

KEVIN BURKE, CHAIRMAN AND CHIEF EXECUTIVE OFFICER
Opening Statement before the City Council's Consumer Affairs
Committee
July 31, 2006

Good morning, Chairman Comrie and committee members. My name is Kevin Burke and I am Chairman and Chief Executive Officer of Consolidated Edison. I appreciate the opportunity to address the Committee today on the power outages in northwest Queens. I will give the Committee a brief overview of these events that are described in further detail in my official testimony that is before you.

I would like to thank the City of New York, the Office of Emergency Management, the Police Department, the Fire Department, the Red Cross, our employees, and all of the utilities that helped us meet the challenge of restoring service to the people of Queens. I would also like to thank our customers for their help and conservation efforts throughout this difficult period. Without their efforts, the outages in northwest Queens could have been far worse. During the week of July 17, I spoke to customers and I heard their frustrations. But I also heard words of appreciation for the hard work and dedication of our employees. I commend our customers for their patience and continued cooperation.

Con Edison is committed to the permanent restoration, as quickly as possible, of the Long Island City network, which provides electricity to the people of Astoria, Long Island City, Woodside, Sunnyside, and Hunters Point. Last Thursday I assigned a vice president to lead a Long Island City network rebuilding task force charged with the restoration of this network. The task force will have offices located in the communities served by the

Long Island City network – one in the northern part of the network and one in the southern part. The vice president will provide me with daily reports of the task force's progress. The work ahead will require a step-by-step and block-by-block process. We must analyze the damage done to the secondary system. The restoration work will be a challenge and may take many months, but the people of northwest Queens will benefit from an improved network as a result of this work.

Although it is no consolation to the people of northwest Queens, the decision we made prevented a shutdown of the entire Long Island City network. That decision limited the impact of the outage, which would have left many more people without power. On July 18th, we experienced the second-highest customer demand for power ever. On that day, 10 of the 22 primary feeders serving the Long Island City network were out of service simultaneously. During this period, operating personnel were reviewing information from various systems. Individual feeders were being monitored and the ongoing feeder repairs, testing, and restoration steps closely coordinated. Operators continuously assessed the condition of the LIC network. Based upon an assessment of the information reviewed, operating personnel decided that shutting down the entire network was not necessary.

The network system has protections inherent in its design. Our design provides a very high level of reliability because if a feeder fails or is removed from service intentionally for maintenance, the customers continue to be supplied by other feeders and will not be affected. In most cases, they will not even know that the feeder was out of service. In

fact, our networks are designed to allow for the loss of any two primary feeders, at peak summer consumption levels, without any impact on customers. But, the loss of 10 feeders caused significant stress that damaged the secondary system and created a difficult challenge for our crews.

Clearly the events of the last two weeks have demonstrated that we need a better system for estimating how many customers are without power. Generally, Con Edison becomes aware of customer outages when customers call us to report that they are out of service. In an overhead system, the path through which electricity flows to a customer is known. In a network system, because energy can flow over many paths, the exact path is not known. The inherent superior reliability of the network system, when compared to overhead systems, is that there are many possible paths for electricity to take to supply the customer. As a result, on the network system, while we know that a certain feeder or transformer is out of service, we do not necessarily know that any customers are out unless they tell us, and generally, because of the design of the system, no customers are out of service. Under typical conditions of a few scattered outages, counting customer outages based on telephone calls results in a reasonable representation of interruptions.

The numbers of customers without power that we initially communicated were the number of customers who called and informed us that they had no power. As it became apparent that a greater number of people were experiencing outages than were indicated by customer calls, we surveyed the affected neighborhoods. Even before we understood

the full extent of the number of customers without power, our employees acted quickly to identify and repair problems.

We established locations for residents to pick up dry ice, wet ice, and water. We also sent electric generators to large residential housing complexes, to large commercial facilities, and to residential neighborhoods. We coordinated our efforts with the Red Cross and other voluntary groups. We also communicated with the city and partnered with a number of agencies to provide assistance.

While analyses in the weeks and months to come will help address specific issues, let's not forget that investments we have made over the past few years have kept New York City's electric system the most reliable system in the country. PA Consulting's 2004 survey of 47 utilities located across the country shows Con Edison to be four times more reliable than the next best utility in the survey and more than nine times better than the average utility's customer interruption rate. In the LIC network, fewer than three customers per thousand were interrupted during 2005. By this measure, the LIC network performed better than our average network in 2005; this was also the case in each of the last five years. This performance is significantly better than the rest of New York State, which experienced 1,006 interruptions per thousand customers in 2005.

In the case of this outage, however, we did not meet our high standards and our customers' expectations in northwest Queens.

Con Edison has spent \$6 billion during the past five years on its capital improvement programs. The recent outages in Queens underscore the importance of our current plans to strengthen the system. The men and women of Con Edison strive to provide New Yorkers with the most reliable energy infrastructure in the country.

The events in northwest Queens were extraordinary. I regret the hardships that the residents of northwest Queens suffered during this period and will be working to restore their confidence in us. Thank you.

KEVIN BURKE, CHAIRMAN AND CHIEF EXECUTIVE OFFICER
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1. Introduction

Good morning, Chairman Comrie and committee members. My name is Kevin Burke and I am Chairman and Chief Executive Officer of Consolidated Edison. I appreciate the opportunity to address the Committee today on the power outages in northwest Queens. This testimony is based on preliminary information. We will continue to collect additional information and perform analyses to identify the appropriate recommendations to implement. This committee will be provided with a copy of our report.

What happened during the week of July 17 was an extraordinary event both for the people in northwest Queens and for the Con Edison system. Ten of the 22 primary feeders serving the Long Island City (LIC) Network were out of service simultaneously. During the week, we used all of our available resources to keep power on for as many people as possible. By repairing and restoring these feeders and working closely with city agencies and customers to reduce energy usage in the area, we were able to avoid shutting down the entire network.

I have apologized to the people in northwest Queens for the outages that they experienced. We will find out why this happened, make recommendations, and implement them to improve our service. We pride ourselves on Con Edison's reliability, which exceeds that of any other utility in the country by a wide margin. PA Consulting's 2004 survey of 47 utilities located across the country shows Con Edison to be four times

more reliable than the next best utility in the survey and more than nine times better than the average utility's customer interruption rate. That means that the average customer of other utilities experiences power interruptions nine times more often than the customers served by Con Edison. We were also more than five times more reliable than the next best utility in New York State in 2005.

In the LIC network, fewer than three customers per 1,000 were interrupted during 2005. By this measure, the LIC network performed better than our average network in 2005; this was also the case in each of the last 5 years. This performance is significantly better than the rest of New York State, which experienced 1,006 interruptions per 1,000 customers in 2005.

Our average interruption time for all customers in the LIC network was less than 1 minute in 2005. By this measure, the LIC network performed better than our average network in 2005 and for each year for the last 5 years. This performance is also significantly better than the rest of New York State, which averaged approximately 2 hours for all customers in 2005.

In the case of this outage, however, we did not meet our high standards and our customers' expectations in northwest Queens.

I would like to thank the Office of the Emergency Management, the City of New York, the Police Department, the Fire Department, the Red Cross, our employees, and all of the utilities that helped us meet the challenge of restoring service to our customers. I would also like to thank our customers. We deeply appreciate the help and conservation efforts

of many residents and businesses throughout this difficult period. Without their efforts, the outages in Long Island City could have been far worse. When I spoke to customers during the week, I heard their frustrations but also heard words of appreciation for the hard work and dedication of our employees.

2. Overview of the System and LIC Network

To better explain what happened during the week of July 17, I would like to provide you with an overview of our system and how our networks work. We deliver electricity to approximately 3.2 million customers in our service territory through over 95,000 miles of underground cable and more than 33,000 miles of overhead wire.

Attachment 1 shows the basic parts of the electric system. Electricity is produced at power plants and transmitted at very high voltages to area substations. The area substation reduces the voltage and sends the electricity out over the primary feeders into our distribution system. It should be noted that in the 1990s, as a result of restructuring of the electric industry, we sold most of our power plants.

In New York City, we have 46 area substations and 57 networks. In Queens, there are seven networks served by six area substations. Each network has numerous primary feeders. Each of these primary feeders, which start at the substation, carries electricity at high voltage, 27,000 volts, on three energized cables. These underground cables run through the network for miles and are composed of many sections of cable and cable splices. A cable feeds many transformers along its path. Some of our larger customers

We believe that investment in our infrastructure and spending for Operations and Maintenance (O&M), has been, and will be, critical to our performance as the most reliable utility in the country. Over the past five years, Con Edison spent more than \$6 billion in capital investments in our systems, with \$1.5 billion being spent in 2005. Of this amount, \$1.0 billion, or two-thirds, was for capital improvements to the Electric Transmission and Distribution (T&D) system. More than \$650 million of the \$1.0 billion was for improvements to the electric distribution system.

3. Events of July 17 through July 21

Anticipating high demand for electricity for the impending heat wave, we made preparations by working on equipment out for maintenance and returning our feeders to service. Beginning Sunday at 7:00 p.m., we mobilized our Distribution Engineering Command Post at our headquarters. We undertake these activities whenever the forecast for temperature and energy consumption are projected to be high. Distribution Engineering Command Post supports our regional control centers which direct the field crew, and also becomes an information center, coordinating with City agencies such as the NYC Office of Emergency Management and the Police Department.

The following is a chronology of the events during this period:

Monday, July 17

- At 3:50 p.m., one of the 22 primary feeders went out of service followed 32 minutes later by a second feeder , putting the LIC network into second contingency. A second contingency means that two primary feeders are out of service.
- From the time the first primary feeder went out of service, our regional control center started working on locating the underground feeder problems, fixing the feeders, and returning them to service.
- At 6:48 p.m., three more network feeders went out of service. As a result, we now had five of the 22 primary feeders out of service. At 6:54 p.m., our System Operator took action by reducing the voltage by 8% in the LIC network to lower electric consumption.
- Representatives from our Emergency Management group contacted the New York City OEM to provide frequent updates on significant changes on the condition of the LIC network. The initial focus of these telephone calls dealt with the status of our primary feeders as well as our assessment of the possible impact on critical and sensitive facilities such as the Bowery Bay Waste Water Treatment Plant, LaGuardia Airport, NYC Transit, and Rikers Island if additional feeders went out of service.

- At 7:30 p.m., we began to notify our large and sensitive customers in the LIC network, apprising them of the situation and in some cases asking them to reduce their electric consumption.
- In addition, the Con Edison press office began asking the media to alert customers in Queens to curtail their energy use. By the evening news broadcasts, we specified our concerns about northwest Queens and the media responded by airing the messages on radio and TV through announcements.
- In the late evening, an OEM representative was dispatched to our regional control center for Queens to improve communications and support the coordination of efforts between the City and the Company.
- Before midnight on Monday, we were able to restore three of the primary feeders to service, but three additional feeders went out of service during the same period. This meant we still had five of the 22 primary feeders out of service.

Tuesday, July 18

- In the early morning, an Office of Emergency Management responder was also dispatched to our Distribution Engineering Command Post at our corporate headquarters to provide additional support and communication. Throughout the day, we continued to have this presence and participated in regularly scheduled conference calls with OEM.
- Later in the morning, the impact on LaGuardia Airport received widespread coverage.

- Our press office continued to ask the media to carry our energy conservation message for northwest Queens, and described the effects of the heat wave on our equipment. The media continued to issue these public appeals.
- Customers calling us about electrical problems heard a message to cut back usage on all non-essential appliances wherever possible.
- We contacted elected officials or their staffs in the affected areas to update them on our operating situation and let them know about our efforts to reduce energy use in their communities.
- Our customer outreach efforts continued in the morning and throughout the day. In addition to again contacting our large and sensitive customers, Company representatives were dispatched to distribute flyers, requesting customer conservation efforts, in specific areas of concern. We requested and received assistance from the NYC OEM and New York Police Department (NYPD). NYPD personnel crisscrossed different neighborhoods using patrol car loud speaker systems to further alert customers.
- As the temperature rose during the day on Tuesday, the demand for electricity also rose, increasing the electricity flowing on the remaining feeders. During the period from midnight on Monday to noon on Tuesday, we had repaired and restored two feeders; however, two additional feeders went out of service meaning that we still had five of the 22 feeders out of service in the network.
- Working very closely with the NYC OEM and with customers to reduce customer usage in the area, we were able to reduce consumption on the entire network. Several customers significantly reduced their usage or went on their

own generation to assist. These customers included: NYC Transit, NYCHA, Board of Education, Department of Corrections, DEP's Bowery Bay Plant, LaGuardia Airport, Triborough Bridge and Tunnel Authority, Long Island Railroad, CitiCorp, and Met Life.

- Through the afternoon and evening, as electric consumption decreased, we focused on repairing and restoring feeders in an effort to avoid customer impact, but we continued to experience feeders going out of service. In fact, four feeders went out of service during a 33 minute period between 8:05 p.m. and 8:38 p.m.. For 15 minutes on Tuesday night, between 8:38 p.m. and 8:53 p.m., 10 of the 22 feeders were out of service at one time. After the 15 minutes, we returned to nine of 22 feeders out of service.
- During this period, operating personnel were reviewing information from various systems. Individual feeder electric flow was being monitored and the ongoing feeder repairs, testing, and restoration steps closely coordinated. Operators continuously assessed the condition of the LIC network. Electric consumption had been decreasing for several hours and was forecast to continue decreasing. Based upon an assessment of the information reviewed, operating personnel decided that shutting down the entire network was not necessary.
- Our Emergency Management group continuously updated representatives from the NYC OEM and NYPD who were present at our Command Post. They also participated in regular scheduled conference calls with NYC OEM.

We also dispatched Company personnel to support the activation of the NYC OEM Emergency Operation Center in Brooklyn.

Wednesday, July 19

- In the morning, I, together with other executives from the Company, briefed the Mayor of New York and members of his staff at City Hall about the current status of the electric grid in the Long Island City network.
- As we continued to repair feeders, we contacted media outlets in order to let residents know about the continuing problems in northwest Queens. Through the media and phone messages, we urged these customers to continue to reduce their use of electricity. In addition, we also established a community presence at Ditmars Boulevard and Steinway Street., where customer service employees were able to meet with residents, answer questions, and address concerns.
- Between midnight Tuesday and noon Wednesday we repaired and restored one feeder but subsequently two additional feeders went out of service. For 97 minutes, between 11:33 a.m. and 1:10 p.m., 10 of the 22 feeders were out of service. We made repairs through the afternoon and evening, restoring three feeders by midnight.
- We asked the Transit Authority and the Housing Authority to reduce their use of power. We discussed the urgency of our situation with our large customers and many, including CitiCorp and Met Life, agreed to send employees home and curtail their consumption. The Transit Authority took action to suspend or reduce service on six subway lines.

- Throughout this period we provided the media, elected officials, and city agencies with outage information that we had. By the end of the day, using information from customer calls, we reported to the press that approximately 1,600 customers were without power in all of Queens.

Thursday, July 20, through Friday, July 21

- As crews continued to repair and restore the remaining primary feeders, the number declined from seven feeders out of service shortly after midnight Thursday to three feeders out of service at 1:48 p.m. on Thursday. Subsequently, a feeder was returned to service at 6:38 a.m. on Friday. Our primary feeder system was now back to our network design criteria. By 8:01 a.m. Friday, all of the feeders in the LIC network were restored to service.
- Our customer service representatives distributed ice, provided guidance on submitting claims, and provided individual outage information at two locations in the area.
- We were also identifying and restoring the damage to the secondary grid. Our subsequent assessments indicated that there was damage on the secondary system including open switches, blown fuses, open secondary cable, and open connections throughout the affected portions of the network. It was this secondary system damage that knocked out power to many homes and businesses.
- To fully restore our customers, Con Edison engineers and field crews continued to work day and night to identify and repair all the damage to the

system in our manholes and underground service conduits as quickly as possible.

- Based upon the observations of our employees and other reports, we became concerned that the outage was affecting more homes and businesses than our information based on customer calls indicated. We then decided to perform surveys by driving through the affected areas at night and observing indications of power outages, something that we have never done before. We made requests to the media and some broadcasted a message to “leave a light on” to help us assess how many customers were out of service. During Thursday night we had 59 employees working to survey the affected area by driving up many streets and making an assessment of which homes and buildings were out of service. We conducted this survey in order to estimate the number of customers affected. This information was analyzed overnight and by Friday morning we estimated that 25,000 customers were out of service. We provided this information to the media, elected officials, and city agencies.

4. Identifying customers who had lost service

Generally, Con Edison becomes aware of customer outages when customers call us to report that they are out of service. In an overhead system, the path through which electricity flows to a customer is known. In a network system, because energy can flow over many paths, that exact path is not known. The inherent superior reliability of the

network system, when compared to overhead systems, is that there are many possible paths for electricity to take to supply the customer. As a result, on the network system, while we know that a certain feeder or transformer is out of service, we do not necessarily know that any customers are out unless they tell us, and generally, because of the design of the system, no customers are out of service. Under typical conditions of a few scattered outages, counting customer outages based on telephone calls results in a reasonable representation of interruptions.

As customers call and report an outage, the Con Edison customer outage system aggregates and provides to operating personnel the total number of customers interrupted based on these calls. Initial customer counts are determined by the caller's identification of the type of electric system problem, such as: partial service, no service, etc. The system indicates that one customer is out for each customer call unless the customer count is subsequently adjusted by field observations.

During the period of Monday, July 17, through the end of the day on Wednesday, July 19, our call center received 1,977 calls reporting electrical problems in the LIC network. Those calls identified any trouble in the system, including no service or partial service. Some of the calls were observations from customers about flickering lights, etc., which did not result in a customer being cited as out of service. By the end of the day on Wednesday, the system calculated that we had 1,118 customers out of service in the LIC network.

In the case of the network outages in northwest Queens, the customer counts we initially provided were clearly a poor estimate of the actual number of customers out of service. The events of the past two weeks have demonstrated that we need a better system to provide an early estimate of how many customers are without power on network systems.

5. Restoring Customers

As I described earlier, the secondary grid is interconnected and electricity can flow over many paths, making it more challenging to determine the location of problems. To locate problems, crews did physical inspections. Secondary cables may have opened in the underground conduits between manholes, or underground fuses may have blown due to the customer demand experienced during the extreme contingencies and there may have been no visible above ground evidence of this damage. As a result, our crews opened, ventilated, entered, and inspected more than a thousand manholes and service boxes to determine the extent of the damage.

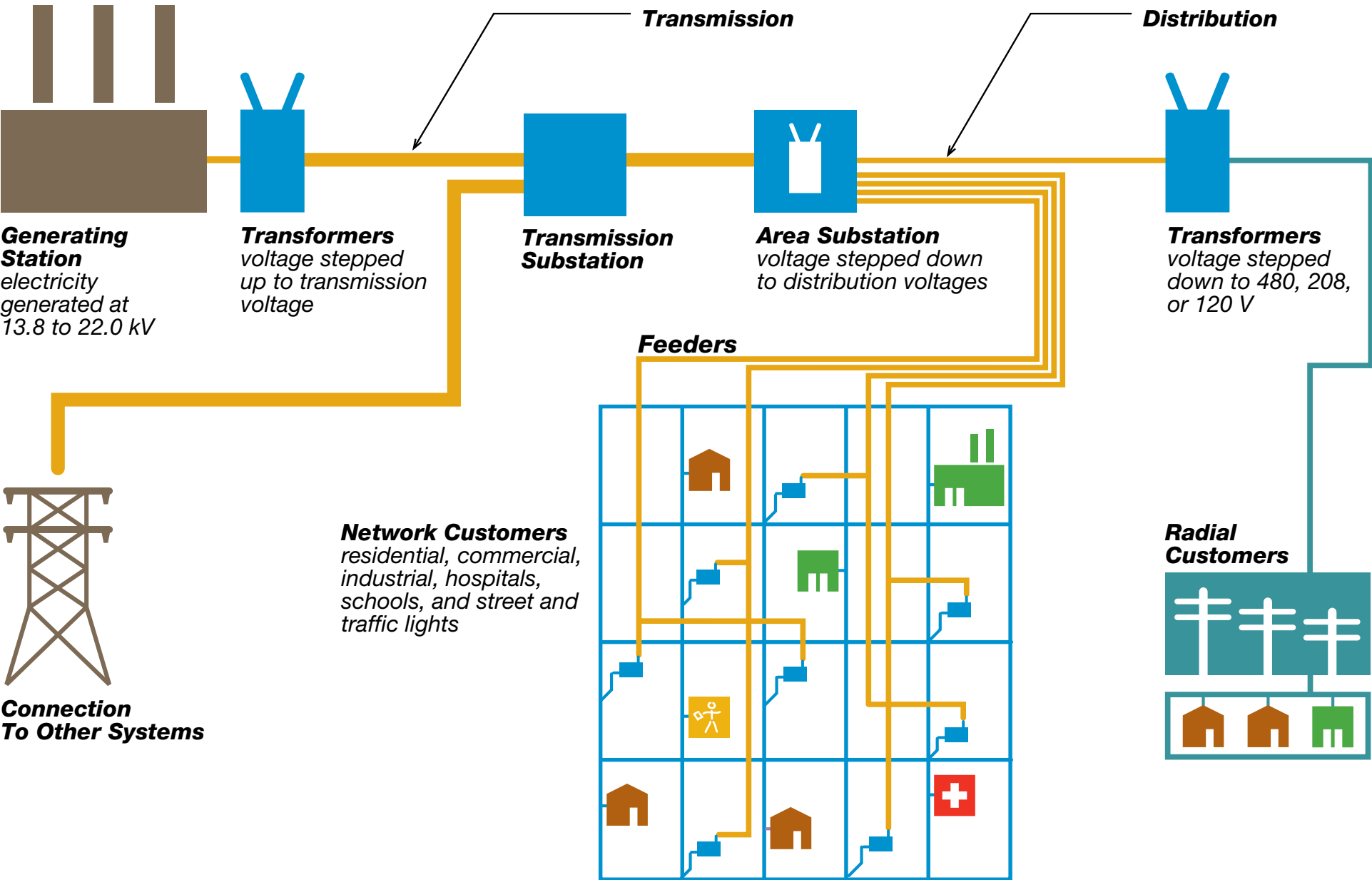
Often the repairs required removing the damaged cable from the conduits between the manholes. Even if damaged cable can be pulled into the existing conduit, these sections of cable are typically more than 100 feet long. After the new cable is installed, it must be spliced to the remaining cable.

All available Con Edison resources were called upon to aid in the restoration effort. In addition, Con Edison requested mutual assistance from utilities in the Northeast, mid-Atlantic and Midwest. Because of the specialized nature of our underground secondary network, there are a limited number of workers qualified to do this kind of work. However, many utilities responded by providing crews including, American Electric Power in Ohio, Duquesne Light in Pittsburgh, KeySpan / LIPA, National Grid, NSTAR from Massachusetts, NYSEG, PEPCO from Washington D.C., and Public Service Electric & Gas (PSEG). In total, more than 200 employees from other utilities and contractors responded to the event, supplementing our workforce. These crews had secondary splicing experience, familiarity with working in networks, and experience with network switching and operations. When these crews arrived, Con Edison provided them with appropriate training to ensure that they would work safely as well as training to familiarize them with our system.

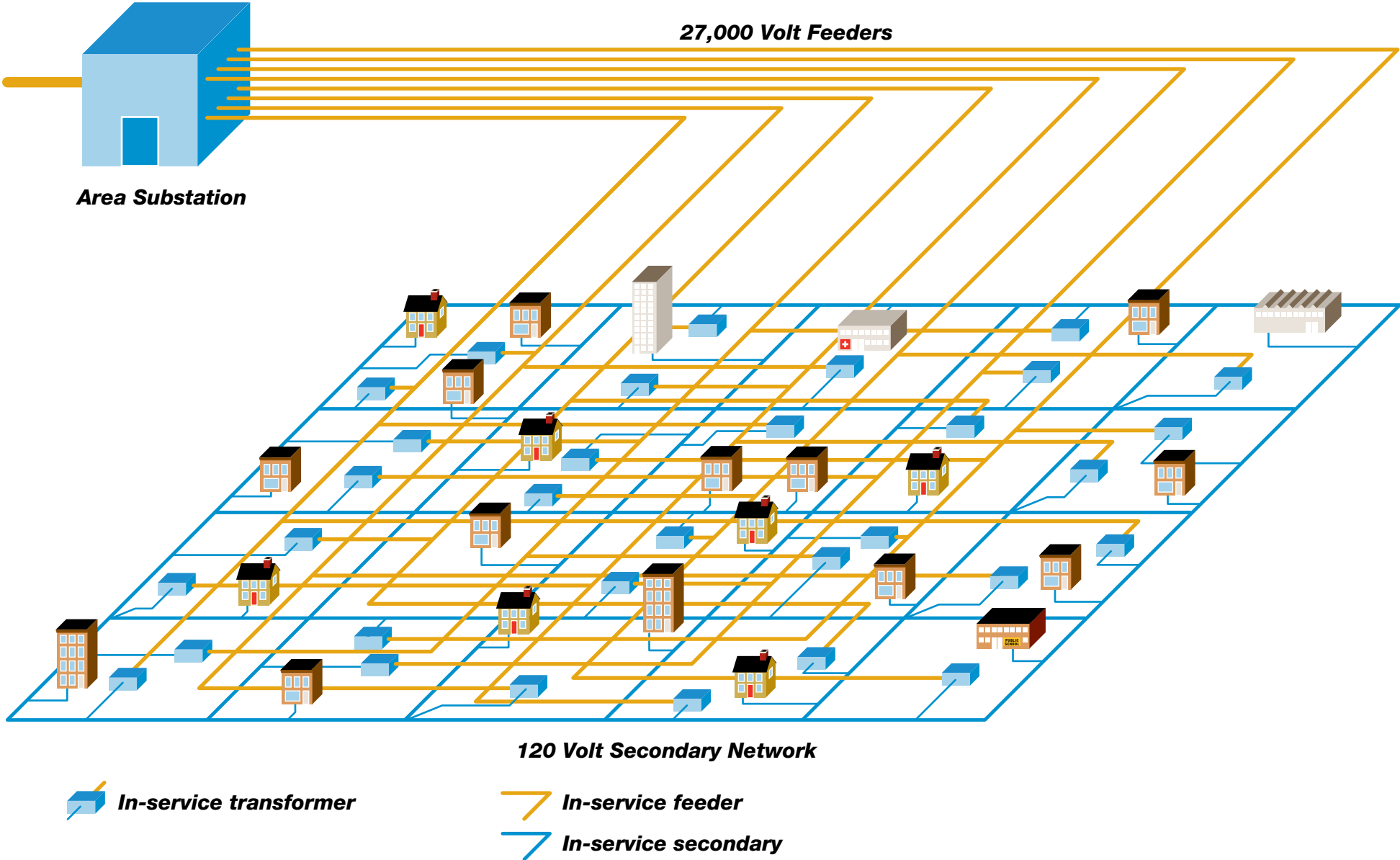
6. Future Analysis

We continue to document the facts of what happened throughout the outage. We are proceeding with an analysis of the facts and will reach conclusions and recommendations and implement them to improve our service.

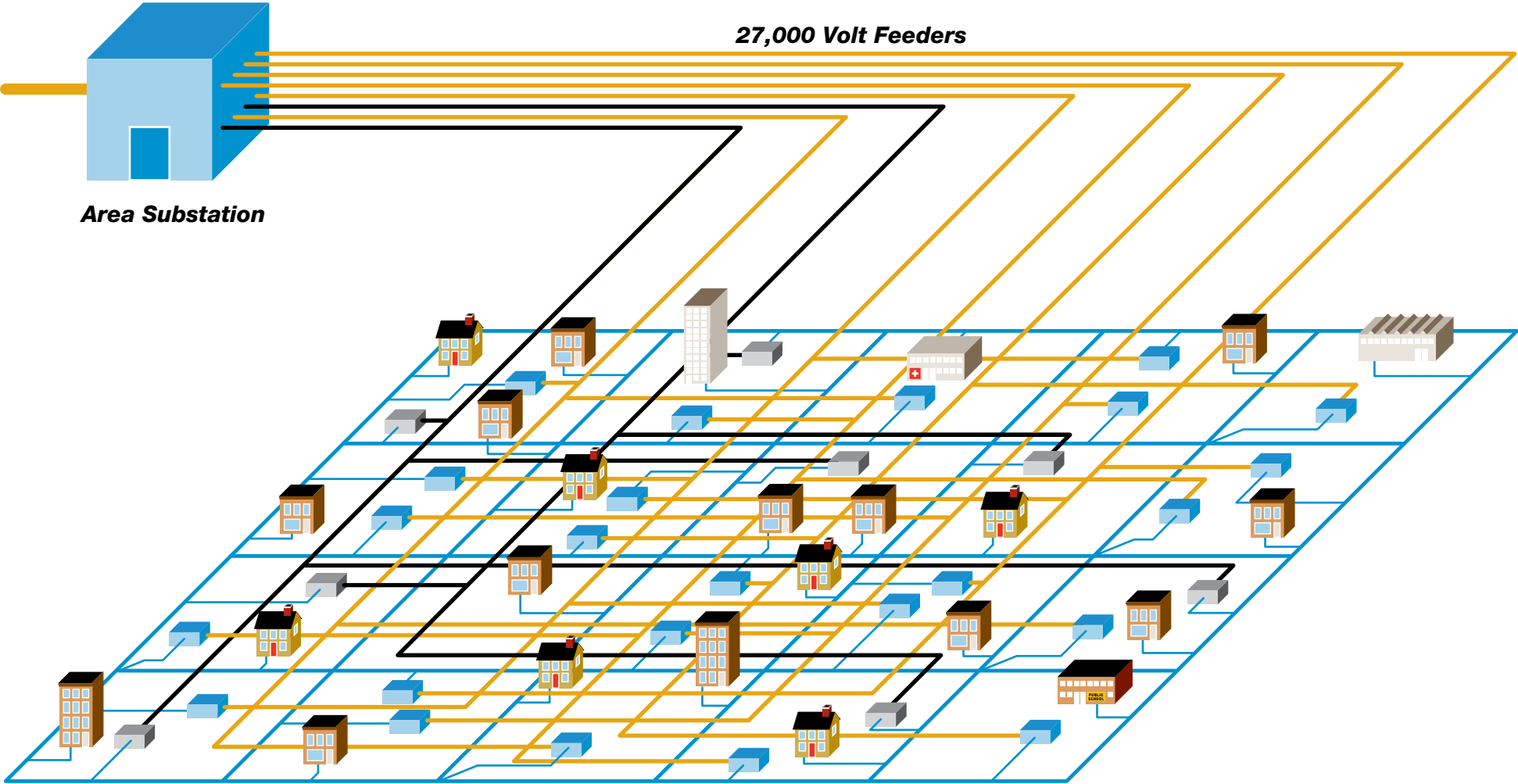
The Electrical System



Simplified Network system





Simplified Network System — Two feeders out of service






27,000 Volt Feeders

Area Substation

120 Volt Secondary Network

 **In-service transformer**
 **Out-of-service transformer**

 **In-service feeder**
 **In-service secondary**
 **Out-of-service feeder**