Consolidated Edison Company of New York, Inc.

16 NYCRR Part 420 Report

July 18, 2007 Steam Incident
41st Street and Lexington Avenue

August 17, 2007

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Steam Incident, 41st Street and Lexington Avenue – July 18, 2007

Consolidated Edison Company of New York, Inc. ("Con Edison" or the "Company") submits this report on the steam main rupture of July 18, 2007, in compliance with 16 NYCRR Part 420. Part 420 provides:

> A written report of each incident in which steam facilities were involved shall be submitted to the Albany office of the Gas Division of the New York State Department of Public Service within 30 days. The report shall set forth a chronological sequence of events including a detailed description of the:
> (1) incident or interruption;
> (2) response, action, and investigation by the steam corporation; and
> (3) results and findings of the investigations.

16 NYCRR § 420.12. While this section applies to steam corporations only, all of Con Edison's services were involved in the response to this incident and the Company has accordingly also described the response of its gas and electric operations groups to this incident. Finally, the Company notes that, as described in more detail below, the investigation of the cause or causes of the incident is continuing and Department of Public Service Staff is closely monitoring those efforts. A report will be issued when the investigation is complete.

I. Overview of Steam System[1]

The Con Edison steam system is the largest steam system in the United States, larger than the next nine largest steam systems combined, in sendout. It contains 105 miles of steam mains, extending from the southern tip of Manhattan north to 96th Street on the west side and 89th Street on the east side. Approximately thirty billion pounds of steam are produced and distributed each year to serve approximately 1,800 customers. Some of New York's most famous landmarks use steam, including the Empire State Building, the Chrysler Building, Grand Central Terminal, the Guggenheim Museum, the United Nations, and Rockefeller Center. Prior to September 11, the World Trade Center was the largest steam customer. (See Appendix 1 for map of the steam system.)

The steam system provides advantages to customers that cannot be provided by alternative energy sources. For example, the alternatives to steam heating are either oil or gas-fired boilers. Oil boilers consume space within buildings and require oil-truck deliveries through New York City streets, raising traffic and air emission concerns. Gas

[1] An overview of the steam system is not ordinarily part of a 420 report, but the Company decided that an overview would be helpful in this instance because of the likelihood that this report will be read by the general public and not just the Department of Public Service Staff.

boilers also consume building space, and they require flues, which can also take away revenue-producing space. In addition, for some of New York City's landmark buildings, the possibility of installing boilers simply does not exist because of space constraints.

In addition to the direct value provided to its customers, the steam system also reduces the need for peak summer electricity capacity by about 375 megawatts due to steam customers who use steam instead of electricity to air condition their buildings, which is equivalent to an additional in-city power plant. The steam system also avoids the need for additional electricity, natural gas, and oil infrastructure.

Approximately half of steam production comes from cogeneration, a highly efficient process where the fuel input is used to produce both electricity and steam. Con Edison's newest steam plant, the East River Repowering Project, achieves 80 percent efficiency on average, whereas a typical new combined-cycle electric plant achieves an efficiency rate of approximately 55 percent. The Con Edison steam supply results in the reduction of many pollutants, including approximately 1.6 million tons of CO_2 annually, equivalent to the emissions from 270,000 passenger cars driven for one year.

II. Chronological Sequence and Detailed Description of the Event

On July 18, at approximately 5:56 p.m., a 20-inch steam distribution main ruptured at the intersection of 41st Street and Lexington Avenue ("Incident Site"). The steam main rupture created an approximately 32 foot x 32 foot crater in the intersection and sent steam and debris into the intersection and surrounding area. The steel steam pipe, which had been installed in 1924, had insulation that contains asbestos. The steam pipe rupture also caused personal injuries and damage to nearby buildings, vehicles, and underground infrastructure. Two people in a tow truck that fell into the crater were seriously injured. A pedestrian in the area suffered a fatal heart attack.

Con Edison's response was immediate. A Con Edison Steam crew at the intersection of 59th Street and Lexington Avenue observed a large plume south of their location on Lexington Avenue. The steam crew immediately notified the Steam Troubleshooter Dispatcher in the Steam Control Center at East 16th Street of a condition on Lexington Avenue between 30th and 40th streets, and then proceeded to the Incident Site. At 5:58 p.m., the Steam Troubleshooter Dispatcher contacted the FDNY and learned that the FDNY had received reports of an "explosion" in the vicinity of Third Avenue and 41st Street.

At about the same time, the Energy Dispatcher at Con Edison's Energy Control Center saw that two steam pressure system telemetric points near the Incident Site had fallen below 125 pounds per square inch gauge (PSIG). Prior to the rupture, that section of the steam distribution system was operating at approximately 159 PSIG, within the

normal operating range.[2] At the same time, the Energy Control Center learned from alarms in its feeder notification system that numerous primary (13kV) feeders on Lexington Avenue had tripped off line.

At approximately 5:59 p.m., the Steam Troubleshooter Dispatcher contacted the Energy Dispatcher and discussed the possible reasons for the rapid loss of steam pressure. Based on this preliminary information, the Energy Dispatcher ordered the Steam Troubleshooter Dispatcher to immediately dispatch steam crews to the Incident Site. At 5:59 p.m., Con Edison's Steam Troubleshooter Dispatcher ordered all available steam crews to respond, in accordance with the Steam Distribution Emergency Response Procedures. (See Appendix 3 for procedure.) At 6:00 p.m. Con Edison's Energy Dispatcher declared a Steam System Emergency and Hands Off Day (i.e., all non-essential steam work ceases and resources are devoted to the emergency) due to two or more steam telemetric stations registering below 125 PSIG. (See Appendix 2 for Steam Dispatch Procedures.) At 6:02 p.m., the first steam crew arrived at the northern perimeter of the Incident Site and confirmed that a major steam pipe rupture had occurred. Con Edison's first responders from Steam Operations were on location in less than 10 minutes.

Also at 6:00 p.m., a Computer Notification System (CNS) message was issued by the Central Information Group (CIG) to alert required Company staff about the incident. In addition, CIG notified the Department of Public Service, the New York City Police Department (NYPD), the New York City Fire Department (FDNY), and the New York City Office of Emergency Management (OEM), via telephone.

The Steam Troubleshooter Dispatcher notified the Steam Field Operations Manager and then directed three Steam Operating Supervisors to the Incident Site. The three Operating Supervisors, who have more than 75 years of combined experience with Con Edison, proceeded to the Incident Site from the Steam Control Center at East 16th Street via the FDR Drive.

Meanwhile, at approximately 6:15 p.m., a Con Edison Electric Operations Emergency Response employee formally established a command post at 42nd Street and Lexington Avenue and became the Con Edison Site Commander. The Company command post was set up next to the FDNY command post. Both the FDNY and NYPD were already at the scene and the FDNY had assumed primary agency responsibility for the incident.

En route to the Incident Site, the first Steam Operating Supervisor (OS1) could see the steam vapor plume from the FDR Drive and 20th Street. He immediately ordered the steam crews to begin to both coordinate and set up for several emergency steam Main Shut Offs (MSO). While en route to the Incident Site, OS1 directed crews to go directly

[2] Steam Procedures ST-1-16, attached as Appendix 2, contains the steam dispatch procedures.

to the main valve locations for closure. This initiative saved time by allowing the steam crews to go directly to the valve locations instead of first reporting to the Incident Site.

OS1 approached the Incident Site from the east and was the first Operating Supervisor to arrive at the Incident Site. After meeting up with the steam crew that had first reported the steam pipe rupture, the OS1 and the crew completed the first valve closure on main valve (MV) #1886, located at 41st Street west of Third Avenue, at 6:19 p.m., less than 25 minutes after the initial steam main rupture.

At 6:29 p.m., the Company declared a corporate emergency and activated its Corporate Emergency Response Center[3] (CERC). The Company's CERC system is modeled after New York City's Incident Command Structure. Organizations such as Engineering, Gas Operations, Electric Operations, Purchasing, and Logistics all coordinate from a central location to manage the event as efficiently as possible.

Meanwhile, a second Operating Supervisor (OS2) approached the Incident Site from the north, met two steam crews, and proceeded to close valves to the north of the Incident Site. The third Operating Supervisor (OS3) approached the Incident Site from the west, met two steam crews, and proceeded to close valves to the west of the Incident Site. The steam crews closed all the valves simultaneously under adverse conditions -- falling debris, heavy vapor, and heavy vehicular and pedestrian traffic. Because one main valve was located near the crater, the OS1 and a steam crew suited up in personal protective equipment (PPE), including self-contained breathing apparatus, in order to complete the MSO.

At 7:33 p.m., Con Edison's Mobile Command Center bus arrived at the Incident Site.

As each successive valve was closed, the plume from the main rupture was gradually reduced. By 7:38 p.m., the steam crews successfully closed 12 main valves, isolating the steam main rupture in 102 minutes. Over the next 25 minutes, the Operating Supervisors and steam crews returned to all 12 main valve sites to further tighten the isolation valves and ensure that the main isolation was holding and successful. At 8:03 p.m., OS2 confirmed to the Steam Troubleshooter Dispatcher that the steam main shut-off was complete.[4]

In response to the steam pipe rupture, the Energy Dispatcher ordered specific steam plants to maintain outlet pressure at 125 PSIG in order to stabilize the system pressures. The valve closures that began at 6:12 p.m. restored steam system pressures to

[3] The steam pipe rupture and the multiple electric feeder outages met the CI-260-4 definition of a "Full Scale" level incident (attached as Appendix 4).

[4] Appendix 5 provides the MV number, the time of the MV closure and the Operating Supervisor overseeing the MSO. Appendix 6 is a map of the Incident Site and surrounding area with the locations of the twelve MVs operated to complete the steam pipe isolation.

at least 125 PSIG in 42 minutes and to a normal operating pressure of 150 PSIG when the last valve closed at 7:38 p.m.

III. Response of Steam, Electric, Gas, and Customer Operations

At the direction of the Vice President of Steam Operations, a Con Edison Plant Manager who is a qualified Incident Commander was sent to the Incident Site to assume the role of Con Edison Site Commander from the Con Edison Electric Operations emergency employee. He arrived at approximately 7:45 p.m. The Con Edison Incident Commander was at CERC. Representatives from Electric, Gas, and Steam Operations, Environment, Health and Safety (EH&S), Emergency Management, and Public Affairs were already there. At that time, because the steam isolation was very close to being declared complete, the Company began to assess the impact and plan the cleanup and restoration.

In addition to Con Edison, immediate responders included the New York City Department of Environmental Protection (DEP), FDNY, NYPD, OEM, the Metropolitan Transportation Authority (MTA), and the New York City Department of Buildings (DOB). The Occupational Safety and Health Administration (OSHA) and the U.S. Environmental Protection agency (EPA) also arrived onsite.

A. Steam Restoration

Immediately after steam flow to the intersection of 41st Street and Lexington Avenue was stopped, Steam Operations began planning for restoring service to those customers affected by the rupture. Using SOMIS (Steam Operations Mapping Information System), Steam Operations was able to quickly determine that following the valve closures, 18 steam customers lost service.

After the steam rupture was isolated, Steam crews were able to close steam valves closer to the rupture, permitting the restoration of steam to 13 of the 18 customers by Friday, July 20 at 6:45 a.m., less than 36 hours after the event. This was accomplished by opening valves that were initially closed, thereby shrinking the outage area.

On Friday, July 20, four of the five remaining customers without steam service were visited by representatives of Steam Business Development (SBD) and Steam Distribution. One customer was inaccessible due to street closings. This building uses steam for hot water only and did not have water service. The other four were offered boiler trucks at Company expense. One customer accepted the Company's offer. Steam Distribution worked with the building's chief engineer on the water, electric power, and steam piping connections. Of the remaining four customers, three services were restored by capping the steam main west of the intersection on July 25. The fourth customer's

service was restored after capping a damaged section of the main and rerouting the service on July 27, which took place after the area around the crater had been cleared.

In summary, the steam customer turn-on sequence was as follows:

- Thirteen customers' services restored by opening valves (July 19-20)
- One customer's service restored by a boiler truck (July 20) – customer permanently restored on July 28
- Three customers' services restored by capping west of the intersection on July 25
- One customer's service restored after capping a damaged section of the main and rerouting the service on July 27

(See Appendix 7 for the customer turn-on log and the communications between the SBD staff and the affected customers.)

B. Electric Restoration

Within seconds of the steam pipe rupture, 12 primary (13kV) feeders in the center of Lexington Avenue opened automatically. A 13th primary feeder, on the east side of Lexington Avenue, opened automatically approximately 2.5 hours after the initial event in the Grand Central Network. The 13 affected feeders were:

- 6 out of 24 feeders in the Grand Central Network
- 4 out of 19 feeders in the Beekman Network
- 2 out of 12 feeders in the Greeley Network
- 1 out of 13 feeders in the Kips Bay Network

As shown above, the loss of these 13 feeders put the Grand Central Network in a sixth contingency and the Beekman Network in a fourth contingency. Nonetheless, through a highly organized rapid response, Electric Operations maintained service with no outages except for partial interruptions of two customers due to work performed to deenergize all electric cables in the crater.[5]

Electric Operations' response plan was to replace the damaged feeders with new temporary above-ground by-pass feeders (shunts). The shunts ran along the edges of the roadways, were enclosed in protective boxes, and were isolated from traffic by "jersey" type barriers. Engineers at the Manhattan Control Center immediately began to design the routes for the temporary replacement cables while System Operators made the necessary plans for the work on the feeders. Twelve feeders required the installation of nine miles of shunts, because the Company had to run shunts around the crater area. In addition, because many of the shunts were trenched, the Company had to work around traffic restrictions. As a result, the first shunt in the Grand Central Network was in place

[5] One of the customers also lost direct current service for a period of time, which served part of the load of that building.

within 18 hours, and all of the feeders except one were completed within 48 hours. The average replacement time was just 34 hours and 6 minutes. (See Appendix 8 for the feeder restoration schedule.) These shunts are patrolled on a regular basis.

In addition to the rapid restoration efforts, Electric Operations had to plan to take necessary precautions to ensure continued service while repairs continued. As such, at 6:30 a.m. on July 19, the Manhattan Control Center declared a Condition Yellow. This condition is declared when the next feeder contingency will result in some equipment being loaded above emergency ratings and methods to relieve the potential overloads will have an impact on the general public. (See Appendix 9 for Electric Operations Procedure EOP 5-0-23.) The Company activated the Distribution Load Relief Program (DLRP) in the Beekman Network.[6] All large customers in both the Beekman and Grand Central Networks were contacted by Energy Services and asked to voluntarily reduce load. (See Appendix 10 for the call list from Energy Services.) The Condition Yellow and the DLRP were terminated on July 20 at 4:00 a.m. after a sufficient number of feeders had been restored to service**.**

At 8:00 a.m. on July 19, the Company also requested the New York Independent System Operator (NYISO) to implement the Targeted Demand Response in Sub Zone J3, which includes the Grand Central, Beekman and other networks comprising this sub-zone as the NYISO can only call this program on a zonal basis. The NYISO's Targeted Demand Response was terminated on July 19 at 11:00 p.m.

As of August 16, Electric Operations continues to provide service through the use of 10 above-ground feeder shunts. Current progress at the site has allowed Electric Operations to deenergize seven of the 12 feeders that were shunted. Permanent restoration of the feeders is progressing and will continue as system load conditions allow, for the duration of the summer. The feeders are expected to be restored by the end of October.

C. Gas Restoration

When the steam pipe rupture first occurred, the Gas Emergency Response Group (ERG) was immediately notified via pager service. Gas Operations personnel were notified at 6:00 p.m. via the CNS. At that time, potential damage to the gas system was unknown.

The Gas ERG representative, an Operating General Supervisor, arrived at the Incident Site at approximately 6:30 p.m. and, within minutes, established the Gas Command Post next to the Electric Operations Command Post at 42nd Street and

[6] The Company did not call a Condition Yellow and DLRP for the Grand Central Network because the equipment loadings did not justify calling a Condition Yellow. Large customers of the network, however, were requested to reduce load voluntarily.

Lexington Avenue. All planned night work on the gas system was immediately suspended and gas crews were rerouted to the Incident Site or placed on call at the 16th Street yard. The on-call crews were essential in order to provide relief at the Incident Site and to maintain continuity in responding to leaks in all of Manhattan.

Gas Operations was unable to access the crater at the Incident Site and evaluate potential damage to the gas system until the steam pipe rupture was isolated and the steam main shut-off completed. Following the steam main shut-off, two Gas Operations foremen immediately suited up in self-contained breathing apparatus and PPE and accessed the crater. Although a 12-inch cast iron gas main had been partially exposed, all gas readings in the crater were negative. Nonetheless, in order to protect the gas system from potential damage during restoration activities at the Incident Site and maintain continuous gas service to customers, Gas Operations made the determination to isolate the 12-inch main on Lexington Avenue from 42nd Street to 40th Street.

Since there are few street valves on the low-pressure gas system, Gas Operations developed a plan to excavate fire banks (street excavations providing access to the gas facilities) to isolate, cut, and cap the 12-inch main. All five fire banks were planned to be excavated outside the immediate crater area. However, after further engineering review, Gas Operations determined that if one fire bank was excavated closer to the crater area, the isolation could be completed without curtailing service to any customers. For this work, Gas Operations employees wore half-face respirators and PPE.

The isolation of the 12-inch main was successfully completed at approximately 3:00 a.m. on July 20. In total, Gas Operations excavated six fire banks to successfully isolate the12-inch main, as well as cut and cap the six-inch main connected to the 12-inch main near 41st Street on the west side of Lexington Avenue. Excavation of two of the six fire banks was a precaution if there was a need to isolate the six-inch and eight-inch mains on the east side of Lexington Avenue. Once the 12-inch main was isolated, cut, and capped, it was purged of any remaining natural gas.

Following the isolation of the gas facilities, pressure readings were taken at all fire banks and were found to be within normal operating ranges which indicates an adequate gas supply to customers. The mains were also checked for water and there was no indication that water was present.

As an additional safety precaution, Gas Operations personnel conducted an extensive leak survey on Lexington Avenue and the surrounding area. These leak surveys were conducted twice per shift until the evening of Saturday, July 21. Where Gas Operations could access buildings, pressure readings were taken.

For restoration of the damaged equipment, Gas Engineering analyzed various scenarios including: lining the 12-inch main with an epoxy liner; externally sealing the joints along the length of the main using pavement coring for rapid restoration; using an internal joint-sealing robot, called CISBOT; insertion of a new 10-inch steel main inside

the cast iron main; or abandonment of the 12-inch gas main. The Company determined that the 12-inch main could be abandoned and that service could be maintained by reinforcing ties made at 40th Street at Lexington and 41st Street at Lexington Avenue. One of these ties has been reinforced and the other is scheduled to be completed along with the pending electric and steam work.

IV. Site Clean-Up

The first Company employees to arrive at the Incident Site from Steam Operations treated the incident as an asbestos situation, in accordance with the Steam Emergency Plan and their training. (See Appendix 3 for Steam Emergency Plan.) In addition, the first Emergency Planning representative to arrive at the Incident Site immediately advised the FDNY Chief on location to treat the incident as an asbestos situation. The Company assumed that there was asbestos involved because there was a significant rupture in an area where there were buried, inaccessible steam pipes that likely had insulation containing asbestos.

The FDNY immediately established a safety zone to keep the public away from the Incident Site. The Con Edison EH&S representative later confirmed that the perimeter of the safety zone was appropriate to use as an asbestos hot zone (i.e., an area that required responders to wear appropriate PPE). (See Appendix 11 for map of hot zone.)

Con Edison's EH&S serves as an advisor to Con Edison's Operating Groups on compliance with environmental issues such as asbestos. EH&S also serves as a liaison to governmental agencies that oversee environmental matters. During this incident Con Edison EH&S used its "Emergency Fact Sheet" to guide its response. This Emergency Fact Sheet is part of the Con Edison Asbestos Management Manual. (See Appendix 12 for Emergency Fact Sheet.)

Following the isolation of the steam main, a principal priority of the Con Edison Site Commander was managing the asbestos situation. As such, the Company began testing and sampling processes and put out a call for licensed asbestos handlers.

The Company began asbestos sampling at approximately 9:00 p.m. after it was established that the Incident Site was safe for testing. Air samples included a 30-minute sample obtained by a person who walked the area wearing the maximum protective gear, as well as samples of the ambient air surrounding the contaminated zone. All air samples tested below the regulatory threshold for asbestos. The Company also took debris (bulk) samples. Three of 20 bulk samples were found to have a trace (below one percent[7]) and in 17, there were no detected fibers. Accordingly, all debris samples were below the

[7] An item is considered to be asbestos-containing material only if it contains greater than one percent asbestos. The one percent threshold does not apply to air samples.

regulatory threshold of one percent asbestos. The Company has continued to test throughout cleanup and, to date, has taken more than 1,500 air samples. (See Appendix 13 for a summary of all the testing at the site.)

DEP also took air samples and found no asbestos air results above the regulatory threshold. With respect to DEP's bulk samples, 28 contained trace amounts and two were above the one percent threshold. The site was then considered by DEP to be an asbestos site, and Con Edison continued to treat it as such.

In order to begin the asbestos cleanup process, the Company mobilized qualified asbestos abatement contractors. There were approximately 60 workers qualified to handle asbestos on the site ready to work at approximately 9:00 p.m. The cleaning completed by the following morning included decontamination of 21 FDNY trucks and a limited cleanup of debris along the perimeter of the contaminated zone (along Third Avenue, 40th and 42nd streets, and Park Avenue).

The Company then developed and implemented a cleanup plan for the following days in coordination with DEP. The plan included a precautionary wash down of the area buildings by the FDNY with assistance from the EPA and Con Edison contractors. The priorities for this work were as follows: (1) Third Avenue (west side) from 40th to 43rd streets; (2) north & south sides of 42nd Street from Third to Park avenues and Lexington Avenue from 42 to 43rd streets (both sides); (3) Park Avenue (east side only) from 42nd to 40th streets; and (4) 40th Street (both sides) from Third to Park avenues.

Additional work performed at this time included: (1) removal of debris around the Incident Site (Lexington Avenue from 40th to 42nd streets and 41st Street from Third to Park avenues), which was completed on July 19; (2) re-cleaning of the cross streets to remove glass from window boarding operations, completed on July 20; and (3) exterior cleaning of buildings in the cross streets by the FDNY and EPA with assistance from Con Edison contractors. Detailed cleaning by Con Edison contractors was also conducted in the cross streets. This cleaning included hand cleaning building facades both at ground level and with man lifts. By July 24, cleaning was completed on Lexington Avenue from 40th to 42nd streets, and along 41st Street from the Incident Site to Third Avenue. Cleaning was completed on July 25 along 41st Street from the Incident Site to Park Avenue. The hot zone was reduced to the immediate crater area on that day. Future cleaning at the site involves the upper facades of two buildings in the area. (See Appendix 14 for the complete cleanup plan.)

To facilitate the cleanup, Con Edison assigned an average of 100 trained asbestos handlers every day. In addition, the Con Edison logistics group rented sixteen 20,000-gallon mobile liquid storage tanks that were moved on site to store collected fluids – in this case the wash water generated during the cleanup and the water pumped from the crater. The Company used seven liquid vacuum tankers (3,000 to 5,000 gallons), a vacuum truck guzzler with 50 feet of six-inch hose, and procured 1,080 sandbags for water containment during the cleanup effort. In addition, the Company rented a total of

27 dumpsters for the disposal of contaminated debris. Finally, the Company rented lifts for cleanup activities.

The Company, working with DEP, also developed an asbestos abatement procedure for the crater. (See Appendix 15 for the asbestos abatement procedure.) The crater abatement was completed on Wednesday, August 1, 2007. The steam pipe that ruptured could not be removed from the crater until after the abatement was completed on that date.

With respect to communicating to the public, the Company assumed from the outset that the rupture resulted in an asbestos release and treated it in that manner. The Company Chairman stated at a press conference at the scene that evening that the Company was testing for the presence of asbestos.

On the morning of July 19, the Company issued a press release stating that "Air monitoring confirmed no airborne asbestos, however, several of the numerous samples of muddy debris taken from the area were found to contain asbestos." The Company accordingly stated in the press release that "Anyone who was in that area around 6:00 p.m. who has dust or debris on clothing or belongings should put them in a plastic bag and bring it to the Con Edison customer service van parked at the corner of Madison Avenue and 42nd Street. The van will be at that location for the next several days from 7:00 a.m. to 9:00 p.m. Con Edison will arrange for the safe disposal of these items. Customer care personnel will be available to help people fill out a reimbursement request." Notification of this press release was posted on the home page of the Company's Web at www.coned.com, which provided a link to the press release. (See Appendix 16 for press releases.) The Company also provided a link to asbestos information provided by the OEM on its Web site.

V. Site Reconstruction and Restoration

On July 25, 2007, at 7:00 p.m., after the incident was downgraded from "full scale" to "serious", CERC was demobilized and the Con Edison Mobile Command Center (MCC) bus left the Incident Site. In addition to its continued cleanup efforts, the Company began the reconstruction effort.

In cooperation with the City of New York and all affected infrastructure owners, the Company has been implementing a joint reconstruction plan for the Incident Site. In order to perform the reconstruction quickly and efficiently, a contractor hired by Con Edison is performing all infrastructure restoration including steam, electric, gas, telecommunications, water, sewer, and roadway restorations.

The goal of the reconstruction plan is to open, as soon as possible, the intersection of 41st Street and Lexington Avenue to pedestrian and vehicular traffic. Work that could be performed immediately on the west side of the intersection was undertaken first (electric, gas, telecommunications, and sewer repair). This allowed the roadway to be

restored on the west side of the intersection so that two lanes of traffic could reopen. The west side of the intersection was reopened to traffic on August 11, two days ahead of schedule. (See Appendix 17 for a current photograph of the intersection.)

Reconstruction work is currently proceeding on the east side of the intersection and the target date for reopening the east side of the intersection to pedestrian and vehicular traffic is mid-September. At that time, reconstruction work will move back to the west side of the intersection so that the final steam and water work can be completed. The goal is to finish the remaining west side infrastructure work and reopen the entire intersection to pedestrian and vehicular traffic in mid-October.

VI. Public Outreach

1. Outreach Vans

Customer Operations dispatched a Mobile Customer Information Center (MCIC), also known as the Outreach Van, to East 42nd Street and Third Avenue, and it arrived at 9:00 p.m. on the evening of the incident. Customer Outreach relocated the van later that night to a more visible and accessible location on the northeast corner of East 42nd Street and Madison Avenue. The next morning, July 19, a second Outreach Van was positioned at the northwest corner of East 45th Street and Lexington Avenue. From July 18 to July 20, the vans handled over 1,100 inquiries.

The Outreach Vans are equipped with the latest telecommunications devices, allowing on-site customer outreach staff to obtain and disseminate up-to-date and accurate information about the incident. The Outreach Vans are mobile offices with electronic equipment such as laptops, broadband radios, printers, and faxes. The Outreach Vans offer customer information and signage in 22 languages to accommodate the diverse population in Con Edison's service territory. The Outreach Vans also provide the Company with a visible presence at an incident site and are easily recognizable as customer communication centers.

In addition to customer information, the Outreach Vans offered customers an immediate opportunity to file claims for personal losses such as clothing that may have been soiled by mud and/or debris. Representatives of Con Edison's Claims department were also dispatched to the two Outreach Van locations to explain the claims process and assist with the filing of claims. Decontamination centers were also placed at each Outreach Van location for the proper disposal of soiled possessions.

The vans remained open at the two locations every day from 7:00 a.m. to 9:00 p.m. until July 27, at which time the Lexington Avenue and East 45th Street site was closed due to decreased customer traffic. On August 5, the NYPD and OEM asked that the corner of Madison Avenue and East 42nd Street be cleared to minimize interference with bus traffic on Madison Avenue. As such, the MCIC was relocated to the nearest

Con Edison location, 14 West 30th Street. The van remains in operation 7:00 a.m. to 3:30 p.m., Monday through Friday.

During this process, Customer Operations developed information sheets to ensure that a consistent message was given to the public. These sheets were updated to provide outreach representatives with information on new issues as they emerged (e.g., how to handle damaged vehicles that might contain asbestos). (See Appendix 18 for samples of information sheets.)

Customer Operations continues to partner with Claims representatives to assist the public with inquiries and claims at the Murray Hill Substation. Over the course of the event, the number who filed claims and/or made inquiries through the Outreach Vans was tracked and recorded. The cumulative totals through Thursday, August 16, at 3:30 p.m. are:

Inquiries	3,730
Claims	2,112
Bags[8]	1,718

(See Appendix 19 for daily detail.)

2. Call Center

As the event developed, information sheets were prepared to provide all Customer Service Representatives (CSR) and Supervisors with the most up-to-date information on the steam incident and the claims process for customers contacting the call center. The sheets included information on the steam pipe incident, Outreach Van locations and hours, asbestos information including proper procedures for turning in potentially exposed clothing to Con Edison, customer claims including vehicle damage, and contact information for other Con Edison departments and various New York City agencies.

3. Claims

The steam incident affected members of the public, street-level businesses, and a number of commercial tenants in the buildings in the immediate area. In order to address the many claim issues arising from this event and to provide information on filing claims, the Company immediately adopted a proactive strategy that included outreach efforts and a widespread presence in the affected area to assist local businesses. The Company began this effort without waiting for the completion of the forensic investigation to determine the cause or causes of the event.

As previously noted, beginning July 19, two Customer Operations Outreach Vans, staffed by knowledgeable Outreach and Claims representatives, were dispatched to the

[8] The bags were for items that were potentially exposed to asbestos.

area. The Outreach and Claims representatives were available to address any issues related to the incident and to assist with the filing of claims for loss of clothing or personal belongings. As explained on the Company's Web site, people who were near Lexington Avenue and East 41st Street at 6:00 p.m. on July 18 and had dust or debris on their clothing or belongings were advised to place the items in a plastic bag and to bring them to one of the vans. The Outreach Vans were located adjacent to an approved facility and staffed by qualified personnel to receive the items and arrange for safe disposal. Through August 16, the staff in the Outreach Vans responded to more than 3,700 inquiries, received approximately 2,100 claims, and arranged for the disposal of over 1,700 bags of clothing and belongings. As of August 16, the Company has provided reimbursement totaling approximately $1.2 million for damaged or lost clothing and personal belongings.

Beginning July 24, teams consisting of Customer Operations and Claims representatives walked the area between East 42nd and East 40th streets between Park and Third avenues, to assess the scope of property damage. The Company met with representatives of the Chanin Building, 122 East 42nd Street, and established open lines of communication to address issues related to tangible property damage and cleanup costs. The Company partnered with the Chanin Building and established a claims information desk in the building, staffed by Customer Operations and Claims representatives, to resolve tangible property claims and cleanup costs. The claims information desk began operation on July 30, the first day that tenants were allowed to reoccupy the Chanin building. The claims reimbursement information provided by the Company was posted on the Chanin Building's Web site – www.chaninbuilding.com.

The Company also made requests to establish a claims desk in another building that suffered damage, but that request has not yet been granted. The Company also attended an owner/tenant meeting and has had discussions with several of the commercial tenants of this building.

The Company has also partnered with the New York City Department of Small Business Services (SBS) to provide affected businesses with information and assistance in filing claims. On July 30, SBS opened an intake center located in the Commerce Bank at 317 Madison Avenue at East 42nd Street. The Company joined SBS at that location and established a claims information desk staffed the same hours as SBS, Monday through Saturday, 8:00 a.m. to 6:00 p.m.

The incident caused damage to approximately 27 vehicles. Vehicles that sustained interior damage as a result of open or broken windows were wrapped in plastic and transported to the Company's Astoria Yard. The owners of 23 vehicles were contacted and advised that their vehicles should be considered a total loss and that the Company would be adjusting these claims as quickly as possible. As of August 16, 2007, the Company has resolved 20 vehicle claims.

Some of the affected vehicles contained personal or business items that the owners wanted returned. To address this issue, EH&S developed a decontamination and retrieval protocol. (See Appendix 20 for a copy of the protocol.) Appointments were scheduled with vehicle owners so that they could witness the retrieval and decontamination process from a safe area and take possession of their property upon completion. To date, 15 owners have recovered property from their vehicles.

VII. Con Edison Emergency Planning Coordination with Government Agencies

Throughout the incident, Con Edison's Emergency Planning staff maintained constant communication and coordinated activities with the NYPD, OEM, FDNY, the New York City Department of Transportation (DOT), DOB, EPA, and the MTA, including New York City Transit, MTA Bus, and Metro-North Railroad. Representatives of these and other organizations were provided continuous updates through Emergency Planning personnel. This information was used to facilitate cleanups, recovery, inspections, and the restoration of normal public infrastructure services. EH&S was the primary communications leader with New York City environmental and safety agencies, such as the DEP and NYC Department of Housing.

On July 18 at approximately 6:00 p.m., Emergency Planning personnel received a report of a transformer explosion at 41st Street and Lexington Avenue and immediately dispatched a staff member to the Incident Site. The first Emergency Planning personnel arrived at the Incident Site at approximately 6:12 p.m. Emergency Planning personnel spoke with a FDNY Chief at the FDNY Command Post at the corner of Lexington Avenue and 42nd Street. They told the Chief to treat the Incident Site as an asbestos site and that the potential asbestos hot zone should include all areas where debris was on the streets. The FDNY Chief requested an immediate update on the steam main shutdown that was provided, within minutes, by the Emergency Planning personnel and a Steam Operating Supervisor. This briefing included FDNY, OEM, and NYPD officials.

Members of the Con Edison ERG (Electric, Gas, and Steam) arrived and set up a field command post behind the FDNY field command post on the northwest corner of 42nd Street and Lexington Avenue. The command post provides a place for FDNY, NYPD, and OEM responders to exchange information with Con Edison responders. The Con Edison MCC bus was requested from Astoria and it arrived on site at 7:33 p.m., consolidating the individual Company operation command posts.

At approximately 7:11 p.m., the first formal interagency meeting was held at a women's clothing store located on the northwest corner of 42nd Street and Lexington Avenue. Con Edison ERG managers briefed the FDNY Chief, the NYPD Manhattan Borough Commander, and several senior OEM staffers, on the status of steam shutdown efforts, as well as impacts on electric and gas service. Also present were senior New York DEP Hazmat representatives, New York City Transit representatives, and the Mayor's Community Assistant Unit staff. Later, Emergency Planning staff spoke to

OEM and NYPD about street closures and the status of MTA subway and Metro North commuter rail service.

Through midnight on July 18, the Con Edison field command post communicated internally and externally regarding water-main shutdowns, hot zone boundaries, the status of gas and electric service, and the primary feeder shunt plan.

Beginning on July 19, OEM established a schedule of interagency meetings every four hours. These meetings were attended by Emergency Planning staff, the Company's EH&S Officer, and representatives of the relevant responding agencies. After day three, meetings were held every eight hours. The meetings would follow a set format where a Con Edison representative would lead off with the current status of its electric, gas, and steam system, along with recent accomplishments and goals for the next 12-hour period. (See Appendix 21 for a list of topics covered.)

VIII. Communications with Elected Officials, the Media, and General Public

During wide-scale outages, the Media Relations and Government Relations groups within Con Edison's Public Affairs organization serve as the company's primary communications liaison to elected officials, the media, and the general public. (See Appendix 22 for Crisis Communications Procedure.) Media Relations communicates directly with all print, broadcast, and electronic media outlets. The Media Relations office is staffed 24 hours a day, seven days a week, regardless of system emergencies. In order to assist the media in its coverage of events involving the company's electric, gas, and steam systems, there is a Newsroom page on Con Edison's Web site that contains general information, pertinent facts, and graphic depictions of the three energy systems. Media Relations provides the press releases for the Web to Corporate Communications and the Company Webmaster, who posts the updates as provided in the procedure.

Government Relations is responsible for communications with federal, state, and local elected officials. Government Relations is staffed with employees who have had significant experience working with elected officials at all levels of government. Throughout the year, Government Relations assists elected officials and their staffs with a wide range of energy-related issues. Government Relations also maintains local Public Affairs offices in each New York City borough.

During a wide-scale outage, other sections with the Public Affairs organization support the communications effort in various ways: updating the Web site with pertinent information; producing graphic materials when needed; keeping employees updated on system conditions; reaching out to affected nonprofit organizations and businesses; and providing telephone support for Media Relations to better manage the influx of event-related phone calls to the Company's press office.

Throughout this event, Media Relations staff distributed numerous press releases providing updates on systems conditions, asbestos, the status of the frozen zone, and

reimbursement of claims. (See Appendix 16.) The press releases were blast faxed to an established list of media outlets. The releases were also posted on the Company Web site, along with separate postings for asbestos information and Customer Outreach Van locations. The Media Relations office also initiated and responded to daily press calls.

On the evening of the event, July 18, 2007, Con Edison Vice President of Emergency Management answered reporters' questions at the midtown site about the steam system and the incident's impact on customers.

Later that evening, Con Edison's Chairman held a news conference at the site regarding the incident. He provided a briefing on Con Edison's response to the incident, describing the work that crews would be doing to make repairs to the damaged steam main, as well as to feeder cables that were damaged in the event. He also said the Company was testing for the presence of asbestos.

The following day, July 19, the Chairman attended a news briefing held by Mayor Bloomberg in Midtown to update the public on progress on cleanup and repairs. The Chairman said hundreds of employees and contractors were working around the clock. He also said a customer service van was located in the area to assist customers returning damaged clothing and that the Company was in contact with area business owners.

On July 20, Con Edison Senior Vice President of Central Operations was joined by representatives of several city agencies for a press briefing at the site. They updated print and broadcast media about the progress of restoration and cleanup efforts following the incident. The media was advised that Con Edison and city agencies continue to work together on the cleanup of the affected area, an effort that involves significant repair and reconstruction work on Con Edison's steam and electric systems. He said the Company was assessing damages, and based on that assessment, would project when repairs could be completed.

Additionally, the Government Affairs office held daily conference calls with local elected officials for the first two days of the event, after which individual updates were provided to elected officials' offices. The call-in number and time of call was faxed each morning. Each call began with an update of field conditions from the Public Affairs staff member and was followed by a session that provided locals officials with the opportunity to ask questions. Specific requests for information were followed-up on after the conference call.

(See Appendix 23 for detailed information on the inquiries and communications with elected officials, media relations, and press contacts, as well as all Web site updates.)

IX. Investigation

Con Edison has begun an extensive investigation to determine the cause of this event and develop an action plan to reduce the risk of recurrence. Several prominent consulting firms have been retained to perform extensive testing and analyses to determine the cause(s) of the rupture. The Department of Public Service Staff and the City of New York are monitoring the investigation.

To be sure that all potential evidence is preserved and accounted for, the Company hired Evidence Secure Inc. (ESI). ESI is a firm that specializes in the documentation and preservation of physical evidence from property and casualty loss locations. ESI was present during the evidence recovery to identify, tag, and track all potentially relevant material and to maintain the chain of custody. Each piece of potentially relevant material that was recovered from the Incident Site by Con Edison was photographed and assigned a unique number so that its original location, to the extent possible, could be traced. Over 500 items have been removed, identified, tagged and photographed. The potentially relevant material that is needed for later analysis and testing is being held in a secure facility. ESI will take possession of the relevant items of evidence after the forensic analysis has been completed. Potentially relevant material that is the property of the other entities, such as the City of New York or Verizon, will be returned to the owner at an agreed upon date**.** (See Appendix 24 for the site investigation and evidence retrieval protocol.)

Lucius Pitkin, Inc.(LPI) has been retained to perform the forensic analysis and metallurgical examination of the steam piping, traps, sewers, catch basin drain piping, water piping, and soil. The material will be tested in accordance with protocols that will be provided to all parties. All testing will be documented, and records of that testing will be preserved. LPI was present during the evidence recovery at the Incident Site to determine which materials should be recovered and to document the original location of relevant evidence.

ABS Consulting (ABS) has been retained to perform the technical analyses, which includes utilizing the results of the LPI work. ABS will perform the event analysis and cause determination, and prepare a report on the findings of the investigation. As part of its analysis, ABS commissioned a laser generated three-dimensional survey of the cavity, including the failed section of the steam main.

Evidence was recovered from the Incident Site by Con Edison in cooperation with the PSC, the City of New York, and attorneys representing parties who anticipated filing claims against the company. These interested parties observed the evidence recovery with the specific authority to identify material to be preserved. Forensic analysis, scheduled for August 10, 2007, was abruptly halted on the evening of August 9 when a Kings County Supreme Court issued a temporary restraining order. The restraining order, issued at the request of attorneys representing an injured plaintiff, enjoined Con Edison from conducting any destructive tests on the physical evidence relevant to the

event, and from taking, in the words of the temporary restraining order, “any actions adverse to Plaintiff's rights and interests in the preservation of all relevant evidence." The restraining order was lifted by the Court on August 16, 2007 and the forensic analysis will resume after notice is given to all parties.

While Con Edison will work diligently to complete its investigation in a timely fashion, these events demonstrate that the ultimate schedule may be influenced by factors beyond the Company’s control.