

**JULY and SEPTEMBER 2006  
SEVERE STORMS**

**A REPORT ON CON EDISON'S PERFORMANCE**



**New York State  
Department of Public Service  
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## **ACKNOWLEDGMENTS**

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## EXECUTIVE SUMMARY

This report details the results of the New York State Department of Public Service Staff's investigation into the emergency response efforts of the Consolidated Edison Company of New York for storm related outages that occurred in July and September 2006, primarily affecting Westchester County.

On July 18, 2006, a severe thunderstorm caused significant damage to Con Edison's electric distribution system in Westchester County. Approximately 35,000 customers<sup>1</sup> lost electric service as a result of this storm. Prior to the July 18 storm, the area had also been affected by high heat conditions that caused power outages throughout the region, and which resulted in power outages in Westchester and the Brooklyn/Queens regions of the Company's service territory. At the time the storm reached Westchester County, there were approximately 4,300 Bronx/Westchester customers without electric service due to the heat-related problems, and the Company was experiencing very serious problems in its Long Island City/Queens network.

Another storm, the remnants of Tropical Storm Ernesto, hit Westchester County on September 2, 2006. This windstorm, which had proceeded up the east coast, caused widespread damage (mostly from downed trees) to the electric distribution system, resulting in the loss of electric service to approximately 78,000 customers.

Since the duration of the emergency restoration period for both the July 18 and September 2 windstorms exceeded three days,<sup>2</sup> according to the Public Service Commission's (Commission) regulations, Con Edison is required to submit a report to the Commission assessing all aspects of its service restoration efforts.<sup>3</sup> Con Edison complied with this requirement and did provide several recommendations to improve its response to future storm events. The recommendations proffered by the Company addressed improvements in its internal communications, training, and line clearance areas. After thorough review of hundreds of comments from the public, obtained

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<sup>1</sup> Customers, as used in this report, means "metered" accounts. There are approximately 2.5 persons per metered account.

<sup>2</sup> Measured from the end of the storm.

<sup>3</sup> 16 NYCRR Part §105.4(c).

through hearings, letters, website and telephone communications, meetings and interviews, Staff has concluded that, among other things, Con Edison, in its assessment, inadequately addressed issues related to mobilization, staffing, restoration time estimation, and communications. Staff has determined that Con Edison must continue to improve its ability to provide estimated times for restoration (both to individual customers and globally) and its mobilization and management of the restoration work processes, and the Company must communicate much more effectively with customers, public officials, and other stakeholders. The Company must improve or replace the systems and methods it uses to develop and provide critical information to customers, public officials, and the media.

In Staff's investigation of the July and September storm outages in Westchester County, a principal focus was to identify what progress the Company was making in its efforts to implement the recommendations contained in Staff's investigation report on the January 2006 storm outages which was issued in June 2006. During hearings conducted by the Westchester County Legislature, County officials expressed concern that while the recommendations made by Staff regarding the January storm seemed to address their primary concerns, the Company's response to the July and September outages did not seem to reflect substantive improvement.

Although time was short between the issuance of Staff's report and the subsequent July and September storm events, progress in some areas was discernable, but, not in others. Appendix I reports the current status of the Company's progress in addressing Staff's June 2006 recommendations for improving the Company's storm response. Current Status and areas of continuing concern include:

- The Company's ability to timely and accurately determine a global estimated restoration time and communicate that to customers. During the July storm event, the Company failed to fully communicate to customers any global estimated restoration time. In both the July and September storms, the Company was not able to effect total restoration within the time established in its emergency plan for the storm level classification assigned by the Company. The Company's emergency restoration plan for the Bronx/Westchester Region

urgently needs to be reviewed and updated particularly with regard to the minimum staffing levels for various storm classifications.

- The Company has made some improvements in the process by which it makes an assessment of the damage inflicted by a storm. However, the Company is still evidencing problems in effectively mobilizing and using its own resources.
- The Company did increase its efforts to communicate with municipalities during the July and September storm events. Interviews with the municipal stakeholders acknowledged some improvement, but, the stakeholders feel that more progress is needed.
- The Company has increased the capacity of its call center to handle a greater number of calls and to do so more effectively. In Staff's view, the Company is still underutilizing its website and the media to provide customers with pertinent and timely information on the status of the restoration effort.

During Staff's investigation, information was gathered which indicates that during the September storm event, the Company may have failed to comply with certain provisions of the customer service outage notification incentive mechanism adopted on November 30, 2000, through a Commission adopted rate and restructuring plan for Con Edison. The provisions of the customer service outage notification incentive mechanism (mechanism) approved by the Commission on April 23, 2002 measure the Company's performance in customer notification during service outages. An aspect of the mechanism calls for specific negative revenue adjustments when the Company fails to meet the established criteria. Staff's analysis thus far indicates that the Company may have failed to comply with notification criteria, including those for critical care facilities. Staff will complete its investigation of this matter and will take the appropriate procedural steps to present this matter to the Commission.

Staff expects Con Edison to act promptly on the recommendations provided herein and to expedite the implementation of the recommendations in its January 2006 storm report. Staff is monitoring closely Con Edison's efforts to implement all needed actions and will continue to do so. Where applicable, Staff's recommendations should be incorporated into Con Edison's Electric Emergency Plan.

Con Edison is expected to implement all recommendations by May 15, 2007, except as otherwise noted. The Company should report to Staff by April 15 on its progress, and then every three months thereafter, as necessary. Staff will report to the Commission on the Company's progress in addressing the issues outlined in this report.

## **BACKGROUND**

Con Edison serves approximately 343,000 electric customers in 42 of the 43 towns that comprise 310-square miles of Westchester County. The electric distribution system in the region consists of 12 area substations that supply 16 underground networks as well as 15,111 miles of traditional overhead, 13 kV and 4 kV construction. Portions of the County are served by an underground system consisting of 1,342 conduit miles of duct, associated transformers, and 6,529 miles of underground cable. The remainder, and majority of the County, is served by an overhead distribution system. The overhead distribution in Westchester contains 91,725 poles (mostly wood) and 26,578 transformers.

Prior to the July storm, the distribution system was operating under stress from an extended period of hot weather. Approximately 4,300 electric customers were out-of-service in the Bronx (300) and Westchester (4,000). Before the September Labor Day weekend storm, the Westchester distribution system was operating under normal load conditions.

On the morning of July 18, Con Edison's weather service was reporting strong to moderate thunderstorms for that night with winds gusts of 40 – 45 miles per hour (mph). Later that evening, Con Edison's classification of the storm was upgraded to more accurately predict the 55 – 60 mph wind gusts that occurred. The storm hit at approximately 10 p.m. on July 18. Damage caused by lightning strikes and trees interrupted service to approximately 35,000 customers. The areas hit hardest were in the southern portion of the County west of Long Island Sound. Additional storms hit the area on July 21 and 22, extending the restoration period.

The second extended outage occurred when Tropical Storm Ernesto reached the metropolitan area on September 2. The path of the storm was originally predicted to pass west of Con Edison's service territory by over 200 miles. Instead, Tropical Storm Ernesto settled over the lower Hudson Valley and Westchester and Bronx counties and lingered there for approximately 18 hours. Heavy rains and high sustained winds continued throughout the storm. As a result of the storm, 76,000 customers lost electric service in Westchester and 2,300 lost service in the Bronx.

The major storms experienced in 2006, both in the Con Edison service territory and the rest of the State, were intense. The damage to the utility's infrastructure was significant. This report focuses both on the July 18 and September 2 storms, which left customers out-of-service for greater than three days.

Following the severe storm that Westchester experienced in January 2006, Staff conducted a thorough investigation of Con Edison's preparation and response. Staff issued its analysis and recommendations in June 2006. According to the Company's self-assessment of its performance during the July and September outages, Con Edison had not completed its implementation of the recommendations made by Staff in the January 2006 storm report.

### **CON EDISON'S SELF-ASSESSMENT**

Con Edison's self-assessment of its performance in response to the July and September storms provided a summary of events which occurred, and its restoration efforts. The Company's July report identified three areas for improvement: internal communications, training, and line clearance. Its September report identified where additional internal communications improvements could be made, as well as external communications improvements with municipal contacts and call center activity, training, and line clearance/tree trimming. Additionally, the Company acknowledged that it was still implementing changes made in response to Staff's report on the January storm. There was a short timeframe between the June release of Staff's report and the July and September storms.

### **ELECTRIC OPERATIONS**

#### **Storm Preparation/Mobilization**

Pre-storm preparations include many actions, with a high priority placed on properly classifying the storm at the outset, as that determines the level of mobilization for restoration activities. Proper storm classification allows for reasonable prediction of expected customer outages and minimum staffing requirements.

Con Edison uses a commercial weather service for providing input to its decision

making for event classification. Prior to the July 18 storm Con Edison was projecting a category 3A<sup>4</sup> storm. (The storm classification matrix is included in Appendix III.) For the most part, this was an accurate projection.

As the September 2 Tropical Storm Ernesto progressed northward, it was progressively downgraded and then upgraded in its predicted intensity upon reaching Westchester. The following table shows the changes in the forecast for the Westchester area:

Date	Time	Projection Period	Sustained Winds	Gusts	Rain
Sept. 1	6:00 p.m.	8:00 a.m. – noon Sept. 2	15-25 mph	30-35 mph	Up to 2”
Sept. 2	7:00 a.m.	5:00-9:00 p.m. Sept. 2	10-20 mph	23-27 mph	Reduced <sup>5</sup>
Sept. 2	9:00 p.m.	9:00 p.m.-2:00 a.m. Sept.3	25-35 mph	35-45 mph	Reduced

Con Edison, using input from a commercial weather service, made its initial storm prediction on Friday, September 1, at 9:00 a.m. Based on the projected path of the storm, and wind speeds, a Category 1 storm was projected. This projection would anticipate up to 7,000 customers out-of-service and restoration of 8 – 12 hours after the storm ended. During the day on Saturday, September 2 the forecast remained favorable. Later on Saturday, the storm direction changed and the forecast worsened. Con Edison responded by upgrading the storm classification to a Category 3A storm.

By the time the classification change was made on Saturday, Labor Day weekend was well underway. Staffing levels thought to be required during the day on Friday were available, however, additional staffing resources needed when the storm

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<sup>4</sup> Storm categories are classified based on the projected severity of a storm. A Category 1 storm projects a condition that is short with moderate sustained winds with up to 7,000 customer outages and an estimated restoration time (from the end of the storm) of 8-12 hours. A Category 2 storm will have strong sustained winds for several hours impacting up to 15,000 customers and an estimated restoration time of 12-24 hours. Category 3 is broken into three subparts: 3A will have severe thunderstorms, heavy rains, strong sustained gusts, with up to 40,000 customers out-of-service for 1-2 days; 3B is more severe including Nor’easter and tropical-type storms, with between 40,000-60,000 customers expected to lose service for 2-3 days; and a 3B full scale coastal storm includes hurricanes with significant damage to the distribution system, and greater numbers of customer outages that may last for a week or more.

<sup>5</sup> The September 2, 7:00 a.m. report stated that, “The remnants of Ernesto will continue to trek to the north and west of the area today, sparing the area from the heaviest rains.” The storm was projected to pass more than 200 miles to the west of the Bronx and Westchester counties.

classification was upgraded late Friday evening were more difficult to obtain. Calls for contractor forces and mutual aid from neighboring utilities were made as part of the pre-storm preparations. Many of the utilities held their own workforce back from providing mutual aid support until they had sufficiently repaired damage within their own operating areas. This left Con Edison primarily reliant on its own forces and contractors for the initial deployment of work crews. This will be discussed further in later sections of this report.

Staff has concerns regarding Con Edison's ability to accurately forecast storm-related damage and assign the proper level of resources. It will be noted later in this report that another important aspect of pre-planning is communications with municipal officials and critical care customers. These communications should occur early and on a regular basis. Further, as discussed later in this report, there were inadequacies identified with respect to staffing and restoration duration expectations.

Con Edison's emergency plan calls for a Category 3A storm restoration to be accomplished within one to two days after the end of the storm, which was not achieved for either the July or September storms. The severity and magnitude of these storms are within the planning guidelines set forth in Con Edison's Comprehensive Emergency Response Plan. Based on the peak number of customer outages projected, the emergency response classification was appropriate for the July storm and as modified late in the day for the September storm. However, after the storm ended, when Con Edison estimated the global restoration time, it was projected to take longer than what is called for in the emergency plan. This was not adequately addressed by Con Edison, leading to a lack of adequate response preparedness.

Con Edison could benefit further from state-of-the-art predictive modeling. There are a variety of software models that generate information on hazards and the potential impacts from storms. The program output, along with geographic mapping programs, provide details on where storms are most likely to strike and what the potential impacts would be. This information could be used by decision makers to project needs before a storm occurs and allow for prompt deployment of necessary resources. Staff notes that the Company's affiliate Orange & Rockland is making progress on the use of predictive models in its emergency response planning.

**Recommendation:**

- 1. Con Edison should conduct a review of predictive models available for its use in storm damage prediction. This review is to commence immediately, and monthly progress reports are to be provided to Staff. Implementation should be targeted for August 1, 2007.**

**Storm Impact**

In this section we provide comparisons among the January, July, and September 2006 storms. In order to familiarize the reader with the damage caused by each storm, comparisons of the extent of the storms restoration durations, customer outages and total customers affected, and physical damage to the system are made.

**Storm and Restoration Duration**

	January 18 – 23	July 18 – 22	September 2 – 7
Storm Start Time	5:00 a.m.	10:00 p.m.	12:00 p.m.
Storm Duration	18 hours	8 hours	18 hours
Restoration Duration <sup>6</sup>	3days 16 hours	4 days 9 hours <sup>7</sup>	4 days 2 hours

**Storm Customer Effects**

	January	July	September
Peak Customer Outages	48,000	25,000	45,000
Total Customers Affected <sup>8</sup>	61,000	35,000	78,000

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<sup>6</sup> Restoration duration commences with the end of the storm. A criterion for determining when a storm ends is included in Con Edison procedures.

<sup>7</sup> Additional storms on July 21 and 22 extended restoration of customers affected by the July 18 storm.

<sup>8</sup> Con Edison has provided numbers showing total customers affected. This could be the same customer that is affected more than once during an outage restoration period. Customers may be out-of-service, have their power restored, however, and have to be taken back out-of-service to make other repairs elsewhere on the circuit affecting their location.

### Physical Damage

	January	July	September
Primary Wire Spans Down	1,170	950	1,400
Secondary Wire Spans Down	782	609	900
Service Wires Down	462	350	500
Poles Down/Damaged	148	82	105
Transformers Damaged	98	68	71
Transformer Oil Spills	36	25	36

The damage in September was comparable to what was experienced in January 2006, but greater than in July.

### **Damage Assessment**

Damage assessment is the process used by the Company to locate and quantify damage to electric distribution facilities after a storm. This is generally done in several ways: by reports of system performance problems (through channels such as telemetry (System Control and Data Acquisition, commonly referred to as SCADA), customers reporting power outages, and by the physical observation of damage by company, municipal, or other sources.

Reports of system performance problems are passed on to the computerized outage management system, discussed in more detail later in this report, which helps Con Edison's Trouble Analysis Group make assessments about the nature of the damage to the distribution system. The timely and accurate reporting of physical observations of damage by trained personnel is an important input to the planning and efficient restoration of the electrical system; however, it is very labor-intensive, especially when the assessment is of a detailed nature.

Damage assessment personnel preferably come from disciplines such as engineering or planning who understand how the system is built, and are able to describe component damage in sufficient detail that an accurate description of the work

can be developed for work crews including the materials needed and the identification of conditions requiring specialized equipment or skills. In storms prior to the July storm, damage assessment personnel would also often assume the role of site safety (wire guards), and stand-by downed live wires until they were made safe, thereby extending the time for the assessment process.

### **Damage Assessor and Site Safety Roles**

Con Edison responded to a recommendation made in Staff's January storm report regarding work order preparation by decoupling the damage assessment and site safety roles. This allows damage assessors to continue their surveying after reporting and barricading a downed wire, with the unsafe condition then being watched by a responding site safety person. Staff is supportive of this approach by Con Edison, which was phased in during the storm restorations in July and September to expedite damage assessment. Con Edison also has reported favorably on this new procedure. While a safety advantage could be that more dangerous conditions are identified in each work shift, it continues to be important that dangerous situations are addressed in a timely fashion, especially in light of the anecdotal reports of live wires being guarded for multiple days. During the September restoration period, over 150 wire guards were still being used on September 6, and 80 on September 7, which is a concern. The areas being guarded should have been made safe much sooner in the restoration period. The Company has not provided an adequate explanation as to why these unsafe conditions were allowed to exist for so long.

### **Storm Classification and Damage Assessment Assignments**

Table E, page 3-24, (see Appendix III for a copy of Table E) of Con Edison's Comprehensive Emergency Response Plan shows a minimum staffing of 40 damage assessors for a 3A storm. The actual number of damage assessors for the July storm restoration reached a maximum of 100, while the September maximum was 240; both eclipsed the 3A minimum; and, in the case of the September storm, more than tripled the minimum. This stresses the need for Con Edison to revise Table E to more accurately reflect the minimum staffing levels required for each storm

classification. This should enable faster damage assessment and produce reductions in the time to achieve total restoration.

Just as the damage assessor minimum staffing level in the storm plan was quite different than the number actually needed, so too, was the need for other resources such as company overhead crews, mutual aid overhead crews and tree crews. These staffing levels also need to be increased in the emergency plan. This inadequacy also carried over to the storm classification matrix (a copy is in Appendix III), which states that a 3A storm affects up to 40,000 customers for an estimated period of up to two days, and a 3B storm affects 40,000 - 60,000 customers (which was the case in the September storm) for a period of up to three days.

Con Edison has indicated that these storms were classified as 3A storms and, that as such, most of the damage assessment assignments consisted of patrols of portions of feeders and spurs as identified by Con Edison's outage management system. Staff has been told that a class 3B storm would include a more systematic feeder patrol. From the information presented above, it appears that the September storm was really a Category 3B and, as such, might have benefited from more systematic feeder patrols. Several post-storm comments received from the public pointing out multiple visits by Con Edison crews to the same trouble location corroborate this observation.

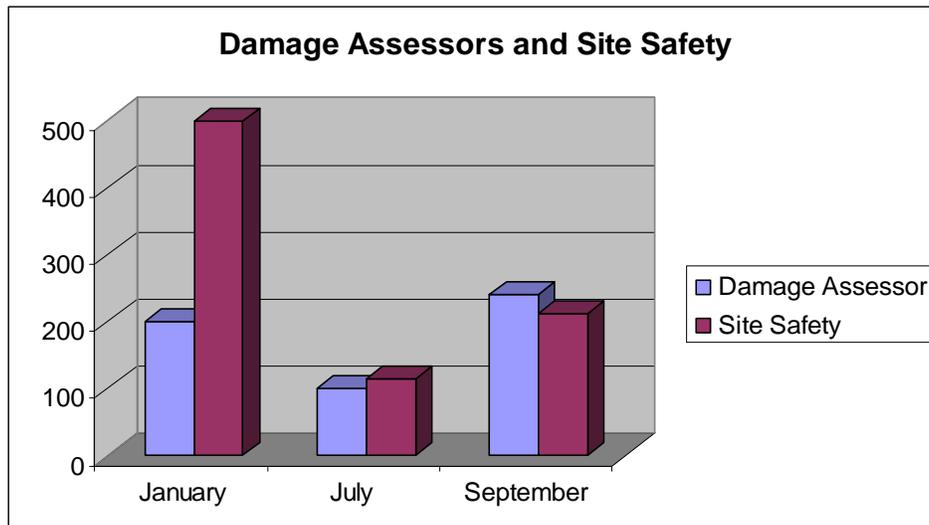
### **Recommendation**

**2. Con Edison should do a complete re-evaluation of its staffing and storm emergency classification matrices for the Bronx-Westchester portion of its storm plan and file the revised matrices in an update to its plan by April 30, 2007.**

### **Damage Assessment and Site Safety Staffing**

Damage assessment is one of the first activities to take place and is critical to the restoration process since the physical restoration work is dependent upon it. Damage assessment staffing for the September storm restoration, which, as discussed above, comes from the ranks of Con Edison's employees, was slow to mobilize. Staff attributes some of this to the unpredictability of Ernesto's path, the timing of its arrival on Labor Day weekend, and unevenness in Con Edison's response when putting its employees on alert. A comparison of the total number of damage

assessors and site safety staff used in the January, July, and September storms is shown on the following graph:



Site safety personnel have a vital role in protecting the public from hazardous situations. During the restoration period, many potential dangers such as wires lying on the ground may be energized even without any outward signs of sparking or fire, seemingly lying in wait for an unsuspecting adult, child, or animal. Thankfully, there were no injuries to the public or to Con Edison employees and its assisting work forces from electrical contact. Con Edison made public announcements via the media and internet concerning safety as well as the daily handouts at safety meetings with the Company and visiting crews.

Site Safety personnel watch over downed wires until they can be addressed by line workers. Con Edison has a large reservoir of people to perform this unskilled yet vital job. As was mentioned previously, the Site Safety and Damage Assessor groups were split after the January storm to allow more efficiency for the damage assessor function by allowing damage assessors to proceed to their next outage investigation location. Staff emphasizes that while we support this efficiency improvement, safety to the public cannot be sacrificed by this change. Crews need to be expedited to make the area safe instead of leaving Site Safety personnel at locations

for any longer than necessary. According to information supplied by Con Edison, the deployment of Site Safety personnel was at a high level until the end of the September storm. While this may be partly due to the vagaries of reporting, Staff field observations and reports from the public indicate that there were indeed numerous Con Edison employees guarding wires until late in the storm restoration. It is Staff's view that these safety issues should have been addressed earlier.

### **Quick Survey**

A quick survey of the area affected, after a storm hits, can be useful in gauging the extent of physical damage sustained. Knowing the degree and locations of damage, preferably with some first-hand observation, can help the storm restoration managers estimate the amount of labor that will be required, where they might initially be best deployed, and improve the overall duration of restoration work.

It is Staff's observation that Con Edison's quick survey of damage is almost too ad hoc in nature: troubleshooters, who are assigned to specific jobs created by Con Edison's outage management system from (in most cases customer call-ins), report back conditions they encounter in the field; employees reporting for duty relate their observations; municipal and emergency employees report what they see; and so on. While this information is undoubtedly valuable, and should be encouraged, there appears to be greater need for a prescribed plan to sample conditions over the entire service territory.

It is Staff's opinion that some first-hand management knowledge of actual field conditions during restoration is a necessary component of the decision-making process. This may have been a factor in these storm restorations, and Staff feels that this should be a part of Con Edison's emergency plan. The Company should consider the pre-staging of assessors to cover pre-assigned areas of the County to better inform the quick survey process.

A reference<sup>9</sup> is made to helicopter patrols in Con Edison's Comprehensive Emergency Response Program. Helicopter patrols were not used in either of the

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<sup>9</sup> "Alert the helicopter contractor in Westchester to be ready for transmission and distribution line patrols after the storm."

storms. Con Edison indicated to Staff that the transmission system in Westchester was mostly underground and not damaged by the storms, and that helicopter patrols of the distribution system are not productive because tree vegetation overhang obscures vision. While this could be true at high-level altitudes, an overall assessment of the damage to the distribution system could be obtained via helicopter surveys immediately following a storm when many roads are potentially blocked.

**Recommendations:**

- 3. Con Edison should develop a more formal survey procedure which can quickly gather preliminary damage information throughout the affected service territory, and that the storm manager(s) obtain first-hand knowledge of the storm's extent and restoration progress.**
- 4. Con Edison should review the section in its storm plan concerning the use of helicopters for surveying the distribution system and modify the plan to reflect its actual practice.**

**Use of Technology**

Damage assessment, as well as other areas, could benefit from the application of modern technology to improve efficiency. Applying the use of global positioning satellite (GPS) technology, digital imaging, wireless telecommunications, voice response technology and possibly other technologies could streamline the damage assessment process. These technologies would also greatly aid in crew management. DTE Energy uses GIS-based facilities mapping to represent its entire electric distribution network, and Wisconsin Public Service Corporation has plans for equipping its trouble trucks with GPS receivers and mobile data terminals so their movements can be tracked and displayed. Staff also discovered that Orange and Rockland Utilities, a Con Edison affiliate company, is also exploring technology improvements to its restoration methods.

**Recommendation:**

- 5. Con Edison should study and implement technologies to make damage assessment, and other restoration processes, more efficient and effective. A report to Staff should be made within four months of this report outlining the technologies studied and implemented or slated for implementation.**

## **Tree Trimming**

The density of large, old-growth trees in Westchester County provide a bucolic setting, however, they represent a risk to utility service. Following storms with high winds, heavy snow, or ice accumulations, service interruptions can be expected. During the investigations of the July and September storms, major damage came from large limbs breaking off and whole trees becoming uprooted. While the lack of tree trimming was a factor in the extent of damage caused, much of the damage that occurred in both storms was beyond the extent of tree trimming. Many of the large trees that failed seemed to have very small root systems in relation to the size of the tree. This condition needs further analysis to determine what factors may be contributing to large tree failures. However, this is not to imply that there was not damage that could have been minimized from more rigorous tree trimming. Improvements in tree trimming will help to improve overall reliability. An example of the lack of tree trimming can be seen in the cover photo of this report. A pole/cross-arm is barely visible in the upper left hand corner of the picture.

Con Edison has announced that it will implement a more vigorous tree-trimming program in 2007 which will provide for greater line clearance and vegetation maintenance. Under the new standards, trimming will create a clearance of 10 feet below and to the side of lines, and 15 feet above the lines. The new standards were reported in The Journal News with Con Edison's spokesperson Michael Clendenin quoted saying that "The Company believes the program, which will cost about \$6 million a year, could reduce storm-related outages by 20 percent." Staff concurs with these actions.

## **Restoration**

### **Management Structure**

The National Incident Management System (NIMS) provides a foundation for emergency management including an organizational structure, the Incident Command System (ICS) for multi-agency coordination, and public information

dissemination. Incident Command System is also endorsed by New York State<sup>10</sup> as the recommended organization format for managing large events and emergencies. All federal, State, local, tribal, private sector and non-governmental personnel with a direct role in emergency management and response must be National Incident Management System and Incident Command System trained. This includes all emergency services-related disciplines such as EMS, hospitals, public health, fire service, law enforcement, public works/utilities, skilled support personnel, and other emergency management response, support, and volunteer personnel. This system will provide a consistent nationwide approach for federal, State, and local governments to work effectively and efficiently together to prepare for, respond to, and recover from domestic incidents regardless of cause, size, or complexity.

Con Edison uses the Incident Command System for its emergency organization staffing, however, many of the persons in key roles have not been trained in Incident Command System basics. Of 52 key Incident Command System positions, four have no training, 35 have some National Incident Management System training, and 13 have some level of Incident Command System training. One incident commander has no Incident Command System training. In training provided to municipalities, by Con Edison, an overview of Incident Command System is provided showing their commitment to Incident Command System. The municipalities should be encouraged to seek Incident Command System training. Con Edison should require every person fulfilling a position in its emergency response organization to be Incident Command System and National Incident Management System trained, and tested for proficiency.

**Recommendation:**

**6. Con Edison should require all employees that fill a position in the emergency response organization to be Incident Command System and National Incident Management System trained, and tested, to a level commensurate to their position. This training should be facilitated by the Company and completed no later than April 30, 2007.**

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<sup>10</sup> Executive Order 26 dated March 5, 1996 and Executive Order 5 dated January 5, 2007.

## Duration and Staffing

Restoration duration is largely driven by the amount of physical damage and the level of effort the utility expends on what is essentially a large fast-tracked construction project. The right magnitude and mix of resources such as line, service, tree, and damage assessment crews, and engineering, planning, and logistical support are needed to complete the project as efficiently as possible within an “as soon as possible” constraint. Attention must also be focused on the quality of the repair work during the restoration process as it is not always practical to do a lot of rework on repairs and an improper repair may occur again in the near future.

Prior to a storm’s arrival, Con Edison’s emergency restoration staffing matrix (see Appendix III) provides some guidance of the expected magnitude of the work force required to restore service. After the storm has passed, as damage becomes more known, the staffing levels can be adjusted. However, as mentioned in the Damage Assessment section, Staff is concerned about what seems to be, in general, an overly optimistic application of this matrix as well as the storm classification matrix.

For both storms, Con Edison’s actual staff requirements exceeded the minimum staffing outlined in its emergency plan;<sup>11</sup> however, the classification matrix also includes an estimated restoration time as measured from when the storm ends. For a category 3A Serious Event, this is listed as 1 – 2 days and the category 3B Full-Scale event as 2 – 3 days. In both events, Con Edison’s initial global projections for restoration duration were greater than what is called for in its Emergency Response Program plan. This should have immediately triggered a response from Con Edison that these events would require staffing well beyond minimum requirements in the Emergency Response Program plan to accomplish the work confronting them. It also should have been obvious to Con Edison management that such a lengthy restoration would not be acceptable to the affected citizens, elected officials, and State regulators. This outcome raises a concern that financial considerations may be at play which may be extending the restoration period. It is imperative that Con Edison immediately take all possible measures, including additional staffing, to bring the initial global (all

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<sup>11</sup>Con Edison Comprehensive Emergency Plan, Page 3-24, Appendix III.

customers affected) restoration projection into line with, or better than, the durations called for in the matrices in the Comprehensive Emergency Response Plan.

**Recommendation:**

**7. Con Edison should provide guidance in its Comprehensive Emergency Response Plan for adjustment of its work force to be in line with, or better than, the durations called for in the matrices by April 30, 2007. (Also see recommendation #2.)**

**Crew Use**

The following chart shows the number of crews used in the January, July, and September 2006 storm events.

CREWS USED DURING 2006 STORM EVENTS			
	September	July	January
Con Edison Crews <sup>12</sup>	214	106	222
Outside Crew Support <sup>13</sup>	188	191	261
Tree Crews	58	39	45
<b>Total Field Crews Used</b>	<b>460</b>	<b>336</b>	<b>498</b>

The total Con Edison crews used in the July and September events did not reach the level of comparable crews used in January. Staff's January storm report had recommended that Con Edison make optimal use of its own field crews. Con Edison responded to Staff that it will use its Distribution Command Post to make optimal use of field crews from other operating areas. This, however, was not demonstrated in the crews assigned during these outages. If Con Edison were to dispatch all of its available crews<sup>14</sup> to emergency restoration, as well as employing contractor and mutual aid resources, the rate of restoration could significantly be improved. Staff's January report recommendation has not been adequately addressed, and is supplemented by the following recommendation. The Company should look into

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<sup>12</sup> Includes Company overhead, trouble shooters, and service crews.

<sup>13</sup> Includes mutual aid and contractor crews.

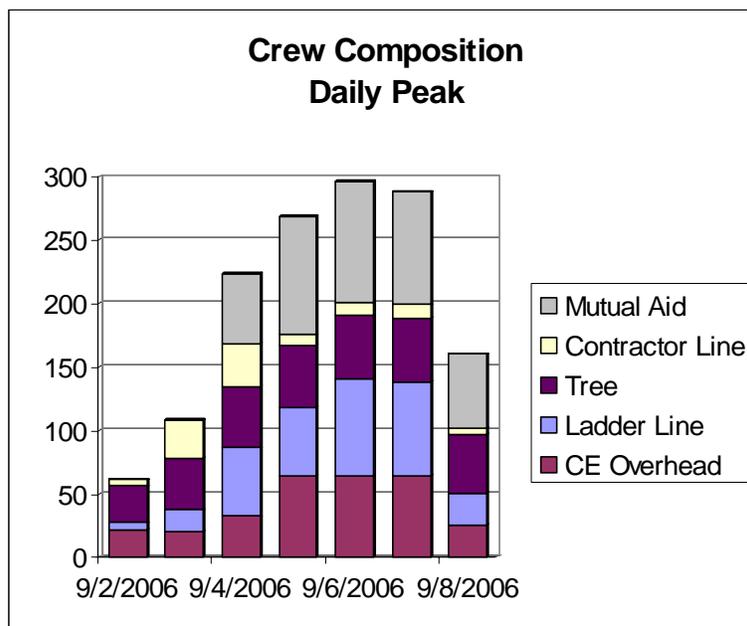
<sup>14</sup> Con Edison has approximately 265 overhead, service, and overhead trouble crews in its Bronx/Westchester, Brooklyn/Queens, and Staten Island Divisions. Additional underground, network, and service crews, as well as Gas Division crews, are also available to support restoration efforts.

providing more cross training that could increase the use of the Company's human resources in restoration situations.

**Recommendation:**

**8. Con Edison is to provide a plan of action, to be filed with and integrated into the next Comprehensive Emergency Response Plan update, for making optimal use of its own field crews from other operating areas.**

The graph below shows the crew composition for the September storm period. The first crews to arrive were Con Edison overhead and ladder line crews, and contractor line and tree crews. However, the buildup of Con Edison overhead crews did not peak until September 5 and 6. Con Edison has told Staff that this build up was delayed because of crews being unavailable over the Labor Day weekend. If this were true, it would seem that it would hold true for other utilities sending mutual aid; however, it can be seen on the graph that significant mutual aid forces arrived on September 4 and 5. The rate of build-up of forces is also critical to prompt restoration. Staff concludes that Con Edison failed to take aggressive actions to sufficiently mobilize its own work forces and that of contractors and mutual aid.



Con Edison also reported that in the July and September storms, its own crews returned home at the end of each work day. Con Edison has told Staff that the majority of its Westchester workforce commutes over considerable distances to get to the Westchester Service Center. Because of the time spent in commuting these workers are scheduled for 12-hour work days during emergency restoration periods, while contractors and mutual aid crews tend to work longer shifts. Con Edison provides hotel/motel style housing for out-of-area crews, to the extent that it is available. Con Edison Customer Service Procedure 5-0-15, page 17 states that, "If commercial establishments are not sufficient to lodge all personnel, sleeping quarters for Company employees will be set up in armories, schools, Company facilities, or comparable locations." By direction of its own procedure's, Con Edison should be providing housing for its own workers, which would allow for longer work days.

Con Edison can significantly improve in the use of its own workforce by taking actions to more aggressively deploy crews from the affected service area, and more rapidly deploy its own workforces from non-affected areas, scheduling base work hour schedules of 16 hours per day, and providing housing, either at commercial establishments or at Company facilities. Con Edison should follow its procedures and minimize barriers to accommodate more of its own crews, mutual aid, and contractor support to maximize the amount of restoration that can safely be accomplished. The buildup of Con Edison's own workforce during the September storm was particularly slow. Con Edison attributes most of this problem to the timing of when the storm hit on Labor Day weekend. While there may be some merit to this, it is noted by Staff that the Company made plans during the business day on Friday to significantly increase its call center staffing over the weekend. Con Edison did not take similar actions with its field workforce, nor did it put them on notice for a possible call out.

Con Edison has also stated that its Westchester response organization was saturated logistically with mutual aid and contractor crews. This comment refers to the Company's effort to maximize the usage of outside assistance crews while ensuring safe work practices and public safety. Con Edison reported having housed 261 mutual aid and contractor crews during January. Additionally, Con Edison reported in its January storm report that it provided approximately 1,300 hotel rooms for emergency

workers. This number of hotel rooms is significantly above the level that would have been needed to house all emergency responders working the July and September storms. Staff fails to see how Con Edison's claim of being saturated logistically has any merit. Con Edison needs to plan, train, and make arrangements to accommodate crews and emergency workers with food, shelter, and care for personal needs. This situation also raises the concern that, again, financial considerations are creating inefficiencies in the restoration process.

**Recommendations:**

**9. Con Edison should maximize its ability to manage crews and use the number of crews commensurate to the most prompt outage restoration possible. The Company needs to inform Staff on the improvements it is making in logistical management.**

**10. Con Edison should provide accommodations for all emergency workers, and maximize available work hours for safe restoration.**

**Estimated Time of Restoration**

Estimating when customers will have their power restored after a severe storm is critically important. There is a great need for customers to have an idea when they will be restored for their own planning, not least of which is whether to stay in their homes or seek shelter elsewhere.

The utility is faced with what essentially is a very large fast-track construction project. There is incomplete knowledge of the project's scope, working conditions are usually less than ideal, a lot of the work is done by people unfamiliar with the utility, and the emphasis is on speed of completion which can easily translate to inefficiencies, all of which make restoration estimates quite difficult. An additional discussion of restoration estimates is in the Customer Service Operations section of this report.

There are usually several classes of restoration estimates that a utility provides. The most general is the global estimated total restoration which is a projection when the last customers will have service restored. This estimate is usually accompanied by a projection of when the majority of the customers will be restored.

It is Con Edison's policy to provide a global restoration time within 24 hours from the end of the storm. However, it appears that global restoration estimates may have only been given to the customer representatives. Staff's review of the press releases for the July storm did not reveal any reference to the global restoration time. It is also worth noting that the estimates did not agree well with the matrices that Con Edison uses as guides, and we would again re-iterate that Con Edison revisit these guides.

### **Recommendation:**

**11. Con Edison should fully communicate its estimated global restoration time through the press, media, and web outlets.**

### **Outage Management System Improvements**

Con Edison's outage management system consists of three components: the System Trouble Analysis and Response System, Emergency Control System, and Outage Manager. Following the January storm, Staff made a recommendation that Con Edison continue with its proposed improvements for Star, Emergency Control System, and Outage Manager to provide accurate outage information at much higher call volumes. In response to this recommendation Con Edison has increased the computing capacity of the System Trouble Analysis and Response System so that three times the number of calls can be handled through the three components mentioned above. This has been verified by testing as well as by experience during the July and September storm restorations.

### **Detailed Restoration Estimates**

Staff appreciates the difficulty of predicting restoration times in more detail than a global estimate, yet this is a capability that appears to have significant customer demand and is critical to restoring public confidence in the Company's restoration capabilities. There appears to be no geographically based, such as by town, restoration time estimates provided. Calling customers can receive a restoration prediction only if the repair jobs associated with their situation has been assigned to a crew; these detailed job assignments are generally a mere fraction of the total scope of work.

Again, following the construction project analogy, if the project can have an end date, should it not also have some interim milestones?

The damage assessors are responsible for obtaining the physical damage inventory input to System Trouble Analysis and Response System that can serve as a basis for craft-hour estimates. By increasing the number of damage assessors as soon as possible, Con Edison would be able to assign jobs to crews earlier and provide more detailed restoration information to more customers.

In the Staff report issued after the January storm, a recommendation was made for Con Edison to analyze industry practices for estimating restoration times, and to include an evaluation of how advanced metering would benefit the prompt knowledge of customer outages. It was further stated that Con Edison should implement the best practice processes.

Con Edison has acknowledged the problem addressed in the recommendation and is studying available industry products that help plan restoration work as part of its Restoration Process Review Team. Staff recommends that Con Edison continue its efforts to better plan restoration work to provide detailed restoration times as well as to more effectively produce earlier overall restoration.

**Recommendation:**

**12. Con Edison should expedite its search for tools to assist in planning restoration work.**

It is Staff's opinion that Con Edison's system would benefit from further coordinating with its transmission and distribution telemetry system (SCADA). Integration and automation of the interface between the two systems should help the outage management system to make more accurate and timely outage causes and effect predictions, and should be relatively cost effective. The Company informed us during the research for this report that it was indeed following this course of action.

**Recommendation:**

**13. Con Edison should continue to integrate its transmission and distribution telemetry system with its outage management system to increase its accuracy, timeliness, and efficiency.**

## **CUSTOMER SERVICE OPERATIONS**

### **Communications**

Ensuring effective communication and information exchange with residential and commercial customers, State and municipal officials, the news media, and emergency response organizations is critical during outages. As part of the review of the July and September 2006 outages, Staff evaluated Con Edison's internal and external communication efforts, its dry ice distribution program, and its handling of life support equipment customers and critical care facilities. Staff concluded that while Con Edison began to implement some of the Staff's recommendations from the January 2006 storm investigation, the Company still fell far short of providing timely, accurate, and useful information to its customers. The Company's response to the July and September storms once again pointed out the need for increased and improved communication with customers, public officials and the news media; strengthened and streamlined procedures for communication between the various units within the Company itself; and closer coordination with municipal officials, highway departments, and emergency response units.

### **Residential and Commercial Customers**

To determine the effectiveness of Con Edison's communication efforts with residential and commercial customers, Staff reviewed the Company's self-assessment reports and sought input from the public through a variety of means including public statement hearings, the Department of Public Service website and its toll-free Opinion Line comments, face-to-face interviews, and meetings.

Con Edison deployed customer outreach advocates to various field locations either in the Customer Information Center mobile vehicle, the Mobile Command Center van or at the dry ice distribution locations. During the July outage, customer outreach advocates staffed the Customer Information Center vehicle and dry ice distribution locations in Yonkers on July 17 and 20-23, the South Bronx on July 18, Port Chester on July 19 and 20, and White Plains on July 21. During the September outage, Con Edison deployed the Customer Information Center vehicle to New Rochelle

and the Mobile Command Center van to Yonkers daily from September 3 through September 7. In addition, customer outreach advocates staffed dry ice distribution centers in Riverdale, White Plains and Rye on September 3, White Plains, Armonk, and Rye on September 4 and 6, White Plains and Rye on September 5, and Armonk on September 7. The outreach advocates were available at these locations to answer questions, provide information to customers, and distribute written materials on heat stress and storm emergencies. The location of the outreach staff was posted on the Company's website, noted in press releases, provided to customer service representatives and noted in teleconferences with municipal and public officials.

In addition to reviewing the Company reports, Staff reviewed numerous comments received from the public regarding the two outage events. Comments were received via letters mailed to the Commission, letters written to Westchester County government that were forwarded to Staff, statements provided at four public statement hearings held in communities located in Westchester County, comments e-mailed to the Commission's AskPSC.com website, and comments received through the Department's toll-free Opinion Line. The majority of customers who provided comments on the power outages expressed a high level of frustration with the Company's inability to provide accurate, complete, and timely information regarding outages and restoration. Whether trying to obtain information from the Company's toll-free telephone line, from crews on the street, or from Con Edison's website, customers reported receiving either no information at all or inaccurate information at best. Customers felt that Con Edison was unprepared and poorly managed throughout both events.

A recurring sentiment expressed by customers was that they did not know that Con Edison relied on customer phone calls reporting power loss as a means of assessing the extent of outages and identifying who had power and who did not. Customers reported waiting patiently for service to return, only to see neighbors all around them with lights restored, but their own power still out because they had not called the Company to report their outage. As stated by one customer:

"It's time for Con Edison to get modern, to find some way to have this whole big system plugged in so that a police department can report that the entire neighborhood is out rather than requiring that each and every member of that community pick up the telephone and call it in.."

Furthermore, many of the customers who did try to contact the Company to report an outage ran into a different set of problems. Customers indicated they were unable to reach the Company through the toll-free line and received a busy signal again and again. Some customers that did reach the Company reported that they were on hold for as long as 60 minutes. Many other customers reported only reaching a recording, not a live person, and that the recordings did not provide useful information or restoration times. Even customers that reached a customer service representative indicated that they did not receive accurate estimated restoration times. A common reply that customers reported receiving from customer service representatives was “We’re working on it” or “We’ll get to you when we can.” Other customers reported that they were repeatedly given inaccurate restoration times or that the restoration time for their location was different each time they contacted the Company. Many were told that their power had been restored, when it actually had not been restored.

Another common issue repeated by customers was the lack of restoration information provided through other information channels such as the Internet. While the Company website had a storm preparation section, up-to-date information on restoration activities was not available. The location of dry ice and Con Edison Customer Advocates in the field was listed only in the press release section. In addition to looking for storm outage information on the website, customers expressed interest in contacting the Company via e-mail to report power outages. As one customer noted at a public statement hearing:

*We are in the day and age where we have e-mail and so many companies live by e-mail, and yet Con Edison won't take anything by e-mail, it won't display anything on its website. If you are out of power you're not going to be able to get under normal circumstances to your computer, but most of us have an office somewhere else and most of us have relatives somewhere else.”*

The lack of timely or accurate information from the Company’s Customer Outreach vehicles (toll-free line, Internet site, etc.) exacerbated the situation and contributed to the high level of customer frustration and dissatisfaction. While many customers were shocked at the length of time they were without power, others agreed that they would have been better able to deal with a lengthy outage and make informed

decisions if they knew up-front how long the power would be out. Customers indicated that they could have made arrangements to stay with family and friends had they gotten accurate information from the Company. One customer stated that she would not have purchased food that eventually spoiled while waiting for her power to be restored.

Overall, customers were unsatisfied with the way Con Edison handled communications prior to and during the power outages. Customers did not know what was expected of them during the outage (i.e., contact the Company to report the outage) and were critical of Con Edison's efforts to keep them updated on the progress of the restoration efforts. Customers expected that Con Edison would be able to provide them with useful and accurate information about the power outage so they could make decisions regarding whether to remain at home, how to care for pets, etc.

Con Edison's September storm report indicated that the Company was aware of some of the concerns expressed by customers and was taking measures to address these issues. The report's "Lesson Learned" section identifies steps that the Company has taken to modify its System Trouble Analysis and Response/Emergency Control System and its Call Center operations to address consumers' concerns about not being able to contact the Company, not being given a restoration estimate, or being given inaccurate information. The modifications to the System Trouble Analysis and Response/Emergency Control system will provide for improved processing of transactions (faster and increased volume of calls) and allow for more users. In addition, the Company has streamlined its Call Center operations by increasing the number of phone lines (from 400 to over 650 as of November, 2006) to the toll-free number and modifying the automated system for self-serve applications where customers can report an outage without speaking to a customer service representative. Con Edison anticipates that the average call time will be cut from 3 minutes to 90 seconds and there will be a three-fold increase in call volume management.

Another modification made to the Call Center operations should provide more information to the customer service representatives which they can relay to customers calling the toll-free line. When a customer calls the Company, the computer system automatically checks the outage management system and provides the customer service representative with information regarding outages in the area, the

number of customers impacted, and an estimated restoration time. This modification is being programmed into the voice response unit to provide information prior to customers speaking with a customer service representative.

Con Edison has also recognized the need to keep field crews apprised of outage and restoration information. The Company provided information cards to give restoration status updates to all office and field personnel. They are looking at streamlining and improving the process by using pre-developed safety messages and pre-scripted fill-in-the-blanks updates.

While the actions that the Company has put in place since the two outages will enhance the communication with its customers and address many of the concerns expressed by customers, Con Edison still needs to take steps to ensure that its customers are better informed of the Company's outage and restoration program before and during an event. Con Edison has indicated in its self-assessment reports that it conducts an outreach program to educate customers regarding storm preparedness and the need to report outages to the Company. Based on the comments received from the public, the education program does not appear to be effectively reaching customers. Con Edison needs to review its outreach program and look for ways to more effectively reach its customers with restoration and safety information.

In addition to an aggressive education campaign prior to an outage, Con Edison needs to enhance its outreach program during an actual event. For example, detailed restoration information is essential to customers. They want to see the progress of service restoration and need this information in order to be able to plan their lives around an outage. At the present time, the only detailed restoration estimates that Con Edison is able to provide are associated with specific jobs that have been assigned to crews for repair. These assigned jobs generally are a mere fraction of the total scope of work, leaving most customers without a restoration time more specific than the global estimate. In addition, Con Edison only provides these detailed job estimates to customers who call in and choose to speak to a "live" customer service representative. Staff is not aware that Con Edison disseminates this information in any other automated way such as telephone or the internet.

## **Recommendations:**

- 14. Con Edison should continue to work on improvements to the System Trouble Analysis and Response program, Emergency Control System, Outage Management System and Call Center operations. It should test these improvements to ensure that these systems can provide accurate outage information at much higher call volumes.**
- 15. Con Edison should review, evaluate and improve its outreach and education program regarding outage management and the restoration process so customers are aware of how the Company restores service and how it prioritizes restoration. An implementation plan for the program is to be provided to Staff.**
- 16. Con Edison should provide its customer service representatives timely and accurate information regarding outage areas, restoration status, location of dry ice distribution centers, and the location of consumer advocates outreach vans.**
- 17. Con Edison should make detailed restoration estimates accessible to customers via live telephone communication, pre-recorded information on voice response units, and the Internet.**
- 18. Con Edison should modify the voice response unit to either provide an update regarding daily location of dry ice distribution centers and outreach advocates or provide a message stating that the customer service representatives have the information.**
- 19. Con Edison should develop a special section on its website dedicated to outage restoration information including restoration times and employing frequent updates (including a listing of the number of outages by municipality), dry ice distribution and customer advocate locations, news releases, and claims information. This section should be easily identified/prominently displayed on the Company's homepage by using an attention getting feature such as a pop-up box, running banner, etc. The existence of the new section should be advertised repeatedly to all Con Edison customers.**
- 20. Con Edison should allow customers to report outages via the Company's website using their customer account number (or other forms of identification such as their home phone number). Prior to implementing this option, Con Edison must ensure that reports obtained via the Internet will be connected with the outage management system. This customer option should be well publicized by the Company through various communications vehicles with customers.**

## **Municipal and Public Officials**

According to the Company's self-assessment reports, Con Edison took several steps to communicate with the local and county municipal and public officials. Based on recommendations made in Staff's January storm report, the Company expanded its Westchester County contact list to include all elected municipal, county, and State officials and local police, fire, highway, and public works departments that interact with the Company during emergency events involving Con Edison facilities. Con Edison also revised its Public Affairs procedures to include daily conference calls with municipal and public officials to provide information on the number of customers still out-of-service, the municipalities and districts affected, the number of crews working, available restoration times and dry ice locations. In addition, Con Edison expanded its municipal liaison program by training an additional 13 liaisons and establishing six teams of eight liaisons each that are available on a rotating basis for assignment to municipal locations. The Company developed plans to send a liaison to the Westchester County 60-Control (a centralized communications center run by Westchester County's Department of Emergency Services and the County Fire Department's Central Dispatch Center) during an outage. The Company liaisons were dispatched. Seven liaisons have been trained for these assignments. Also, the Company is currently identifying personnel that reside in 42 municipalities within Westchester County to serve as liaisons to their home municipality.

During the July and September outages, the Company reported that the municipal contact group established a dedicated telephone line for municipal and public officials. The group processed 314 trouble tickets for municipalities in July and 396 in September. On July 19, liaisons were dispatched to the villages of Port Chester and Scarsdale and the City of Yonkers. By request, a liaison was in telephone contact with the City of White Plains. On Friday, July 21, another liaison was dispatched to the City of New Rochelle. During the September outage, liaisons were dispatched to New Rochelle and White Plains by midday, September 2. Additional liaisons were dispatched to the Village of Scarsdale, City of Mt. Vernon, Town of Mamaroneck, and City of Rye during the following days. Liaisons were available around-the-clock.

Con Edison also revised its outreach procedures to address Staff recommendations concerning keeping municipal and public officials better informed during an outage. Following the January 2006 wind storm, Staff recommended that the Company provide daily updates and conference calls as appropriate. The new procedures were implemented during the July and September outages: daily conference calls were held on July 19-23, 2006 and September 3-7, 2006. The information given during the calls included the status of restoration, number of customers interrupted, number still out of service, municipalities and districts affected, number of crews working, estimated restoration times, and dry ice locations. Con Edison reported that specific information requests from call participants were followed-up directly after the teleconferences.

In addition to reviewing Con Edison's self-assessment reports, Staff evaluated Con Edison's communication efforts with municipal and public officials by reviewing the Con Edison reports, meeting with the Westchester County Executive's Office and other municipal officials, reviewing written comments and transcripts of oral comments made during the public statement hearings, and conducting a telephone survey of public officials from the County and from cities, towns, and villages within the Westchester County outage area. Across the board, Westchester County officials' perception was that there was a failure to sufficiently communicate with the political infrastructure of the County and with its customers before, during, and after the power outages.

During the October 23<sup>rd</sup> meeting with the Westchester County officials, a number of issues were discussed including long restoration times, inadequate communication between Con Edison and municipal officials, and the need to investigate industry "best practices" in outage tracking and communication with customers during outage events. County representatives pointed out that several states employ an electronic outage tracking system that does not rely on customers alerting the utility of power loss. They also noted that the Long Island Power Authority experienced a larger outage event, but managed to restore service faster than Con Edison. The County would like the Company to review the systems in other states in an effort to identify opportunities to improve its own processes. The County officials also discussed the fact

that there was a perceived disconnect between the municipal officials and Con Edison regarding what was happening out in the field – including concerns with Company staffing levels and whether resources were being used properly, etc. The officials referred to a previous program that enhanced communication where a municipal representative would travel with the restoration crew. They pointed out that someone who knows the area well would be an asset and save time in locating line damages, especially with crews from outside the service territory. The general consensus of County officials was that the Company needs “a culture change” internally that will improve its communication with County government so that County officials can, in turn, provide answers to residents.

In addition, Staff conducted a telephone survey regarding Con Edison’s communication efforts with municipal officials during the July and September 2006 outages. Staff contacted 175 municipal officials from the County, cities, towns, and villages in Westchester County. A total of 37 municipal officials, or 21% of the people contacted, were ultimately interviewed. During the survey, many officials expressed dissatisfaction with the conference calls, which were the primary vehicle Con Edison used to exchange outage and electric restoration information with municipal and public officials. The most frequent comment was that, “Teleconferences were too general and not specific to our community.” Another complaint regarding the teleconferences was “After Con Edison introduced themselves and made a presentation, they all left and there was no one available to answer our questions.” Others commented that they thought these conference calls were just for public relations, a forum where public officials could vent their frustrations.

Public officials provided several suggestions to improve communication and coordination with Con Edison. By far, a majority of the participants stated that they would prefer to have a specific Company liaison that would be assigned to them on a permanent basis versus the system of a pool of floating liaisons currently used by Con Edison. This assigned liaison would know the community, know the officials, and be someone the officials could call to get truthful answers. In the past, the permanent liaison was frequently a resident of their community.

Another recurring suggestion from municipal officials was to create a procedure for communicating the location of damaged trees that need to be removed. Coordination of Con Edison crews with municipal crews is necessary to speed up restoration. Similarly, another comment was that Con Edison needs to consider itself a partner with municipalities. Participants believe that working together and adopting a “WE” attitude could accomplish more during an outage. Also, many of the public officials suggested e-mails and individual telephone calls as their preferred method of exchanging information during an outage event. However, a significant number of public officials also said they preferred the teleconference.

Several public officials did comment that Con Edison’s communication with them had improved from the July to the September outages, as illustrated by the following comments: “They have made improvements and are working on improving communications with us;” “They were much more forthcoming with information during the September outage than the July outage;” and “Hope Con Edison’s communications continue to improve.”

Other comments received from public officials included the following: “Con Edison needs to give us real expectations;” “Residents received conflicting information from us ( the public officials) and Con Edison; they (Residents) became upset with us;” and “We (the public officials) had a hard time getting information through to Con Edison’s storm center and back to our community.”

After evaluating the comments received from municipal and public officials and reviewing Con Edison’s actions during the outage events, Staff concludes that the Company could have taken additional steps to keep officials informed of Company outage and restoration activities and fully use the resources offered by local and county governments. Towards that end, the Company has since taken action to improve communication efforts with municipal and public officials. In the “Lessons Learned” section of the Company’s September storm report, it identified some of the same issues expressed by municipal and public officials, e.g., the need to develop and conduct training for liaisons and for officials about Con Edison’s processes regarding storm response and downed wires, and measures the Company has put in place to address these issues. Con Edison has established a team of Company representatives to meet

with the Westchester County Municipal Managers Association for the purpose of defining a process by which Con Edison can address municipal issues such as the use of crews to address public safety and critical infrastructure issues. The Westchester County Municipal Managers Association meetings began on November 3, 2006 and are expected to be completed by the end of the first quarter of 2007. The improvements to the liaison program and the development of the task force to work with the Westchester County Municipal Managers Association should enhance communication between the Company and the municipal officials.

**Recommendations:**

- 21. Con Edison should expand its review of the “best practices” of other utilities nationwide to include Communications methods and Outage Management systems to facilitate the public’s ability (both public officials and customers) to report outages. A detailed account of this review, including any recommendations for revising current practices and an explanation of why any best practices will not be adopted, should be filed with the Staff within four months of the Commission’s order adopting this report.**
  
- 22. Con Edison should continue to meet with the Westchester County Municipal Managers Association to receive input about the following:**
  - **The effectiveness of the Company’s current outreach program (including the effectiveness of the daily conference calls),**
  - **Methods by which the municipalities can work with Con Edison to enhance communication with Westchester residents prior to and during an outage event and restoration activities, and**
  - **Methods of communicating to public officials outage information showing the location of crews on a regional map, workforce allocation and distribution, location of dry ice distribution centers, and customer outreach advocates, etc.**
  
- 23. Con Edison should review and update the contact list for municipal and public officials and emergency personnel at least twice a year. In addition, Con Edison should add the municipal list to their news media contact list so that the municipal officials receive news releases and updates at the same time as the news media. The update should be completed by June 1, 2007. Staff should be notified when the update is complete, as well as, at each six-month interval thereafter.**

## **News Media**

During the July outage, Con Edison sent out daily press releases from Wednesday, July 19 to Saturday, July 22 and one on Monday, July 24 with information on restoration efforts. The press releases were posted to the Company website as well. On July 19 Con Edison participated in a joint news conference with Westchester County Executive Andrew Spano and Westchester County Emergency Management Commissioner Anthony Sutton. Con Edison's Bronx-Westchester Information Officer held press briefings with Cable News 12 and Regional News Network. During the September outage, press releases were distributed daily and posted on the Company's website. The media relations unit reported that it responded to 50-100 calls a day.

Records from the Commission's Office of Public Affairs show that the Department did not receive any inquiries from the press regarding the outages. In addition, several news outlets, including WNBC.com, The Rockland County Journal News, and the Albany Times Union ran stories about the July outage, and the NY Post, The Times Herald Record, The Rockland County Journal News, Mid-Hudson Radio.com, NY Daily News, Newsday, NY Times, and the Staten Island News ran stories from September 5-8 regarding the Ernesto outages.

Staff's review found that the Company was more pro-active in providing information to the news media for the July and September outages compared to the January storm. However, issuing a press release each day does not take full advantage of the current capability of 24-hour news coverage. The Company had plenty of opportunities to partner with the news media to provide frequent updates to the public on outage and restoration activities which are updated for each news cycle.

Although Con Edison has shown improvement over its January performance, there is still a need to increase the level of information distributed to customers prior to and during outages. Customers can only benefit from the frequent release of restoration information to the broadcast media. Press releases should be consistent with information that Con Edison sends to the Department of Public Service in accordance with its Electric Outage Reporting System. Con Edison should issue press releases more frequently than once each day and should update its information to the media to coincide with its local news/press cycles, for example: 6:00 a.m., 12:00

p.m., 4:00 p.m., 8:00 p.m. and 12:00 a.m. Con Edison should discuss with media representatives how it can work more effectively with them to transfer information on emergency restoration to Con Edison's customers.

**Recommendations:**

**24. Con Edison should provide press releases to local media prior to all approaching storms that provide information on the Company's outage and restoration procedures and emphasizes the steps customers should take in the event of a power outage.**

**25. Con Edison should issue press releases to the media to coincide with local news cycles or at a minimum of two times daily.**

**26. Con Edison should post press releases as soon as they are issued to the Company website and should place it in a page/section dedicated to the outage and restoration activities. The section/page should be prominently advertised on the homepage.**

**Life Support Equipment Customers**

Commission regulations call for the Company to contact of all Life Support Equipment customers before and during each storm event. Con Edison's Customer Operations Corporate Comprehensive Emergency Response Plan provides for timely and accurate information to Life Support Equipment customers. The plan also calls for a review of existing special needs customers and identification of additional customers who would qualify for this category and provides for pre-event warning. Semi-annually, Con Edison sends all residential customers the *Customer News* containing an invitation and application to enroll in the Life Support Equipment customer program. This information is also included in the annual rights and responsibilities publication that goes to customers. In addition, each spring, Con Edison's sends all of its Life Support Equipment customers a letter reminding them that they are registered and outlining the program.

The Company followed regulations regarding customer notification prior to a storm, and used its interactive voice response unit to contact all 550 Life Support Equipment Westchester County customers on July 17 and 564 Life Support Equipment Westchester County customers on September 2. These pre-recorded messages

identified severe weather conditions and recommended battery backup of equipment, and that customers consider going to a hospital, calling 911, or making other arrangements if necessary. Customers were also provided a priority toll-free number by which to reach a customer service representative. Between July 19 and July 23, and between September 2 and September 7, Con Edison reported that it made daily outbound calls to those Life Support Equipment customers that its outage management system indicated remained without service.

In addition to reviewing Con Edison's self-assessment, Staff conducted a telephone survey of Life Support Equipment customers regarding Con Edison's performance during the July and September outages. Staff contacted 100 of 102 Life Support Equipment customers who lost power during the outages (two customers do not have telephones). A total of 34 Life Support Equipment customers were surveyed. All of the Life Support Equipment customers that Staff surveyed readily agreed that Con Edison faithfully made the pre-event Voice Response Unit notification. However, the majority of the Life Support Equipment customers and/or caregivers that Staff surveyed could not recall the Company conducting follow-up contacts during the actual outage events. While this was the experience of most Life Support Equipment customers, a few indicated that they received follow-up calls when they were without service.

In response to Staffs' second inquiry about whether calls were made to Life Support Equipment customers, the Company replied that its original response had indicated that Life Support Equipment customers received automatic callbacks just like the rest of outage customers. However, while this should have been the case, upon closer examination, they discovered a flaw in the process currently being corrected.

On a positive note, several of the Life Support Equipment customers contacted during the survey had, at the time of the two outage events, not been coded as Life Support Equipment customers. At the time they called the Company to report that they had no power, the customer service representative informed them of the Life Support Equipment program and followed up by mailing an application to them.

After completing the review of Con Edison's performance, Staff concluded that Con Edison followed proper procedures for notifying these customers prior to an

outage event and sought to identify Life Support Equipment customers. However, the Company did not follow its 2006 Comprehensive Emergency Response Plan in making the follow-up calls to Life Support Equipment customers when service was restored. It is not clear if Con Edison made the daily follow up calls to Life Support Equipment customers who remained out of power. Staff concluded that Con Edison can improve its program by enhancing the Voice Response Unit call-back system.

Also, Con Edison should increase its efforts to identifying additional potential Life Support Equipment customers. One way to do this is to identify the number of Westchester County residents who may rely on Life Support Equipment, but who may not be Con Edison customers of record (i.e., consumers whose rent includes electricity costs or who live in multi-unit housing facilities and are sub-metered). Once these residents are identified, Con Edison should develop a process by which it can contact building managers to determine if there are residents that use Life Support Equipment and have a need for assistance during power outages. Con Edison indicated that it is working on expanding the Voice Response Unit Callback so that it can be routed elsewhere than a Life Support Equipment customer's home. Since the September outage, Con Edison has included the ability in its outage reporting system to capture a secondary telephone number, such as a cell phone or office number, and is in the process of designing a means to use this information in tandem with the primary telephone number.

**Recommendations:**

**27. Con Edison should proceed with improvements to the System Trouble Analysis and Response System and its Voice Response Unit Call Back system's capability and should test the improvements to ensure its proper functioning in delivering storm warning and follow-up calls to Life Support Equipment customers.**

**28. Con Edison should design and implement an expanded Life Support Equipment customer identification program to raise the awareness of its customers and other affected individuals (i.e., those who pay utility costs as part of their rent or as a part of master metered or sub metered arrangements) to be identified in the Company's records as using Life Support Equipment by partnering with community agencies, senior care facilities, and other such organizations. Con Edison should report its**

**actions and plans to Staff. It should also include its plans as part of its next rate filing.**

**29. Con Edison's customer service representatives should continue to take the opportunity during in-bound calls to identify and inform customers of the Company's Life Support Equipment program.**

**30. Con Edison's Customer Operations Corporate Comprehensive Emergency Response Plan should be reviewed and updated to include additional outreach mechanisms to identify customers who might qualify for the Life Support Equipment program. Consideration should be given to providing program information to home medical agencies and personnel, rehabilitation centers, hospitals and other medical care facilities, and programs and personnel that regularly deal with the prescription, supply or maintenance of Life Support Equipment.**

## **Critical Care Facility Customers**

The Commission's Regulations at 16 NYCRR Part §105.4(10) Communications - requires that the Company provide procedures and facilities for establishing and maintaining external communications exchanges regarding damage and restoration progress with customers in general, human service agencies, the media, the Department of Public Service, the State Emergency Management Office, and other State agencies, county and local governments, emergency response services, and law enforcement agencies, etc. In addition, it should include the identification of any dedicated phone lines, the designation of any special Company representative to act as liaison with government entities, and any special provisions that may be required for dealing with critical facilities.

Con Edison reported that it has identified 24 hospitals and 53 nursing homes in Westchester County as Critical Care Facilities. The Company reported that none of its critical care facility customers lost power in the July event. It reported in the September event that Community Hospital at Dobbs Ferry lost connection on September 2 to the Con Edison system at 8:49 p.m., and went into self-generation. At 3:30 a.m., the hospital's self-generation system failed. Con Edison dispatched a trouble-shooter and system power to the hospital was restored at 6:00 a.m., on September 3.

In addition to reviewing Con Edison's report of its activities, Staff interviewed personnel at several Westchester critical care facilities to get their input regarding the Company's performance. Staff placed calls to the facilities' managers/engineers at the 20 critical care facilities (hospitals) connected to the Con Edison system in Westchester County and was able to speak with 13 of them. It was found that one other critical care facility, Stony Lodge Hospital, lost connection to the Con Edison system, but was able to switch to self-generation which did not fail. When asked how they contacted Con Edison, five of the hospital managers/engineers reported having the 1-800-75CONED general number for all customers to use to report loss of connection to the Con Edison system, while eight managers/engineers reported having a variation of direct numbers, such as the Incident Command Center that had been given to them, or that they some how had acquired. One critical care facility

respondent staff contacted reported having a Con Edison representative who calls him or whom he can call at any time during normal work hours.

Follow-up discussions with personnel at the Community Hospital at Dobbs Ferry indicated that, while Con Edison restored service to the hospital, it failed to address the communication problem that the hospital experienced. Armed with only the general, toll-free telephone number (1-800-75CONED), the hospital's Director of Maintenance tried to report the power failure several times by telephone. Each time he attempted to report the outage, he waited in queue between 25-45 minutes. When he finally reached a customer service representative, he was told, "We're working on it." On September 3<sup>rd</sup>, at 3:30 a.m. when the hospital's generators failed, he again made several calls to report the hospital's loss of self-generation, again waiting in queue, this time between 45-60 minutes. Upon reaching a customer service representative, he again received no restoration information. No one from Con Edison checked back with him that night to acknowledge the hospital's situation or when a Con Edison crew(s) would arrive; nor did anyone follow-up after the incident, or even after he filed a complaint with the Commission's Office of Consumer Services.

After completing the interviews with critical care facility personnel, Staff had follow-up discussions with the Company to clarify its policies and procedures in regard to these critical care facility customers' ranking in terms of priority restoration. In response to Staff's questions, the Company's representative replied, "Our plan calls for critical care to be a priority and we treat them as such. Communication with critical customers takes place through the municipal group, which arranges for crews to address the problem." When asked if there was a dedicated telephone number by which critical care facility customers can call Con Edison's Municipal Group, the Company's representative replied that,

*"Critical care customers are advised to call 1-800-75CONED, the number available to all customers to report emergencies. Critical care customers can also call their local police or fire departments which are able to contact the Con Edison's Municipal Emergency phone line."*

However, in calls to hospital managers/engineers, Staff found that some critical care facility customers do report having an emergency telephone number to the Incident Command Center, but still others do not.

Con Edison also reported that it gives no advance warning of storms that could result in a potential power loss to its critical care facility customers. While most of the hospital managers/engineers that Staff spoke with confirmed that they do not receive any advanced warning of outages, a few did mention that they receive advanced telephone warnings of approaching storms and potential power outages. It should be noted that, as mentioned in the “Life Support Equipment Customers” section, the Company does warn Life Support Equipment customers prior to storm events with a pre-recorded voice response unit telephone message and one of its suggestions is “go to a hospital” if they lose power. With this directive in mind, it seems reasonable that Con Edison would provide advance warning to those facilities that might experience an influx of patients. The majority of the hospital managers/engineers felt that prior warning of approaching storms and possible outages would definitely give them time to inventory equipment, make arrangements for additional generators, or to “exercise” their existing generators on site.

From the information obtained from the Company and organizations within Westchester County, Staff concluded that critical care facilities do not receive the same information and level of treatment that is afforded Life Support Equipment customers. However, the critical care facilities are in the “front line” of organizations that will be called upon to assist customers affected by the outage events. The communication failure represented by the lack of prior notification of pending storms and the lack of a dedicated 24 hours a day, seven days a week phone number for these facilities could have serious repercussions for the Company and Westchester County’s vulnerable residents. Con Edison did not include in its Part 105 filing a notification to critical care facilities customers. Staff recommends that the Company should notify these customers in the same way that Life Support Equipment customers are notified.

**Recommendations:**

**31. Con Edison should develop an emergency notification/distribution process by which all its large and small critical care facility customers (hospitals and nursing homes) would receive advanced notice of approaching storms and potential power losses. This process should be incorporated into the Company’s Comprehensive Emergency Response Plan.**

**32. Con Edison should establish a dedicated telephone line(s) or other more direct communication links for critical care facility customers and notify all critical care facility customers of the dedicated telephone line by which these customers can contact Con Edison's Emergency Command Center directly, 24 hours a day, seven days a week.**

### **Dry Ice Program**

According to the reports filed by the Company, Con Edison distributed 32,000 pounds of dry ice during the July outage from distribution locations in Port Chester, Yonkers, and White Plains. The Company ran one distribution center on Wednesday, July 19, three on Thursday, July 20, and two each on Friday and Saturday (July 21 and 22). During the September outage, the Company distributed approximately 69,000 pounds of dry ice from Monday, September 4 through Thursday, September 7. Due to the unavailability of dry ice at the start of the outage, the Company distributed wet ice on September 3. The Company had four to five distribution locations daily, Monday through Wednesday and three on Thursday. The hours of distribution varied from location to location and day to day. Instruction sheets in English and Spanish were provided to customers who received the dry ice.

Press releases issued during the outages (five in July and daily releases in September) identified the location of the dry ice distribution trucks. This information was also provided to municipal officials during the daily conference calls and to Con Edison's customer service representatives.

Although the information regarding dry ice locations was announced in press releases, Staff received comments from Con Edison customers that indicated the customers were unaware of the dry ice program. One woman who spoke at the public statement hearing indicated that the truck was located two miles from her home, but that she was unaware of it during the outage. Another woman commented,

*"People that call [Con Edison] should be told where ice can be obtained, because when you are in the dark and it's hot (or in the dark and it's cold), you are not always thinking correctly. You don't have access to your computer. It's too dark to read the newspapers. And you could have ice, two miles away and not be aware of it."*

After reviewing Con Edison's dry ice program, Staff concluded that the Company should develop protocols and methodologies to increase awareness of dry ice

distribution program, attract attention to the dry ice distribution locations, and make the locations better known to Con Edison customers. The Company needs to improve its use of outreach channels such as the Internet, news releases and its toll-free line to inform customers about the dry ice program. Although the location of the dry ice distribution centers were posted on the Con Edison website during the July and September outages, the information was not prominently featured. Also, the dry ice locations were noted in some of the news releases but not in all of them. Con Edison should make more effective use of its available information channels by posting the dry ice locations more prominently on its website, partnering with the news media and municipal officials to notify customers of the program and modifying its Voice response Unit to provide information to customers calling the toll-free line.

In addition to promoting the program through its information channels, the Company should increase the visibility of the distribution centers themselves. For example, the Company representatives at the dry ice distribution locations should wear identifiable uniforms and photo identification badges, and the locations should be advertised with attractive, eye-catching signs (i.e., “FREE ICE” or the Company logo), bright/flashing lights or a public address system to announce the availability of dry ice. The dry ice distribution locations should also be made more useful to customers by offering up-to-date outage status and restoration information, safety and weather information, key emergency numbers, and emergency information. The Company should also consider offering additional services like cell phone charging and potable water.

Staff also has reviewed possible adjustments to the dry ice distribution program to make it more effective. One possible adjustment is for Con Edison to provide each municipality with dry ice and let the municipality handle the distribution to its residents. This would allow for broader distribution, and the municipality could select standard locations for distribution in advance of pending storms.

**Recommendations:**

**33. Con Edison should redesign its website so that the dry ice program and distribution locations can be prominently advertised on the website under the “Storm Preparations” section or in a new section entitled, “Outage**

Information,” or in a pop-up box or on a running banner displaying the locations, dates, and times.

**34. Con Edison should modify its Voice Response Unit system to allow a customer to select from a variety of options including reporting an outage, hearing information about dry ice distribution locations, Customer Outreach Advocate field locations, safety tips, and remaining on the line to reach a customer service representative. A second option is to modify the Voice Response Unit message with a statement indicating that the customer service representatives have information on dry ice, advocates, claims, and safety tips. The Company should advise Staff of the modifications it has put into place to comply with this recommendation.**

**35. Con Edison should investigate ways to increase the visibility of its dry ice distribution sites and customer advocate van sites.**

**36. Con Edison should send dry ice distribution program and location information to its municipal and public official and emergency personnel contact list.**

**37. Con Edison should, during meetings with the Westchester County Municipal Managers Association, discuss the dry ice distribution program and the possibility of municipalities assuming the distribution duties with pre-determined sites identified. The Company should report its findings and recommendations to Staff within four months following the Commission Order adopting this report.**

## **Claims**

Con Edison’s tariff states that it will reimburse customers for food spoilage if service was interrupted for more than 12 hours in a 24-hour period due to malfunction in the Company’s local distribution system. The heat-related outage on July 17 fit this description, but the storm-related outages beginning July 18 and September 2 did not.

Information regarding the Company’s claims program was available from a variety of company sources including customer advocates in the field locations, the customer service representatives on the toll-free telephone line, and the Con Edison website. In addition, a letter was sent from the Company’s Senior Vice President of Customer Operations to Westchester County customers who the Company identified as of July 28 as having been affected by a heat-related power outage of 12 hours or more on July 17. In this letter, the Company advised them of the reimbursement

program. The claim form was available in several languages (based on census data) including Chinese, Korean, Greek, Spanish, and English. Many local media sources, such as the White Plains Daily Internet Newspaper, carried information on how customers could obtain claim forms.

For the July heat-related outages, the Company reported it received 4,510 claims - 4,361 from residential customers and 149 from commercial customers. As of early November 2006, the Company issued 2,282 checks totaling \$501,108.78 to residential customers and 33 checks totaling \$32,309.27 to commercial customers for heat-related outages. Regarding the Westchester July and September 2006 storms, the Company identified an error in its claims processing and conducted a 100% review of the claims to ensure correct identification of outages relating to the heat and outages related to the storms. As per the Company's tariff, all of the claims received in connection with the storm outages have been or will be denied.

Staff's review of the Company's performance regarding claims determined that a great number of Con Edison customers were very dissatisfied with the way that Con Edison handled food and medication loss claims. Many customers were under the impression that Con Edison would honor all claims for spoilage reimbursement. One woman wrote to Westchester County government, "I am aware that you had guaranteed that Con Ed would reimburse those in our area up to \$350 for losses during this time." Another stated, "Con Edison did not pay for spoiled food as promised." Other customers indicated that they heard that Westchester was being treated like Queens residents and claims would be honored.

It is not totally clear how customers were misled into believing that Con Edison would reimburse all claims for losses, but indications point to the possibility that news media coverage of the outages was not clear on reimbursement requirements. In addition, Staff's review of Con Edison's website revealed that the claims process was very unclear. The disclaimer that reimbursement will not be provided to customers who lost food or medicine due to storm-related outages is very far down the web page, after statements such as "Residential customers should submit a claim form or write a letter detailing their losses." After information on how to file a claim, it states, "If you have incurred spoilage losses during a power outage, you may

file a claim with Con Edison.” It is likely that many customers did not scroll down past the instructions on where to send their claim. In addition, the claim form did not indicate the criteria for claims reimbursement. Following the September outage, the Company, in conjunction with Staff, has modified its form to more accurately and clearly reflect the claims program.

Another group of customer complaints acknowledged that their outage did not qualify for reimbursement under the Con Edison definition, but asserted that they deserved compensation anyway. Reasons cited included the length of time that it took the Company to restore service, the number of power outages that occurred over several months in 2006 alone, and Con Edison’s decaying infrastructure. Several customers pointed out that the power outages in their areas were caused by tree limbs that should have been removed under the Company’s tree-trimming program. Many felt that Con Edison should implement a rebate program to compensate customers for spoiled food, medications, electrical appliances, and equipment.

Overall, many residents were upset with the denial of their claims and expressed their concerns about why Con Edison, “made them go through the big headache of filling out all of those applications, submitting our losses, only to write us back a letter saying they’re not going to do anything about it.” In some instances, Company representatives wrote back asking for additional information that had not been included with the original claim form, even though the loss was related to a storm outage. In addition, customers noted that it was very difficult to contact the person within Con Edison responsible for rejecting their claim to discuss the denial.

Staff concluded that many customers either did not understand the eligibility criteria for reimbursement or were misinformed that Con Edison was waiving the criteria for these outages. Poor communication led to false expectations regarding claims reimbursement. Con Edison added fuel to the fire by forcing customers to go through the motions of filing a claim (and sending additional information in some cases) when it clearly was not planning on honoring any claims from September and very few for July. Communication regarding the claims program needs to be reviewed and modified to avoid confusion in future outages.

## **Recommendations:**

- 38. Con Edison should ensure that information about claims, including filing, reimbursement and eligibility criteria, is clearly stated and prominently placed on its website.**
- 39. Con Edison should provide its customer service representatives with prepared scripts that clearly identify reimbursement eligibility criteria and other pertinent information regarding the claims program.**
- 40. Con Edison should instruct its customer service representatives not to make assurances to consumers regarding payment of claims, except to the extent that the representatives are decision makers and will ensure that the decision is carried out.**
- 41. Con Edison should provide payment of claims and eligibility criteria information to the media during outage events.**
- 42. Con Edison should analyze the sufficiency and appropriateness of its claims tariff for Commission action in accord with Recommendation No. 25 as contained in Appendix A of the Department of Public Service Staff Report on its Investigation of the July 2006 Equipment Failures and Power Outages in Con Edison's Long Island City Network in Queens County, New York, issued February 2007.**

## **Consumer Assistance**

### **Customer Operations (Call Center)**

Con Edison operates a "virtual" Call Center (Center) with locations in Brooklyn, Westchester and Staten Island. Consumers call the Company's toll-free telephone number, 1-800-75CONED, from all parts of its service territory for assistance with a variety of issues ranging from reporting an emergency to billing inquiries or opening a new account. The calls are forwarded to the first available customer service representative (representative) regardless of his/her location, and all locations handle emergency calls.

The Center uses interactive voice response technology, which allows callers to use a touch-tone telephone to interact with a database to acquire information from or enter data, such as meter readings. It also allows callers to choose the Company's self-service reporting option or to speak with representatives.

Staff examined the Center's operations to evaluate Con Edison's customer care efforts preceding and during the outage.

### **Call Center's Performance as Measured by the Call Data Statistics**

Depending on its design, a company's Call Center reporting system should, at a minimum, be able to provide statistics to reflect the number of representatives that were available to take calls throughout a working day, the number of calls that were received, the length of time a consumer had to wait to reach a representative, and whether a consumer chose to and subsequently reached a live representative. Because Con Edison provides only one telephone number for use throughout its service area, the Center's data during the events captured calls from throughout its entire territory and from callers elsewhere having non-emergency issues.

During critical periods, the Center's staffing is adjusted to accommodate fluctuations in its inbound telephone traffic. In the instance of the July storm, additional Staff was not called in because it began during business hours. In contrast, the September storm was scheduled to hit Westchester on Saturday, September 2, 2006. Since this coincided with the Labor Day weekend, the Call Center began anticipating staff needs on Friday, September 1. According to Con Edison, on a Saturday during a non-storm mode, the Center generally has eight representatives on hand from 12:00 a.m. – 9:00 a.m., 67 representatives from 9:00 a.m. – 5:00 p.m., and 24 representatives from 5 p.m. – 12:00 a.m. On Friday, the Center planned for and had 84 representatives on duty on Saturday from 9:00 a.m. to 5:00 p.m.; for Saturday's 5:00 p.m. to 12:00 a.m. shift, the Center scheduled 24 representatives. However, as the storm hit, call volume increased and it became apparent that some customers were experiencing long wait times and busy signals. As a result, the Company called in more representatives which resulted in an increased staffing level of 89 representatives, reflecting a substantial increase from the 24 initially scheduled. On Sunday, staffing levels increased further, and by Monday, the Call Center had 133 representatives on hand from 9:00 a.m. to 5:00 p.m.

With respect to customer service performance, according to its Call Center data, from July 18 through July 22, 2006, the Center received 304,020 calls. The

Center's interactive voice response system and its representatives answered 94 percent of the calls. Representatives personally answered 52 percent of 134,546 calls within 30 seconds. From September 2 through September 8, 2006, the Center received 449,610 calls. The Center's interactive voice response system and its representatives answered 92 percent of the calls. Representatives personally answered 42 percent of 150,557 calls within 30 seconds.

Although there is no service level standard in the industry, Con Edison's self-established service level is to answer 53.5 percent of calls within 30 seconds. Therefore, its Call Center fell short of meeting its own benchmark requirement during both events. An analysis of representative service levels during both events indicates that in only four of the 12 days from July 18 – 22 and September 2 – 8, did Representatives meet the established goal. Further, the four lowest service levels during these two events took place during the September storm when the Company was dealing with only one event.

While Staff concludes that Con Edison performed reasonably well with regard to its Call Center staffing, we believe that it could have done a better job in answering calls within a reasonable time during the September Westchester event. This conclusion, however, does not address the quality of information that callers received once their calls were accepted by a representative or by the interactive voice response system. Those matters are discussed below and in a later section of this report.

Regarding calls from Westchester County customers to the Department's toll-free Helpline telephone number, the Office of Consumer Services entered 28 cases from July 18 to July 22, with 22 of them being received on July 20. In 27 instances, customers indicated that they could not obtain restoration estimates from the Company or experienced delayed restorations. From September 2 – 8, 2006, 63 customers called to report delayed restoration of their service or an inability to obtain an estimate from Con Edison Call Center representatives about when their service would be restored.

## **Use of Automated Messages**

As dictated by Con Edison's Emergency Plan, filed under Commission Rule Part 105.4(c), the Company created and offered specially-designed informational messages on its interactive voice response system and then specially tailored them as it became aware of the magnitude of the situation. However, during the July storm, with outages plaguing the Long Island City and Westchester areas, the Company fell short in its efforts to streamline its special messages and to provide appropriate options in its system to enable people in the affected areas to report outages and other emergencies quickly. During the September event, the Company did not alter its call flow pattern until September 7, five days after the onset of the storm, to allow callers to quickly report an outage or emergency.

Generally, an interactive response system plays pre-recorded voice prompts to which callers respond by pressing numbers on their telephone keypads to select the options they desire. A properly designed system should connect callers to their desired services promptly and with a minimum of difficulty. As Con Edison received information about large-scale outages both in Westchester and Queens Counties in July 2006, the Center began providing recorded information updates for the system to address both locations and other matters of general interest. At the height of the crisis, callers had to listen first to messages lasting nearly three minutes that reported on the status of outages in both counties and also explained what they should do in the event of a billing problem. By July 24, however, the Company recognized the problem and, after consulting with Staff, modified the system prompts to allow callers from Queens to bypass the general public messages and reach representatives quickly. Con Edison indicated that, during the September event, the Company waited to change the call flow pattern because "it is in the latter stages of storm recovery that we want to address customers who may have been out for a prolonged period and provide every opportunity for them to speak with a representative expeditiously." According to Con Edison's data, the average wait time on the day when the longest wait time occurred (9/3/2006) was 4.3 minutes. Staff takes exception to Con Edison failing to modify its call flow pattern from the onset of a major storm or emergency because it delays customers' abilities to report an outage expeditiously.

## **Quality of Internal Communications**

During an emergency, the Company's internal communication practice is to provide frequent and timely e-mail updates to customer service representatives. During the two storms, representatives received e-mails that included scripts of the messages that were currently running on the interactive voice response system and reminders to refer to the Emergency Control System, a desktop computer application that was regularly updated throughout the event. Con Edison also provided the representatives scripts and handouts of Frequently Asked Questions and Answers, both of which reminded them to use empathy when talking to callers. The representatives were provided timely e-mails and the material that was provided to customer service representatives included information about the affected areas, efforts the Company was taking, estimated restoration times, information on the Company's claims procedure, the locations of cooling centers, the availability of dry and regular ice, and a list of community contacts. However, Staff found that during Tropical Storm Ernesto, various e-mails noted discrepancies in prior e-mails regarding the type of ice (regular vs. dry) that was offered, and locations of ice distribution.

Staff remains concerned with problems Con Edison experienced with its System Trouble Analysis and Response System, Emergency Control System and Outage Management Systems during the September storm. Staff's first recommendation in its June 2006 report in the wake of the January 2006 windstorm in Westchester County was for Con Edison to proceed with its proposed improvements for the System Trouble Analysis and Response, Emergency Control System, and Outage Management Systems to test the improvements to ensure that these three systems can provide accurate outage information at much higher call volumes.

As indicated above, representatives are required to check the Emergency Control System in the Customer Service System which, on page 16 of Con Edison's "November 7, 2006 Report on Preparation and System Restoration Performance, Westchester County Tropical Storm Ernesto – September 2-3, 2006" explains, is designed to assist representatives in preparing and processing trouble tickets that are sent to the Emergency Control System for dispatch and action. According to

Con Edison, this application provides updated service outage status on the customer's account, if any. If there are no existing tickets, the application prompts the representative to identify the type of problem (e.g., no lights, partial service, wires down, flickering lights, low voltage, etc.) and to issue the appropriate trouble ticket to the Emergency Control System. In comments that appeared from pages 4 through 6 in Con Edison's "lessons learned" document referred to as "Remnants of Ernesto", the Company experienced, "usual problems with System Trouble Analysis and Response, Emergency Control System, and Outage Management systems in that the systems did not reflect the same data." Further comments indicate that the System Trouble Analysis and Response System failed to show all of the tickets that were in the Emergency Control System and the Outage Management System and tickets that were processed were not showing in the System Trouble Analysis and Response System. Further, the System Trouble Analysis and Response System would not allow the Trouble Analysis group to process the tickets in the Emergency Control System or Outage Manager. Additional problems included codes on tickets not matching what was in the Emergency Control System, and the count of tickets failing to match the detailed list of tickets in the Emergency Control System, a problem in the Emergency Control System which has been present for many years. According to an employee comment in Con Edison's critique, "The quality of the information on the Emergency Control System tickets was terrible." Since its Call Center representatives' ability to provide accurate restoration times appears to be dependent upon the Emergency Control System, the reliability of Company information is questionable.

**Recommendation:**

**43. Con Edison should establish additional procedures and protocols to ensure that its automated call message system will enable callers to reach customer service representatives directly and quickly during future emergencies. Within four months after this Staff Report is issued, Con Edison should advise Staff of the additional procedures and protocols it has or is establishing to comply with the intent of this recommendation. Con Edison should identify and correct the problems that plagued its System Trouble Analysis and Response, Emergency Control and Outage Management systems to accurately reflect outage and restoration status.**

## **Training**

The January 2006 Windstorm Staff report recommended that the Company should review its procedures for training and supervising customer service representatives in its Call Center to ensure that proper sensitivity is used when dealing with customers.

According to interviews with Company personnel, Con Edison takes measures to ensure that staff is trained to be sensitive to the needs and emotions of customers calling the Company via its toll-free telephone number. During the outage events, management provided representatives with written and verbal reminders about sensitivity, conducted “tailgate talks” and one-on-one coaching, emphasizing the need for empathy and concern. Con Edison has reported that it is negotiating with a new contractor for a sensitivity training course for Call Center personnel.

Although the Company has provided its staff with scripts, reminders, and training in sensitivity, the Commission received some complaints regarding rudeness and insensitivity of Call Center customer service representatives during the outage events. Interviews with the Company about these complaints revealed that the Company underestimated the anticipated call volume (call volume was up by 36% during the September outage) and did not have enough staff to properly handle incoming calls.

Although the Company does to provide some sensitivity training to its customer service representatives, it is undermining those efforts by allowing its Call Center to be inadequately staffed during highly emotional and volatile situations like the July and the September outages. Frustration and fatigue may lead even the most empathetic customer service representatives into making a rude or insensitive comment. Con Edison’s response to the Staff’s January storm report recommendation has not been satisfactorily implemented. Further sensitivity training is needed as well as additional call center staffing support. It is expected that Con Edison will include information regarding the sensitivity training it has arranged for its customer service representatives and provide Staff with an implementation plan for all training recommendations.

Another issue regarding training was indicated in material supplied by Con Edison in a document entitled: "Remnants of Ernesto, September 2, 2006". It seems that over the last several years, a lot of new people have been hired and a lot of people have retired or changed jobs. Besides customer services representatives being affected by this, other departments involved in storm restoration (engineering, construction management, etc.) need refresher training in the storm process.

**Recommendations:**

**44. Con Edison should establish procedures and assign employees to ensure that the problems it identifies during training exercises or when supervisors are monitoring customers' calls are corrected in a timely manner.**

**45. Con Edison should provide sensitivity training for its customer service representatives.**

**46. Con Edison should review its procedures for determining staffing levels during outages to ensure adequate coverage of the Call Center operations.**

**47. Con Edison should arrange refresher and new employee training in the storm process for all employees involved in storm restoration.**

**OUTAGE NOTIFICATION INCENTIVE MECHANISM**

On November 30, 2000, the Commission adopted a rate and restructuring plan for Con Edison. It contained a customer service quality incentive mechanism that would measure the Company's performance in customer notification of service outages. This was proposed following Con Edison's poor communications during the Washington Heights network outage in 1999. The Commission approved an Outage Notification Incentive Mechanism (Mechanism) for Con Edison on April 23, 2002. The Company's most recent three year rate and restructuring plan incorporates the Mechanism by reference.

The Mechanism establishes criteria for requiring Con Edison to take specific actions to communicate with the public and other external interests during defined electric service outage events. Such activities include: updating the telephone system broadcast message on the 1-800-75CONED general customer assistance

number; notifying affected life sustaining equipment customers and large/sensitive account customers, such as hospitals and nursing homes; contacting appropriate State, city, and local government officials; issuing media releases and/or conducting press briefings; and dispatching a mobile command center vehicle to the affected geographic area. The Mechanism specifies the amount of time within which the Company is required to complete the required activities. For each failure to complete a communication activity within the required time or for each failure to include required information in the communication, Con Edison is required to pay \$150,000.

During the July 18, 2006 outage event, there were less than 40,000 customers total and less than 20,000 in any load area without power, thus Con Edison was not required to file an Outage Notification Incentive Mechanism Report (Report). However, during the September 2 event, there were at least 40,000 customers out of service at the same time for at least two consecutive hours. Because of this, Con Edison was required to file a Report, which it submitted on November 7, 2006.

In its November 7 Report on the September 2006 outage, Con Edison stated that its communication actions were timely, and the information conveyed was satisfactory in each of the communication areas, adding: "Accordingly, there are no payments due under the Outage Notification Incentive Mechanism."

Staff's review, however, indicates that Con Edison has apparently failed to comply with several of the criteria set forth in the Mechanism. The criteria include the requirement that Con Edison contact affected large/sensitive account customers, such as hospitals/nursing homes, to confirm that the Company is aware of the service outage to the customer's premises, and to the extent available, the estimated time of restoration. The Company's Report fails to adequately document its contacts with large/sensitive account customers with regard to the September 2006 outage. Based on information provided to Staff during a telephone survey with hospital facility managers, two hospitals, the Stony Lodge Hospital and the Community Hospital at Dobbs Ferry, lost power and were not contacted to confirm that the Company was aware of their service outages, nor were they provided information regarding the estimated time of restoration. Both of the hospitals lost power and went on self-generation. Subsequently, the generators of one of the hospitals failed.

In addition, Staff's review indicates that Con Edison did not perform as required under certain of the other Communications Activities set forth in the Mechanism. It does not appear that the Company provided the information required by the Mechanism in the telephone system broadcast message on the general Con Edison customer assistance number, 1-800-75CONED. It further appears that the Company did not communicate to municipal officials certain aspects of the information required in the Mechanism.

Staff believes that Con Edison did not perform as required by the Mechanism. Staff will continue to investigate this issue and based upon its investigation will make a recommendation to the Commission for such action as may be appropriate. Staff concludes that some revision to the reporting provisions of the required Communications activities specified in the Mechanism should occur at the first available opportunity, such as when the Company next files for a rate change.

**Recommendations:**

**48. Con Edison's outage notification incentive mechanism should be re-examined and non-performance payment levels adjusted upward at the first available opportunity, such as when the Company next files for a rate case. At that time, there should be discussions about additional Communication activities including teleconferences to brief public officials about the status of restoration and other outage-related information.**

## Appendix I

### Status of Staff Recommendations in Response to January Storm

Following the January, 2006 snowstorm that affected Westchester County, Staff made the recommendations below. In addition, following each recommendation, Staff has indicated the progress Con Edison has made in each area.

#### Electric Operations

##### I. Crew Utilization/Mutual Assistance

- 1. Con Edison should review its procedures for preparing work orders following major storms to ensure that they are managed effectively, including providing proper training and supervision.**

*Con Edison responded to this recommendation by decoupling the damage assessment and site safety roles, allowing damage assessors to continue their surveying after reporting and barricading a downed wire, with the unsafe condition then being watched by a responding site safety person. Staff is supportive of this approach by Con Edison, which was phased in during the storm restorations in July and September to expedite damage assessment. Con Edison also has reported favorably on this new procedure.*

- 2. For storm restoration, Con Edison should make optimal use of its own field crews from other operating areas.**

*Con Edison still has not demonstrated it is effectively using all of its own resources, including field crews in the restoration process.*

- 3. The Company should review and analyze industry practices for estimating restoration times. The analysis should include an evaluation of how advanced metering might have been used to improve information available on customer outages. Based on this analysis, and a comparison with its own practices, Con Edison should assess and implement the best practice processes for its system.**

*i) Con Edison has responded that it has commissioned an Edison Electric Institute survey of industry best practices for estimating service restoration times. The Company did not provide Staff with any timeframe for when the survey would be completed, nor did it provide any specifics on the survey specifics.*

*ii) Con Edison reports that it has had conversations with other utilities regarding their approach to estimating global Estimated (service) Restoration Times and believes its practice is consistent with these utilities. No information was offered as to the specifics of those discussions, nor was any documentation provided to Staff regarding the other utilities' methods.*

*iii) The Company stated that it will continue to use essentially the same approach to establishing global Estimated Restoration Times as it did in January. However it has made some changes in the methods used to establish Estimated Restoration Times for customers who have been assigned individual units of work. Con Edison reports that it will make this information available to customers who call in and speak directly with a customer service representative.*

*iv) The Company stated in a letter dated July 31, 2006 that it would comply with Staff's recommendations in this area by October 31, 2006. Although Staff has granted the Company an extension on addressing the related advanced metering issues, the Company's efforts to identify best practices for estimating service restoration times has not meet Staff's expectations at this time.*

## **II. Storm Anticipation and Initial Response Reporting Requirements**

### **4. Con Edison should proceed with its proposed improvements for the System Trouble Analysis and Response System, Emergency Control and Outage Management Systems and should test these improvements to ensure that these three systems can provide accurate outage information at much higher call volumes.**

*i) As far as technical improvements to improve response, Con Edison has reported that it has increased server capacity as well as completely replaced the Emergency Control/System Trouble Analysis and Response System interface with new system architecture and has performed other system enhancements to separate Bronx/Westchester activity from the other operating regions. The Company noted that these improvements will allow for improved processing of much larger volumes of jobs and provide access for more users.*

*ii) As far as improving system accuracy, Con Edison has reported that it has revised several algorithms within the System Trouble Analysis and Response subsystem to better group customers to predicted failure modes. The Company also reports installing more System Trouble Analysis and Response System terminals for trouble analysis as well as increasing the number of trained people. While undoubtedly valuable steps, judging by feedback from several sources, Con Edison appears to need continuing improvement in these areas to improve the accuracy of the process and work on developing a predictive modeling*

*capability to improve the accuracy and speed in the estimation of storm-related damage.*

## **Communications**

### **III. Residential and Commercial Customers**

- 5. The Company should take measures to better communicate emergency information to its customers and public officials. Actions should include oral, written and website communication that will:**
- **Provide restoration prioritization information;**
  - **Provide restoration estimates;**
  - **Provide emergency actions for customers to take (safety and personal protection);**
  - **Provide locations and times for dry ice distribution;**
  - **Enhance its present educational efforts so that customers are aware that their calls can help pinpoint the extent and location of the outage;**
  - **Develop a more comprehensive program to educate citizens and customers on the dangers posed by downed electric wires.**

*i) Con Edison developed an interface which automatically queries outage management systems when a customer service representative attempts to input an electric trouble ticket. The information provided includes whether a customer is suspected out-of-service, number of customers impacted by that job, whether it is assigned, and a job-specific estimated time of restoration. Also, the Voice Response Unit is being programmed to provide information to customers prior to their speaking with a customer service representative.*

*ii) Con Edison has increased the capacity of its toll-free-800 number line from 400 to 650 lines and modified the self-service outage reporting function. It reports it will reduce the report process by 90 seconds or cut the time in half.*

- 6. The Company should, in future outages where the restoration period is expected to exceed one day, dispatch one or more mobile command center vehicles so that Company personnel are available on-site to meet with customers. The Company should include information about the location of the mobile command center vans in press releases, in information provided to customer service representatives, in briefings with public officials, and with other communications with the public.**

*Con Edison reports development of a process to inform customers and municipalities through the use of an Internet website. Its goal is to display accurate, timely information in a graphical format which would be periodically updated. It plans to implement a prototype during the first quarter of 2007, with external implementation by the end of the second quarter of 2007.*

#### IV. Municipal and Public Officials

- 7. Con Edison should develop and implement comprehensive plans for coordinating its storm restoration activities, including eliminating hazardous conditions, and improving communications with municipal highway departments and officials. These plans should include details on enhanced communications with the departments and officials regarding its activities.**

*i) Procedures have been revised to include daily municipal teleconference briefings during storms and other service outage events. Notification will be sent to public officials regarding time, call-in number to provide status on restoration, number of customers interrupted, number still out-of-service, municipalities and districts affected, number of crews working, estimated restoration times, and dry ice locations. Recently, Con Edison has been holding pre-storm teleconferences so that municipalities can have advanced warning of potential outage events.*

*ii) Con Edison has formalized a process with the Westchester County Office of Emergency Operations for the Company to dispatch a liaison to the Emergency Management Office and Westchester County 60-Control (a centralized communications center run by Westchester County's Department of Emergency Services) if the emergency center is activated during an outage or if the Commissioner of Emergency Services asks for one. Seven liaisons have been trained for these assignments.*

*iii) The Company will dispatch a municipal liaison as an on-site point of contact to municipalities when warranted by the scope of overhead system damage or the threat to public health, safety, and welfare. Additionally, the Company is evaluating employees that live within the Westchester County municipalities for their ability to serve in this capacity.*

*iv) A team of Company representatives began meeting on 11/03/06 with the Westchester County Municipal Managers Association to define a process to address municipal issues, focusing on utilization of crews to address public safety.*

- 8. The Company's contact list for the provision of information should include all elected officials at all levels of government (municipal, county and state) as well as all appropriate municipal officials (e.g., police, fire, highway, public works).**

*l) Con Edison has expanded its contact book of its Westchester County contacts to include all elected municipal, county and State officials and local police, fire,*

*highway and public works departments that interact with Con Edison during emergency events involving Con Edison facilities.*

ii) Con Edison's Emergency Response groups continue to work with municipal emergency response organizations to communicate emergency response plans and processes and develop strategies to address challenges.

**9. The Company should provide daily or more frequent updates and conference calls for municipal and public officials, as appropriate.**

*Con Edison's Public Affairs procedures were revised to include daily teleconferences (conference calls) with municipal and public officials to provide information on the number of customers still out-of-service, the municipalities and districts affected, the number of crews working, available restoration times, and dry ice locations.*

**10. Con Edison should assign additional trained personnel in future emergencies to act as liaisons to municipal highway departments and officials.**

*Con Edison expanded its municipal liaison program by training an additional 13 liaisons and establishing six teams of eight liaisons each that are available on a rotating basis for assignment to municipal locations. The demand for municipal liaisons by communities may be greater than the resources the Company has thus far trained or committed.*

V. Training

**11. The Company should review its procedures for training and supervising customer service representatives to ensure that proper sensitivity is used when dealing with customers.**

*Con Edison has indicated it is investigating training for its customer service representatives. It states it will develop and conduct process training for both internal municipal liaisons and municipal officials. It is currently identifying personnel that reside in each of the 42 municipalities within Westchester County to serve as liaisons to their home municipality.*

VI. Media Relations

**12. Con Edison should provide more frequent press releases and hold news conferences during restoration periods.**

*It appears that during the September event that Con Edison issued one or two press releases per day. While this is an improvement from the number issued during the January event, there is room for improvement and for more frequent releases. It has not addressed holding news conferences.*

## Appendix II

### Recommendations Regarding the July and September 2006 Storms

#### ELECTRIC OPERATIONS

##### Storm Preparation/Mobilization

1. Con Edison should conduct a review of predictive models available for its use in storm damage prediction. This review is to commence immediately, and monthly progress reports are to be provided to Staff. Implementation should be targeted for August 1, 2007.

##### Storm Classification and Damage Assessment Assignments

2. Con Edison should do a complete re-evaluation of its staffing and storm emergency classification matrices for the Bronx-Westchester portion of its storm plan and file the revised matrices in an update to its plan by April 30, 2007.

##### Quick Survey

3. Con Edison should develop a more formal survey procedure which can quickly gather preliminary damage information throughout the affected service territory, and that the storm manager(s) obtain first-hand knowledge of the storm's extent and restoration progress.

4. Con Edison should review the section in its storm plan concerning the use of helicopters for surveying the distribution system and modify the plan to reflect its actual practice.

##### Use of Technology

5. Con Edison should study and implement technologies to make damage assessment, and other restoration processes, more efficient and effective. A report to Staff should be made within four months of this report outlining the technologies studied and implemented or slated for implementation.

##### Management Structure

6. Con Edison should require all employees that fill a position in the emergency response organization to be Incident Command System and

**National Incident Management System trained, and tested, to a level commensurate to their position. This training should be facilitated by the Company and completed no later than April 30, 2007.**

### **Duration and Staffing**

**7. Con Edison should provide guidance in its Comprehensive Emergency Response Plan for adjustment of its work force to be in line with, or better than, the durations called for in the matrices by April 30, 2007. (Also see recommendation #2.)**

### **Crew Use**

**8. Con Edison is to provide a plan of action, to be filed with and integrated into the next Comprehensive Emergency Response Plan update, for making optimal use of its own field crews from other operating areas.**

**9. Con Edison should maximize its ability to manage crews and use the number of crews commensurate to the most prompt outage restoration possible. The Company needs to inform Staff on the improvements it is making in logistical management.**

**10. Con Edison should provide accommodations for all emergency workers, and maximize available work hours for safe restoration.**

### **Estimated Time of Restoration**

**11. Con Edison should fully communicate its estimated global restoration time through the press, media, and web outlets.**

### **Detailed Restoration Estimates**

**12. Con Edison should expedite its search for tools to assist in planning restoration work.**

**13. Con Edison should continue to integrate its transmission and distribution telemetry system with its outage management system to increase its accuracy, timeliness, and efficiency.**

## **CUSTOMER SERVICE OPERATIONS**

### **Residential and Commercial Customers**

- 14. Con Edison should continue to work on improvements to the System Trouble Analysis and Response program, Emergency Control System, Outage Management System and Call Center operations. It should test these improvements to ensure that these systems can provide accurate outage information at much higher call volumes.**
- 15. Con Edison should review, evaluate and improve its outreach and education program regarding outage management and the restoration process so customers are aware of how the Company restores service and how it prioritizes restoration. An implementation plan for the program is to be provided to Staff.**
- 16. Con Edison should provide its customer service representatives timely and accurate information regarding outage areas, restoration status, location of dry ice distribution centers, and the location of consumer advocates outreach vans.**
- 17. Con Edison should make detailed restoration estimates accessible to customers via live telephone communication, pre-recorded information on voice response units, and the Internet.**
- 18. Con Edison should modify the voice response unit to either provide an update regarding daily location of dry ice distribution centers and outreach advocates or provide a message stating that the customer service representatives have the information.**
- 19. Con Edison should develop a special section on its website dedicated to outage restoration information including restoration times and employing frequent updates (including a listing of the number of outages by municipality), dry ice distribution and customer advocate locations, news releases, and claims information. This section should be easily identified/prominently displayed on the Company's homepage by using an attention getting feature such as a pop-up box, running banner, etc. The existence of the new section should be advertised repeatedly to all Con Edison customers.**
- 20. Con Edison should allow customers to report outages via the Company's website using their customer account number (or other forms of identification such as their home phone number). Prior to implementing this option, Con Edison must ensure that reports obtained via the Internet will be connected with the outage management system. This customer**

option should be well publicized by the Company through various communications vehicles with customers.

### **Municipal and Public Officials**

21. Con Edison should expand its review of the “best practices” of other utilities nationwide to include Communications methods and Outage Management systems to facilitate the public’s ability (both public officials and customers) to report outages. A detailed account of this review, including any recommendations for revising current practices and an explanation of why any best practices will not be adopted, should be filed with the Staff within four months of the Commission’s order adopting this report.

22. Con Edison should continue to meet with the Westchester County Municipal Managers Association to receive input about the following:

- The effectiveness of the Company’s current outreach program (including the effectiveness of the daily conference calls),
- Methods by which the municipalities can work with Con Edison to enhance communication with Westchester residents prior to and during an outage event and restoration activities, and
- Methods of communicating to public officials outage information showing the location of crews on a regional map, workforce allocation and distribution, location of dry ice distribution centers, and customer outreach advocates, etc.

23. Con Edison should review and update the contact list for municipal and public officials and emergency personnel at least twice a year. In addition Con Edison should add the municipal list to their news media contact list so that the municipal officials receive news releases and updates at the same time as the news media. The update should be completed by June 1, 2007. Staff should be notified when the update is complete, as well as, at each six-month interval thereafter.

### **News Media**

24. Con Edison should provide press releases to local media prior to all approaching storms that provide information on the Company’s outage and restoration procedures and emphasizes the steps customers should take in the event of a power outage.

25. Con Edison should issue press releases to the media to coincide with local news cycles or at a minimum of two times daily.

**26. Con Edison should post press releases as soon as they are issued to the Company website and should place it in a page/section dedicated to the outage and restoration activities. The section/page should be prominently advertised on the homepage.**

#### **Life Support Equipment Customers**

**27. Con Edison should proceed with improvements to the System Trouble Analysis and Response System and its Voice Response Unit Call Back system's capability and should test the improvement to ensure its proper functioning in delivering storm warning and follow-up calls to Life Support Equipment customers.**

**28. Con Edison should design and implement an expanded Life Support Equipment customer identification program to raise the awareness of its customers and other affected individuals (i.e., those who pay utility costs as part of their rent or as a part of master metered or sub metered arrangements) to the opportunity to be identified in the Company's records as using Life Support Equipment by partnering with community agencies, senior care facilities, and other such organizations. Con Edison should report its actions and plans to Staff. It should also include its plans as part of its next rate filing.**

**29. Customer service representatives should continue to take the opportunity during in-bound calls to identify and inform customers of the Company's Life Support Equipment program.**

**30. Con Edison's Customer Operations Corporate Comprehensive Emergency Response Plan should be reviewed and updated to include additional outreach mechanisms for identifying customers who would qualify for the Life Support Equipment program. Consideration should be given to providing program information to home medical agencies and personnel, rehabilitation centers, hospitals and other medical care facilities, and programs and personnel that regularly deal with the prescription, supply or maintenance of Life Support Equipment.**

## **Critical Care Facility Customers**

**31. Con Edison should develop an emergency notification/distribution process by which all its large and small critical care facility customers (hospitals and nursing homes) would receive advanced notice of approaching storms and potential power losses. This process should be incorporated into the Company's Comprehensive Emergency Response Plan.**

**32. Con Edison should establish a dedicated telephone line(s) or other more direct communication links for critical care facility customers and notify all critical care facility customers of the dedicated telephone line by which these customers can contact Con Edison's Emergency Command Center directly, 24 hours a day, seven days a week.**

## **Dry Ice Program**

**33. Con Edison should redesign its website so that the dry ice program and distribution locations can be prominently advertised on the website under the "Storm Preparations" section or in a new section entitled, "Outage Information," or in a pop-up box or on a running banner displaying the locations, dates, and times.**

**34. Con Edison should modify its Voice Response Unit system to allow a customer to select from a variety of options including reporting an outage, hearing information about dry ice distribution locations, Customer Outreach Advocate field locations, safety tips, and remaining on the line to reach a customer service representative. A second option is to modify the Voice Response Unit message with a statement indicating that the customer service representatives have information on dry ice, advocates, claims, and safety tips. The Company should advise Staff of the modifications it has put into place to comply with this recommendation.**

**35. Con Edison should investigate ways to increase the visibility of its dry ice distribution sites and customer advocate van sites.**

**36. Con Edison should send dry ice distribution program and location information to its municipal and public official and emergency personnel contact list.**

**37. During its planned meeting with the Westchester County Municipal Managers Association, Con Edison should discuss the dry ice distribution program and the possibility of municipalities assuming the distribution duties with pre-determined sites identified. The Company should report its findings and recommendations to Staff within four months following the Commission Order adopting this report.**

## Claims

38. Con Edison should ensure that information about claims, including filing, reimbursement and eligibility criteria, is clearly stated and prominently placed on its website.
39. Con Edison should provide its customer service representatives with prepared scripts that clearly identify reimbursement eligibility criteria and other pertinent information regarding the claims program.
40. Con Edison should instruct its customer service representatives not to make assurances to consumers regarding payment of claims, except to the extent that the representatives are decision makers and will ensure that the decision is carried out.
41. Con Edison should provide payment of claims and eligibility criteria information to the media during outage events.
42. Con Edison should analyze the sufficiency and appropriateness of its claims tariff for Commission action in accord with Recommendation No. 25 as contained in Appendix A of the Department of Public Service Staff Report on its Investigation of the July 2006 Equipment Failures and Power Outages in Con Edison's Long Island City Network in Queens County, New York, issued February 2007.

## CUSTOMER ASSISTANCE

### Quality of Internal Communications

43. Con Edison should establish additional procedures and protocols to ensure that its automated call message system will enable callers to reach customer service representatives directly and quickly during future emergencies. Within four months after this Staff Report is issued, Con Edison should advise Staff of the additional procedures and protocols it has or is establishing to comply with the intent of this recommendation. Con Edison should identify and correct the problems that plagued its System Trouble Analysis and Response, Emergency Control and Outage Management systems to accurately reflect outage and restoration status.

## **Training**

- 44. Con Edison should establish procedures and assign employees to ensure that the problems it identifies during training exercises or when supervisors are monitoring customers' calls are corrected in a timely manner.**
- 45. Con Edison should provide sensitivity training for its customer service representatives.**
- 46. Con Edison should review its procedures for determining staffing levels during outages to ensure adequate coverage of the Call Center operations.**
- 47. Con Edison should arrange refresher and new employee training in the storm process for all employees involved in storm restoration.**

## **Outage Notification Incentive Mechanism**

- 48. Con Edison's outage notification incentive mechanism should be re-examined and non-performance payment levels adjusted upward at the first available opportunity, such as when the Company next files for a rate case. At that time, there should be discussions about additional Communication activities including teleconferences to brief public officials about the status of restoration and other outage-related information.**

## Appendix III

### E. Minimum Staffing Requirements

ICS Group	Position	Normal	1	2A	2B	2C	3A	3B
Control Center	CC Mgmt	4	6	9	9	9	11	11
	Dispatchers/Clerical	2	3	4	4	4	8	8
	Oper Auth STAR Analysts	0	0	2	2	2	3	4
	STAR Analysts	0	0	2	2	2	4	6
	Muni Planner*	0	0	1	1	1	1	2
	OH TrblShooters	8	8	16	16	16	16	16
	OH Supv	1	1	2	2	2	2	2
	UG TrblShooters	2	2	4	4	4	4	4
	UG Supv	0	0	2	2	2	2	2
Muni Crews*	0	0	6	6	6	12	16	
EH&S	Officer	0	0	1	1	1	1	1
	Desk	1	1	1	1	1	1	1
	Field Support	0	on call	on call	on call	on call	4	5
	Cleanup crews	0	on call	2	2	2	4	4
Operations	B/W OH Crews	0	0	12	18	32	32	32
	Other OA Crews	0	0	0	0	0	8	15
	Foreign Util/Contr Crews	0	0	0	0	0	0	10
	Overhead Job Planner	0	0	1	1	1	1	2
	Overhead Crew Planner	0	0	1	1	1	2	3
	Overhead Crew Dispatcher	0	0	1	1	1	2	4
	Overhead Board Mgr	0	0	1	1	1	1	2
	Overhead Clerical	0	0	1	1	1	2	4
	Line Clearance	0	0	4	8	12	15	15
	Line Clearance Dispatcher	0	1	1	1	1	1	2
	Line Clearance Clerical	0	1	1	1	1	1	2
	Ladder Line	0	0	8	12	16	32	32
	Ladderline Planner	0	0	1	1	1	2	2
	Ladderline Dispatcher	0	0	1	1	1	2	2
	Ladderline Info Coord	0	0	1	1	1	1	1
	Ladderline Clerical	0	0	1	1	1	2	3
Trouble Analysis	Feeder Mgrs	0	0	3	3	3	4	6
	Analysis Techs	0	0	6	6	6	12	15
	Feeder ID Clerks	0	0	3	3	3	5	8
	Info & Analysis Suppt	0	0	1	1	1	1	1
	Feeder Patrol	0	0	as needed				
Muni/Liaison	Officer	0	0	1	1	1	1	1
	Muni Grp Supv	0	0	1	1	1	2	2
	Muni Rep/Clerical	0	0	5	5	5	8	10
	Liaison Coord	0	0	as req'd				
	Liaison Clerical	0	0	as req'd				
	EOC Liaison	0	0	as req'd	as req'd	as req'd	1	1
	Muni Liaisons	0	0	as req'd				
	FD Liaisons - 60 Control	0	0	0	0	1	1	1
Damage Assessment	Site Assessors	0	0	0	10	20	40	80
	Site Safety	0	0	0	10	20	40	80
	Site Admin	0	0	0	3	3	5	5
	Office Coords	0	0	0	2	3	6	10
IC	Incident Commander	0	0	1	1	1	1	1
	Officer	0	0	1	1	1	1	1
Public Affairs	Staff	0	0	1	1	1	1	2
	Staff	0	0	1	1	1	1	2
Customer Ops	CSRs	180	180	180	180	180	220	300
EIC	Unit Leader	0	0	1	1	1	1	1
	Unit Reps	0	0	1	1	1	2	4
	IR	0	0	1	1	1	1	1
Logistics	511 TFA Suppt	0	0	0	0	0	2	3
	Service Ctrs	0	0	6	6	6	10	20
	Facilities	0	0	3	3	3	5	5
Admin/Fin	Chief	0	0	0	0	0	1	1
	Mutual Aid Coord	0	0	0	0	0	2	3
	Crew Guide Coord	0	0	0	0	0	0	1
	Cost/Claims	0	0	0	0	0	1	1
	Crew Guides	0	0	0	0	0	0	4
	Direction Group	0	0	0	0	0	1	2
		Normal	1	2A	2B	2C	3A	3B



The matrix relates forecasted weather conditions to other parameters such as:

- Number of customers projected to be without electric service
- Estimated recovery time subsequent to the end of a storm
- Public Service Commission restoration categories
- Other variables such as foliage condition or ground saturation

TYPICAL STORM EMERGENCY CLASSIFICATION MATRIX				
Storm Category & Plan	PSC Category	Typical Weather Conditions	# Customers Affected (or Projected)	Estimated Restoration Time*
1 - Upgraded  (Regional resources)	1	Thunderstorms, rain and moving fronts Moderate sustained winds Moderate frequent gusts Condition is short to mid term Light to moderate damage to electric system Moderate wet snow	Up to 7,000	8-12 Hours
2 - Serious (Other Con Edison Resources)	2	Heavy thunderstorms, rain Strong sustained winds Strong frequent gusts Condition exists for several hours Heavy damage to electric system Heavy, wet snow	Up to 15,000	12-24 Hours
3A - Serious (Non-Con Edison Resources)	3	Severe thunderstorms, Extremely heavy rains Strong sustained winds Severe frequent gusts Condition 12-18 hours or longer Extensive damage to electric system Heavy, wet snow	Up to 40,000	1-2 Days
3B – Full Scale	3	Nor'easter type storms, heavy rains Strong sustained winds Severe frequent gusts Tropical storms Condition exists for 6-12 hour	40,000-60,000	2-3 Days
3B – Full Scale Coastal Storm	3	Hurricanes Category 1-2 25-50% Damage to distribution system Condition exists for 12 hours	60,000-80,000	≤ 1 week
		Hurricane Category 3-5 >50% Damage to distribution system Condition exists for >12 hours	>100,000	> 1 week
<b>*Estimated Time of Restoration is measured from the end of the storm</b>				

A region specific Storm Classification Matrix is provided in each regional plan.