

# **The Impact of Hurricane Sandy on Consolidated Edison of New York: Assessment of Restoration Efforts and Recommendations for the Future**

**Position Paper  
of the**



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**THE IMPACT OF HURRICANE SANDY ON CONSOLIDATED EDISON  
OF NEW YORK: ASSESSMENT OF RESTORATION EFFORTS AND  
RECOMMENDATIONS FOR THE FUTURE**

The Utility Workers Union of America, AFL-CIO, Local 1-2, is a labor organization that represents the nearly 8,000 field and operations employees of Consolidated Edison of New York. Our members are responsible for the day-to-day operation and maintenance of the ConEd systems utilized to provide electric, gas, and steam services to millions of customers in New York City and Westchester County. In the days, weeks, and months following the arrival of Hurricane Sandy, our members have been engaged, 24/7, in the restoration of service to the millions effected by the storm. More recently, and in conjunction with the winding down of service restoration efforts, we have been conducting our own internal investigation of storm-related issues. Like the Moreland Commission, we have focused on three areas: (1) the state of system readiness in the days leading up to the storm; (2) the restoration efforts, in which the Company's workforce was supplemented by more than 5,600 mutual aid utility workers; and (3) the actions that can be taken going forward to ensure readiness for the (inevitable) next big weather event.

We here report on the results of our internal investigation to date, which has focused on information obtained from our members. They have a unique perspective on the areas under investigation by the Commission because Con Edison's working men and women operate the system on a day-to-day basis, and they were on the front lines of the Company's efforts to restore service, house-by-house, to the millions of New Yorkers affected by Sandy.

Our report addresses both short-term concerns (*i.e.*, the extent of service disruption, and problems that impeded service restoration) and longer-term concerns (*i.e.*, current difficulties

that may lead to long-term service degradation, including as a result of the installation of substandard equipment and the absence of adequate documentation of restoration efforts).

### **EXECUTIVE SUMMARY**

Our key findings include:

- Con Edison appears to operate its electric distribution system based on a policy of “run it until it fails.” The system features aging, and in spots, deteriorating physical infrastructure. The human infrastructure is likewise in need of repair. The Company lacks sufficient manpower to conduct needed preemptive maintenance and related repairs.
- At the time Hurricane Sandy hit New York, Con Edison’s electric distribution systems were in a weakened condition due in part to the Company’s lockout of its field and operations staff during the summer of 2012.
- In restoring service post-Sandy, Con Edison resorted to patchwork and temporary repair arrangements that it cannot now revisit and correct due to documentation gaps, further weakening the system. This situation raises significant service reliability concerns going forward.
- Like many utilities, Con Edison relies on mutual aid workers to restore service. However, our experience has been that many of the workers brought in to assist with restoration efforts lacked both fundamental training on working in an urban electric distribution system environment, as well as the equipment needed to provide meaningful assistance. Worse, our understanding is that mutual assistance workers are continuing to conduct activities on the Con Edison system that should be done by the Company’s full-time, in-house workforce.

- The Public Service Commission (PSC) should assess Con Edison's maintenance policies and practices, including whether it has adopted a policy of "run it until it fails."
- Con Edison should be directed to address physical infrastructure deficiencies on the Company's system.
- In order to address human infrastructure issues, Con Edison should be directed to propose and support a baseline staffing level for Company operations, and should thereafter be obligated to staff at that level.
- The PSC should be directed to conduct an evaluation of the efficacy of mutual aid assistance.
- The Moreland Commission has found that since the advent of deregulation, the PSC has reduced substantially its level of utility auditing. Efforts to bolster the PSC's oversight of utility operations can be aided by the establishment of new reporting requirements and oversight mechanisms, including workforce/PSC staff committees. Our members can be an invaluable source of information because they operate the system on a daily basis throughout the year.

Our findings and recommendations are grouped into three categories: (1) pre-storm system readiness; (2) the efficacy of storm restoration; and (3) recommendations for future activities to strengthen the ability of the ConEd system to address severe weather and to implement service restoration in an efficient manner. The latter category is clearly the most important, as implementing the "lessons learned" from the Sandy experience is critical to ensuring an efficient response to future weather events. We look forward to continuing to be a

part of efforts to enhance the quality, safety, and reliability of the electricity services provided by Con Edison.

## **DETAILED FINDINGS**

### **I. CON EDISON'S SYSTEM WAS IN A WEAKENED CONDITION PRIOR TO THE ARRIVAL OF SUPERSTORM SANDY**

ConEd's electric distribution system was in a weakened condition as of the arrival of Hurricane Sandy. This condition was the result of two main causes.

*First, the ConEd system is significantly understaffed, and ConEd's workforce is unable to keep up with the workload associated with completing necessary and appropriate ongoing operations and maintenance, as well as addressing emergency situations.* As of today, ConEd's union-represented workforce is at its lowest level in the past ten years.<sup>1</sup> Union membership levels at ConEd have gone from a high of roughly 9,200 (early in 2009), to a low (this year) of roughly 7,700 employees. By way of example, during the past few years ConEd's meter shop employee workforce has been cut from a high of 69 to the current 23-person staff. The number of overhead line crews is down substantially both in the Bronx and Westchester. While the workforce numbers have gone down, the corresponding workload has not diminished.

The reduced workforce means that in the months leading up to the storm, important maintenance and related activities were either being ignored or performed on a reduced basis. This is part of a longer term trend, in that it appears to our members that ConEd has adopted an unacceptable, "run it until it breaks" mentality, in which ongoing maintenance has been replaced by emergency repairs, which are conducted only when equipment fails. In the most significant recent example of this trend, the 2006 11-day blackout in Queens was caused in part by the

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<sup>1</sup> Given the Moreland Commission's focus on electric service issues, our report likewise targets such services and the disruption of service delivery associated with Hurricane Sandy. However, Consolidated Edison also provides gas and steam services, which are likewise implicated in the staffing, equipment and short-term and long-term response deficiencies highlighted here.

Company's failure to "split the network," notwithstanding having previously been urged to do so.

The activities affected by these concerns include routine equipment inspections, cable replacements, and pole replacements. The conduct of these activities is critical to system reliability and safety. We are concerned with the status of the Company's physical infrastructure, including the structural integrity of underground vaults and bus tables, which are a common feature of ConEd's urban system. In utility terms, some of these facilities are ancient. While those facilities are disintegrating, needed repairs are not being made due to the absence of inspections and maintenance, and more fundamentally, the lack of manpower. Our members have worked on cable so old that it has paper insulation, and on utility poles that were installed in the 1930s and remain in service today. It is not unusual to see double pole arrangements on the ConEd system where another utility has erected its own replacement pole rather than rely on an aging and suspect ConEd pole. There are poles whose wooden "cross-arms" (to which electrical wires are attached) are rotting.

Parts of ConEd's system (*e.g.*, Williamsburg, Brooklyn) have issues with "open mains," which are unconnected circuits/phases. Connecting those mains is essential to ensuring that there are redundant or "network" backup sources in the event of cable outages. Nonetheless, the Company is behind on these efforts. Separately, there were sections of ConEd's service territory that were being served prior to the storm at lower than acceptable voltages. Low voltage electric service can have enormous adverse effects on customer appliances and home computers. Equally important, the impacts of lower quality service on industries relying on high-tech equipment can be devastating. The success of efforts to attract industry that relies on voltage-sensitive technology can depend on the quality of electric service.

Other issues abound. The Company has spent millions in federal stimulus funds on the installation of “smart grid” equipment. These devices can provide valuable data on system conditions, and can be used in addressing system needs during storm restoration, including in pinpointing isolated system segments in need of repair. While ConEd’s smart grid equipment has been installed on utility poles, we believe that at the time when Hurricane Sandy hit New York, some of this equipment was not connected to the ConEd system. In other words, while this equipment was in place, a portion of it was not operational.

For example, “Kyle Switches” are remote-controlled devices that have been installed by Con Edison (using federal stimulus funds) as part of the Company’s smart grid distribution system. Our understanding is that since 2010, of the more than 100 of these switches that have been installed, none are operating as intended. In order to so operate, Con Edison needs to acquire the frequency that will enable remote communication to the switch device. However, as of now, the Company is yet even to purchase the requisite frequency. In addition, we note that some of these Kyle Switches were installed by Company contractors. Our understanding is that at least one contractor lost its contract with Con Edison and information concerning the precise installation locations for this equipment was unavailable to the Company. Our understanding is that Con Edison was forced to do a “feeder-by-feeder” search to locate contractor-installed switches.

Concerns with the status of ConEd’s maintenance activities have not gone unnoticed by regulators. The “2011 Electric Reliability Performance Report,” issued in June 2012 by the New York State Department of Public Service, notes with respect to the reliability of ConEd’s radial system:

Staff acknowledges that Con Edison invested in multiple reliability and load relief programs to improve its radial system performance,

but has not noted a corresponding reduction in outages caused by equipment failures. The Company should continue to improve the reliability of its system by installing switches and other rapid restoration technologies, and reassessing its auto loop system. Better analytical systems should be implemented to reduce equipment failures and to improve equipment performance. *Con Edison should also improve its preemptive maintenance and physical inspection of distribution equipment in order to make necessary repairs before failures occur.*

Report at 13-14, emphasis added. We do not believe that ConEd will be able to make progress on “improv[ing] its preemptive maintenance” unless it addresses its human infrastructure issues by augmenting its existing workforce. The reason is simple: if you don’t have the workers, you will be unable to conduct the work. Along the same lines, the Staff Report notes concerns with the duration of outages on the ConEd system:

Duration performance is something we and the Company are monitoring closely. Con Edison developed and implemented duration improvement strategies for both its radial and network system in 2009. Changes were made to improve crewing efficiency and to reduce outage duration by augmenting the Company’s use of first responder staffing, improving the ability to mobile dispatch work to crews, and developing better training resources. In 2010, in a response to a self-assessment recommended by Staff, Con Edison stated that enhancements had been made to the process utilized for its outage management system to flag large outage jobs, and that it employed an automatic call out process for additional crews. *Staff is concerned that even with all the changes implemented in the previous years, the Company still failed to achieve its radial duration metric in 2011 and its radial duration performance is worse than the previous four years.* Staff will continue to monitor the effectiveness of these programs in future reports.

Report at 14-15, emphasis added.

*Second, ConEd’s system was further weakened by this summer’s lengthy lockout.* This past summer, ConEd engaged in an ill-advised, month-long lockout of its union workforce. In their place, the Company operated its system for 27 days with a makeshift workforce composed of 5,000 managers, retirees, and contractors. Con Edison’s “lockout workforce” was not an

adequate replacement for the Company's day-to-day, skilled and experienced employees. When our members finally returned to their jobs, they found that ConEd's "workforce" had been dealing exclusively with system emergencies, while essential day-to-day maintenance was not being performed. ConEd has admitted as much.

Trying to bring the system "back" from an event like the lockout entails long hours and arduous efforts. Our efforts to conduct a post-lockout "cleanup" of the Con Edison system were hampered by additional staffing reductions. Remarkably, the union has lost membership since the lockout. In addition, our members found upon returning to work that the Company's record-keeping for activities conducted during the lockout had been spotty at best. Documentation management is a critical component of sound utility operations. Absent precise records, subsequent activities conducted in any part of the system can be challenging because of an absence of up-to-date information on physical system conditions. The failure to maintain proper documentation while dealing with system emergencies and related service restoration is a recurring problem. As a result, we fear that Con Edison has lost "situational awareness," and cannot bring temporary repairs into a proper state of permanent repair.

*In short, at the time the Superstorm Sandy hit New York, ConEd faced major "human infrastructure" concerns in the form of a depleted and exhausted workforce, as well as significant and unaddressed physical infrastructure issues.*

## **II. CON EDISON'S STORM RESTORATION ACTIVITIES WERE PLAGUED BY AN INSUFFICIENT WORKFORCE AND POOR MANAGEMENT**

Following the storm, the union-represented workforce, augmented by “mutual aid” utility workers, were called upon to restore service as expeditiously as possible. Even if the Company had been staffed at prior, higher levels, the Sandy restoration effort would have been daunting. Our members were on the job 24/7, and gave their all to bringing the system back to full operation as soon as possible. However, given the combination of the Company’s diminished staffing and the status of the system as of the time the storm arrived, the effort was simply overwhelming.

While we continue to gather information, our major findings with respect to restoration are:

- Although we understand that more than 5,600 “mutual aid” utility workers were called on from other systems to assist in ConEd restoration efforts, our front-line impression is that the majority of the utility workers brought in to help had no training on performing service restoration in the unique urban and underground utility environment in which we operate every day. No two utility systems are identical, and the differences can be very significant. Most notably, ConEd workers generally work on “live” facilities (*i.e.*, facilities that have not been de-energized), while this is not the case in many other systems across the United States. As a consequence, trained ConEd workers were required to “baby-sit” mutual aid workers to ensure that they conducted their activities in a safe manner rather than conducting activities on their own. There were even more basic issues. For example, California utilities that had their trucks flown into New York City found that their vehicles were too big to navigate the narrow streets of

Brooklyn and Queens. Some mutual aid crews arrived with empty trucks, including no worker protective equipment. They apparently had to beg, borrow, or steal in order to be able to provide repair services.

- There were significant materials management issues. In years past, the Company ensured that when it ran low on needed and basic supplies, they were automatically re-ordered so that a “safety stockpile” of the requisite equipment would be on hand in the event of an emergency. That practice is no longer in place. Thus, and despite having had advance warning of the storm, ConEd did not have needed materials on-hand. Our understanding is that ConEd ran out of basic supplies, such as utility ladders, which are obviously of considerable importance in a massive restoration effort. Our understanding is that in some instances, parts were ordered that did not “work” on the ConEd system, including entire truckloads of utility transformers, and that there is no ability to return them because of their specialized nature.

ConEd ran out of utility cable, a staple of any meaningful restoration activity. Our understanding is that as a consequence of the inability to obtain needed supplies of high-quality cable, ConEd was required to procure a lesser quality alternative, which has now been installed as “secondary” cable in the ConEd service territory. The lesser quality cable is used for lesser tasks on the system, but is not intended for use as “secondary,” which constitute major distribution system connector facilities. However, in the absence of adequate documentation as to where such cables were installed (let alone adequate personnel to conduct

replacement work), the inferior cable will likely continue to remain in place until it fails.

- While we understand the importance of expediting service restoration, we are concerned that the actions taken were inconsistent with Company protocols. For example, in the course of the restoration efforts associated with Sandy, our members have repaired and put back in service—but not replaced—cable that has water pouring out of the conduit. Separately, meters used in providing service to the homes of thousands of customers in Brighton Beach, Seagate, and Howard Beach were temporarily disconnected through the use of “disconnect boots,” which are devices used to de-energize the meter to a house, while other portions of the same neighborhood are restored to service. This practice is necessary in instances in which, for example, a home is flooded so that electricity cannot be restored to that structure, but other surrounding structures are able to receive electric service. ConEd discontinued the use of meter “disconnect boots” approximately three years ago because they had been found to contribute to the development of “hot socket conditions,” which are fire hazards. The Company now routinely uses a replacement “green adapter plate” on solid state or hybrid meters to address de-energization issues in a manner that does not pose a fire hazard. Unfortunately, our understanding is that the Company did not have on-hand a sufficient number of the “green adapter plates” to use in those homes in neighborhoods in which service could be restored to some, but not all, of the affected dwellings. In order to facilitate service restoration, ConEd made the decision to install the meter “disconnect boots,” notwithstanding its

discontinuation of this practice. Union employees who were asked to install the boots refused to do so, given that the parts had been found to raise fire hazard concerns. Our understanding is that thousands of these “disconnect boots” were subsequently installed by mutual aid personnel. We do not know whether adequate records were kept as to where the “boots” were installed.

- Our understanding is that as part of the effort to facilitate service restoration, ConEd has loosened certain other and long-standing safety standards. “Stones” are devices used on the Con Edison system to provide insulation or separation between “phases” or circuits. Stones serve a vital safety function. Absent effective and functioning insulation, the phases may “cross,” resulting in a fire that will likely “burn to ground” before the fire department can extinguish it. Prior to energizing services, whether as an initial matter or following an extended outage, Con Edison personnel are required to conduct certain tests, including those which assess the ability of the Stones to operate as intended. These tests are particularly important following events such as Hurricane Sandy, because the associated flooding can compromise the integrity of system Stones. If a Stone fails the test, it may need to be replaced (a major operation), or at least allowed sufficient time to dry. Either way, service cannot be energized unless the Stones pass the test. In November of last year, and in what we believe was part of an effort to expedite service restoration, Con Edison modified its long-standing protocols to make far less stringent the standard that would need to be met in order for operations personnel to “clear” a Stone as ready to receive restored electric service. To the extent that service was in fact energized in instances in

which “Stones” were cleared under these lowered standards (but would not have been cleared under the previous standards), the change would pose significant risk to utility workers and the public.

- In years past, ConEd would take meters that needed to be “refurbished” (*i.e.*, recalibrated) out of service, would conduct the necessary meter maintenance activities in-house, and would then have the meters on hand to be returned to service when and as needed. With reductions in the number of meter shop personnel, that activity has been outsourced. ConEd now sells meters that need refurbishment to an outside company, which buys them for \$1 per meter. During the storm, ConEd ran out of meters, and was forced to re-purchase needed meters from the outside contractor. We understand that the cost to buy back the meters ConEd did not refurbish in-house was on the order of \$25 per meter.
- There are communities throughout the ConEd service territory in which service has been restored, but at voltage levels that are lower than consistent with ConEd standards or practices. As noted earlier, while lower voltage service will keep the lights on, it is inadequate for the proper operation of appliances, air conditioners, computers, and virtually any device that uses a motor. Lower quality electricity service can damage consumer appliances, including home computers, and can lead to erroneously-inflated recorded electricity usage. We do not know how widespread the receipt of such service is within the ConEd service territory, though we believe the problem to be significant. Even now, months after the storm, there are office buildings in lower Manhattan—just blocks from the New

York Stock Exchange—that are running off backup generators located on City streets.

- Staffing deployments during the storm restoration were mysterious. The vast majority of the few—and grossly inadequate—number of linemen responsible for addressing issues in the Bronx were somehow shipped up to Westchester while Bronx residents sat in the dark. Neither the Union nor the public has been provided an explanation for this deployment decision, which left three linemen to deal with the entirety of Riverdale, a portion of the City that was hit particularly hard hit by the storm. In fact, our understanding is that mutual aid crews did not arrive in Riverdale until two weeks after the storm.
- Our efforts were also hampered by simple things. Our members function as first responders, but do not have that official status. As a result, workers responding to the emergency were stuck on the same long gas lines as other City residents. They were also turned away when vehicle restrictions were imposed by the Mayor.

Given the pre-storm history and the issues surrounding service restoration, we are concerned about the status of the system coming out of the storm, and its resiliency heading into the remainder of the winter and next summer. The current status of the system is poor, due to a combination of an insufficient and overwhelmed workforce, significant pre-existing system weaknesses, and a storm restoration effort that involved both corner-cutting and the absence of adequate documentation of the repair/restoration efforts. We fear that the Company and its customers will not learn the extent of the system problems until there are service breakdowns.

### III. LESSONS LEARNED AND RECOMMENDATIONS FOR THE FUTURE

Since the storm, the Company has taken some actions that are adverse to system safety and security, and failed to take other actions that would be beneficial.<sup>2</sup> We address below our recommendations on how the Commission can best advise the Governor on incorporating the lessons learned from the Superstorm Sandy experience:<sup>3</sup>

- *The Commission should recommend that the PSC require Con Edison to address pending human and physical infrastructure issues.*

Con Edison faces significant human and physical infrastructure challenges. With respect to human infrastructure, we address immediately below the need for Con Edison to increase its full-time, in-house personnel staffing. There is simply too much work and too many issues for too few utility workers. Even now, months after the storm occurred, our understanding is that mutual aid crews are conducting routine maintenance in parts of the Con Edison system. There is no question that this is a costly and inefficient “band-aid” response to a potentially gaping wound. ConEd can and must do better.

In terms of physical infrastructure, Con Edison needs to replace aging poles and ancient cabling. It needs to replace rotting cross-arms. It needs to complete the installation of devices that will enable its “smart grid” equipment to function as intended. To the extent available for

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<sup>2</sup> For example, the Company has modified a long-standing protocol concerning the installation on utility poles of “control boxes.” Con Edison has previously required that these boxes not be installed at levels below 14 feet above ground. However, this standard has been modified, and this equipment can now be located anywhere from 5 to 11 feet above ground. Local 1-2 is not aware of the reasons for this change, which seems contrary to actions that would be needed to address flooding concerns, if not system security issues.

<sup>3</sup> We note that the Moreland Commission has recommended that the PSC’s fining authority be strengthened. We strongly support this recommendation. Based on our experience in other states, notably Massachusetts, our sense is that the possibility of substantial fines may encourage more responsible conduct from ConEd as well as New York’s other utilities. On the other hand, we vigorously oppose the Commission’s apparent recommendation that employees of public utilities be subject to potential fines in connection with the performance of their jobs. We are not aware of any evidence that has been presented that would justify the Commission recommending any such proposal. In addition, and to the extent not already in place, we believe that the PSC’s credibility would be enhanced if restrictions were imposed limiting the ability of PSC employees to move directly and immediately from working for the Commission to employment at a regulated utility.

these purposes, the federal relief funds that are on their way to New York should be used to fund improvements in both physical and human infrastructure.

- *The PSC should direct Con Edison to propose and support a baseline staffing level for the Company's field operations staff, and to evaluate the extent to which those levels are being met on a yearly basis. The staffing evaluation should include a review of potential workforce "graying" concerns at ConEd.*

The problems with the operation and maintenance of the Con Edison system stem directly from the failure to staff its operations adequately. Remarkably, ConEd has recently announced an intention to hire additional management personnel. That makes no sense; as of now, there are less than 8,000 operations and maintenance staff and 5,000 managers. Given these numbers, ConEd does not need additional management personnel. The PSC should instead be directed to investigate and establish a baseline staffing level for Con Edison's field and operations personnel, which has been slashed in recent years. Once that baseline is established, the Company should be required to hire to that level, and to fill promptly any vacancies that may occur from time-to-time.

We note that this proposal is similar to an initiative undertaken by the New Jersey Board of Public Utilities in response to the storm. On January 23, 2013, the BPU announced 103 separate measures that it intends to implement to improve distribution preparedness and responsiveness to major storms. The activities to be undertaken include requiring each regulated distribution utility in the State to submit to the BPU a detailed staffing review that explains any decreases, in the last five years, in headcount and the impact on the company's ability to provide adequate resources for restoration purposes.

Any claim by the Company that its staffing needs are met more efficiently through contract labor should be rejected. In years past, contractors were relied upon during system peak periods, where it was cost effective to bring in extra help to deal with high work levels, and to release those persons when the levels receded. That is no longer the practice at ConEd. Instead, contractors have now become a permanent part of the workforce. This is not healthy for the Company or its customers. We are uncertain whether contractors are adequately trained. Our experience is that the work and safety standards employed by contract labor are not equal to those utilized by the Company's full-time, in-house workforce. In our experience, it is not unusual for our members to be asked to correct inadequate work conducted by Con Edison contractors, or to complete work left undone by contractors (even though they were paid by the Company). Even if contractor training/standards are not an issue, the fact remains that contractors owe no allegiance to the Company or its customers. ConEd should be seeking a workforce that wants to be there for the long-term, and to grow and develop over the years.<sup>4</sup>

Human infrastructure needs should be a high priority. Morale among ConEd workers is very low, especially after the Company's shameful lockout of its own workers, some of whom have been serving ConEd customers for decades. As even ConEd has acknowledged, the absence of paychecks during the lockout created understandable stress among the workforce.

Other states have recognized the need to conduct such an investigation. In September 2012, a Task Force established by Maryland Governor Martin O'Malley issued a report on grid resiliency issues in that State. Entitled, "Weathering the Storm: Report of the Grid Resiliency Task Force," the report notes a concern about utility staffing and urges that the subject be evaluated:

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<sup>4</sup> In addition, our understanding is that even now, three months after the storm, mutual aid crews are still on the job in the Bronx and Westchester, where they are conducting maintenance activities in lieu of the existing workforce.

The Task Force recommends the PSC commence a proceeding or proceedings aimed at studying and addressing various issues relating to the utilities' human infrastructure, including the so-called "graying" utility workforce. First, the Task Force is concerned that the data reveals a significant downturn in personnel per circuit mile over the past decade. While there was not sufficient time during this process to investigate this issue in great detail, it would be an appropriate line of inquiry for the PSC to determine whether there are sufficient personnel on the ground to make the repairs necessary. The concerns raised during the Human Infrastructure roundtable about the adequacy of current staffing levels deserve a substantive vetting that is beyond the scope of this Task Force.

Report at 87-88.<sup>5</sup> We note the reference to the "graying of the workforce" issue. The staffing investigation that we propose should also consider "graying" at ConEd. Our sense is that the demographics of the ConEd workforce show a substantial number of relatively younger and relatively older employees, with relatively fewer in the mid-range experience levels. That means that as older employees retire, taking with them their vast institutional knowledge, there may not be sufficient replacements to fill the gap. This subject needs to be examined.

- *The PSC should assess ConEd's maintenance policies and practices, including whether it has adopted a policy of "run it until it fails."*

As discussed above, it appears that ConEd is not being sufficiently proactive or preemptive in its maintenance practices. There are numerous instances in which critical utility infrastructure remains in service notwithstanding the need to implement preemptive corrective measures. Examples include inadequate pole and cable replacement practices. We are aware of instances in which the Company funded studies intended to examine and provide recommendations on how its system could be strengthened and improved, but then ignored the results. For example, ConEd knew that equipment necessary to support critical facilities (such as

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<sup>5</sup> The full report of Governor O'Malley's Task Force is available at [www.governor.maryland.gov/.../GridResiliencyTaskForceReport.pdf](http://www.governor.maryland.gov/.../GridResiliencyTaskForceReport.pdf)

hospitals) could have been designed so as to withstand flooding, but chose not to make the necessary investments. We believe it is essential to ensure further focus by ConEd on measures needed to keep critical facilities in operation notwithstanding severe weather.

- *The PSC should be directed to conduct an investigation of utility mutual aid arrangements.*

ConEd's storm restoration activities rely heavily on mutual aid arrangements. We are concerned that these arrangements are not well understood and, given the Company's significant dependence upon them, should be thoroughly investigated. Gil Quiniones, President and CEO of the New York Power Act, testified during the Commission's December 11, 2012, hearing (at Tr. 26) that "I believe Sandy proved that the mutual aid process needs to be addressed nationally." We agree that costs and benefits of mutual aid need to be evaluated. While cooperation is of course a good thing, our experience with Hurricane Sandy storm restoration is that relying on out-of-state utility workers who are not familiar with the system can be very inefficient. In general, reliance on mutual aid should be kept to a minimum, and we believe that this objective can be achieved if the utility's day-to-day field staff is properly trained and sufficient in size to perform ongoing maintenance (including preemptive maintenance) in an efficient manner. The best way to ensure system resiliency is to have sufficient staff on-hand to operate and maintain the system efficiently. As noted, ConEd's full-time, in-house workforce is insufficient to ensure that the system is properly operated and maintained when there are no severe weather events, let alone during storms.

The PSC's investigation should include determining whether mutual aid crews are conducting routine maintenance work. To the extent this is the case, ConEd and its customers

may be paying enormous charges for services that should be provided by its full-time, in-house workforce.

The investigation of mutual aid should also include consideration of whether ConEd is itself insufficiently staffed to participate in mutual aid arrangements. In other words, ConEd currently has so few field staff that it is not in a position to “lend” workers to other utilities. The PSC should also evaluate the extent to which additional training is required before mutual aid workers can operate safely and efficiently in the urban environment of the ConEd system. Assuming training is required, the associated cost can be significant.

We note that this recommendation is consistent with a recommendation contained in the previously-mentioned report of the Maryland Task Force on grid resiliency issues. That Report states that “the mutual aid assistance program remains somewhat of a black box; the Task Force suggests that the PSC review how that works, whether Maryland’s utilities get their “fair share” of crews, whether those crews are properly and effectively deployed in Maryland, and whether there are any improvements to be made to the utilities’ methods of acquiring mutual aid.” Report at 88. The same issues are present in New York, and need to be investigated.

- *The PSC needs to better understand emerging issues at ConEd, and can do so through the establishment of new oversight mechanisms.*

The Moreland Commission has already noted the need for the PSC to become a more engaged utility regulator, and expressed concern with staffing cutbacks at the Commission and a corresponding reduction in the level of utility auditing activity. Interim Report at 33-34. We agree with and applaud this suggestion, and offer the following ideas for how best to augment the Commission’s oversight role:

The PSC should create a ConEd “workforce committee” that would meet with PSC Staff on at least a quarterly basis to discuss operations and maintenance and issues. Staff would be responsible for briefing the PSC, when and as necessary. This would provide the Commission with a direct line to the workforce’s perspective on emerging system issues, and should improve the Commission’s knowledge base. A committee of this nature will work best if its workforce members are permitted to be heard and not filtered (or obstructed) by Con Edison management personnel. We believe that the information that can be provided to the PSC through this committee arrangement will be invaluable to restoring needed Commission expertise and bolstering oversight. The reason is simple: the Company’s utility workforce know and can relay to regulators the key “facts on the ground” regarding Con Edison operations.<sup>6</sup> However, in order to ensure that workers who raise concerns are not subject to retaliation, participation on or involvement in the work of the committee should come with stringent whistleblower protections.

In addition, and to the extent not already provided, ConEd should be required to report annually to the PSC their maintenance plans and budgets, as well and the amount of money actually spent on maintenance. This comparison will provide a useful indicator of whether ConEd is in fact implementing maintenance activities in accordance with its own stated plans. Along the same lines, the PSC should exercise sufficient oversight to ensure that funds provided

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<sup>6</sup> There is precedent elsewhere in the United States both for taking action to ensure that utilities are adequately staffed and for “institutionalizing” the role of utility workers in state utility commission oversight activities. Following the 2010 catastrophic explosion of gas pipeline facilities in San Bruno, California, the State enacted legislation requiring each of the state’s gas corporations to develop plans for the safe and reliable operation of their respective, state commission-regulated gas pipelines. Cal. Pub. Util. Code sections 961 and 963, added by 2011 Stats. Chapter 522, Senate Bill 705 (Leno). Among other things, each of the “plan” is required to “[e]nsure an adequately sized, qualified, and properly trained gas corporation workforce to carry out the plan.” Section 961(d)(10). In addition, Section 961(e) obligates the California PUC to “provide opportunities for meaningful, substantial, and ongoing participation by the gas corporation workforce in the development and implementation of the plan, with the objective of developing an industry-wide culture of safety that will minimize accidents, explosions, fires, and dangerous conditions for the protection of the public and the gas corporation workforce.”

to ConEd to conduct restoration and system hardening activities are in fact used for these purposes.

- *ConEd employees should be accorded first responder status when they are conducting service restoration activities.*

Our members function as first responders, but do not have that official status. As a result, workers responding to the emergency were stuck on the same long gas lines as other City residents. They were also turned away when vehicle restrictions were imposed by the Mayor. Actions should be taken to ensure that when our members are engaged in addressing a power emergency, including during storm restoration activities, they are treated as first responders, which will facilitate entrance into and movement through the five boroughs.

### **CONCLUSION**

Many of our members recall a time when lengthy outages on the ConEd system were highly unusual. Our members have been justifiably proud of their ability to keep the lights on, to address promptly situations in which the lights have gone out, and in general to keep the economic engines of New York City running smoothly. We fear that in the face of major storms and slow restoration times, the public is coming to accept the notion that lengthy outages after a storm event are acceptable or, in some way, have become an unavoidable aspect of the “new normal.”

We urge that ConEd’s customers and this Commission not accept this state of affairs. The ConEd system can be restored to a far more resilient state, and the PSC can play a vital role in reaching this objective. This effort will undoubtedly cost customer dollars. However, when considered against the extraordinary economic losses associated with lengthy outages—particularly in the metropolitan New York area—there is no question that the benefits far

outweigh actual or perceived costs. In fact, by addressing obvious staffing deficiencies, ConEd may minimize the need to call on mutual aid workers to address future storms, thereby saving customers money for decades to come.

We are pleased that this inquiry has been undertaken and look forward to being part of efforts by this Commission to improve the quality and reliability of vital utility services.