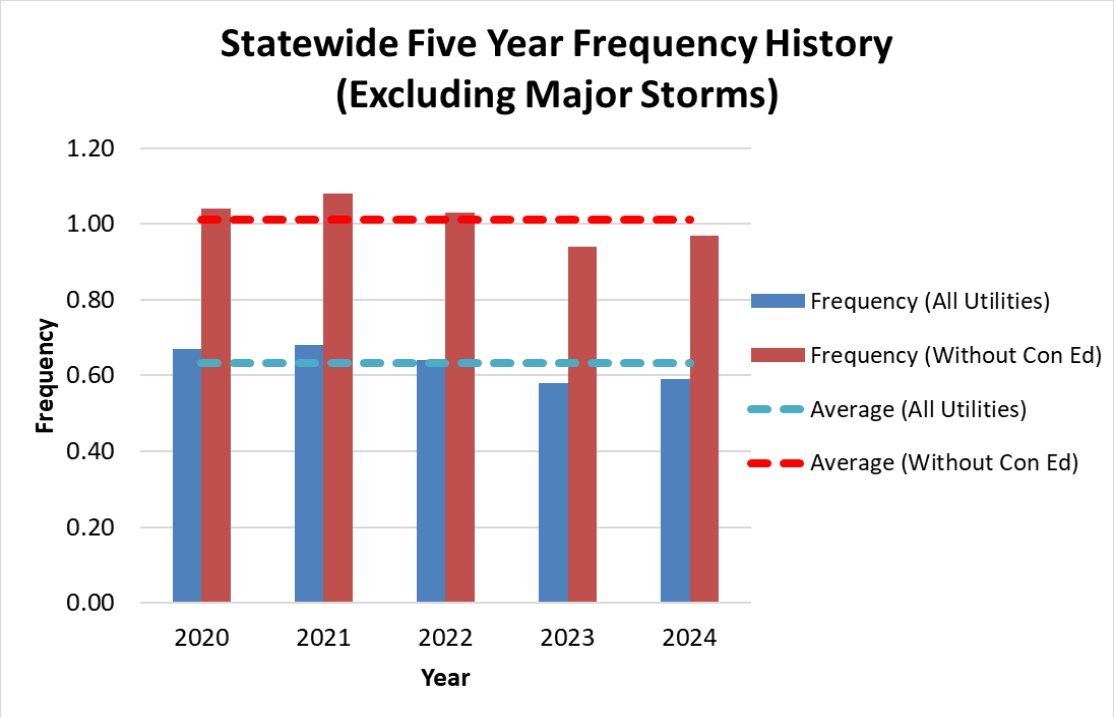


Figure 1: Statewide Frequency Performance

Statewide, as shown in Figure 1, the frequency of interruptions performance (frequency performance) in 2024 was slightly worse than the frequency performance in 2023. Excluding major storms, the frequency performance was 0.59 in 2024, which is approximately two percent worse than 2023's frequency performance of 0.58. This frequency performance is also approximately seven percent better than the five-year average of 0.63. Excluding major storms and the impact of Con Edison's system, the frequency performance in 2024 for all other utilities was 0.97, which is approximately three percent worse than the performance in 2023 of 0.94, and also approximately four percent better than the five-year average performance 1.01. When including major storms, the statewide frequency performance was 0.91 and 1.52 for all utilities and for all utilities other than Con Edison, respectively. This indicates the effect that the large number of customers interrupted and customer hours of interruption due to major storms would have on the other utilities' reliability performance in 2024 if these interruptions were not excluded from calculations.

The major causes of interruptions excluding storms were equipment failures, tree contacts, and accidents. These three causes combined accounted for nearly 77 percent of all interruptions in 2024. To reduce the frequency of interruptions, the utilities invest in numerous capital projects, inspections, and maintenance activities. Projects that can reduce equipment failures include adding, updating, or replacing equipment and strengthening transmission and distribution lines. For example, to reduce the possibility of outages, utilities install reclosers and other protective devices on circuits. Detailed project descriptions aimed at reducing the frequency of interruptions can be found in the utility-specific sections of this report.

Figure 2, below, shows the historical statewide interruption duration index, excluding major storms. The 2024 overall statewide interruption duration index of 1.94 hours is 1.2 minutes worse compared to 2023's duration index of 1.92 hours but is 0.5 minutes better compared to the statewide five-year average of 1.95 hours. The statewide interruption duration index, excluding Con Edison, was 1.86 hours in 2024, which is 1.2 minutes better than 2023 and 0.5 minutes better than the statewide five-year average of 1.87 hours. This example shows the significant impact including Con Edison's performance data has on the statewide statistics.

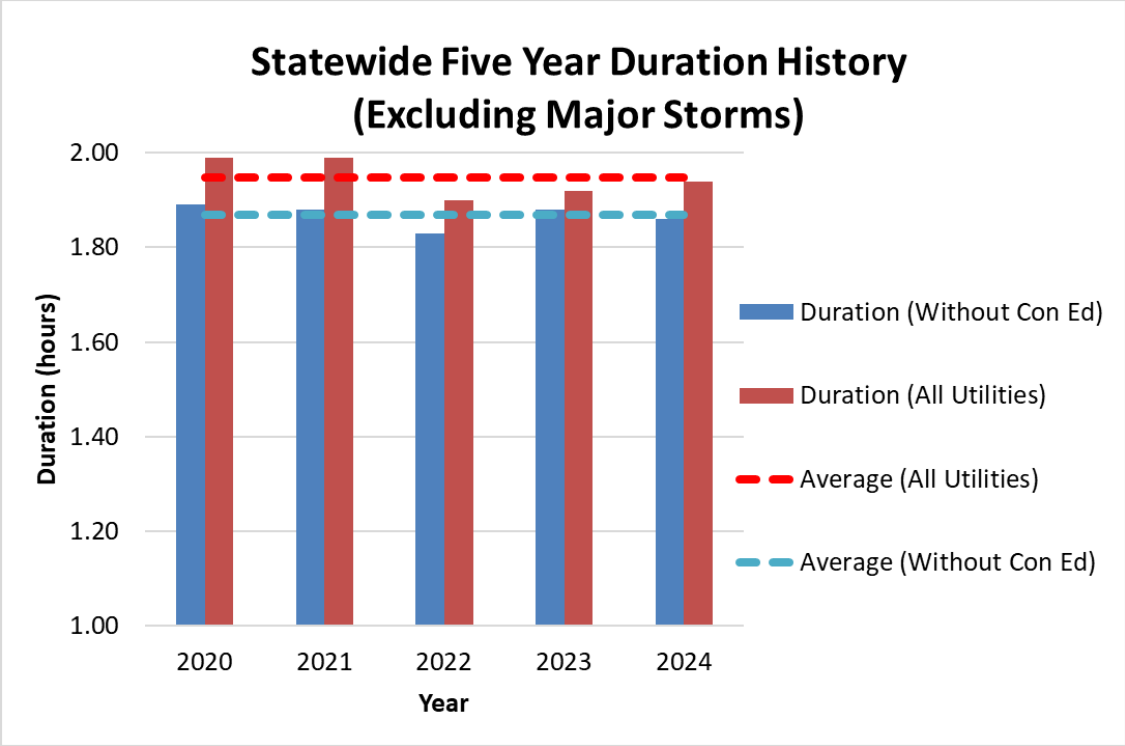


Figure 2: Statewide Duration Performance

STATEWIDE - Including Major Storms

As detailed below, more major storms occurred in 2024 than in 2023. Including major storms, performance declined as measured by both the statewide interruption frequency index and the statewide interruption duration index, excluding Con Edison. The 2024 overall statewide interruption duration index, excluding Con Edison, of 4.08 hours is approximately one hour and 17 minutes longer than the 2023 duration index of 2.79 hours and approximately three minutes less than the statewide five-year average of 4.12 hours. Including Con Edison, the statewide interruption duration index was 4.04 hours in 2024, which is one hour and 16 minutes longer than the 2023 duration index of 2.77 hours and 22 minutes shorter than the statewide five-year average of 4.42 hours.

The state experienced 42 separate storm events that qualified as major storms in 2024, which generally impacted service territories upstate more than those downstate. These storms subjected the utilities' electric systems to damaging winds, rain, thunderstorms, snow, and/or ice. Of the 42 major storm events, 13 impacted Central Hudson, seven impacted Con Edison, 20 impacted National Grid, 25 impacted NYSEG, 10

impacted Orange & Rockland, three impacted PSEG LI, and 10 impacted RG&E. Customer interruptions associated with major storms in 2024 increased by approximately 109 percent from 2023 and customer hours of interruption increased by approximately 162 percent from 2023. As can be seen in Figure 3 below, 2024 was heavily impacted by major storms, with customer hours of interruption reaching their highest level since Hurricane Isaias impacted customers during the COVID-19 pandemic in 2020.

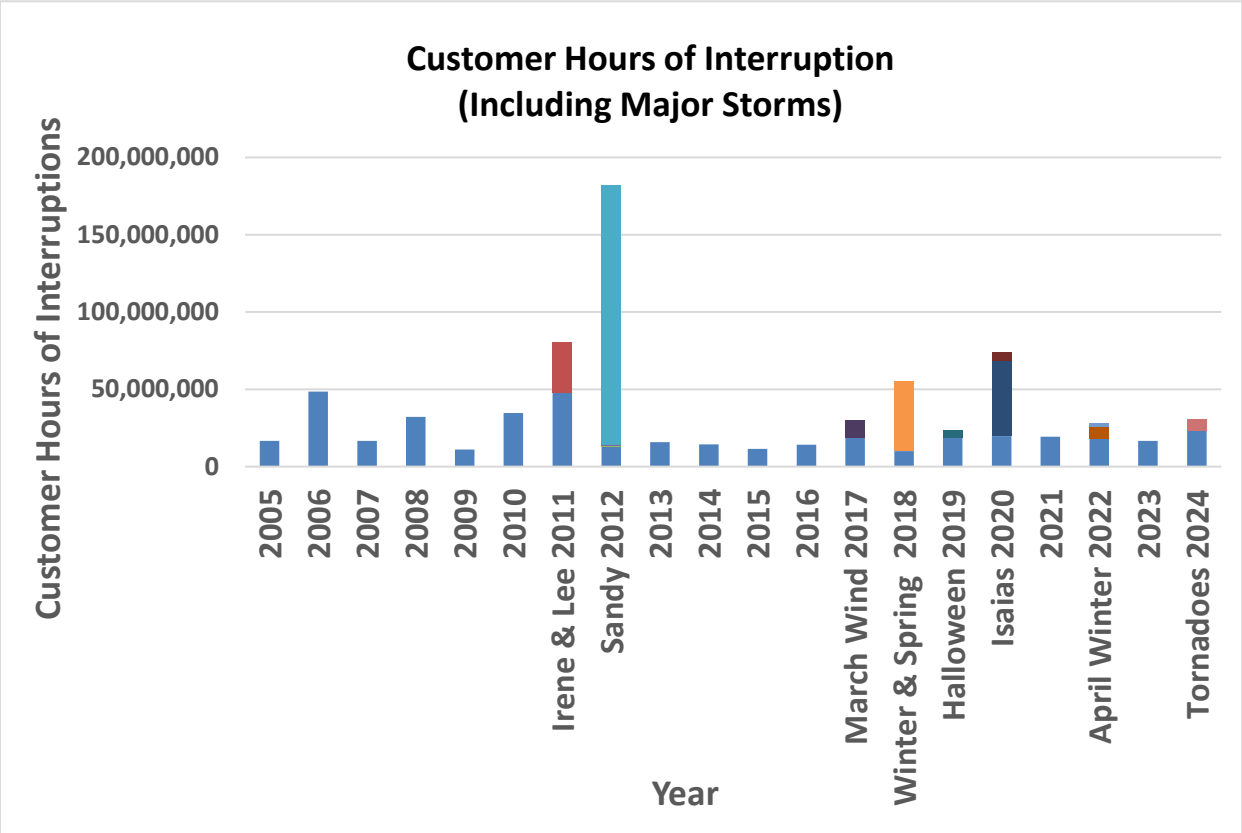
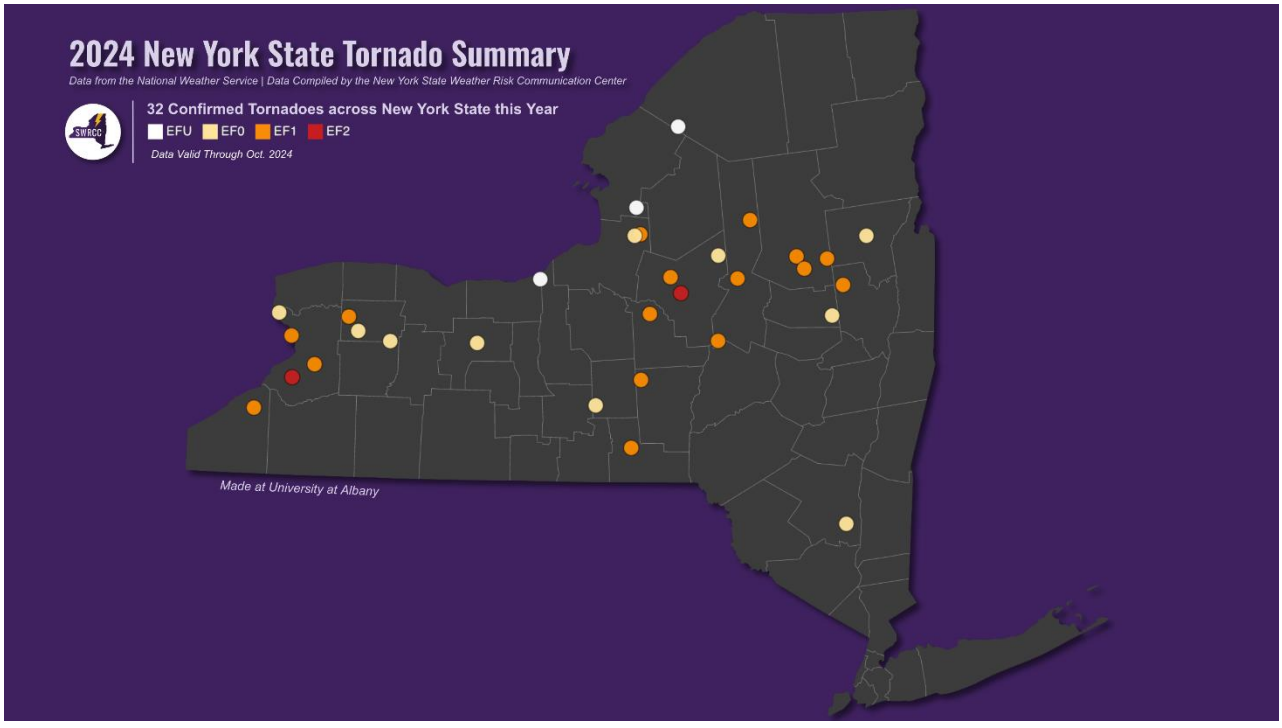


Figure 3: Customer Hours of Interruption (Including Major Storms)

In 2024, the state experienced a diverse volume and variety of weather events that affected customers across various regions. One significant severe weather event entailed an unprecedented outbreak of a cluster of tornadoes, with a total of 32 confirmed tornadoes occurring within the State over the year. Astonishingly, 26 of these tornadoes occurred within a one-month timeframe from July 9 through August 11, with 23 in July alone. This marked the most tornadoes confirmed in any month since May 1998, illustrating the atypical surge in tornado activity compared to historical levels. As shown in

the data sourced from the State Weather Risk Communication Center and highlighted in Illustration 1 below, the majority of these tornadoes occurred in Central and Western New York, often accompanied by severe thunderstorms and high winds, which wreaked havoc on local communities' overhead electric lines and infrastructure. A particularly devastating tornado occurred on July 16, when an EF2-rated tornado with estimated wind speeds reaching approximately 135 mph struck Rome, NY, resulting in extensive damage to local infrastructure and multiple-day, sustained customer outages throughout the region. The high volume of observed tornadoes underscores a notable shift in weather patterns for the region and further stresses the importance of utilities' emergency preparedness and climate resilience programs.

Illustration 1 – 2024 New York State Tornado Summary



Note: Data compiled by the New York State Weather Risk Communication Center (NYSWRCC).

Alongside the observed clusters of tornadoes, in 2024, New York State faced impacts from tropical storm events and remnants of hurricanes that worsened weather conditions. In addition to causing seven of the 32 confirmed tornadoes, the remnants of

Hurricane Beryl impacted National Grid and NYSEG customers in Lewis County, which received a staggering 6.02 inches of rain on July 10, marking the highest daily precipitation total ever recorded for that county. Similarly, on August 9, Post-Tropical Storm Debby directly impacted National Grid and NYSEG customers and led to the issuance of 26 flood and 19 flash flood warnings across New York State, with daily rainfall amounts totaling between two and six inches. Furthermore, this weather event resulted in the first declared Flash Flood Emergency for Allegany County, highlighting the ability of such storms to produce rapid and destructive flooding scenarios with the potential to significantly impact tens of thousands of customers.

In 2024, several significant winter storm events caused widespread disruption to utility services, as snow and wind conditions impacted hundreds of thousands of customers across the state. One notable winter weather event occurred late in the winter season, on April 18, when a storm brought heavy, wet snow that affected 237,785 National Grid customers, marking the largest storm by customer impact for National Grid in 2024. Utility crews from National Grid were able to restore service to 95 percent of those impacted customers in approximately 40 hours. In addition, a series of overlapping snow and wind events stretching from December 22 to December 28 affected 202,659 National Grid customers, some of whom experienced prolonged outages lasting approximately 96 hours, when National Grid's restoration efforts successfully restored service to 95 percent of the impacted customers. This event marked the longest storm outage by customer restoration time that National Grid experienced in 2024. Lastly, on November 21, a winter weather event brought heavy snow and wind throughout the state, affecting a total of 106,728 NYSEG and National Grid customers, with outage restoration times for some NYSEG customers extending up to three days and seven hours. This event marked the longest storm outage measured both by customer impact and restoration time that NYSEG experienced in 2024. In total, excluding the impact of the observed clusters of tornadoes, the combination of the major storm impacts discussed are responsible for approximately 23.4 percent of the total National Grid and NYSEG customers affected by outages in 2024.

CON EDISON

Table 1: Con Edison's Historic Performance Excluding Major Storms

Performance Metric	2020	2021	2022	2023	2024	Current Target	Five-Year Average
Network Systems							
Frequency (SAIFI)	0.0858	0.0170	0.0174	0.0117	0.0156	0.0186[13]	0.0295
Duration (CAIDI)	1.79	6.57	6.23	6.13	6.20	6.89	5.38
Radial System							
Frequency (SAIFI)	0.469	0.489	0.467	0.398	0.373	0.495	0.439
Duration (CAIDI)	2.02	1.93	1.86	1.91	1.88	2.04	1.92

Note: Data presented in red represents a failure to meet the target for a given year.

Con Edison serves approximately 3.7 million customers in New York City and Westchester County. Con Edison supplies electricity to 2.8 million customers by a network system, while it supplies the remaining 930,000 customers by a radial system. The network system mostly consists of underground wires housed in conduits, whereas the radial system has a typical overhead configuration. The two systems are subject to different reliability metric targets specific to each configuration.

Network Systems Performance

On its network system, Con Edison achieved its system-wide frequency target of 0.0186 and its duration performance target of 6.89 hours with performance values of 0.0156 and 6.20 hours, respectively. Con Edison's network frequency performance of 0.0156 declined 25 percent from its 2023 performance but is better than the five-year average. Con Edison's network duration performance of 6.20 in 2024 reflects a one percent decline from its 2023 performance and is worse than its five-year average. When

[13] In addition to the previously defined Major Storms, Con Edison's current RPM excludes snow/ice events affecting the underground system, and customers impacted by a storm who are served via overhead lines connected to the underground network system from network system reliability target calculations. See, Case 22-E-0064, Con Edison – Electric Rates, Order Adopting Terms of Joint Proposal and Establishing Electric and Gas Rate Plans with Additional Requirements (issued July 20, 2023). The values presented in the Appendix to this report do not reflect these exclusions.

compared to their 2023 performance, network systems in Westchester experienced less frequent outages, while duration improved in Westchester and Queens.

The largest contributing events that impacted Con Edison's network performance continue to be underground equipment failures in manholes during the winter and cable burnouts during the summer. During the winter months, rain, snow, and salt can mix and seep into underground electrical structures. This can impact underground cables and lead to service interruptions. From January 16 to January 29, Con Edison's service territory experienced the first Winter Ice/Snowstorm of the year, with accumulation between one to three inches throughout New York City. During this snow event, 8,607 customers were interrupted with an average duration of 10.22 hours due to several underground events throughout the city. This event qualified for an ice/snow event exclusion as part of Con Edison's RPM. Another significant event occurred on August 2, when a heat event caused an outage affecting 485 customers in Queens, with an average outage duration of 39.50, greatly impacting Con Edison's network duration performance.

Con Edison works to improve the reliability of its underground distribution system through its network relief and reliability programs. Con Edison implements these programs system-wide to reduce both network outage frequency and duration. Equipment issues in the underground system are harder to identify than on the overhead system and generally do not materialize until an outage occurs. To specifically address interruptions due to equipment failure within the underground system, Con Edison has several capital programs focused on proactively replacing poorly performing equipment, such as vintage cable types, outdated splices and joints, and obsolete underground switches. One such proactive replacement program is Con Edison's Underground Secondary Rebuild Program. This program removes and replaces specific types of main cables in Con Edison's underground secondary system that are associated with manhole events. This proactive replacement both reduces the possibility of an outage and mitigates the public safety risk associated with these types of cable. In 2024, Con Edison rebuilt four underground distribution structures.

Radial Performance

On its radial, or overhead system, Con Edison achieved its system-wide frequency target of 0.495 and its duration performance target of 2.04 hours with performance values of 0.373 and 1.88 hours, respectively. Con Edison's 2024 radial outage frequency performance improved by approximately seven percent compared to 2023 and is better than its five-year average. Additionally, Con Edison's 2024 radial outage duration performance improved by two minutes compared to 2023 and is approximately two minutes better than its five-year average. When compared to 2023 performance, radial systems in the Bronx, Westchester, and Queens had less frequent outages, while outage duration improved in the Bronx and Brooklyn radial systems.

As shown in Figure 4 below, the leading causes of interruptions to Con Edison's radial system continue to be Company equipment failures, representing approximately 74.1 percent of total interruptions in 2024, followed by prearranged outages and tree contacts at 11.2 percent and 7.4 percent, respectively. [14] The number of interruptions due to equipment failure increased by approximately 10.3 percent compared to 2023, while the number of interruptions due to prearranged outages and tree contacts decreased by approximately 20.5 percent and 11.1 percent, respectively. The largest factor contributing to Con Edison's radial performance continues to be outages occurring during rain, windstorms, and thunderstorms. One such radial incident that greatly impacted both Con Edison's outage frequency and duration performance occurred between January 9 and 10, when high winds and rainstorms impacted Con Edison's service territory. This weather event affected approximately 15,600 customers with an average outage duration of more than two and a half hours.

[14] Sixteen NYCRR §97.5 defines prearranged interruptions as "…interruptions resulting from actions deliberately taken by the utility upon advance notice to the customer affected. Deliberate interruptions without prior notice to the customers affected are reported under the classification most directly related to the reasons the outages were needed.

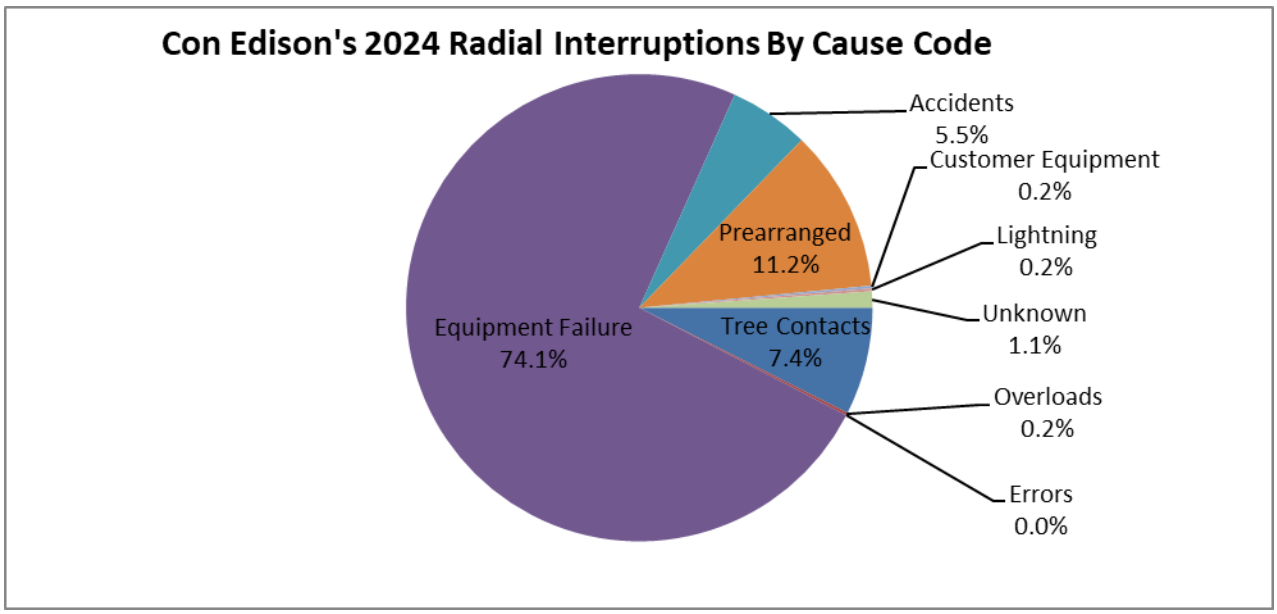


Figure 4: Con Edison 2024 Radial Interruptions by Cause (Excluding Major Storms)

In order to improve the reliability and resiliency of its radial system, Con Edison manages numerous ongoing capital and preventive maintenance programs that both reinforce the system and prevent outages from occurring. As part of its Auto Loop reliability initiative, Con Edison hardens its radial system in order to improve storm performance using several different measures. In 2024, Con Edison completed various projects as part of this program, including the installation or replacement of reclosers and other sectionalizing switches on circuits throughout the Bronx, Westchester, Brooklyn, Queens, and Staten Island. These switches improve both outage frequency and duration performance by limiting the customer impact of an outage and allowing Con Edison to better target feeder sections and restore them to service quicker. To address radial interruptions due to tree contacts, Con Edison implements a vegetation management program for its distribution system. As part of Con Edison's Tree Trimming maintenance activity, Con Edison trims tree branches to maintain 10 feet of clearance on either side and below, and 15 feet above overhead primary wires. Con Edison uses a two-year tree trimming cycle for its 33 kV and 27 kV primary wires, and a three-year cycle for its 4 kV and 13 kV primary wires. In 2024 Con Edison trimmed a total of 1,466 linear miles of distribution circuitry, nearly 70 miles less than in 2023.

National Grid

Table 2: National Grid Historic Performance Excluding Major Storms

Performance Metric	2020	2021	2022	2023	2024	Current Target	Five-Year Average
Frequency (SAIFI)	1.04	1.06	1.06	0.92	0.96	1.08	1.01
Duration (CAIDI)	2.03	1.89	1.95	2.04	2.05	2.10	1.99

National Grid serves approximately 1.69 million customers across upstate New York. National Grid's territory includes metropolitan areas, such as Albany, Buffalo, and Syracuse, as well as many rural areas in northern New York and the Adirondacks. For 2024, National Grid met both the frequency and duration reliability targets. Its 2024 frequency level of 0.96 is approximately 11 percent below its target, and five percent lower than its five-year average. National Grid's 2024 duration performance of 2.05 hours is 0.6 minutes longer than 2023's duration performance of 2.04 hours, two percent better than its target, and three percent higher than its five-year average.

As shown in Figure 5, three causes resulted in approximately 78.4 percent of interruptions on National Grid's electric system. Tree contacts caused approximately 35.9 percent of interruptions, followed by equipment failures at approximately 25.8 percent, and accidents at approximately 16.7 percent. Customers experienced approximately 840 more trees contact events in 2024 than in 2023 and the number of interruption hours increased by 33 percent.

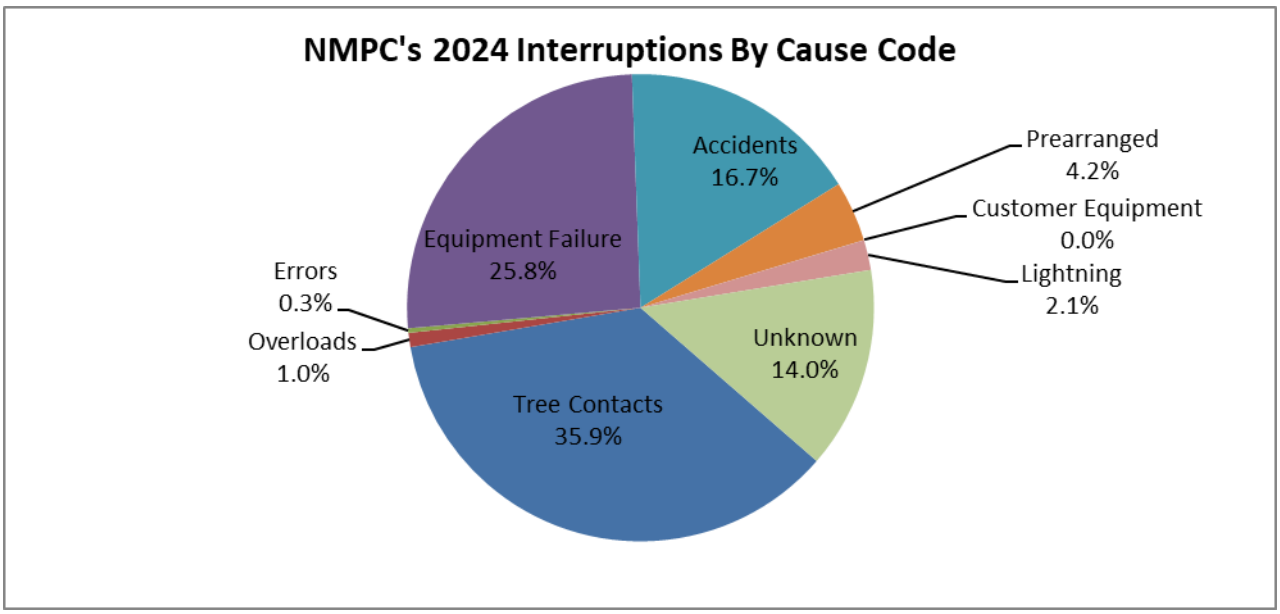


Figure 5: National Grid 2024 Interruptions by Cause (Excluding Major Storms)

National Grid uses six subcodes to further breakdown the cause of tree contacts interruptions excluding major storms: tree fell, broken limb, growth, vines, Emerald Ash Borer (EAB) tree fell, and EAB broken limb. Within tree contact interruptions, tree fell accounted for nearly 72 percent of the customer interruptions in 2024, followed by limb failures at 22 percent. The volume of tree fell, and broken limb interruptions demonstrates the importance of a robust hazard tree removal program. The small number of tree and vine growth interruptions indicate that National Grid's current pruning cycle and specifications are effective in minimizing interruptions related to vegetation growth. In addition to the subcodes, National Grid uses inspections, number of customers served, and circuit configuration to identify and prioritize circuits for the removal of hazards trees.

Since 2017, National Grid has developed a robust hazard tree program to lessen the impact of the Emerald Ash Borer, or EAB, infestation on the electric system. In calendar year 2024, National Grid removed approximately 22,230 hazard trees near its distribution and transmission systems. National Grid's hazard tree program also includes a process to monitor the number of interruptions caused by tree type. According to National Grid, this will aid in distributing vegetation management resources appropriately. This

process will be especially important in future years as ash tree failures begin to stabilize and National Grid's system continues to experience more failures of white pine, sugar maple, and other tree species due to invasive fungi and insects that compromise tree health and structure.

Equipment failures accounted for approximately 26 percent of interruptions in 2024, an increase of roughly two percent compared to 2023. National Grid has several capital and maintenance programs in place to ensure it maintains and improves reliability on the electric system. Each year, National Grid selects several circuits from the worst performing circuit list for an Engineering Reliability Review. This review entails an analysis of the circuit characteristics and performance, and potential remedial actions. Examples of improvements identified and implemented through these efforts include adding fault indicators, feeder ties, capacitor banks, switches, reclosers, load balancing, and reconductoring. National Grid also uses its Inspection and Maintenance Program to identify and correct equipment issues.

Accidents accounted for approximately 17 percent of National Grid's interruptions in 2024, an increase of 12 percent over 2023. Motor Vehicle Accidents continue to be one of the largest causes of its interruptions. National Grid investigates all poles that are involved in vehicle accidents to identify hazardous locations and relocates poles if necessary. Unknown causes were the fourth largest cause of interruptions in 2024 at approximately 14 percent, a decrease of approximately four percent compared to 2023. Additional National Grid efforts to improve reliability include distribution patrols, maintenance programs, protection coordination studies, lightning protection, and tree trimming programs.

Throughout 2024, National Grid completed several projects to maintain and improve the reliability of its system. In 2024, outages due to equipment failure accounted for nearly four percent of customer-hours of interruption in its Capital Division. To further improve reliability within National Grid's service area, it has implemented an Electric Substation Preventive Maintenance Program. Pursuant to this program National Grid conducts inspections and maintenance activities to ensure that different types of substation

equipment, such as transformers and circuit breakers, meet applicable standards. During calendar year 2024, National Grid performed and documented 15,589 substation maintenance activities across its service area. This enables National Grid to identify potential risks and mitigate any future outages.

NYSEG

Table 3: NYSEG Historic Performance Excluding Major Storms

Performance Metric	2020	2021	2022	2023	2024	Current Target	Five-Year Average
Frequency (SAIFI)	1.38	1.46	1.45	1.29	1.30	1.20	1.37
Duration (CAIDI)	1.98	2.02	1.88	1.96	1.90	2.08	1.95

Note: Data presented in red represents a failure to meet the target for a given year.

NYSEG serves approximately 910,500 electric customers across upstate New York and some areas of Westchester and Putnam Counties. NYSEG serves a primarily rural area that covers approximately 40 percent of New York, including 44 counties and 175 small cities and villages. Cities served by NYSEG include Auburn, Binghamton, Geneva, Hornell, Ithaca, Lockport, Mechanicville, Oneonta, and Plattsburgh.

NYSEG failed to meet its frequency target for the sixth consecutive year since 2019, resulting in an outage frequency of 1.30 in 2024, which is a slight deterioration in its metrics compared to its performance in 2023. NYSEG reports that the predominant causes of its interruptions are tree contacts, prearranged outages, and equipment failures, which are responsible for approximately 79 percent of all interruptions in NYSEG's territory, as shown in Figure 6.

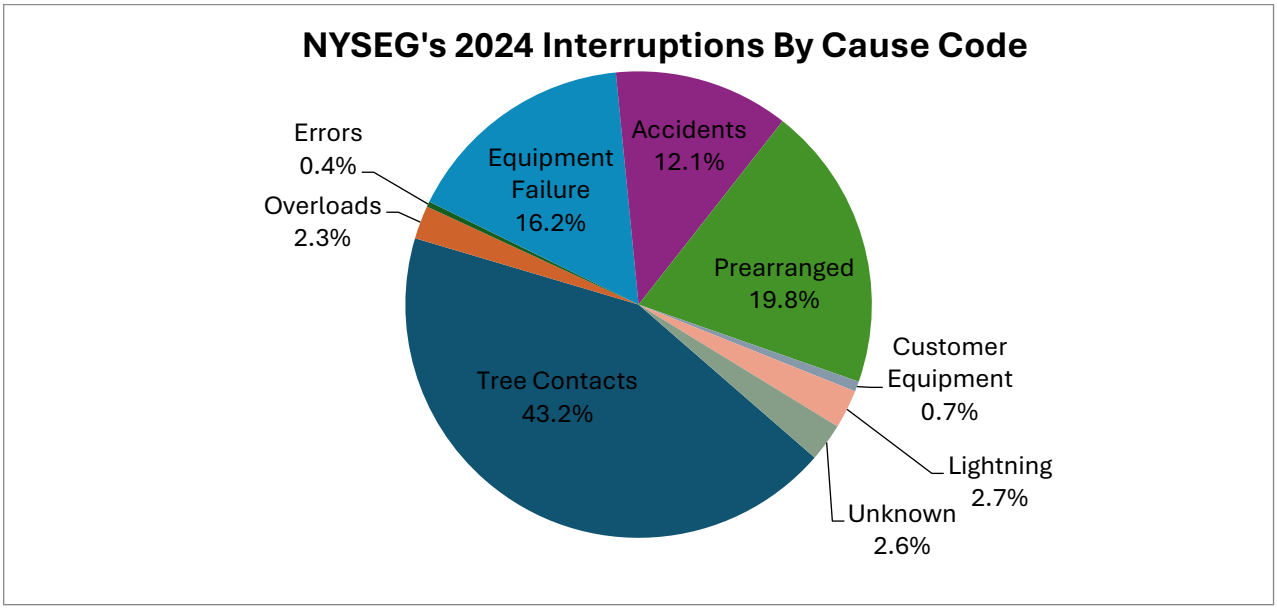


Figure 6: NYSEG 2024 Interruptions by Cause
(Excluding Major Storms)

Tree contacts remain the primary cause of NYSEG's system interruptions, representing approximately 43 percent of total interruptions in 2024 and impacting 519,631 customers. This marks a six percent increase in tree contact interruptions, with an additional 63,744 affected customers compared to its performance in 2023. In 2024, NYSEG had 392 more tree contact events compared to 2023. In 2024, NYSEG saw substantial increases of 9.2 percent, 26.6 percent, and 21.3 percent in the number of interruptions, customers impacted, and customer hours, respectively, all attributed to contacts with trees located outside its rights-of-way. A large portion of tree contact outages originated from tree contacts within its rights-of-way on unreclaimed circuits, or those circuits that NYSEG has not trimmed in several years. As shown in Figure 6, in addition to tree contacts, equipment failures and prearranged outages were the next two predominant causes of interruptions throughout NYSEG's service territory. Although outages caused by equipment failures have decreased by 3.5 percent compared to 2023, they remain a driver of NYSEG's system interruptions. Staff is concerned that if NYSEG does not use its projected budget for Asset Condition work, the reduced investment could worsen existing system issues

and result in future operational challenges, including increased customer outage durations and decreased overall reliability. NYSEG's annual electric capital expenditure budget versus actual spending in 2024 illustrates Staff's concern. NYSEG projected Asset Condition category spending of approximately $184 million but only spent approximately $80 million. This underspending presents an indicator that NYSEG's actions are not aligning with the level of investment deemed necessary to maintain reliability and asset health, reinforcing Staff's concerns about electric system health and future performance. Adding to these concerns, a key finding from the most recent Management Audit of both NYSEG and RG&E identified the absence of a cohesive asset-management strategy and technology platform, thereby contributing to system failures and increasing reliability risk to an already aging electric infrastructure.[15] This issue remains unaddressed from the prior management audit and is a continued concern for Staff. Consequently, the NorthStar Consulting Group who performed the recent audit recommended that the Companies issue a Request for Proposal (RFP) for planning services for an asset-management system designed to leverage advanced analytics, tools, and data to effectively manage assets, schedules, resources, processes, inventories, and expenses with the goal of improving equipment availability, extending asset lifecycles, and optimizing operating performance. Staff is concerned with NYSEG's current trajectory, and while purchasing new software with the ability to better track and address aging assets may help NYSEG address some performance issues, that alone will not reorient NYSEG's operations.[16]

In 2024, prearranged outages decreased by 54 percent compared to 2023. NYSEG attributes the prearranged outages to the Make Ready work needed to support the New York State "Broadband for All" initiative and similar programs. NYSEG anticipates that these outages will continue to decline over time as the third-party installation work stabilizes. Staff continues to recommend that NYSEG engage in discussions with other utilities in New York State to review their practices and the

[15] Case 23-M-0103, NYSEG and RG&E – Comprehensive Management and Operations Audit, Avangrid Final Report w BCAs (filed May 19, 2025), Section B6: Key Audit Findings, p. I-7.

[16] Ibid., at p. V-28.

measures they have implemented to effectively coordinate with third-party pole-attachers and their contractors to manage these outages efficiently.

In its annual electric reliability report, NYSEG outlined the corrective actions implemented in 2024 to enhance NYSEG's reliability performance, as well as the initiatives planned for 2025. These initiatives include, but are not limited to, the installation of trip savers to reduce customer outages, increased tree trimming, and targeted trimming for identified hot spots. NYSEG also states that it intends to continue collaborating with customers to secure additional permissions to remove failing trees outside of its right-of-way, thereby mitigating potential outages due to tree contacts.

Department Staff recognizes the critical role that a well-executed vegetation management program plays in enhancing reliability performance. The continuity of these programs across rate years and the successful implementation of high-quality vegetation management contracts are essential to slowing circuit degradation and ensuring reliability of the electric system. High-quality vegetation management contracts should contain clear, measurable and enforceable scopes of work that align with the trimming cycle identified for each utility and include defined quality control and inspection procedures. In recognition of the impact that a well-executed vegetation management program has on reliability performance, the Commission authorized an expanded distribution vegetation management budget for NYSEG to continue its Reclamation and Danger Tree programs and perform system-wide routine trimming on a six-year cycle.[17] Since the beginning of calendar year 2024, NYSEG has repeatedly changed its approach to reclamation and routine trimming, resulting in work scope uncertainty. The lack of a clear plan has hindered NYSEG's ability to work effectively with their contractors towards their vegetation management goals and has consequently led to cost escalations within its vegetation management program. Despite the 2019 Rate Proceeding requiring NYSEG to hire an outside consultant to review its vegetation management program, NYSEG has been

[17] 2023 NYSEG Rate Order, p. 40.

unable to effectively implement the identified changes needed to mitigate these issues.[18]

NYSEG had anticipated that as it worked to reclaim its system and clear its rights-of-way to specification, its reliability performance would improve. Since the issuance of the 2023 NYSEG Rate Order, Staff and NYSEG have met frequently to monitor its progress on expanding the program scope to meet the six-year cycle plan. Despite these efforts, NYSEG has not demonstrated the necessary vegetation management improvements to address its ongoing challenges to delivering reliable electric service. NYSEG's reliability continues to suffer due to a slow ramp-up and ongoing challenges in implementing an effective distribution vegetation management plan. Staff will continue to monitor NYSEG's progress throughout 2025, as addressing these performance issues remains a critical focus of the Department.

In response to a series of significant storms in 2018, NYSEG and RG&E developed a Resiliency Plan as part of an overall approach to harden their respective electric distribution systems. As part of that plan, in 2024, NYSEG completed resiliency projects on seven circuits, initiated projects on two additional circuits scheduled for completion in 2025, and wrapped up projects on circuits that had been deferred from 2023. These projects included wire upgrades, cable conversions, reconductoring of distribution lines, and installing smart devices. NYSEG upgraded approximately 23 miles of overhead wire sections with tree wire, an aluminum conductor covered with multiple layers that provides additional physical protection from light tree contact. NYSEG also installed approximately 140 trip savers, 13 reclosers, and five other SCADA devices as part of its resilience and trip saver programs, providing the Company with greater visibility of its system and the ability to sectionalize targeted circuits and spans. These efforts help to improve NYSEG's outage frequency performance by limiting the customer impact when an outage occurs and also improve outage duration performance by reducing the need for Company

[18] Case 19-E-0378, NYSEG – Electric Rates, Order Approving Electric and Gas Rate Plans in Accord with Joint Proposal, with Modifications (issued November 19, 2020).

truck rolls to diagnose outage causes and shortening restoration time. Although completed in 2024, reliability improvements as a result of these resiliency projects may not be immediately evident and may take time to impact NYSEG's performance metrics.

As part of the 2023 NYSEG Rate Order, the Commission directed NYSEG to use the $3.5 million in NRAs it incurred for failing to meet annual SAIFI performance metrics to accelerate its Reclamation Program with the goal of improving electric reliability performance. Despite this and other additional funding that the Commission authorized in the 2023 NYSEG Rate Order for various reliability, resiliency, and vegetation initiatives, NYSEG has not yet met its outage frequency target. In light of this, Staff requested that NYSEG outline all corrective actions taken on circuits it had identified as worst performing circuits in the 2023 Annual Reliability Report, which significantly contributed to its failure to meet its SAIFI target in 2024. NYSEG's response shows that 18 circuits that it had identified as worst performing circuits in its 2023 Annual Reliability Report continued to be among the worst performing circuits in its 2024 Annual Reliability Report, filed on March 31, 2025. These 18 circuits constitute approximately 30 percent of the total of 59 circuits listed as worst performing in 2024. The primary cause of this recurrence continues to be tree contacts, further emphasizing the importance of an effectively managed vegetation program in maintaining system reliability.

In its attempt to improve its reliability performance, NYSEG claims to have adopted a more data-driven and reliability-focused approach to both capital expenditure and operational expense programs. The primary focus is on initiatives such as the Distribution Line Deficiencies program/Transmission Line Deficiencies Replacement program,[19] Animal Guard, Trip Saver, and Vegetation programs. These reliability focused approaches involve assessing current rankings based on weighted customer impact and incident frequency, establishing a scaled prioritization strategy to allocate investments where data indicates they will have the most significant impact on

[19] These deficiency programs address crossarm, insulator and miscellaneous overhead equipment failures.

circuit reliability. Over the past few years, however, Staff has observed that NYSEG implements these corrective actions generally, rather than in a manner specifically tailored to address the underlying causes of failure for the particular circuits.

Additionally, Staff recognizes that programs like the Distribution Line Inspection program are important for addressing asset condition issues, however, the timing of repairs under this program is primarily driven by safety standards. Consequently, these repairs do not necessarily target circuits that NYSEG has repeatedly identified as poorly performing, and they result in improvements to reliability performance metrics only indirectly or tangentially.

Accordingly, Staff recommends that, moving forward, NYSEG should include a detailed explanation of how each corrective action aimed at enhancing circuit reliability performance will effectively address the identified causes for the reliability performance failures. Additionally, these projects should use outage data, specifically SAIFI and CAIDI, as key justification for corrective actions.

RG&E

Table 4: RG&E Historic Performance Excluding Major Storms

Performance Metric	2020	2021	2022	2023	2024	Current Target	Five-Year Average
Frequency (SAIFI)	0.88	1.13	0.83	0.71	0.83	0.90	0.87
Duration (CAIDI)	1.78	1.81	1.64	1.70	1.64	1.90	1.71

Note: Data presented in red represents a failure to meet the target for a given year.

RG&E serves approximately 388,000 electric customers across its service territory, located in and around Rochester, New York. RG&E's service territory comprises four Divisions: Canandaigua, Genesee Valley, Lakeshore, and Rochester, with the Rochester Division accounting for approximately 80 percent of its total customer base.

Over the past 20 years, with the exception of not meeting its frequency target in 2021, RG&E has consistently maintained a high standard of electric service reliability in terms of both outage frequency and duration.

In 2024, the three major causes for interruptions throughout RG&E's service territory were tree contacts, equipment failures, and prearranged outages, as shown in Figure 7. In 2023, prearranged outages were the leading cause of interruptions. Prearranged outages first surged in 2021 due to the broadband expansion work in the area, which included pole replacements. These efforts continued through 2022 and into 2023. In 2024, prearranged outages dropped to the third leading cause of interruptions, reflecting an improvement of nearly 10 percent when compared to 2023. Tree contact emerged as the primary cause of outages in 2024, marking a seven percent increase from the previous year with trees located inside its rights-of-way contributing to an increase of approximately five percent, and those outside its rights-of-way accounting for a significant 51 percent increase.

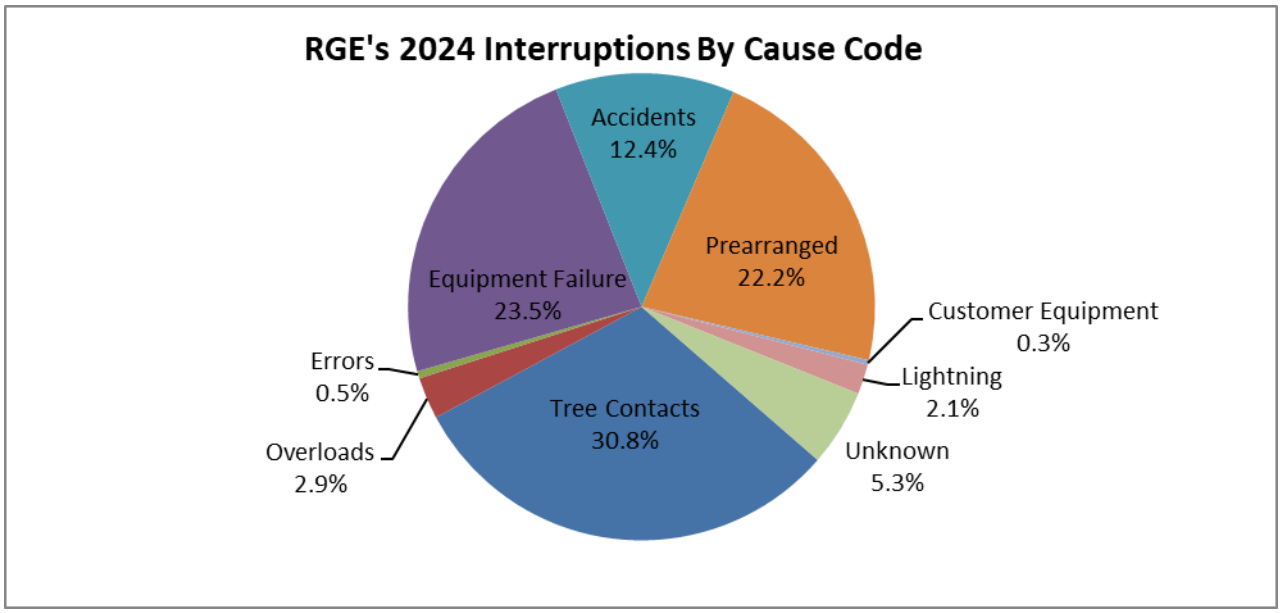


Figure 7: RG&E 2024 Interruptions by Cause
(Excluding Major Storms)

RG&E and NYSEG are both subsidiaries of Avangrid Inc. and, as a result, implement many of the same programs and procedures to reduce the number of interruptions, reduce overall duration times, and improve reliability. Examples include vegetation management programs, Circuit Breaker Replacement Program, Distribution and Transmission Line Inspection Programs, Distribution Line Deficiency Program, and

Distribution Circuit Resiliency and Hardening Program. In partnership with NYSEG, RG&E has developed a Resiliency Plan focused on three main components: hardening infrastructure through more robust construction practices and materials aimed to enhance the electric system's resilience to withstand severe storm events; aggressively removing identified hazard trees to bolster the electric system against severe weather; and making changes to circuit design that allow RG&E to isolate outages and restore power more quickly through actions such as adding or upgrading lines, increasing feeder ties, and increasing automation.

On its overhead system, RG&E relies on its Distribution Line Inspection program data and other inspection programs to find, prioritize, and repair equipment issues. Inspection based programs are important for addressing asset condition issues, however, the timing of repairs pursuant to these programs is primarily driven by meeting safety standards. Consequently, these repairs do not necessarily target circuits that RG&E has repeatedly identified as poorly performing; and they result in improvements to reliability performance metrics only indirectly or tangentially. To address tree related interruptions, RG&E completed just under 1,000 miles of tree trimming in 2024 and will continue scheduled trimming in 2025. In addition, RG&E upgraded 2.2 miles of overhead lines to tree wire. In 2024, RG&E completed three circuit resiliency projects in its Rochester Division as part of its Resiliency Plan. These projects included wire upgrades, cable conversions, installing trip savers and reclosers, and replacing disconnect switches, upgrading regulators and installing capacitor banks, reconfiguring SCADA devices, providing them with greater visibility of its system and the ability to sectionalize targeted circuits and spans. These efforts help to improve RG&E outage frequency and duration performance and although completed in 2024, the reliability impact of these projects may take time impact the Company's performance.

CENTRAL HUDSON

Performance Metric	2020	2021	2022	2023	2024	Current Target	Five-Year Average

Frequency (SAIFI)	1.29	1.42	1.27	1.08	1.17	1.30	1.25
Duration (CAIDI)	2.37	2.67	2.25	2.31	2.33	2.50	2.39

Table 5: Central Hudson Historic Performance Excluding Major Storms

Note: Data presented in red represents a failure to meet the target for a given year.

Central Hudson serves approximately 321,500 customers in parts of eight counties of New York's Mid-Hudson River Valley. Counties served by Central Hudson include Albany, Columbia, Dutchess, Greene, Orange, Putnam, Sullivan, and Ulster. Central Hudson's five operating divisions are Catskill, Fishkill, Kingston, Newburgh, and Poughkeepsie. Approximately 70 percent of Central Hudson's customer base is located within the Kingston, Newburgh, and Poughkeepsie Divisions.

Central Hudson met both its outage frequency and duration targets for 2024. Central Hudson's 2024 outage frequency and duration was worse than it was in 2023. Tree contacts were responsible for approximately 39.1 percent of Central Hudson's total interruptions in 2024, reflecting a 5.4 percent increase in frequency compared to 2023. The largest contributor to tree contact interruptions, accounting for approximately 83 percent of non-storm SAIFI impact, were limbs and trees from outside the clearance zone. Accordingly, Central Hudson is focusing on vegetation management to improve its outage frequency and duration performance.

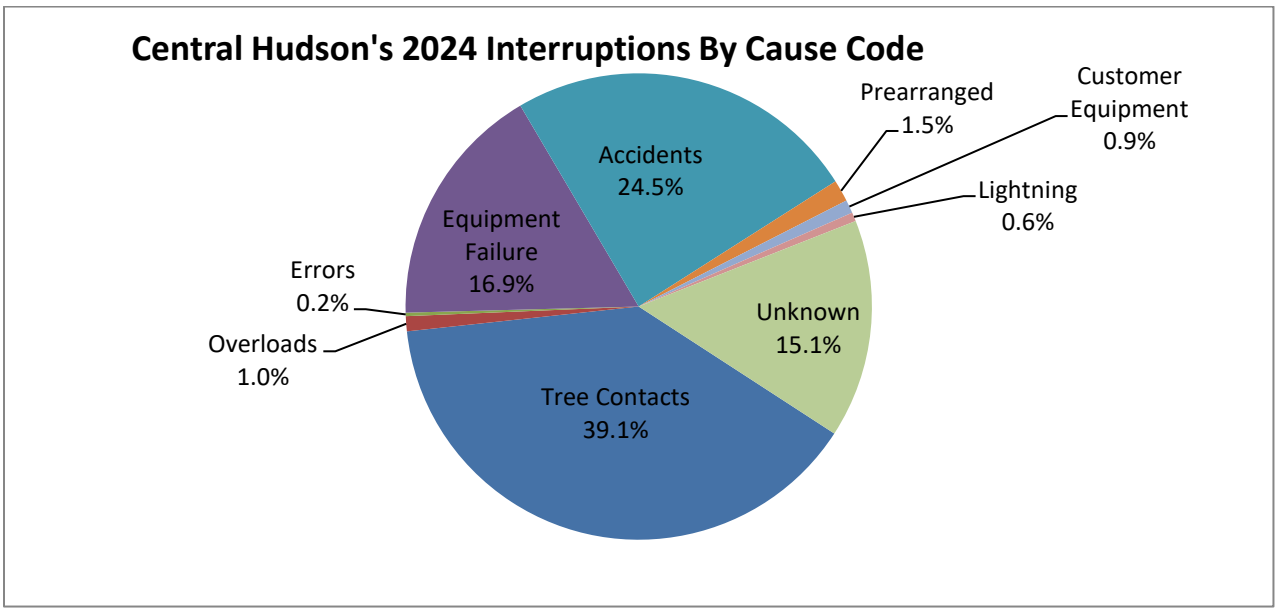


Figure 8: Central Hudson 2024 Interruptions by Cause (Excluding Major Storms)

Central Hudson completed routine tree trimming and hazard tree removals in 2024 using new prioritization methodologies recommended by a vegetation management consultant study. Central Hudson prioritized circuits based on SAIFI per mile rather than total SAIFI. Although it will take some time to fully measure the impact of these changes, Central Hudson's overall tree-related outages increased in 2024 compared to its five-year average.

According to Central Hudson, its Distribution Engineering and Line Clearance departments collaborate to identify circuits with suboptimal performance that require targeted hazard tree removal. As of the end of 2024, Central Hudson has completed hazard tree removals on approximately 205 circuits. Central Hudson performed an analysis showing that circuits on which it has removed hazard trees between the program's start in 2018 and the end of 2024, have experienced an average 27 percent reduction in non-storm SAIFI for outages caused by tree contact compared to the three-year historical averages for those circuits. Staff has noticed that Central Hudson spent less than its Distribution Vegetation management budget in 2024. In 2025, Staff will continue to monitor vegetation management spending, program execution, and reliability performance.

As highlighted in Figure 8, interruptions caused by accidents or events not under the utility's control were the second highest frequency driver. Interruptions caused by accidents have increased by approximately 22.5 percent compared to 2023, with squirrel-related outages and vehicle pole hits being the most significant contributors. Central Hudson has and will continue to install animal guards and closely follow ongoing research led by the Electric Power Research Institute (EPRI) on the effectiveness of various animal guards.

Interruptions caused by equipment failures was Central Hudson's third leading driver of customer interruptions in 2024, representing approximately 16.9 percent of all its interruptions for the year. Interruptions caused by equipment failures have increased approximately 8.6 percent compared to 2023, with conductor/cable failures being the most significant contributors. Central Hudson typically attributes these failures to age and loss of strand connections, which cause gradual overheating during normal loading cycles. Central Hudson's engineering department performs thermal scans of overhead wires to proactively identify and address potential hot spots. Since 2010, Central Hudson has conducted annual infrared surveys on the three-phase mainlines of all its distribution circuits. In addition to monitoring its winter peaking circuits, Central Hudson performs the surveys to identify equipment at risk of overheating and failure to enable in order for it to take proactive measures to prevent outages. In 2024, Central Hudson completed all urgent infrastructure repairs completed. Central Hudson classifies the required repairs as routine maintenance rather than major capital investments and manages them at the operating area level.

Central Hudson's duration performance of 2.33 hours is approximately 6.8 percent better than its CAIDI target of 2.50 and approximately 2.6 percent better than its most recent five-year average CAIDI value of 2.39. Central Hudson's duration performance of 2.33 hours is approximately 1.2 minutes longer than its 2023 CAIDI performance of 2.31 hours, primarily driven by outages due to tree contacts, specifically trees or limbs from outside the clearance zone. Central Hudson continues to work on improving its duration performance by using distribution switching to restore as many

customers as possible before completing repairs and investing in multiple distribution reliability projects.

Central Hudson's electric capital forecast allocates $329.6 million for distribution improvements over the next five years, focusing on infrastructure upgrades necessary for maintaining reliability and addressing operational needs. This includes $192.2 million dedicated to day-to-day expenditures for ongoing operations, which encompass projects such as pole replacements, distribution improvements and road/bridge relocations. An additional $69.7 million targets condition-based infrastructure replacements to enhance service reliability, which include programs such as Underground Residential Distribution (URD) Cable Replacements, Primary Network Cable and Equipment Replacement, 5 kV Aerial Cable Replacements, and Overhead Secondary Replacement. Central Hudson has committed approximately $30.0 million to maintaining current performance standards. Specific initiatives include upgrading aging equipment, improving network infrastructure, and implementing distribution automation technologies to optimize system efficiency and reduce outages.[20]

Central Hudson’s Distribution Automation (DA) Program was nearing completion by the end of 2024, at which point it expects to have finished most DA device installations in five districts. Its planned expenditures for DA will decline significantly for 2025-2027. Central Hudson will continue its Automatic Load Transfer switch and recloser replacement programs, which are integrated into Central Hudson's Grid Modernization initiative. This integration aims to enhance reliability, safety, and efficiency of the system, enabling more complex operations such as Fault Location, Isolation, and Service Restoration, as well as Volt-Var Optimization.[21] Overall, with these investments Central Hudson aims to modernize its distribution system, ensuring reliable electricity delivery to customers while addressing emerging operational challenges.

ORANGE & ROCKLAND

[20] Case 20-E-0428, Central Hudson - Electric Rates, 2025-2029 Budget Book Narrative (filed July 1, 2024) pp. 25-27.

[21] Ibid., at pp. 26-28.

Table 6: Orange & Rockland Historic Performance Excluding Major Storms

Performance Metric	2020	2021	2022	2023	2024	Current Target	Five-Year Average
Frequency (SAIFI)	0.96	1.14	0.93	1.07	1.05	1.20	1.03
Duration (CAIDI)	1.67	1.57	1.76	1.72	1.70	1.85	1.68

Orange & Rockland serves approximately 241,000 customers in Orange, Rockland, and Sullivan Counties in southern New York. For operational purposes, Orange & Rockland separates its service territory into three divisions: Central, Eastern, and Western. Orange & Rockland met both its established outage frequency and duration targets for 2024. Orange & Rockland's outage frequency performance of 1.05 was better than its established target of 1.20, but slightly worse than its five-year average of 1.03. Similarly, Orange & Rockland's outage duration performance of 1.70 hours was better than its established target of 1.85 hours, but slightly worse than its five-year average of 1.68 hours. Overall, Orange & Rockland's performance have been continuously better than its target levels – a good indication that its reliability initiatives continue to have a positive impact on reliability performance.

As shown in Figure 9, equipment failures and tree contacts continue to be the major causes of interruptions for Orange & Rockland. In 2024, these two categories accounted for 59 percent of all interruptions and approximately 63 percent of all customers affected.[22] Prearranged, or scheduled, outages and accidents were tied as the third leading cause of interruptions for Orange & Rockland, each accounting for approximately 15 percent of all its interruptions in 2024.

In 2024, Orange & Rockland experienced a decrease in the number of interruptions due to tree contacts by approximately five percent compared to 2023. Orange & Rockland completed several projects aimed at strengthening the resiliency and reliability of its electric distribution system. One key initiative involved eliminating approximately 4,500 feet of off-road construction just outside of the Wurtsboro Substation on circuit 5-3-

[22] Case 25-E-0031, 2024 ORU Annual Service Performance Report (filed March 31, 2024), p. 31, Figure 2.3.7 - Outage Statistics by Cause.

34. This portion of the feeder had a history of storm-related damage due to heavy vegetation and limited accessibility during winter months. By relocating this segment to a more accessible path, the project significantly improved storm response and reliability for approximately 3,300 customers in the area.

Orange & Rockland also continued its efforts to modernize and upgrade aging infrastructure on its system. In Port Jervis, Orange & Rockland upgraded existing copper conductors to All Aluminum Conductor, which is a lightweight option that offers excellent conductivity and is naturally corrosion resistant. These characteristics make it ideal for improving reliability, simplifying installation, and reducing maintenance in electric distribution system. Additionally, Orange & Rockland upgraded an area near its Port Jervis substation from 4.16 kV to 13.2 kV and created new taps at strategic poles to improve feeder design and load delivery. These upgrades reduce the likelihood of outages, increase capacity for future demand, and enhance the overall performance of the electric distribution system.

Orange & Rockland designs its grid modernization, distribution automation and climate resilience programs to reduce the number of outages experienced by the typical customer. These programs continue to play a role in Orange & Rockland's overall performance. In 2024, Orange & Rockland installed three auto-loops, 12 reclosers, and three smart capacitors. Additionally, Orange & Rockland accelerated the installation of field devices throughout its system and installed 129 Motor Operated Air Break switches, 25 more than originally planned. Orange & Rockland uses these switches to sectionalize circuits into 250 customer segments, limiting customer impact when a fault on the circuit happens further upstream.

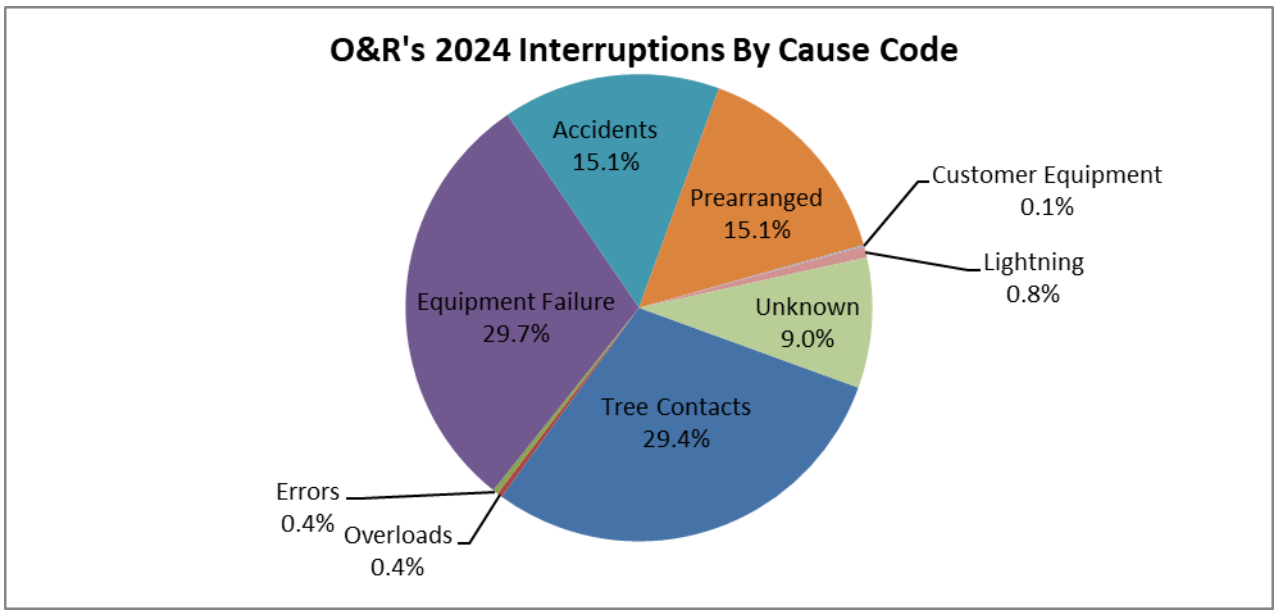


Figure 9: Orange & Rockland 2023 Interruptions by Cause (Excluding Major Storms)

When compared to 2023 values, interruptions caused by equipment failures increased by approximately 9.9 percent in 2024. For Orange & Rockland's overhead system, secondary connector and splice failures, as well as overhead transformer failures, were the most common causes of equipment failure interruptions. In 2024, its underground system experienced approximately 35 percent more interruptions due to equipment failure compared to 2023 and the five-year average, primarily due to pad mounted transformer failures.

Orange & Rockland has designed its service reliability programs to reduce interruption frequency and duration through inspection and maintenance of equipment installed on the transmission and distribution systems. Orange & Rockland uses these programs to identify activities that will most cost effectively meet customer reliability needs. In its reliability programs, Orange & Rockland has established inspection intervals, minimum component testing, minimum performance requirements, and maintenance procedures to be performed during each inspection. Orange & Rockland monitors the performance of all equipment types to detect any potential failures, identify trends, and take mitigation measures as necessary.

PSEG LI

Table 7: PSEG LI Historic Performance Excluding Major Storms[23]

Performance Metric	2020	2021	2022	2023	2024	Current Target	Five-Year Average
Frequency (SAIFI)	0.80	0.68	0.68	0.69	0.72	0.67	0.71
Duration (CAIDI)	1.38	1.34	1.37	1.37	1.37	None	1.37

PSEG LI serves approximately 1,151,740 customers on Long Island, including Nassau County, Suffolk County, and the Rockaway Peninsula in Queens County. PSEG LI began operating and maintaining the electric system for the Long Island Power Authority (LIPA) on January 1, 2014. To assist in its statewide analyses, PSEG LI supplies annual interruption data to the Department. Unlike the other utilities, the Commission does not issue rate orders for PSEG LI; instead, LIPA and PSEG LI have established reliability performance metrics pursuant to their current operating service agreement.[24]

PSEG LI did not meet its outage frequency incentive metric in 2024, recording an outage frequency level of 0.72, exceeding the target of 0.67 and slightly surpassing the five-year average of 0.71. In 2024, PSEG LI did not use CAIDI as its duration target as part of its performance metrics and instead uses System Average Interruption Duration Index (SAIDI or Availability) incentive targets to measure its average duration performance.[25] Nonetheless, the Department still maintains and tracks PSEG LI's CAIDI for comparison with historical performance. In 2024, PSEG LI's outage duration of 1.37 hours was equal to the five-year average performance, and consistent with its 2022 and 2023 performance.

SAIDI is calculated by dividing the total number of customer minutes of interruption by the total number of customers served. PSEG LI did not meet the

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[23] As of 2022, PSEG LI no longer uses CAIDI as a performance metric, however it still publishes the result in its Annual Reliability Report.

[24] Second Amended and Restated Operations Services Agreement between Long Island Lighting Company d/b/a LIPA and PSEG Long Island LLC, dated as of April 1, 2022. (https://www.lipower.org/wp-content/uploads/2022/04/2nd-AR-OSA-in-effect-on-4-1-2022.pdf).

[25] 2024 Performance Metrics Package. (https://www.lipower.org/wp-content/uploads/2024/01/LIPA-2024-Performance-Metrics.pdf).

availability incentive metric target of 56.5 minutes for SAIDI with a performance of 59.3 minutes. The primary factor contributing to PSEG LI's inability to meet its availability metric in 2024 was the higher volume of storms affecting PSEG LI's service territory as compared to previous years. In 2024 PSEG LI experienced an increase in non-major storms, which impacted its reliability performance. Compared to 2023, the number of customer minutes of interruption increased by twenty-two percent due to non-major storms. The increase in storms resulted in a significant increase in outages caused by equipment failure. Transformer failure due to mechanical damage had the greatest impact on the number of customer minutes of interruption. The rise in the number of customer interruptions and duration of interruptions caused by non-major storms in 2024 resulted in PSEG LI not meeting its targets for SAIFI and SAIDI. It is worth noting that although PSEG LI did not meet its 2024 SAIDI and SAIFI targets, those incentive targets were more stringent than those in effect in 2023 to drive PSEG LI to improve performance in 2024. Specifically, the SAIFI target was reduced from 0.70 in 2023 to 0.67 in 2024, and the SAIDI target was reduced from 57.5 minutes in 2023 to 56.5 minutes in 2024.

As shown in Figure 10, equipment failures, tree contacts, and prearranged outages were the major causes of interruptions in PSEG LI's service territory in 2024. These three categories account for approximately 83 percent of all PSEG LI's interruptions.

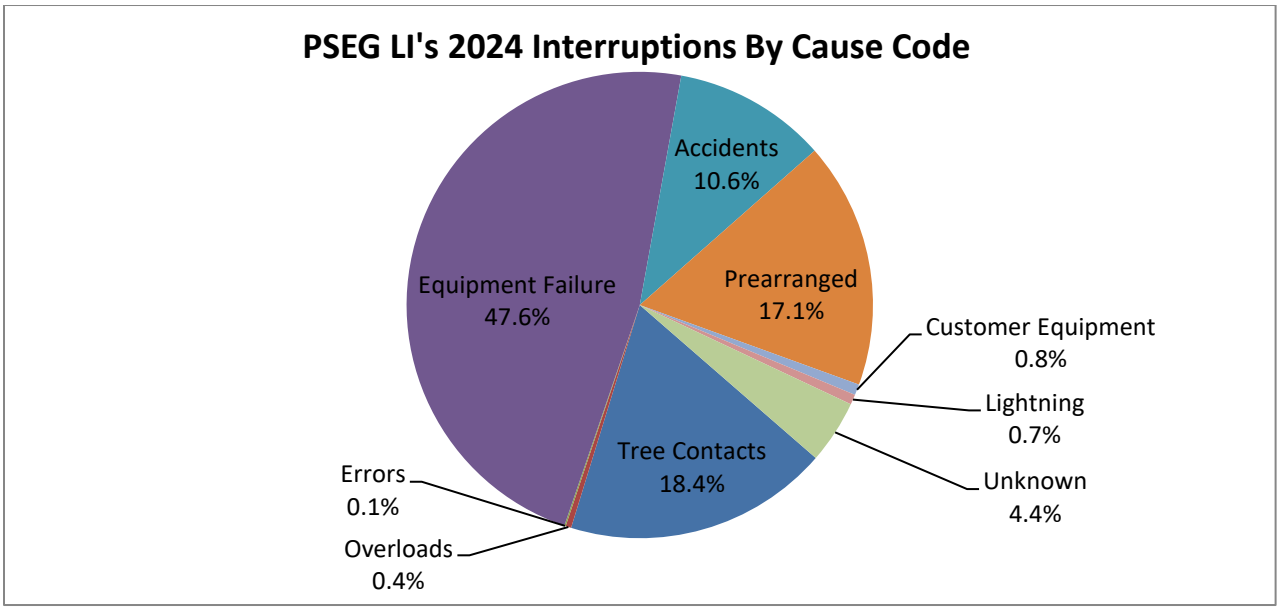


Figure 10: PSEG LI 2024 Interruptions by Cause (Excluding Major Storms)

Interruptions caused by equipment failures increased by approximately 2.8 percent in 2024 compared to 2023, and this cause was the largest contributor to customer interruptions for the year. The three primary drivers of equipment failure were primary open - damage/substandard wire, primary line tap broken or burned open, and primary underground cable failures. According to PSEG LI, as part of its yearly Circuit Improvement Program (CIP), it inspects, prioritizes, and repairs hundreds of miles of distribution lines to ensure the equipment is in good working order. PSEG LI's CIP will focus on 145 separate branchlines during 2025 to improve reliability. As part of the CIP, PSEG LI plans to improve reliability by addressing substandard field conditions, and through the installation of polymer type lighting arrestors on all riser poles. Additionally, PSEG LI continues to improve on the reliability of smaller areas with high outage frequency with their Multiple Interruption Program. This program specifically targets areas where customers have experienced four or more sustained interruptions in the past twelve months. This program includes equipment replacements, such as replacing open-wire secondary with triplex secondary, cracked poles and crossarms, and may also include reconfiguration of a circuit for improved reliability.

Interruptions caused by tree contacts was the second largest contributor to customer interruptions for the year which increased by approximately 13.0 percent in 2024 compared to 2023. PSEG LI continues to address tree contact issues through its Enhanced Vegetation Management Program, which considers historical reliability performance and field observations when prioritizing circuits. The Enhanced Vegetation Management Program is having a positive effect on the reliability of those circuits that PSEG LI is trimming to meet the increased distribution line clearance specification. Specifically, the circuits with a full year of history of being trimmed to the new specification, have demonstrated a 29.2 percent reduction, on average, in customers interrupted (including major storms) after the first year. Interruptions caused by prearranged outages decreased by approximately 9.8 percent in 2024 compared to 2023, and was the third leading cause of

interruptions for the year.

In 2024, PSEG LI completed five mainline circuits and 41 branchline fuse installations as part of its ongoing PowerOn Program. The PowerOn Program consists of storm hardening improvements pursuant to which PSEG LI targets the entire mainline for circuits with poor performance.[26] Storm-hardening improvements include installing stronger poles designed to withstand storm force winds. In addition, PSEG LI will install stronger cross arms and conductors with more installation on the poles to help wires deflect falling branches and limbs. The program also allows PSEG LI to install up to 1,300 automatic switches and upgrade or replace deteriorated equipment as necessary.

[26] The PowerOn Program is an extension of the Federal Emergency Management Agency (FEMA) overhead mainline hardening program that PSEG LI completed in 2020.

APPENDIX

The 2024 Interruption Report

Office of Resilience and Emergency Preparedness
June 2025

Definitions and Explanations of Terms Used in
The 2024 Interruption Report

Interruption is the loss of service for five minutes or more.

Customer Hours is the time a customer is without electric service.

Customers Affected is the number of customers without electric service.

Customer Served is the number of customers as of the last day of the current year. For example, for the calendar year of 2018, customers served is the number of customers as of December 31, 2018. For indices using customers served, the previous year is used.

Frequency (SAIFI) measures the average number of interruptions experienced by customers served by the utility. It is the customers affected divided by the customers served at the end of the previous year.

Duration (CAIDI) measures the average time that an affected customer is out of electric service. It is the customer hours divided by the customers affected.

Availability (SAIDI) is the average amount of time a customer is out of service during a year. It is the customer hours divided by the number of customers served at the end of the year.
Mathematically it is SAIFI multiplied by CAIDI.

Interruptions per 1,000 Customers Served is the number of interruptions divided by thenumber of customers served at the end of the previous year, divided by 1,000.

Major Storm is defined as any storm which causes service interruptions of at least ten percent of customers in an operating area, or if the interruptions last for 24 hours or more.

Operating Area is the geographical subdivision of each electric utilities franchise territory. These are also called regions, divisions, or districts.

Most of the data is presented in two ways, with major storms included and major storms excluded. Major storms tend to distort a utility's performance trend. Tables and graphs that exclude major storms illustrate interruptions that are under a utility's control. This portrays a utility's system facilities under normal conditions, although this can be misleading because interruptions during "normal" bad weather are included, and it is difficult to analyze from year to year.

The first two tables show frequency and duration indices for the last five years for each utility and Statewide with and without Con Edison data. Much of the Con Edison distribution system consists of a secondary network. In a secondary network, multiple supplies feed a customer, significantly reducing the probability of interruptions.

COMPARISON OF SERVICE RELIABILITY INDICES
(EXCLUDING MAJOR STORMS)

	2020	2021	2022	2023	2024	5 YR AVG
CHGE						
FREQUENCY	1.29	1.42	1.27	1.08	1.17	1.25
DURATION	2.37	2.67	2.25	2.31	2.33	2.39
CONED						
FREQUENCY	0.19	0.15	0.14	0.11	0.11	0.14
DURATION	2.75	2.99	2.58	2.34	2.79	2.69
PSEG LI *						
FREQUENCY	0.80	0.68	0.68	0.69	0.72	0.71
DURATION	1.38	1.34	1.37	1.37	1.37	1.37
NAT GRID						
FREQUENCY	1.04	1.06	1.06	0.92	0.96	1.01
DURATION	2.03	1.89	1.95	2.04	2.05	1.99
NYSEG						
FREQUENCY	1.36	1.46	1.45	1.29	1.29	1.37
DURATION	1.98	2.02	1.88	1.96	1.90	1.95
O&R						
FREQUENCY	0.96	1.14	0.93	1.07	1.05	1.03
DURATION	1.67	1.57	1.76	1.72	1.67	1.68
RG&E						
FREQUENCY	0.88	1.13	0.83	0.71	0.82	0.87
DURATION	1.78	1.81	1.64	1.70	1.64	1.71
STATEWIDE (WITHOUT CONED)						
FREQUENCY	1.04	1.08	1.03	0.94	0.97	1.01
DURATION	1.89	1.88	1.83	1.88	1.86	1.87
STATEWIDE (WITH CONED)						
FREQUENCY	0.67	0.68	0.64	0.58	0.59	0.63
DURATION	1.99	1.99	1.90	1.92	1.94	1.95

COMPARISON OF SERVICE RELIABILITY INDICES
(INCLUDING MAJOR STORMS)

	2020	2021	2022	2023	2024	5 YR AVG
CHGE						
FREQUENCY	2.15	1.81	1.87	1.46	1.58	1.77
DURATION	7.15	3.44	6.29	3.95	3.68	4.90
CONED						
FREQUENCY	0.32	0.16	0.14	0.12	0.13	0.18
DURATION	18.83	3.70	2.65	2.62	3.55	6.27
PSEG LI *						
FREQUENCY	1.43	0.73	0.72	0.71	0.75	0.88
DURATION	12.22	1.54	1.44	1.46	1.42	3.50
NAT GRID						
FREQUENCY	1.50	1.31	1.49	1.14	1.69	1.42
DURATION	5.06	2.82	3.98	3.04	5.01	3.98
NYSEG						
FREQUENCY	2.07	2.16	2.28	1.88	2.34	2.15
DURATION	5.41	2.81	4.91	3.02	4.65	4.16
O&R						
FREQUENCY	1.89	1.28	1.00	1.49	1.57	1.45
DURATION	10.47	1.77	1.86	2.51	2.45	3.81
RG&E						
FREQUENCY	1.05	1.37	1.18	0.84	1.07	1.10
DURATION	1.99	3.40	2.76	2.02	2.15	2.46
STATEWIDE (WITHOUT CONED)						
FREQUENCY	1.62	1.37	1.43	1.19	1.52	1.43
DURATION	7.03	2.71	4.00	2.79	4.08	4.12
STATEWIDE (WITH CONED)						
FREQUENCY	1.05	0.85	0.87	0.72	0.91	0.88
DURATION	8.58	2.79	3.90	2.77	4.04	4.42

STATEWIDE (WITHOUT CON ED)

Excluding Major Storms

	2020	2021	2022	2023	2024	5 YR AVG
Number of Interruptions	62,595	62,839	66,845	65,041	66,681	64,800
Number of Customer-Hours	9,094,328	9,410,601	8,811,149	8,219,249	8,533,191	8,813,703
Number of Customers Affected	4,816,965	4,999,962	4,808,092	4,374,540	4,584,683	4,716,848
Number of Customers Served	4,618,770	4,647,421	4,661,199	4,676,793	4,708,438	4,662,524
Average Duration Per Customer Affected (CAIDI)	1.89	1.88	1.83	1.88	1.86	1.87
Average Duration Per Customers Served	1.98	2.04	1.90	1.76	1.82	1.90
Interruptions Per 1000 Customers Served	13.62	13.61	14.38	13.95	14.26	13.96
Number of Customers Affected Per Customer Served (SAIFI)	1.04	1.08	1.03	0.94	0.97	1.01

STATEWIDE (WITH CON ED)

Excluding Major Storms

	2020	2021	2022	2023	2024	5 YR AVG
Number of Interruptions	76,677	78,461	82,288	75,721	80,076	78,645
Number of Customer-Hours	10,932,269	10,948,854	10,075,244	9,157,429	9,672,896	10,157,338
Number of Customers Affected	5,486,038	5,515,006	5,298,241	4,775,468	4,992,715	5,213,494
Number of Customers Served	8,154,220	8,146,146	8,224,654	8,303,399	8,394,786	8,244,641
Average Duration Per Customer Affected (CAIDI)	1.99	1.99	1.90	1.92	1.94	1.95
Average Duration Per Customers Served	1.35	1.34	1.24	1.11	1.16	1.24
Interruptions Per 1000 Customers Served	9.47	9.62	10.10	9.21	9.64	9.61
Number of Customers Affected Per Customer Served (SAIFI)	0.67	0.68	0.64	0.58	0.59	0.63

STATEWIDE (WITHOUT CON ED)

Including Major Storms

	2020	2021	2022	2023	2024	5 YR AVG
Number of Interruptions	92,523	74,176	82,748	75,984	90,563	83,199
Number of Customer-Hours	52,580,256	17,229,084	26,625,493	15,559,707	29,170,598	28,233,028
Number of Customers Affected	7,474,848	6,368,352	6,661,387	5,584,830	7,154,249	6,648,733
Number of Customers Served	4,618,770	4,647,421	4,661,199	4,676,793	4,708,438	4,662,524
Average Duration Per Customer Affected (CAIDI)	7.03	2.71	4.00	2.79	4.08	4.12
Average Duration Per Customers Served	11.44	3.73	5.73	3.34	6.24	6.10
Interruptions Per 1000 Customers Served	20.13	16.06	17.81	16.30	19.36	17.93
Number of Customers Affected Per Customer Served (SAIFI)	1.62	1.37	1.43	1.19	1.52	1.43

STATEWIDE (WITH CON ED)

Including Major Storms

	2020	2021	2022	2023	2024	5 YR AVG
Number of Interruptions	113,885	91,010	98,751	87,423	105,247	99,263
Number of Customer-Hours	73,733,264	19,351,098	27,980,280	16,693,582	30,879,574	33,727,560
Number of Customers Affected	8,597,929	6,941,133	7,173,472	6,017,371	7,635,900	7,273,161
Number of Customers Served	8,154,220	8,146,146	8,224,654	8,303,399	8,394,786	8,244,641
Average Duration Per Customer Affected (CAIDI)	8.58	2.79	3.90	2.77	4.04	4.42
Average Duration Per Customers Served	9.10	2.37	3.43	2.03	3.72	4.13
Interruptions Per 1000 Customers Served	14.06	11.16	12.12	10.63	12.68	12.13
Number of Customers Affected Per Customer Served (SAIFI)	1.05	0.85	0.87	0.72	0.91	0.88

CENTRAL HUDSON

Excluding Major Storms

	2020	2021	2022	2023	2024	5 YR AVG
Number of Interruptions	7,738	7,525	7,574	6,689	7,495	7,404
Number of Customer-Hours	946,420	1,181,259	900,449	792,075	878,570	939,755
Number of Customers Affected	399,149	442,323	399,975	342,370	375,664	391,896
Number of Customers Served	309,262	311,785	313,732	315,627	321,537	314,389
Average Duration Per Customer Affected (CAIDI)	2.37	2.67	2.25	2.31	2.33	2.39
Average Duration Per Customers Served	3.08	3.82	2.89	2.52	2.78	3.02
Interruptions Per 1000 Customers Served	25.20	24.33	24.29	21.32	23.75	23.78
Number of Customers Affected Per Customer Served (SAIFI)	1.29	1.42	1.27	1.08	1.17	1.25

CENTRAL HUDSON

Including Major Storms

	2020	2021	2022	2023	2024	5 YR AVG
Number of Interruptions	10,616	8,925	9,668	8,456	9,402	9,413
Number of Customer-Hours	4,756,359	1,939,104	3,683,676	1,813,727	1,873,195	2,813,212
Number of Customers Affected	664,830	564,376	585,260	459,475	508,701	556,528
Number of Customers Served	309,262	311,785	313,732	315,627	321,537	314,389
Average Duration Per Customer Affected (CAIDI)	7.15	3.44	6.29	3.95	3.68	4.90
Average Duration Per Customers Served	15.49	6.27	11.81	5.78	5.93	9.06
Interruptions Per 1000 Customers Served	34.58	28.86	31.01	26.95	29.79	30.24
Number of Customers Affected Per Customer Served (SAIFI)	2.15	1.81	1.87	1.46	1.58	1.77

CON ED (SYSTEM)

Excluding Major Storms

	2020	2021	2022	2023	2024	5 YR AVG
Number of Interruptions	14,082	15,622	15,443	10,680	13,395	13,844
Number of Customer-Hours	1,837,941	1,538,254	1,264,095	938,180	1,139,705	1,343,635
Number of Customers Affected	669,073	515,044	490,149	400,928	408,032	496,645
Number of Customers Served	3,535,450	3,498,725	3,563,455	3,626,606	3,686,348	3,582,117
Average Duration Per Customer Affected (CAIDI)	2.75	2.99	2.58	2.34	2.79	2.69
Average Duration Per Customers Served	0.52	0.44	0.36	0.26	0.31	0.38
Interruptions Per 1000 Customers Served	4.02	4.42	4.41	3.00	3.69	3.91
Number of Customers Affected Per Customer Served (SAIFI)	0.19	0.15	0.14	0.11	0.11	0.14

CON ED (SYSTEM)

Including Major Storms

	2020	2021	2022	2023	2024	5 YR AVG
Number of Interruptions	21,362	16,834	16,003	11,439	14,684	16,064
Number of Customer-Hours	21,153,009	2,122,014	1,354,787	1,133,875	1,708,976	5,494,532
Number of Customers Affected	1,123,081	572,781	512,085	432,541	481,651	624,428
Number of Customers Served	3,535,450	3,498,725	3,563,455	3,626,606	3,686,348	3,582,117
Average Duration Per Customer Affected (CAIDI)	18.83	3.70	2.65	2.62	3.55	6.27
Average Duration Per Customers Served	6.04	0.60	0.39	0.32	0.47	1.56
Interruptions Per 1000 Customers Served	6.09	4.76	4.57	3.21	4.05	4.54
Number of Customers Affected Per Customer Served (SAIFI)	0.32	0.16	0.14	0.12	0.13	0.18

CON ED (NETWORK)

	2020	2021	2022	2023	2024	5 YR AVG
Number of Interruptions	6,987	8,632	7,934	3,959	6,363	6,775
Number of Customer-Hours	973,079	685,954	472,142	239,631	485,275	571,216
Number of Customers Affected	241,562	72,670	64,155	35,148	59,874	94,682
Number of Customers Served	2,623,892	2,593,235	2,650,502	2,706,918	2,752,432	2,665,396
Average Duration Per Customer Affected (CAIDI)	4.03	9.44	7.36	6.82	8.10	7.15
Average Duration Per Customers Served	0.37	0.26	0.18	0.09	0.18	0.22
Interruptions Per 1000 Customers Served	2.69	3.29	3.06	1.49	2.35	2.58
Number of Customers Affected Per Customer Served (SAIFI)	0.092	0.028	0.024	0.013	0.022	0.04

CON ED (RADIAL)

Excluding Major Storms

	2020	2021	2022	2023	2024	5 YR AVG
Number of Interruptions	7,095	6,990	7,934	3,959	6,363	6,468
Number of Customer-Hours	864,862	852,299	791,953	698,549	654,430	772,418
Number of Customers Affected	427,511	442,374	425,994	365,780	348,158	401,963
Number of Customers Served	911,558	905,490	912,953	919,688	933,916	916,721
Average Duration Per Customer Affected (CAIDI)	2.02	1.93	1.86	1.91	1.88	1.92
Average Duration Per Customers Served	0.96	0.93	0.87	0.77	0.71	0.85
Interruptions Per 1000 Customers Served	7.85	7.67	8.76	4.34	6.92	7.11
Number of Customers Affected Per Customer Served (SAIFI)	0.469	0.489	0.467	0.398	0.373	0.44

CON ED (RADIAL)

Including Major Storms

	2020	2021	2022	2023	2024	5 YR AVG
Number of Interruptions	14,375	8,202	16,003	11,439	14,684	12,941
Number of Customer-Hours	20,179,929	1,436,059	882,645	894,244	1,223,700	4,923,315
Number of Customers Affected	881,519	500,111	447,930	397,393	421,777	529,746
Number of Customers Served	911,558	905,490	912,953	919,688	933,916	916,721
Average Duration Per Customer Affected (CAIDI)	22.89	2.87	1.97	2.25	2.90	6.58
Average Duration Per Customers Served	22.32	1.58	0.97	0.98	1.33	5.44
Interruptions Per 1000 Customers Served	15.90	9.00	17.67	12.53	15.97	14.21
Number of Customers Affected Per Customer Served (SAIFI)	0.97	0.55	0.49	0.43	0.45	0.58

PSEG LI

Excluding Major Storms

	2020	2021	2022	2023	2024	5 YR AVG
Number of Interruptions	21,176	19,555	21,372	21,582	22,717	21,280
Number of Customer-Hours	1,246,625	1,037,492	1,067,733	1,075,684	1,138,165	1,113,140
Number of Customers Affected	901,830	773,082	779,221	787,062	830,265	814,292
Number of Customers Served	1,134,141	1,138,340	1,144,195	1,146,481	1,151,740	1,142,979
Average Duration Per Customer Affected (CAIDI)	1.38	1.34	1.37	1.37	1.37	1.37
Average Duration Per Customers Served	1.10	0.91	0.94	0.94	0.99	0.98
Interruptions Per 1000 Customers Served	18.76	17.24	18.77	18.86	19.81	18.69
Number of Customers Affected Per Customer Served (SAIFI)	0.80	0.68	0.68	0.69	0.72	0.71

PSEG LI

Including Major Storms

	2020	2021	2022	2023	2024	5 YR AVG
Number of Interruptions	35,462	20,366	22,275	22,318	23,194	24,723
Number of Customer-Hours	19,756,921	1,276,823	1,190,274	1,193,450	1,218,188	4,927,131
Number of Customers Affected	1,616,774	827,804	827,533	816,040	858,984	989,427
Number of Customers Served	1,134,141	1,138,340	1,144,195	1,146,481	1,151,740	1,142,979
Average Duration Per Customer Affected (CAIDI)	12.22	1.54	1.44	1.46	1.42	3.62
Average Duration Per Customers Served	17.50	1.13	1.05	1.04	1.06	4.36
Interruptions Per 1000 Customers Served	31.42	17.96	19.57	19.51	20.23	21.74
Number of Customers Affected Per Customer Served (SAIFI)	1.43	0.73	0.72	0.71	0.75	0.87

National Grid

Excluding Major Storms

	2020	2021	2022	2023	2024	5 YR AVG
Number of Interruptions	15,134	14,883	14,738	13,844	14,927	14,705
Number of Customer-Hours	3,512,446	3,334,033	3,478,746	3,149,825	3,332,986	3,361,607
Number of Customers Affected	1,732,491	1,767,661	1,781,841	1,544,023	1,628,249	1,690,853
Number of Customers Served	1,663,214	1,673,962	1,677,625	1,679,956	1,693,150	1,677,581
Average Duration Per Customer Affected (CAIDI)	2.03	1.89	1.95	2.04	2.05	1.99
Average Duration Per Customers Served	2.12	2.00	2.08	1.88	1.98	2.01
Interruptions Per 1000 Customers Served	9.14	8.95	8.80	8.25	8.89	8.81
Number of Customers Affected Per Customer Served (SAIFI)	1.04	1.06	1.06	0.92	0.96	1.01

National Grid

Including Major Storms

	2020	2021	2022	2023	2024	5 YR AVG
Number of Interruptions	20,782	18,559	20,914	16,999	24,148	20,280
Number of Customer-Hours	12,629,772	6,177,279	9,920,022	5,822,707	14,322,228	9,774,402
Number of Customers Affected	2,494,794	2,190,203	2,493,613	1,915,421	2,856,340	2,390,074
Number of Customers Served	1,663,214	1,673,962	1,677,625	1,679,956	1,693,150	1,677,581
Average Duration Per Customer Affected (CAIDI)	5.06	2.82	3.98	3.04	5.01	3.98
Average Duration Per Customers Served	7.63	3.71	5.93	3.47	8.53	5.85
Interruptions Per 1000 Customers Served	12.55	11.16	12.49	10.13	14.37	12.14
Number of Customers Affected Per Customer Served (SAIFI)	1.50	1.31	1.49	1.14	1.69	1.42

NYSEG

Excluding Major Storms

	2020	2021	2022	2023	2024	5 YR AVG
Number of Interruptions	11,807	11,774	13,839	14,882	13,638	13,188
Number of Customer-Hours	2,419,098	2,658,719	2,458,728	2,297,715	2,241,846	2,415,221
Number of Customers Affected	1,224,028	1,317,127	1,310,034	1,172,341	1,180,562	1,240,818
Number of Customers Served	899,315	905,005	905,435	911,323	913,654	906,946
Average Duration Per Customer Affected (CAIDI)	1.98	2.02	1.88	1.96	1.90	1.95
Average Duration Per Customers Served	2.70	2.96	2.72	2.54	2.46	2.67
Interruptions Per 1000 Customers Served	13.19	13.09	15.29	16.44	14.97	14.60
Number of Customers Affected Per Customer Served (SAIFI)	1.36	1.46	1.45	1.29	1.29	1.37

NYSEG

Including Major Storms

	2020	2021	2022	2023	2024	5 YR AVG
Number of Interruptions	16,859	15,963	19,584	19,044	24,307	19,151
Number of Customer-Hours	10,051,986	5,509,346	10,137,576	5,182,858	9,942,732	8,164,900
Number of Customers Affected	1,859,509	1,958,103	2,064,781	1,714,076	2,138,776	1,947,049
Number of Customers Served	899,315	905,005	905,435	911,323	913,654	906,946
Average Duration Per Customer Affected (CAIDI)	5.41	2.81	4.91	3.02	4.65	4.16
Average Duration Per Customers Served	11.23	6.13	11.20	5.72	10.91	9.04
Interruptions Per 1000 Customers Served	18.84	17.75	21.64	21.03	26.67	21.19
Number of Customers Affected Per Customer Served (SAIFI)	2.07	2.16	2.28	1.88	2.34	2.15

Orange & Rockland

Excluding Major Storms

	2020	2021	2022	2023	2024	5 YR AVG
Number of Interruptions	3,546	3,858	4,027	4,001	4,103	3,907
Number of Customer-Hours	371,083	418,697	384,873	436,283	420,395	406,266
Number of Customers Affected	222,505	267,493	219,180	254,224	251,355	242,951
Number of Customers Served	231,512	234,333	235,938	237,591	240,359	235,947
Average Duration Per Customer Affected (CAIDI)	1.67	1.57	1.76	1.72	1.67	1.68
Average Duration Per Customers Served	1.62	1.81	1.64	1.85	1.77	1.74
Interruptions Per 1000 Customers Served	15.47	16.66	17.18	16.96	17.27	16.71
Number of Customers Affected Per Customer Served (SAIFI)	0.96	1.14	0.93	1.07	1.05	1.03

Orange & Rockland

Including Major Storms

	2020	2021	2022	2023	2024	5 YR AVG
Number of Interruptions	5,245	4,127	4,118	4,585	5,074	4,630
Number of Customer-Hours	4,585,941	529,830	438,501	889,791	926,810	1,474,175
Number of Customers Affected	437,942	299,986	235,364	354,331	378,082	341,141
Number of Customers Served	231,512	234,333	235,938	237,591	240,359	235,947
Average Duration Per Customer Affected (CAIDI)	10.47	1.77	1.86	2.51	2.45	3.81
Average Duration Per Customers Served	20.01	2.29	1.87	3.77	3.90	6.37
Interruptions Per 1000 Customers Served	22.89	17.83	17.57	19.43	21.36	19.81
Number of Customers Affected Per Customer Served (SAIFI)	1.89	1.28	1.00	1.49	1.57	1.45

RG&E

Excluding Major Storms

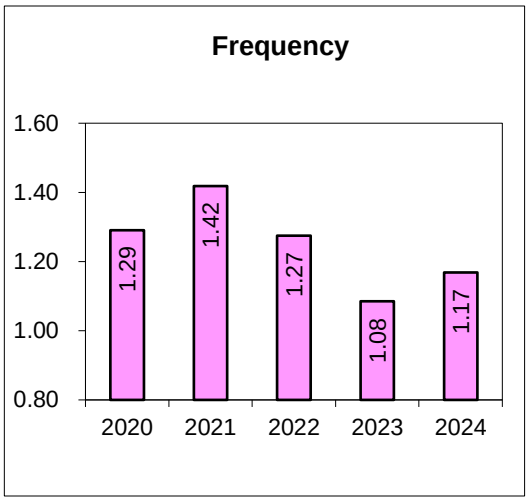
	2020	2021	2022	2023	2024	5 YR AVG
Number of Interruptions	3,194	5,244	5,295	4,043	3,801	4,315
Number of Customer-Hours	598,656	780,401	520,620	467,666	521,228	577,714
Number of Customers Affected	336,962	432,276	317,841	274,520	318,588	336,037
Number of Customers Served	381,326	383,996	384,274	385,815	387,998	384,682
Average Duration Per Customer Affected (CAIDI)	1.78	1.81	1.64	1.70	1.64	1.71
Average Duration Per Customers Served	1.58	2.05	1.36	1.22	1.35	1.51
Interruptions Per 1000 Customers Served	8.42	13.75	13.79	10.52	9.85	11.27
Number of Customers Affected Per Customer Served (SAIFI)	0.88	1.13	0.83	0.71	0.82	0.87

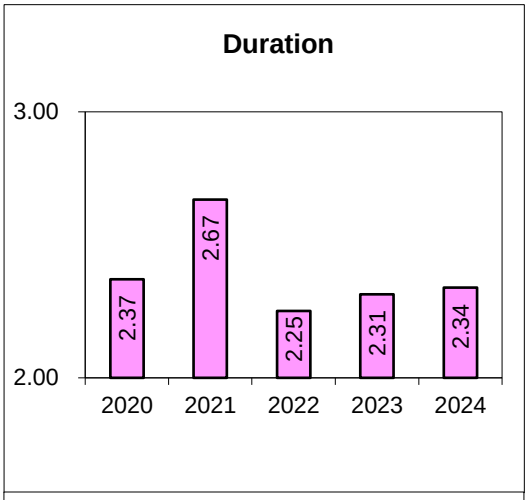
RG&E

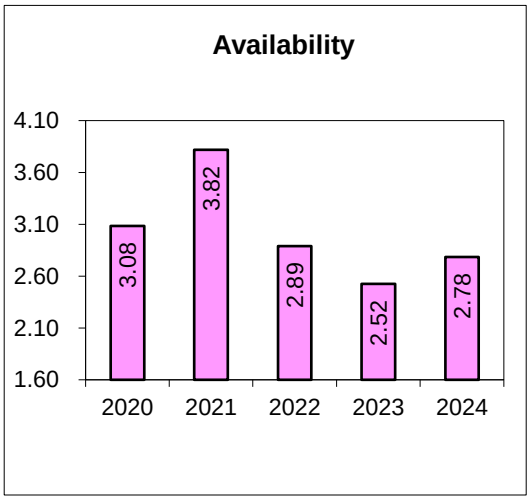
Including Major Storms

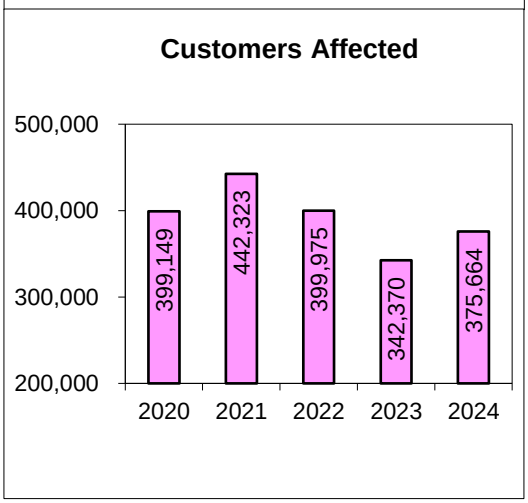
	2020	2021	2022	2023	2024	5 YR AVG
Number of Interruptions	3,559	6,236	6,189	4,582	4,438	5,001
Number of Customer-Hours	799,277	1,796,702	1,255,444	657,175	887,444	1,079,208
Number of Customers Affected	400,999	527,880	454,836	325,487	413,366	424,514
Number of Customers Served	381,326	383,996	384,274	385,815	387,998	384,682
Average Duration Per Customer Affected (CAIDI)	1.99	3.40	2.76	2.02	2.15	2.46
Average Duration Per Customers Served	2.11	4.71	3.27	1.71	2.30	2.82
Interruptions Per 1000 Customers Served	9.39	16.35	16.12	11.92	11.50	13.06
Number of Customers Affected Per Customer Served (SAIFI)	1.05	1.37	1.18	0.84	1.07	1.10

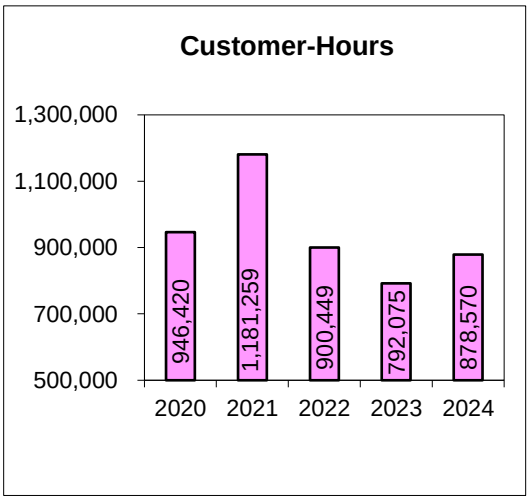
Central Hudson Gas and Electric
(Excluding Major Storms)

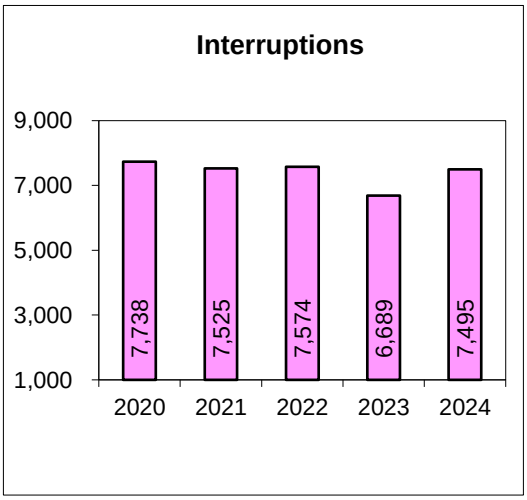




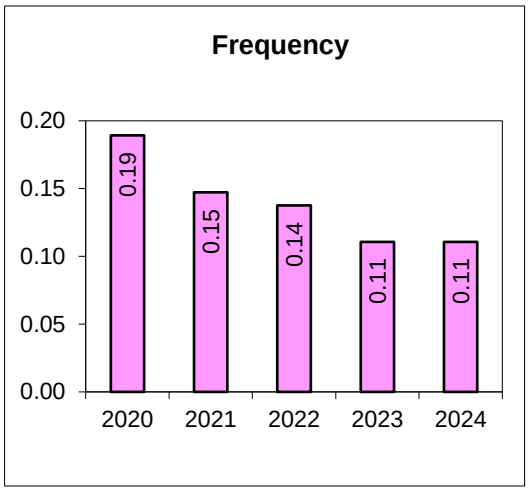


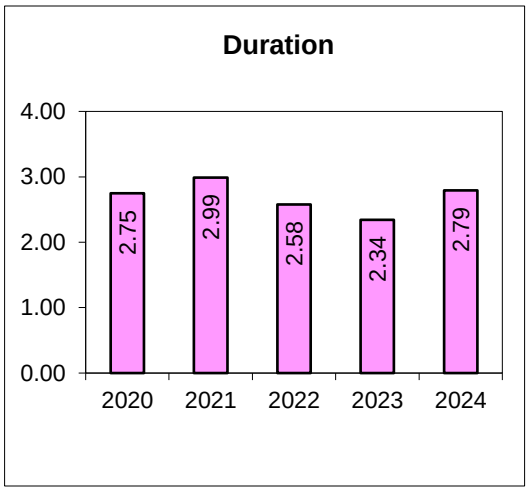


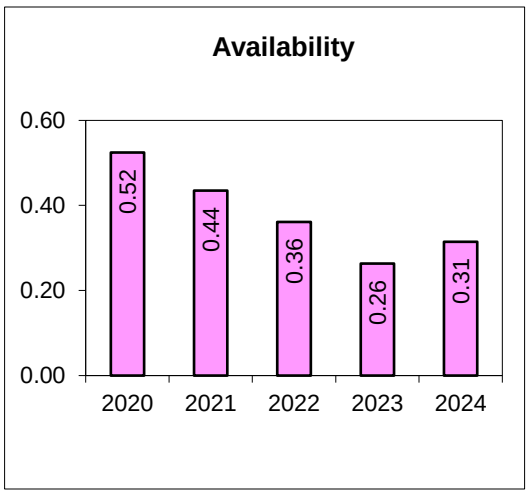


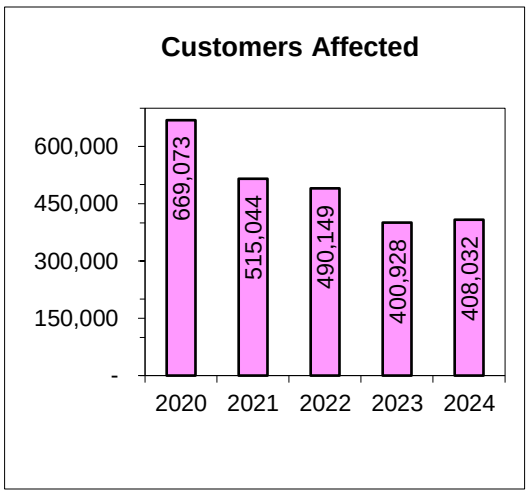


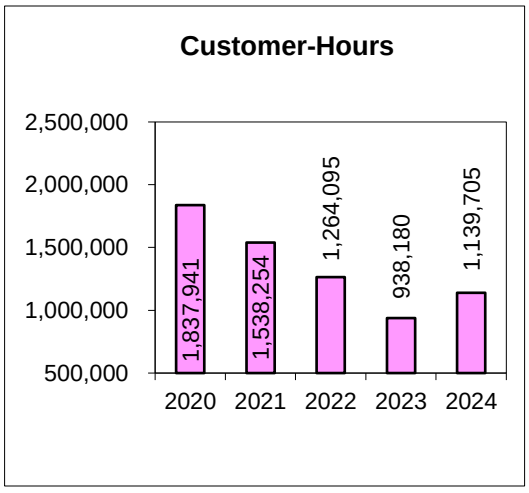
Consolidated Edison - System
(Excluding Major Storms)

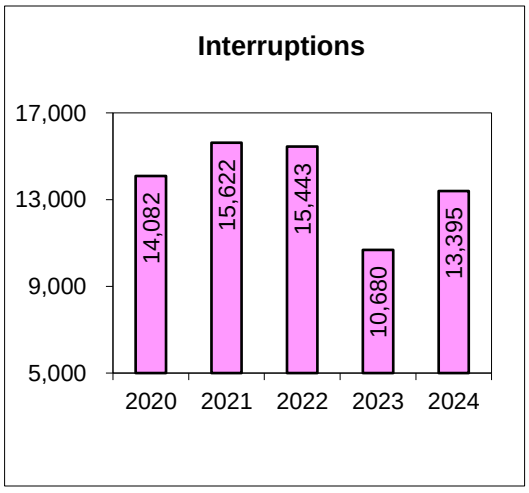




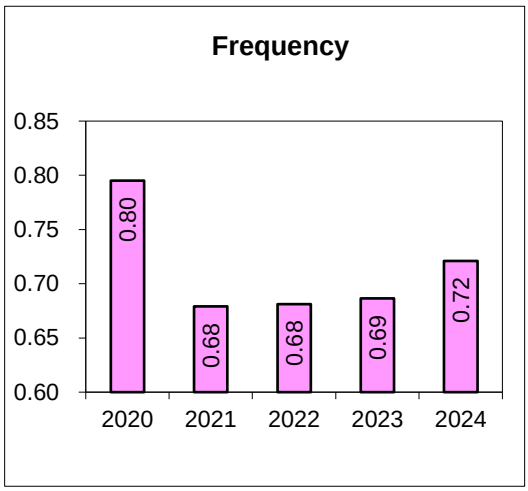


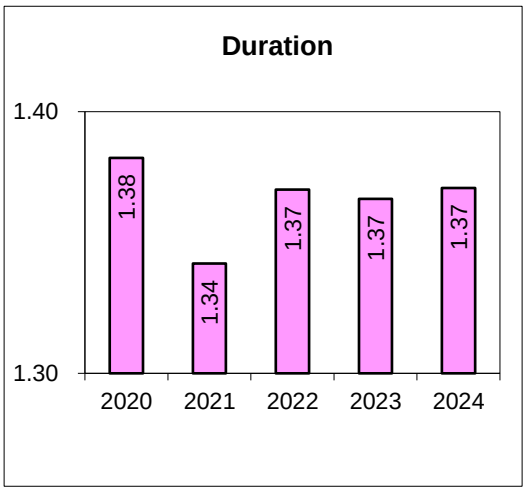


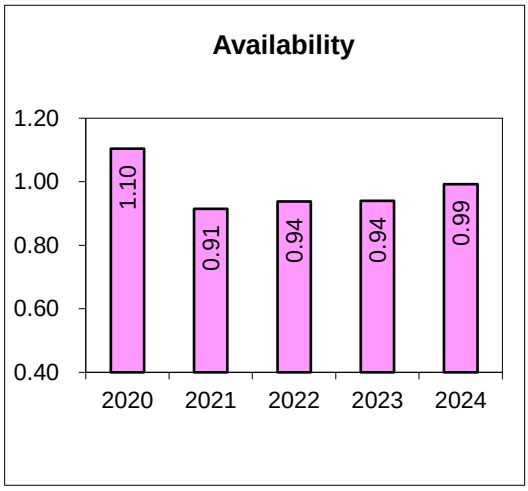


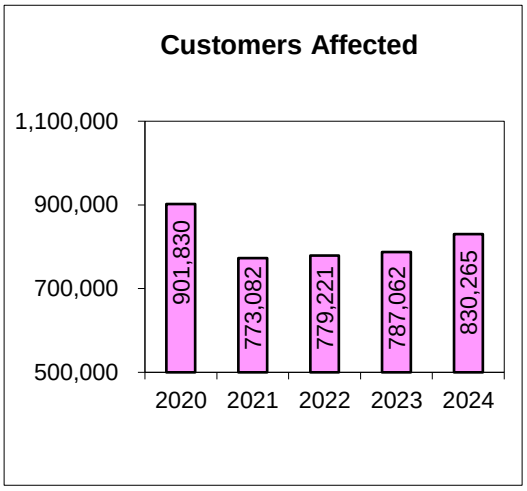


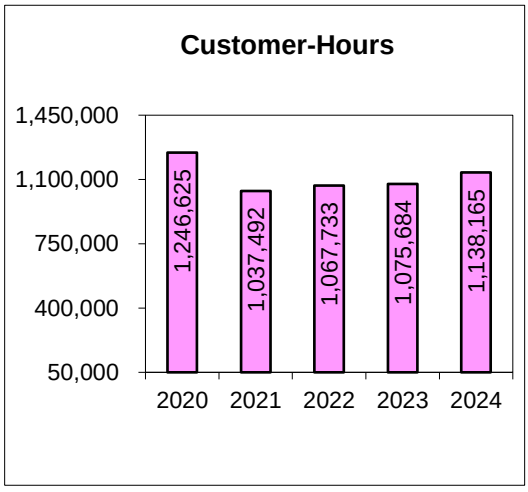
Long Island Power Authority
(Excluding Major Storms)

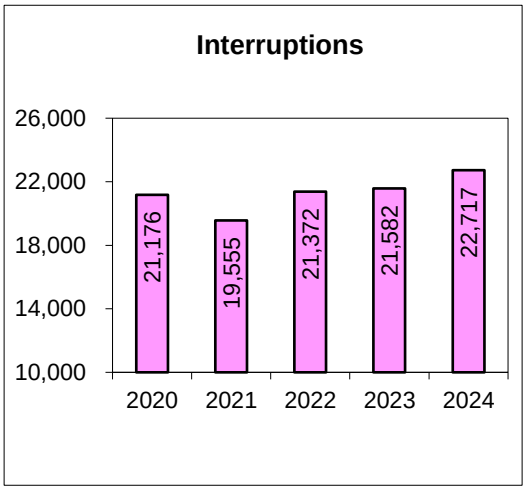




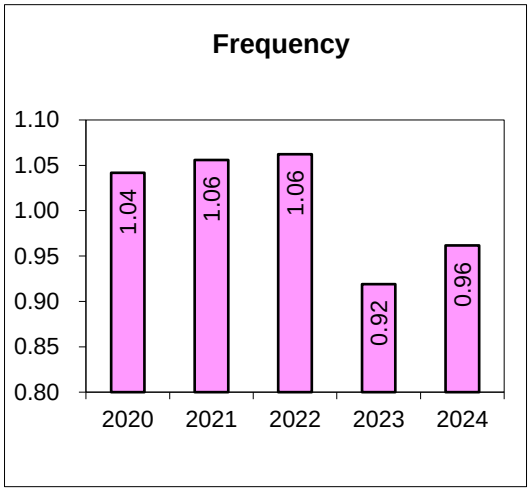


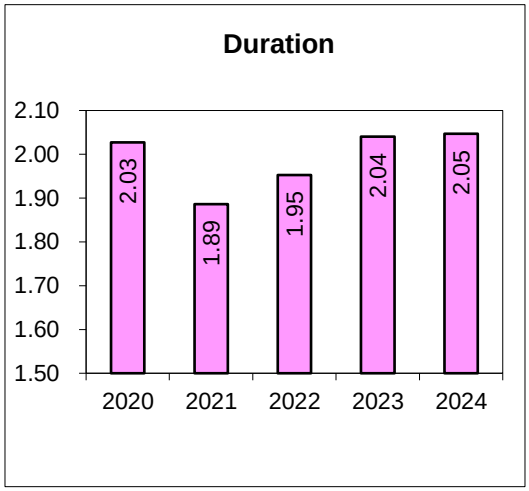


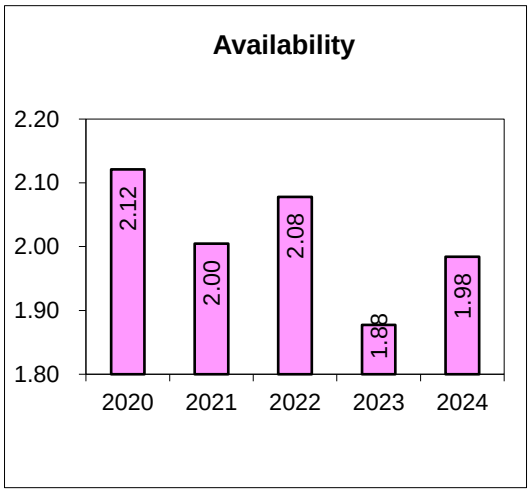


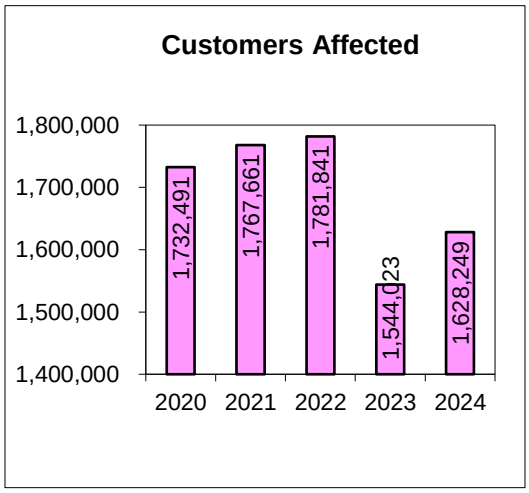


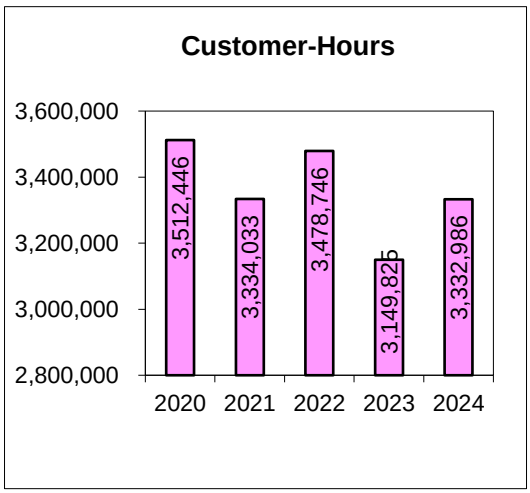
National Grid
(Excluding Major Storms)

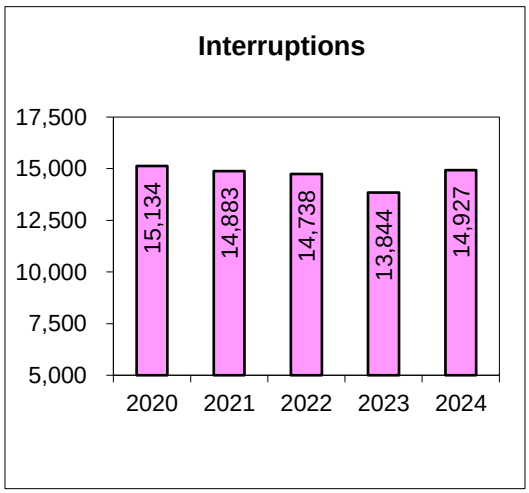




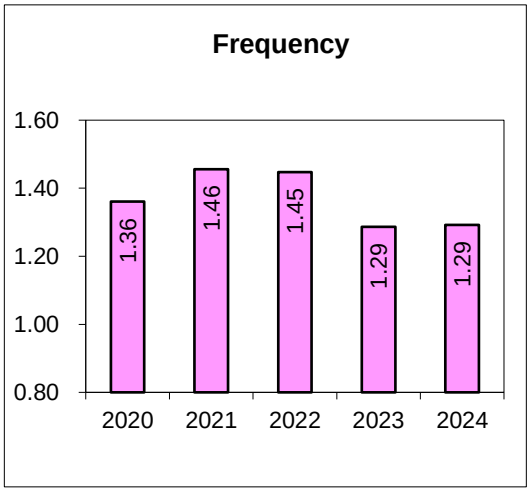


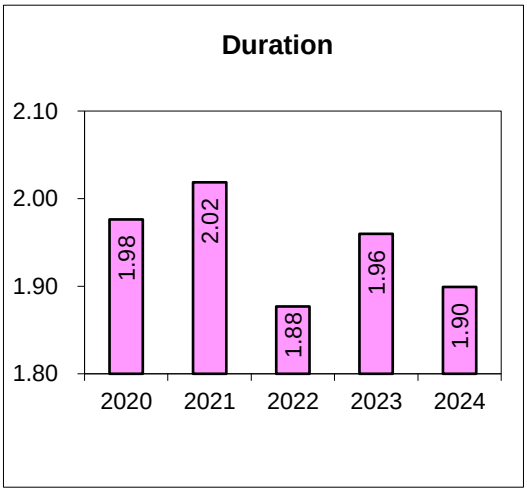


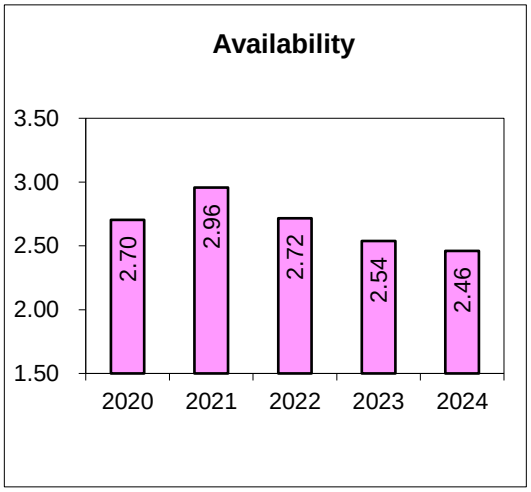


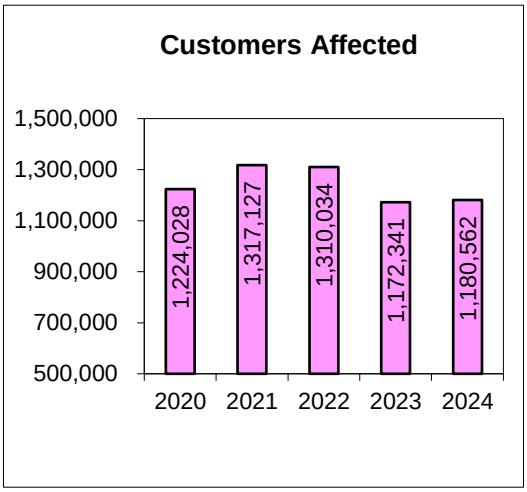


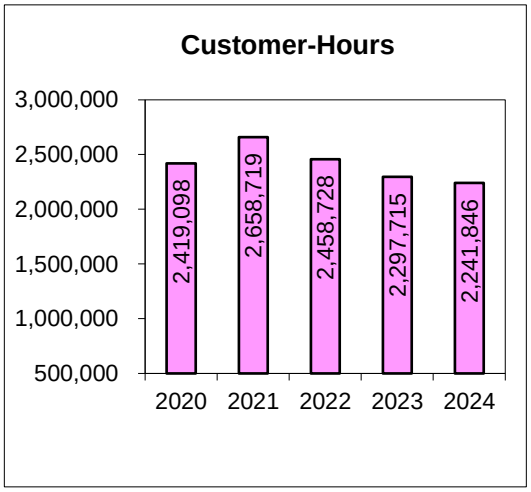
New York State Electric and Gas
(Excluding Major Storms)

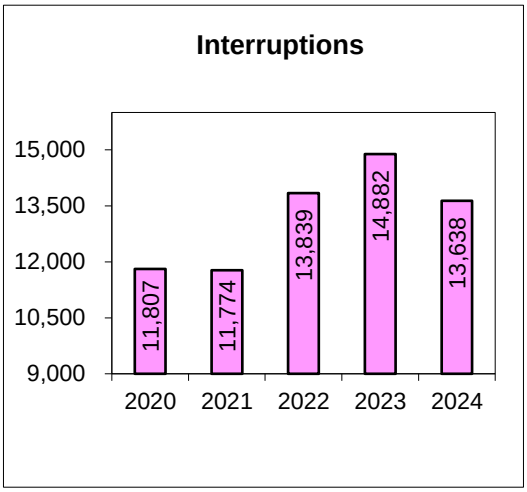




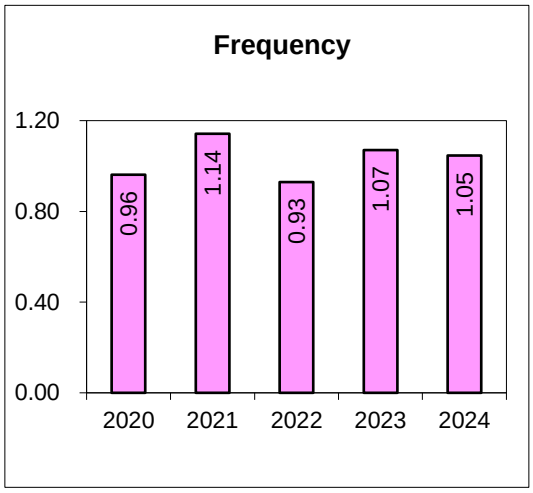


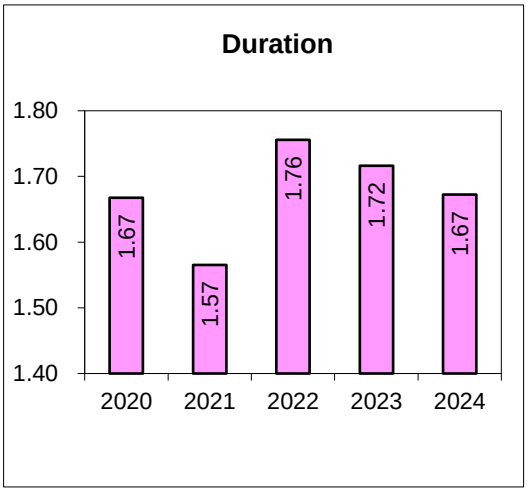


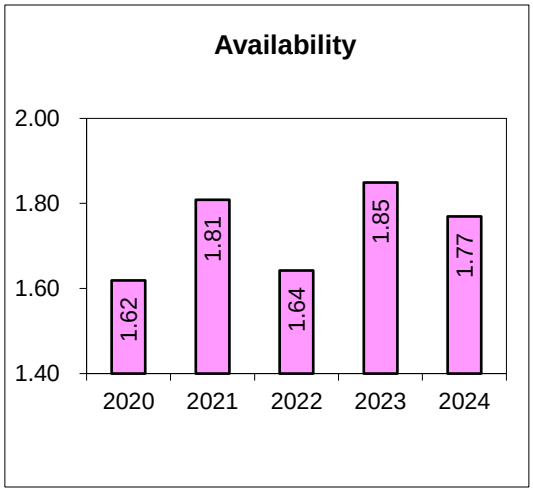


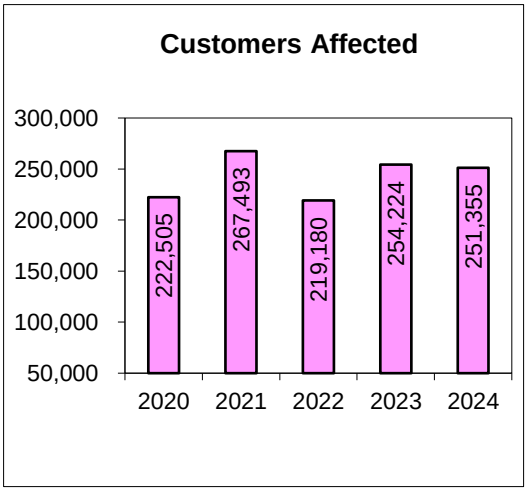


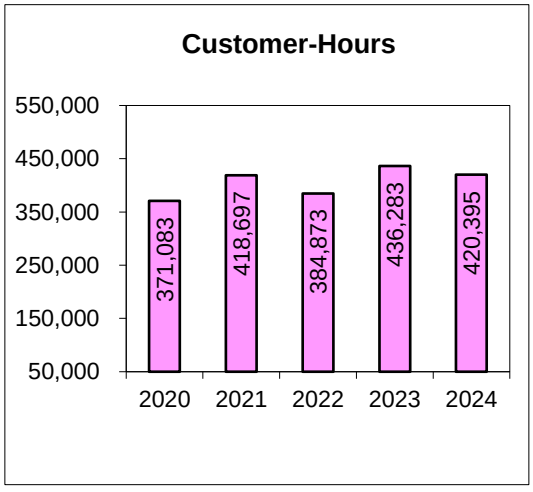
Orange and Rockland Utilities
(Excluding Major Storms)

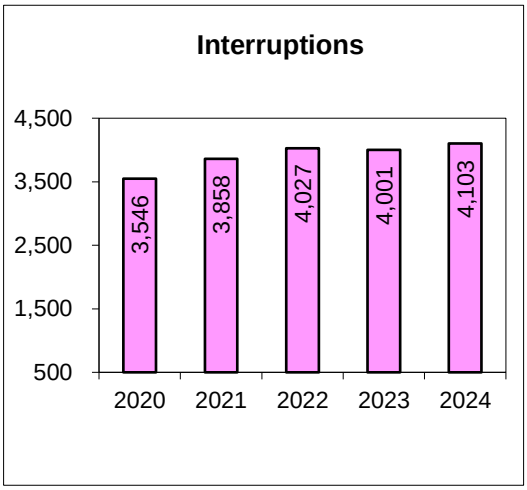












Rochester Gas and Electric
(Excluding Major Storms)