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August 4, 2006
By Overnight Mail

Hon. Jaclyn A. Brilling
Secretary
New York State
Department of Public Service
Three Empire State Plaza
Albany, New York 12223

Re: Case 06-E-0894 – Proceeding on Motion of the Commission to Investigate Electric Power Outages in Con Edison's Long Island City Network

Dear Secretary Brilling:

Enclosed for filing are an original and five copies of Consolidated Edison Company of New York, Inc.'s *Supplemental Report on the Safe and Reliable Operation of the Electric Distribution System.* This report is filed at the request of Staff in further response to the Public Service Commission's "Order Instituting Proceeding" issued July 26, 2006 in this proceeding.

Very truly yours,

Martin F. Heslin

Enclosures

Supplemental Report on Safe and Reliable Operation of the Electric Distribution System for Summer 2006

August 4, 2006

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I. Introduction

This report describes Con Edison's plans to provide for the reliable operation of its distribution system for the remainder of this summer and, in particular, the activities planned for the Long Island City ("LIC") network to restore and maintain its reliable operation. This report is organized according to the nine items of information requested in the letter of James Gallagher, Director, Office of Electricity and Environment dated August 3, 2006.

Con Edison's Emergency Response Organization

Generally, in order to prepare for potential contingencies, the following actions are taken when the calculated extended weather forecast indicates hourly wet/dry bulb average temperatures greater than 80 degrees Fahrenheit for three consecutive hours, for a period of two or more consecutive weekdays:

The Distribution Engineering Command Post is activated and acts as a centralized coordination center to monitor system conditions, provide engineering support, coordinate response with regional control centers, and provide periodic updates.
The control centers and Distribution Engineering Command Post are placed under Incident Command Structure (ICS). The company's Incident Command System Implementation Plan is included as Appendix A.

In addition, during a corporate emergency, such as the LIC network outage, Con Edison escalates the ICS structure by expanding the Distribution Engineering Command Post

and ultimately mobilizing into a Corporate Emergency Response Center (CERC) and Field Operations Center.

The use of an organized command structure is imperative to ensure effective management, command, and control of an emergency situation, The Incident Command System (ICS) outlines effective spans of control, as well as the assignment of specific functions and responsibilities. The Incident Commander's staff included representatives of Public Affairs/Media Relations, Environment, Health and Safety, Law, Customer Operations/Outreach, Logistics, Facilities, Human Resources, Information Resources, Energy Services and Finance.

This widely recognized organizational process is also used by federal, state, and local emergency response and governmental agencies. Advantages of using ICS include:

- Clear understanding of who is in charge
- Defined roles and responsibilities for individuals
- Improved communications with responding agencies
- Greater sense of cooperation with outside stakeholders
- Overall enhanced and efficient response to emergency mitigation

ICS is scalable and is equally effective for managing incidents that range from simple (Routine) to complex (Full Scale).

In accordance with these procedures, the Distribution Engineering Command Post was mobilized on Sunday, July 16, when the forecasted demand for Monday, July 17, 2006, was 12,630 MW, and the forecasted temperature criteria were met. On Monday, July 17, the Brooklyn/Queens control center increased staffing and fully mobilized the Emergency Management Center.

In fact, since the week of the LIC network events, Con Edison has staffed the CERC around the clock. The priority near-term goals of the CERC were feeder restoration and damage assessment. Restoration of the primary feeders helped with customer restoration and served to ensure overloads at distribution transformers and on secondary cables were reduced or eliminated. Simultaneously, the company established a Field Operations Center, in Astoria, Queens, to manage the field response to the LIC network incident. These two organizations supplemented the existing Brooklyn / Queens (BQ) Electric Operations and Construction organizations. All of these organizations follow the Incident Command Structure in accordance with CI -260-4 “Corporate Response to Incidents and Emergencies.”

After the initial phase of restoring the estimated 25,000 customers in the north Queens area, the continuation of the LIC network recovery was further developed. Con Edison has dedicated a special team to restore the LIC network and to maintain the network over the next few months. A Con Edison vice president has been appointed to lead an LIC network rebuilding task force. The team will repair and rebuild the area's electrical system and enhance customer outreach. The team will also test and inspect the electric

system in Astoria, Sunnyside, Woodside, Long Island City, and Hunters Point. Components of the electrical system in those areas will be evaluated, and repaired or replaced, as necessary. This extended organization structure is focused on the restoration of the secondary (120/208V) network. Assistance from other utilities and contractors has supplemented this effort.

The team has leased and established two local offices to direct engineering, logistics, operations, construction, customer operations, and customer outreach efforts. The offices are located at 28-40 Steinway Street (Astoria) and 46-14 Queens Boulevard (Sunnyside). Various company departments coordinated their efforts to ready the centers for operation, which began on Tuesday, August 1.

II. Responses to PSC Case 06-E-0894 request dated August 3, 2006

1. Staffing

This section provides the details regarding the number of contractor and mutual aid crews Con Edison intends to use to support Long Island City network operations, the number of crews already in place, and the hours of operation in which they will be used.

Beginning July 17, Con Edison has provided increased staffing in response to the events in the Long Island City network. At the outset, Brooklyn/Queens regional crews were assigned to outages and manhole events by the regional Electric Control Center. Routinely utilized support from local contractors (e.g., for excavations and environmental response) was also sought. As the breadth of the situation grew, Con Edison resources from other regions and an increased number of local contractor resources were marshalled to help with the restoration effort. Thorough damage assessment allowed for efficient planning and allocation of the company, contractor and mutual-aid resources to facilitate temporary and ultimately permanent repairs.

On Thursday, July 20, Con Edison requested contractor and mutual-aid (other utility) assistance from agencies in the Northeast, mid-Atlantic and Midwest. These crews were summoned in order to safely and efficiently satisfy the increased resource needs associated with the unprecedented restoration and inspection efforts in Long Island City, while the company sustained the normal operational requirements in the balance of the Long Island City network, other parts of Queens and the rest of the service territory.

As indicated in the tables below, equipment and support arrived from neighboring utilities and contractors as well as some as far away as Ohio, Pennsylvania and Washington, DC. Because of the specialized nature of the company's underground secondary network, there are a limited number of workers qualified to do this kind of work.

Sixteen utilities, four contracting firms and a municipality in Freeport were initially contacted. Of the sixteen utilities, eight were able to provide underground support. Resources at the other eight utilities were already engaged in emergency restoration in their own service territories. Additionally, three contractor companies were able to initially provide support. The first foreign (non-Con Edison) crews started arriving late on July 21.

Keyspan was the first to respond and initially supported the request with 23 people including four supervisors. National Grid sent four crews and two supervisors. PEPCO's initial responder arrived on July 22 with five crews and two supervisors. AEP arrived on July 22 with seven people and a supervisor. Duquesne arrived Saturday July 22 in the afternoon with 10 mechanics and one supervisor. NSTAR provided support on Sunday afternoon by sending 14 people and four supervisors. PSE&G provided 76 people, including nine supervisors, arriving on Sunday July 23 after the threat of foul weather in their service territory abated. Hawkeye initially provided 43 mechanics and eight supervisors. NYSEG provided five mechanics and one supervisor.

Ultimately, NYSEG, and PEPCO from Washington D.C. also responded by providing crews. In total, more than 200 employees from other utilities and contractors responded to the event supplementing our workforce. These crews had secondary splicing experience, familiarity with working in networks, and experience with network switching and operations. When these crews arrived, Con Edison provided them with appropriate training to ensure that they would work safely, as well as training to familiarize them with the system.

The contractor and mutual-aid crews worked shoulder to shoulder with Con Edison crews on 12- to16-hour shifts clearing burnouts, replacing secondary mains, installing secondary shunts, performing network switching and fuse checks/replacements, taking voltage and load readings, inspecting limiters, completing secondary splicing and responding to reports of individual service outages.

Most mutual aid crews were pulled back to their home service territories by Sunday, July 30, due to the heat-related, high load forecasts affecting their own systems. PSE&G crews were the last to depart at the end of the day on Monday, July 31, while existing and some new contractor forces continued to support Con Edison personnel. Additional details are provided in Tables 1 through 4, below.

MUTUAL ASSISTANCE CREWING STATUS

SATURDAY JULY 22, 2006				
COMPANY	CREWS	Mech	Supv	SHIFT
Keyspan	8	17	5	DAYS - 12 HOUR
National Grid	2	8	2	DAYS - 12 HOUR
Hawkeye	2	4	1	NIGHT - 16 HOURS
Total	10	29	8	
SUNDAY JULY 23, 2006 ** Some crews arriving late in the day				
COMPANY	CREWS	Mech	Supv	SHIFT
Keyspan	8	17	5	DAYS - 12 HOUR
National Grid	2	8	2	DAYS - 12 HOUR
Duquesne Light Co.	5	10	1	DAYS - 12 HOUR
WA Chester (Contractor)	4	8	1	DAYS - 12 HOUR
PEPCO	4	9	2	DAYS - 12 HOUR
AEP	3	6	1	DAYS - 12 HOUR
NSTAR	6	14	4	DAYS - 12 HOUR
PSE&G	16	37	9	DAYS - 12 HOUR
Hawkeye (Con Ed)	16	32	7	DAYS - 16 HOURS
Total	64	141	32	
MONDAY JULY 24, 2006				
COMPANY	CREWS	Mech	Supv	SHIFT
Keyspan	8	17	5	DAYS - 12 HOURS
National Grid	4	8	2	DAYS - 12 HOURS
Duquesne Light Co.	5	10	1	DAYS - 12 HOURS
PEPCO	4	10	2	DAYS - 12 HOURS
AEP	3	7	1	DAYS - 12 HOURS
NSTAR	6	14	4	DAYS - 12 HOURS
PSE&G	16	37	9	DAYS - 12 HOURS
Hawkeye (Con Ed)	9	19	5	DAYS - 16 HOURS
NYSEG	4	5	1	DAYS - 12 HOURS
Hawkeye (Con Ed)	11	22	2	NIGHTS - 16 HOURS
Total	70	149	32	

Table 1.

TUESDAY JULY 25, 2006				
COMPANY	CREWS	Mech	Supv	SHIFT
Keyspan	8	20	5	DAYS - 12 HOURS
National Grid	4	8	2	DAYS - 12 HOURS
Duquesne Light Co.	5	10	1	DAYS - 12 HOURS
PEPCO	4	10	2	DAYS - 12 HOURS
AEP	3	7	1	DAYS - 12 HOURS
NSTAR	7	14	4	DAYS - 12 HOURS
PSE&G	33	67	8	DAYS - 12 HOURS
Hawkeye (Con Ed)	9	19	5	DAYS - 16 HOURS
NYSEG	2	5	1	DAYS - 12 HOURS
Hawkeye (Con Ed)	12	24	3	NIGHTS - 16 HOURS
Total	87	184	32	
WEDNESDAY JULY 26, 2006				
COMPANY	CREWS	Mech	Supv	SHIFT
Keyspan	9	19	4	DAYS - 12 HOURS
National Grid	4	8	2	DAYS - 12 HOURS
Duquesne Light Co.	5	10	1	DAYS - 12 HOURS
PEPCO	4	10	2	DAYS - 12 HOURS
AEP	3	7	1	DAYS - 12 HOURS
NSTAR	7	14	4	DAYS - 12 HOURS
PSE&G	33	67	9	DAYS - 12 HOURS
Hawkeye (Con Ed)	9	19	5	DAYS - 16 HOURS
NYSEG	2	5	1	DAYS - 12 HOURS
Hawkeye (Con Ed)	12	24	3	NIGHTS - 16 HOURS
Total	87	183	32	
Thurday JULY 27, 2006				
COMPANY	CREWS	Mech	Supv	SHIFT
Keyspan	9	19	4	DAYS - 12 HOURS
National Grid	4	8	2	DAYS - 12 HOURS
PEPCO	4	10	2	DAYS - 12 HOURS
AEP	3	7	1	DAYS - 12 HOURS
NSTAR	7	14	4	DAYS - 12 HOURS
PSE&G	33	67	9	DAYS - 12 HOURS
Hawkeye (Con Ed)	9	19	5	DAYS - 16 HOURS
NYSEG	2	5	1	DAYS - 12 HOURS
Hawkeye (Con Ed)	12	24	3	NIGHTS - 16 HOURS
Total	83	173	31	

Table 2.

Friday JULY 28, 2006				
COMPANY	CREWS	Mech	Supv	SHIFT
Keyspan	9	19	4	DAYS - 12 HOURS
PEPCO	4	10	2	DAYS - 12 HOURS
AEP	3	7	1	DAYS - 12 HOURS
NSTAR	7	14	4	DAYS - 12 HOURS
PSE&G	33	67	9	DAYS - 12 HOURS
Hawkeye (Con Ed)	9	19	5	DAYS - 16 HOURS
NYSEG	2	5	1	DAYS - 12 HOURS
Hawkeye (Con Ed)	12	24	3	NIGHTS - 16 HOURS
Total	79	165	29	
Saturday JULY 29, 2006				
COMPANY	CREWS	Mech	Supv	SHIFT
Keyspan	9	19	4	DAYS - 12 HOURS
PEPCO	5	10	2	DAYS - 12 HOURS
AEP	3	7	1	DAYS - 12 HOURS
NSTAR	7	14	4	DAYS - 12 HOURS
PSE&G	33	67	9	DAYS - 12 HOURS
Hawkeye (Con Ed)	9	19	5	DAYS - 16 HOURS
NYSEG	2	5	1	DAYS - 12 HOURS
Hawkeye (Con Ed)	12	24	3	NIGHTS - 16 HOURS
Total	83	165	29	
SUNDAY JULY 30, 2006				
COMPANY	CREWS	Mech	Supv	SHIFT
Keyspan	9	19	4	DAYS - 12 HOURS
AEP	3	7	1	DAYS - 12 HOURS
NSTAR	7	14	4	DAYS - 12 HOURS
PSE&G	30	61	8	DAYS - 12 HOURS
Hawkeye (Con Ed)	3	9	4	DAYS - 16 HOURS
Hawkeye (Con Ed)	8	17	3	NIGHTS - 16 HOURS
Total	60	127	24	

Table 3.

MONDAY JULY 31, 2006				
COMPANY	CREWS	Mech	Supv	SHIFT
Keyspan	9	19	5	DAYS - 12 HOURS
PSE&G	27	55	7	DAYS - 12 HOURS
Hawkeye (Con Ed)	9	19	5	DAYS - 16 HOURS
Hawkeye (Con Ed)	9	23	4	NIGHTS - 16 HOURS
Total	54	116	21	

TUESDAY AUGUST 1, 2006				
COMPANY	CREWS	Mech	Supv	SHIFT
Keyspan	9	19	5	DAYS - 12 HOURS
Hawkeye (Con Ed)	9	19	5	DAYS - 16 HOURS
Hawkeye (Con Ed)	9	18	3	NIGHTS - 16 HOURS
State Electric	14	28	5	Days
Total	41	84	18	

WEDNESDAY AUGUST 2, 2006				
COMPANY	CREWS	Mech	Supv	SHIFT
Keyspan	9	19	5	DAYS - 12 HOURS
Hawkeye (Con Ed)	9	19	5	DAYS - 16 HOURS
Hawkeye (Con Ed)	9	18	3	NIGHTS - 16 HOURS
State Electric	14	28	4	Days
Total	41	84	17	

THURSDAY AUGUST 3, 2006				
COMPANY	CREWS	Mech	Supv	SHIFT
Hawkeye (Con Ed)	9	19	5	DAYS - 16 HOURS
Hawkeye (Con Ed)	9	18	3	NIGHTS - 16 HOURS
Welshbach	2	4	1	
State Electric	20	40	4	Days
Total	40	81	13	

FRIDAY AUGUST 4, 2006				
COMPANY	CREWS	Mech	Supv	SHIFT
Hawkeye (Con Ed)	9	19	5	DAYS - 16 HOURS
Hawkeye (Con Ed)	9	18	3	NIGHTS - 16 HOURS
Welshbach	4	8	1	
State Electric	20	40	4	Days
Total	42	85	13	

Table 4.

We are in the process of requesting 25 additional mutual aid crews from other utilities to continue to reinforce the LIC area and other network areas. It is estimated that these crews will remain for about one week. After this period, company employees and contractor personnel will continue to support the Long Island City network operations during the ongoing restoration, inspection, analysis and reinforcement activity. Contractors will supplement the company resources dedicated to the planned activity in Long Island City and be involved in several types of work within the load area, including installation of vented manhole covers, stray voltage testing, excavation work for cable replacements and new installations, environmental response, cable installation, splicing, transformer oil sampling and the installation of remote monitoring equipment.

The estimated contractor crews that will be utilized for the duration of the rebuilding and recovery include eight crews for excavations, two cable removal/installation crews, three remote monitoring installation/upgrade/maintenance and transformer oil sampling crews, seven secondary splicing crews, and two environmental crews.

2. Inspection Plans

This section provides details on the company's LIC network inspection plans for secondary main sections, network protectors, limiters, etc., including the number and locations to be inspected each week and the number of employees involved in the inspections;

Transformer Bank Status

Analysis has revealed that 157 transformers required inspection as per procedure EO – 10110, “Inspection & Maintenance of network Type Distribution Equipment”.

There were 57 banks identified for replacement as shown in Table 5 below. Seventeen have already been replaced. Forty are pending either feeder outage, transformer replacement or secondary ties. We estimate three additional banks will be replaced per week after the summer period.

Count	Structure		FDR	M & S Plate	Status
1	V	4175	1Q06	76-AF	Pending Outage
2	TM	5730	1Q03	69AF	Pending Outage
3	VS	7380	1Q03	71AG	Pending Outage
4	V	3177	1Q04	63V	Pending Outage
5	TM	6441	1Q04	61AB	Pending Outage
6	TM	6360	1Q07	63-Y	Pending Outage
7	TM	5783	1Q08	66-Z	Pending Outage
8	TM	6467	1Q09	62-Y	Pending Outage
9	TM	6599	1Q09	62-X	Pending Outage
10	V	7683	1Q13	66X	Pending Outage
11	TM	5865	1Q14	63-AF	Pending Outage
12	TM	6474	1Q14	60AA	Pending Outage
13	TM	6716	1Q14	59-AC	Pending Outage
14	VS	7938	1Q14	70AI	Pending Outage
15	VS	4031	1Q15	68AE	Pending Outage
16	VS	8640	1Q15	72-AI	Pending Outage
17	VS	1209	1Q16	64-AD	Pending Outage
18	VS	9132	1Q16	71-AG	Pending Outage
19	VS	7767	1Q17	61AF	Pending Outage
20	VS	8599	1Q17	69AI	Pending Outage
21	VS	8812	1Q17	72-AF	Pending Outage
22	TM	6705	1Q18	67Z	Pending Outage
23	VS	8626	1Q18	61AE	Pending Outage
24	VS	0396	1Q19	62-AE	Pending Outage
25	VS	0798	1Q19	62-AG	Pending Outage
26	VS	4066	1Q19	69AE	Pending Outage
27	TM	5989	1Q19	67AG	Pending Outage
28	VS	9638	1Q19	64-AD	Pending Outage
29	VS	7326	1Q21	61AH	Pending Outage
30	VS	9847	1Q21	69-Z	Pending Outage
31	TM	0879	1Q22	66AE	Pending Outage
32	V	7307	1Q20	63-AE	Ready for Pick Up
33	VS	8283	1Q02	72-AG	Ready for Pick Up
34	TM	6701	1Q04	61-AA	Ready for Pick Up
35	V	1769	1Q08	61-Z	Ready for Pick Up
36	VS	7659	1Q12	66-AC	Ready for Pick Up
37	TM	2244	1Q19	65-AC	Ready for Pick Up
38	V	0768	1Q23	63-Z	Ready for Pick Up
39	TM	6300	1Q17	69-AJ	Ready for Pick Up
40	TM	6398	1Q02	69-AG	Ready for Pick Up
41	VS	0477	1Q01	59-AH	REPLACED
42	V	5041	1Q09	61-Z	REPLACED
43	TM	0838	1Q12	66-AB	REPLACED
44	TM	5859	1Q13	60V	REPLACED
45	VS	7647	1Q13	68-AA	REPLACED
46	TM	0923	1Q14	68-AE	REPLACED
47	VS	0479	1Q16	65-AG	REPLACED
48	V	1023	1Q16	61-AE	REPLACED
49	TM	5937	1Q17	58-Z	REPLACED
50	VS	7388	1Q17	72-AF	REPLACED
51	VS	7981	1Q17	61-AG	REPLACED
52	VS	7995	1Q17	61-AC	REPLACED
53	V	9426	1Q17	67-AE	REPLACED
54	TM	0831	1Q18	61-AC	REPLACED
55	VS	8807	1Q18	61-AH	REPLACED
56	VS	9819	1Q18	66-AG	REPLACED
57	V	7813	1Q20	67-AE	REPLACED

Table 5.

Switch / Fuse checks (total network)

Of the 453 Switch checks identified by engineering after the event, all have been inspected and repaired if necessary.

Secondary Main Inspections

Distribution Engineering identified 1,346 unique secondary main inspections. We estimate inspecting 80 mains a week until completion.

Secondary Main Shunts

We started with 102 shunts at the end of the event and 23 shunts were installed to address subsequent emergency heat-wave-related events. We estimate we will remove 15 shunts per week, corresponding to the replacement of 250 secondary sections. We are conducting periodic stray voltage surveys.

Open Mains

We started with a total of 60 open mains as shown in Table 6 below. We estimate completing five open main jobs per week.

Layout Number	M&S Plate	Address	Borough	Sections	Network
13463	60AG	38`W/O 65 PL	Q	12	1Q
13412	61AG	f/o 6009 39th ave	Q	1	1Q
13408	61AG	F/O 63-17 39 AVE	Q	1	1Q
13402	64AE	N/E/C 49 ST & NEWTOWN RD	Q	6	1Q
13407	65AF	F/O 30-69 HOBART ST	Q	1	1Q
13403	60AF	F/O 4067 61 ST	Q	1	1Q
13413	60AC	s/w/c 65th pl & woodside ave	Q	2	1Q
13488	67AG	N/W/C 25 AVE & 48 ST	Q	2	1Q
13398	62AG	OPP S/E/C BROADWAY & 60 ST	Q	3	1Q
13544	68AD	30`N/O NEWTOWN AVE & 32 AVE	Q	4	1Q
13262	66AA	S/E/C 23 ST & 36 AVE	Q	1	1Q
13429	68AE	F/O 25-48 STIENWAY ST	Q	3	1Q
13397	61AD	S/E/C 46 ST. & SKILLMAN AVE	Q	1	1Q
13400	66AF	F/O 48-17 30 AVE	Q	1	1Q
13404	67AB	N/INT BROADWAY & 30 ST	Q	4	1Q
13436	69AF	N/O 25 AVE 60`E/O STEINWAY ST	Q	4	1Q
13421	64AE	F/O 32-18 48 ST	Q	2	1Q
13426	67AE	E/W/C OF 30 AVE	Q	3	1Q
13531	72AE	S/E/C 23 AVE & 27 ST	Q	1	1Q
13458	58AC	F/O 50-22 47 ST	Q	1	1Q
13445	71AE	N/O 29 ST	Q	1	1Q
13179	67Z	F/O 35-32 12 ST	Q	1	1Q
13345	72AG	OPP S/W/C 20 AVE & 36 ST	Q	4	1Q
			Total	**60**	

Table 6.

Secondary Main Reinforcement/Replacement (Layouts)

There are a total of 775 secondary main sections:

- 200 existing sections are ready for work
- Estimated 50 sections from generator-related work
- Estimated 250 sections for shunt-removal work
- Estimated 275 sections from associated secondary main inspections (about 20%).

Our preliminary plan is to complete 45 sections each week.

Limiter Inspections

Engineering identified 521 limiter inspections and field crews have completed 517 as of August 4, 2006. Additionally, ongoing engineering analysis may identify approximately 20 limiter inspections per week.

Hi-Pot of Primary Feeders

We are considering conducting hi-pot tests of the 22 LIC network feeders prior to the next summer.

3. Schedule of Work

This section provides specific schedule of work to be completed to maintain system reliability with associated milestones.

We have developed a preliminary schedule for all work we have identified thus far in the affected areas of the LIC network. The schedule is based on an average level of staffing including company and contractor personnel. System conditions and adverse weather may necessitate the temporary redirection of part or all of these forces to higher priority work such as customer outages. In addition, as we continue our analysis, we may learn more and change the scope of our planned work. As these conditions arise, the schedule may change. Estimated milestone schedules are shown in Tables 7 through 13 below (Week 1 begins August 7, 2006):

WORK SCHEDULE AND ASSOCIATED MILESTONES	
Week Number	**Estimated Outstanding Work**
Transformer Bank Status	
Week 1	57
Week 2	59
Week 3	61
Week 4	63
Week 5	65
Week 6	67
Week 7	69
Week 8	71
Week 9	68
Week 10	65
Week 11	62
Week 12	59
Week 13	56
Week 14	53
Week 15	50
Week 16	47
Week 17	44
Week 18	41
Week 19	38
Week 20	35
Week 21	32
Week 22	29
Week 23	26
Week 24	23
Week 25	20
Week 26	17
Week 27	14

Table 7.

WORK SCHEDULE AND ASSOCIATED MILESTONES	
Week Number	Estimated Outstanding Work
Secondary Main Inspections	
Week 1	1346
Week 2	1266
Week 3	1186
Week 4	1106
Week 5	1026
Week 6	946
Week 7	866
Week 8	786
Week 9	706
Week 10	626
Week 11	546
Week 12	466
Week 13	386
Week 14	306
Week 15	226
Week 16	146
Week 17	66
Week 18	0

Table 8.

WORK SCHEDULE AND ASSOCIATED MILESTONES	
Week Number	Estimated Outstanding Work
Open Mains	
Week 1	60
Week 2	55
Week 3	50
Week 4	45
Week 5	40
Week 6	35
Week 7	30
Week 8	25
Week 9	20
Week 10	15
Week 11	10
Week 12	5
Week 13	0

Table 9.

WORK SCHEDULE AND ASSOCIATED MILESTONES		
Week Number	**Estimated Outstanding Work**	**Current Outstanding Work**
Secondary Main Inspections		
Week 1	1346	1346
Week 2	1266	1346
Week 3	1186	1346
Week 4	1106	1346
Week 5	1026	1346
Week 6	946	1346
Week 7	866	1346
Week 8	786	1346
Week 9	706	1346
Week 10	626	1346
Week 11	546	1346
Week 12	466	1346
Week 13	386	1346
Week 14	306	1346
Week 15	226	1346
Week 16	146	1346
Week 17	66	1346
Week 18	0	1346

Table 10.

WORK SCHEDULE AND ASSOCIATED MILESTONES	
Week Number	**Estimated Outstanding Work**
Limiter Inspections	
Week 1	41
Week 2	26
Week 3	21
Week 4	16
Week 5	11
Week 6	6
Week 7	0

Table 11.

WORK SCHEDULE AND ASSOCIATED MILESTONES	
Week Number	Estimated Outstanding Work
Secondary Main Reinforcement / Replacement	
Week 1	775
Week 2	730
Week 3	685
Week 4	640
Week 5	595
Week 6	550
Week 7	505
Week 8	460
Week 9	415
Week 10	370
Week 11	325
Week 12	280
Week 13	235
Week 14	190
Week 15	145
Week 16	100
Week 17	55
Week 18	10
Week 19	0

Table 12

WORK SCHEDULE AND ASSOCIATED MILESTONES	
Week Number	**Estimated Outstanding Work**
Secondary Main Inspections	
Week 1	1346
Week 2	1266
Week 3	1186
Week 4	1106
Week 5	1026
Week 6	946
Week 7	866
Week 8	786
Week 9	706
Week 10	626
Week 11	546
Week 12	466
Week 13	386
Week 14	306
Week 15	226
Week 16	146
Week 17	66
Week 18	0

Table 13.

4. Organizational Structure

This section provides the organizational structure and number and type of company and contractor resources being dedicated to restoring and maintaining system reliability, specifically for the Long Island City network, and the overall system in general.

As indicated above, Con Edison has dedicated a special team to restore the LIC network and perform maintenance over the next few months. A Con Edison vice president is leading the LIC network rebuilding task force.

Figure 1 below is the organization chart depicting the structure of the LIC network Recovery Team.

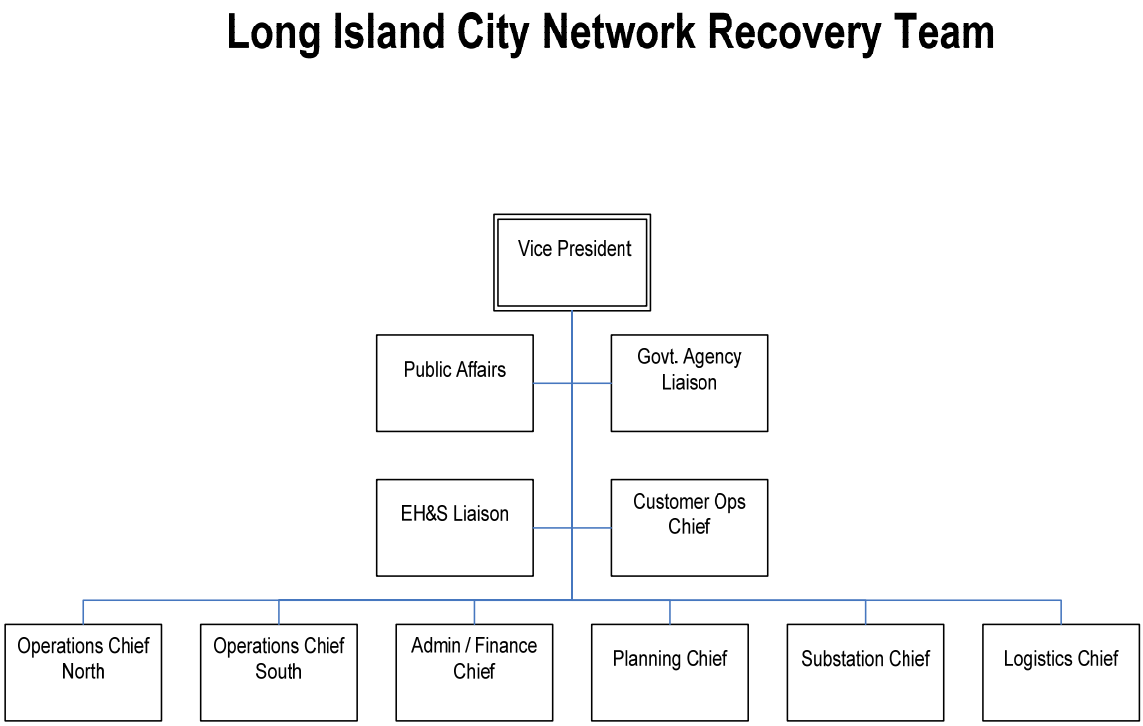


Figure 1.

The group's mission is to rebuild the electric system and to provide information and outreach to customers in the affected areas. The full time staff of the organization consists of an Environment, Health and Safety (EH&S) Liaison, a Planning Chief, a Substation Chief, a Logistics Chief, a Government Agency Liaison, and two Construction Project Managers. To achieve a coordinated rebuilding effort in tandem with community outreach, the group has been organized into two regions with Project Management Offices (PMO) located at 28-40 Steinway Street in the northern region, and the second located at 46-14 Queens Boulevard in the southern region.

The vice president is primarily responsible for setting policy and direction in the new organization with the primary goal of efficiently restoring and rebuilding the primary and secondary electric systems in the affected areas of the Long Island City network. She will maintain a routine presence in the community and expects to provide communication about the rebuilding efforts to the various stakeholders within the community.

The Customer Operations Chief is primarily responsible for staffing the two PMOs to assist at the regional construction organizations with community outreach while responding to the needs of the customers. She will provide direction and guidance on all customer-related issues including interpretation and guidance of our policies and procedures.

The Public Affairs Liaison is primarily responsible for all external customer communication and will interact with all Community Boards, Local Public Associations and Groups, and all local government constituents to provide information about the rebuild program and respond to their concerns. She will work between both PMO's and our construction work-out location in Astoria. She will coordinate all outbound messages intended for the public with our Corporate Public Affairs group.

The Government Agency Liaison is primarily responsible for the coordination of all construction work in the streets required to complete the restoration and rebuilding work within the affected areas to assure we have secured the proper permits and approvals before work commences. The Chief will communicate with various city agencies to coordinate our rebuilding plans so that it does not conflict with city projects and other planned community events, as applicable.

The EH&S Liaison is primarily responsible for assessing our practices with respect to workforce and public safety in the Long Island City network. She will make recommendations to improve these practices, as necessary, and ensure that we are following all applicable health, safety and environmental policies. She will work with the local environmental agencies on specific issues that arise as the rebuild work progresses. She will also help guide the company and contractor workers and managers to best provide for public safety and handle the extraordinary challenges of the many unusual situations posed by the temporary arrangements in place and required in the future.

The Administrative Finance Chief is primarily responsible for insuring accurate budgetary controls and financial recording for the rebuilding effort. The Chief will coordinate with corporate financial staff and regional Brooklyn/Queens staff, as needed.

The Logistics Chief is primarily responsible for procuring all required equipment for our dedicated engineering resources, field management, and field crews.

The Planning Chief is primarily responsible for coordinating all engineering efforts related to rebuilding the affected areas of the LIC network. He will also prioritize the projects for both construction regions with the support of his Engineering staff. He will coordinate all scheduled feeder work in conjunction with the Substation Chief to assure feeders are processed in a timely manner at the North Queens Substation.

The Engineering group consists of a Manager, four Supervisors, and nine engineering technicians. They will analyze system requirements and plan and design the replacements, modifications, and reinforcements to the Long Island City electric distribution system. They will analyze all generators and shunt locations for removal and reinforcement and prepare work packages for the two construction regions. The Engineering group will assess all feeder outages and direct crews to inspect specific switches prior to feeder cut-out. They will perform load flow studies for all generators and shunt locations and prescribe pre-emptive work for our field crews prior to their removal (i.e. replacing or installing

secondary mains, upgrading structures, installing new cable connectors, and replacing transformers).

The Clerical staff consists of three clerks that will route and dispatch the work to field crews and log all completed work. They will be responsible for inputting all weekly employee time and contractor hours.

The Substation Chief is primarily responsible for insuring all necessary 27kV distribution feeder work is coordinated with our Construction Project Managers, our Engineering group, the North Queens Substation, the Brooklyn/Queens Control Center and Engineering group, and System Operations to assure distribution system and substation reliability during feeder outages.

Each Construction Chief is primarily responsible for their respective region to insure all planned work packages are completed in accordance with our existing electric distribution system specifications. They will manage all inspection, test, and repair work designed and designated by Engineering. They will each have one Planner and several Supervisors working for them and each will be responsible for approximately 20 field crews of various types (both company and contractor). They will coordinate all crew and contractor activities and will have the following types of crews working under them directly in the organization:

Underground Splicing Crews: An Underground (UG) Splicing crew consists of two employees – a Splicer or Distribution Splicer and a Mechanic or General Utility Worker (GUW). This crew will conduct secondary and primary splicing activities on the 120V and 27kV electric distribution systems. They will perform manhole and service box inspections, install new crabs and limiters in these underground structures, tie-in all new cable and services, and release shunts and generators.

Network Crews: A network crew consists of a splicer and a mechanic or GUW. These crews conduct all inspection, test and repair work on our network transformers and network protectors. They are responsible to conduct engineering switch checks and repair or replace our remote monitoring system (RMS) transmitters.

Cable Crew: A Cable crew consists of four mechanics. These may be company or contracted resources. The Cable crew will be responsible for removing defective cable, rodding ducts and pulling all new cable sections.

They will indirectly manage and coordinate other company resources, such as:

Overhead (OH) Line Crews: An OH Line crew consists of a Chief Lineman and an OH Line Constructor. This crew installs and connects OH wire for primary and secondary voltages. Any OH work required (for example: removing

generators supporting the OH secondary at risers) will be coordinated between the new organization and the Brooklyn/Queens OH group.

Transformer Crew: A transformer crew consists of four mechanics. They are responsible for replacing network distribution transformers. These crews will be scheduled as required and coordinated through the Brooklyn/Queens Equipment group for transformer replacements.

Flush Crew: A Flush crew may consist of a one-person or two person crew with a maximum of a Mechanic A title. These crews clean the subsurface structures to facilitate inspections and cable pulling and splicing operations to proceed.

Each Construction Chief will directly manage additional contractor resources for cable pulling, splicing, excavation, transformer oil sampling, and RMS installations. In addition, stray voltage testing and vented manhole cover installations are commencing on an accelerated schedule. These last two activities will be managed outside of the new group and in coordination with other work in the rebuild area.

Subject to system conditions, the number of company and contractor people scheduled for assignment to the LIC network Recovery Team beginning the week of August 7, 2006 is as follows in Table 14:

Manpower By Task	Company	Contractor	Total
UG/Splicing	40	14	**54**
I&A	16	0	**16**
Cable	8	8	**16**
Flush	4	4	**8**
Trenching	0	64	**64**
RMS/Oil Testing	0	6	**6**
Total Manpower	**68**	**96**	**164**

Table 14.

There are approximately 37 additional administrative, engineering and management employees dedicated to this new organization.

Based on the estimated scope of activities planned for the Long Island City network identified elsewhere in this document, the estimated contractor crews that will be utilized for the duration of the rebuilding and recovery include eight crews for excavations, two cable removal/installation crews, three remote monitoring installation/upgrade/maintenance and transformer oil sampling crews, seven secondary splicing crews, and two environmental crews.

a. Overall Electric Operations Perspective

The Brooklyn and Queens region and the other regions will continue to fulfill their responsibilities for the safe operation, construction and maintenance of the electric distribution system while providing ongoing support to the Long Island City team. The

remainder of the Electric Operations organization will remain the same as it was prior to the event.

We have close to 3,500 employees working to maintain reliability on the electric distribution system 24/7/365. In spite of the support provided to the Long Island City network recovery, Electric Operations and contractor resources will be sufficient to maintain system reliability and meet performance goals. We expect to have an estimated average resource commitment in LIC through February 2007 of 105 company employees, which represents about 3% of the available resources. While this is a significant allocation, it is appropriate and will be compensated for by additional contractor resources and additional use of overtime.

The staffing in Electric Operations is shown in Table 15 below:

Electric Operation Staffing	
VP & Admin	7
Construction	2,119
Operations	1,260
Operation Services	31
Environment, Health & Safety	42
Public Affairs	25
Planning	10
Engineering	26
Sub Total	**3,484**

Table 15.

5. Overall Work and Engineering Plans

This section specifies the overall work and engineering plans that outline and guide the company's activities.

a. Continuing Special Response

In recognition of the continuing heat and high electric demand, no primary feeders will be removed for scheduled work so that the primary distribution system has the maximum capacity available; and all feeders that come out of service will be returned to service as quickly as possible, also maximizing primary distribution system capacity. In addition, the Corporate Emergency Response Center will remain mobilized when the system load is above 12,500 MW as shown on Figure 2, below, and will support Electric Operations by providing:

- Strategic management of an emergency incident from a central location
- Coordination of Con Edison's Regional Control Centers and the Emergency Field Operation Control Center for information and decision making
- Coordination of company forces, including Environment, Health & Safety (EH&S)
- Customer Operations, Public Affairs, and Logistics support
- Coordination with outside agencies, including NYCOEM, NYPD, FDNY, and the PSC
- Coordination of crewing needs from all company areas
- Coordination of external crewing resources, including outside contractors, mutual aid from other utilities, and mobile generator-related personnel.

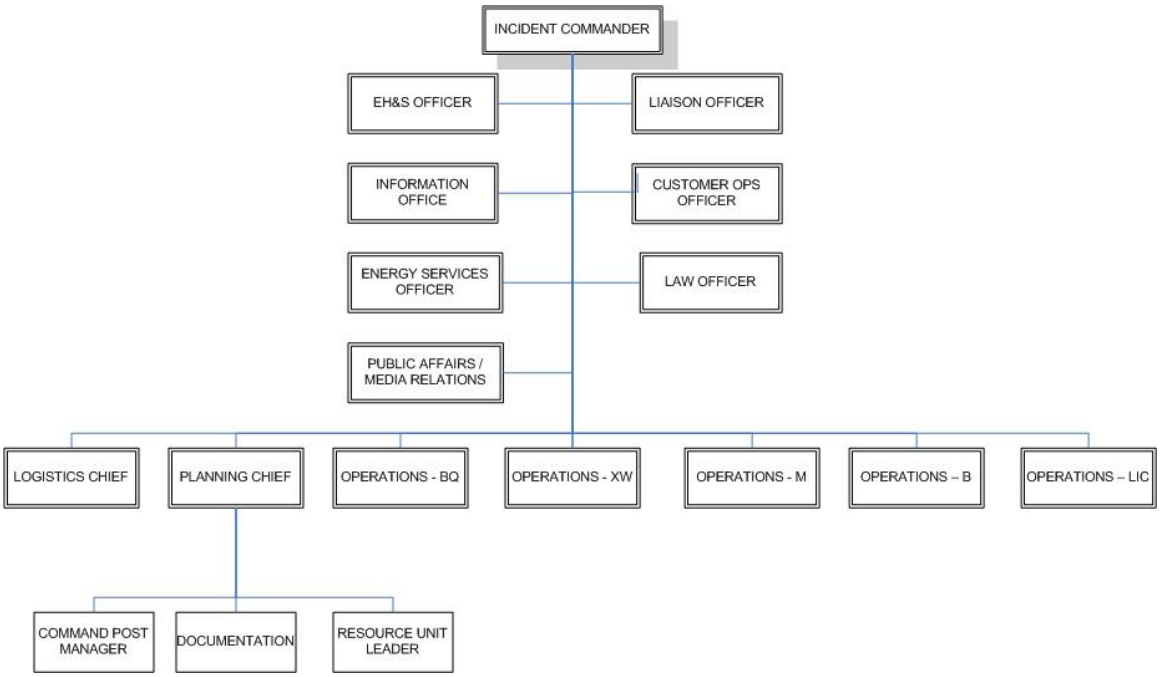


Figure 2.

b. Engineering Plan for LIC Recovery

The company's activities related to LIC recovery will mirror its long experienced system reinforcement and summer preparation which consists of multifaceted programs geared towards direct summer readiness in accordance with engineering specifications.

The leading factors that drive the major activities will include the need for a new substation, network cutovers and feeder relief. The analysis begins with a detailed review of the load experienced on the system during the summer.

On August 2, we established a new system peak load of 13,141 MW compared to 13,059 MW in 2005. This was achieved even after several of our networks were in load reduction and, specifically, LIC, where major customers were on their own generation.

As a result of this record heat event, the engineering for LIC will begin with the detailed study and analysis of the feeder loadings, transformer loadings, and secondary system loadings. This will entail modeling of the secondary system where we will identify overloaded secondary mains and transformers and begin a process to inspect and, where necessary, replace them. In terms of 27kV feeder relief, a load flow analysis will be performed to determine limiting cable sections as well as paper insulated lead cable sections and replace them with higher capacity cable. This is consistent with the plan we implemented in the summer preparation for 2006 for this as well as all our other networks.

Additionally, we have performed a preliminary assessment of the LIC network, specifically the area of Astoria, to identify other components that may have been damaged. As of this date, we have identified structures with blown limiters, damaged secondary mains and network protector switches that have been or are being repaired. The LIC Network Recovery Team continues on a daily basis to return to locations and install or repair the damaged components that have been identified either through assessment or through engineering review thus far.

c. Loss Factor

In addition to performing load flow analysis and determining the limiting components, an important aspect of our engineering analysis for network systems will include loss and load factors. These factors are defined as follows:

Load factor: Load factor is defined as the hourly load over a 24-hour period divided by the maximum load experienced for this same period. (It is a ratio of hourly load over the maximum for a 24-hour load cycle). This provides an average loading of the component being studied.

Loss factor: Loss factor on the other hand describes the heat losses generated on the component under consideration. This is defined as the hourly load over the maximum load and squaring the ratio over a 24-hour load cycle.

The loss factor represents the average heat generated in the component over a 24-hour load cycle. This value determines the rating of the component. In developing our annual load relief programs, the loss factor for each of our network transformers (based upon its own load cycle) is calculated within the transformer-rating program (in PVL). This value is utilized to forecast the rating of each transformer in the network for the up coming summer period.

In summary, the company looks at the loss factors for each of our transformers and networks each year to determine where reinforcement is required. Similarly, the loss

factor is used to determine the rating of the distribution cable to meet the forecasted load, both normal and emergency. The loss factors were factored into the 2006 peak demand forecast of 13,400 MW. In light of the record load experienced this week, we will recalculate the loss and load factor based on the new peak.

d. PILC / Sensitive Stop Joint Replacements

network Reliability studies have determined that the thermally sensitive stop joints contribute to failures of the network's primary feeders. Paper insulated, lead-covered (PILC) cables have also been identified with a higher rate of failure than solid dielectric cable. PILC cable, which is located throughout the primary feeders in Con Edison, represents approximately 15% of the primary system in the LIC network. Our reliability improvement program for removal and replacement of this cable will continue and will be subject to modification, based on the analysis of the cable and joint autopsy failures.

e. North Queens Substation

North Queens is one of 57 Area Substations on the Con Edison System. It was placed into service in 1950. When constructed, it was provided with the then "state of the art" equipment for feeder processing.

With this design, each outgoing feeder position was accessible via a test bus and disconnect/ground switch that permitted application of test voltages, cap discharge voltage or tracing current to any feeder as well as the ability to ground the feeder for protection of workers in the field. The station was provided with a single test room where the test equipment was located. It was configured such that the test equipment

could be connected to any one and only one of the four major sections of switchgear at a time.

For normal or typical feeder failure scenarios, this arrangement does not constrain the ability to process feeders. If there are many feeder failures occurring in close succession, there is the possibility that test voltage would need to be applied to more than one feeder at a time and the arrangement would be constraining. When this occurred, feeder processing is still possible by means of removing bolted access plates to gain direct access to the outgoing feeder pothead compartments and applying required test voltages from there. This alternative procedure adds a level of complexity and time to the process.

In the early to mid 1990s, modifications were made to the test room area that permitted test voltages to be supplied from an independent test set to more than one major section at a time. While this arrangement enhanced the ability to process multiple feeders it was somewhat limited due to physical arrangement of the compartments and the need for the Operator to stay out of an active test area.

Fourteen of the original fixed position network feeder breakers have since been upgraded to rackout breakers. These rackout breakers now also permit feeders to be processed by use of “ground and test” (G&T) breakers that can be inserted into the racked out breaker position. The G&T breaker permits connection of required test voltages to the feeder as well as providing grounding capability for protection of field workers and for clearing backfeed conditions.

The remaining original fixed position breakers are also scheduled to be replaced with rackout type breakers. This work requires a bus section outage of about five days and can only be done during the late fall and winter period.

f. SF_6 Switch Installation

In order to mitigate the effects of feeder outages during multiple contingencies, we will consider installing sectionalizing switches (SF_6) on selected feeders in the LIC network.

The benefit of installing these sectionalizing switches is to improve feeder availability and reduce the feeder processing time. Operators can use the sectionalizing switch to quickly isolate certain portions of a faulted feeder and restore the remaining section within hours. Once fault repairs have been completed, the dropped portion can be re-energized without having to remove the feeder from service. This can improve network reliability.

g. Vented Manhole Cover Project

In 2003, the company deployed approximately 100 newly designed vented manhole covers in the Grand Central network bringing the total installed to 700 covers and completing the number planned for this project. The specially designed covers will minimize water entry (for a vented cover), maximize venting, while withstanding heavy traffic loads, and meet ADA (Americans with Disabilities Act) requirements. Laboratory testing of the vented cover during simulated combustive conditions demonstrates minimal

movement of the vented cover. Furthermore, testing has demonstrated that the vented design reduces the buildup of combustive gases.

The company has determined that the following advantages exist through the use of the vented manhole cover based on EPRI testing, benchmarking with the Potomac Electric Power Company, and field testing in the Grand Central network:

- Energy may be released through the openings in the vented cover.
- Combustible gases can escape through the openings in the vented cover from adjacent structures through the duct and conduit system.
- Explosions or fires may be avoided by the dissipation of combustible gases.
- Evacuations may be avoided if Carbon Monoxide gas has an alternate means of escaping.

Con Edison realizes that the openings in the cover, while allowing gases to vent, also allows for the accumulation of debris in the structure requiring additional maintenance. The short and longer term effects of debris accumulation on our underground network components are being carefully monitored as part of our ongoing analysis.

Based on these finding, Con Edison, has ordered 20,000 vented manhole covers for deployment in 2006 and the effort will be ongoing with plans to deploy another 45,000 over the next three years. In the LIC network we plan to replace all remaining solid manhole covers with vented covers by the end of September 2006.

6. Emergency Generators

This section discusses removal of emergency generators from Queens and elsewhere.

The company utilizes mobile generators to respond to individual service emergencies, localized system distribution conditions, and for distribution demand relief purposes, to help maintain the reliability of our electric services and/or system.

Deployment of mobile generators supported LIC network restoration effort in a number of ways by providing:

- Area customer restoration (overhead pick-up)
- Support to isolated critical customers
- Targeted area relief by picking up individual demand centers
- Support/cautionary measures to the electric system

The company's Central Field Services (CFS) group controls, maintains, and dispatches of all the company's heavy mobile equipment, including mobile generators, through a 24/7/365 operation center. CFS's responsibility includes maintaining vendor contact listings and equipment inventories for initial and rapid deployment.

The company's various Control Centers have the ability to request emergency generators directly and/or to utilize the Company's Distribution Engineering Command Post to help coordinate this effort through CFS. The company has contractual agreements with

several mobile generator vendors, including HO Penn/Caterpillar, General Electric, and Onsite Power, to expedite the dispatch of additional units that may be called for during a significant system emergency.

Depending upon the event, individual customers being connected to mobile generators could be those served by 4160 V, 265/460 V or 120/208 V services, and customers providing demand relief off the primary and/or secondary distribution system. In addition, the company will, while transferring large customer demand from the network to mobile generators, also evaluate opportunities to isolate localized geographical areas to be transferred to a mobile-generation supply. In most cases, these responses complement a demand reduction on the system and allow the company to operate the system under or closer to design conditions even during exceptional-weather or demand-contingency events.

As part of the LIC network emergency, the company began preparing and dispatching mobile generators as early as Monday, July 17. Customers provided with mobile generators included Rikers Island and the DEP Bowery Bay Wastewater Treatment plant. By Wednesday evening, the company had approximately 16 generating units available for customer needs and was working with various vendors to secure additional units. By Sunday, July 23, 32 units were available, totaling 20 MW for customers' needs. At present, 50 units are installed in the Long Island City network area.

Figure 3, below, illustrates the deployment of mobile generators in response to LIC network customer outages. Figure 4, below, illustrates the progress of the mobile generator deployment in the LIC network.

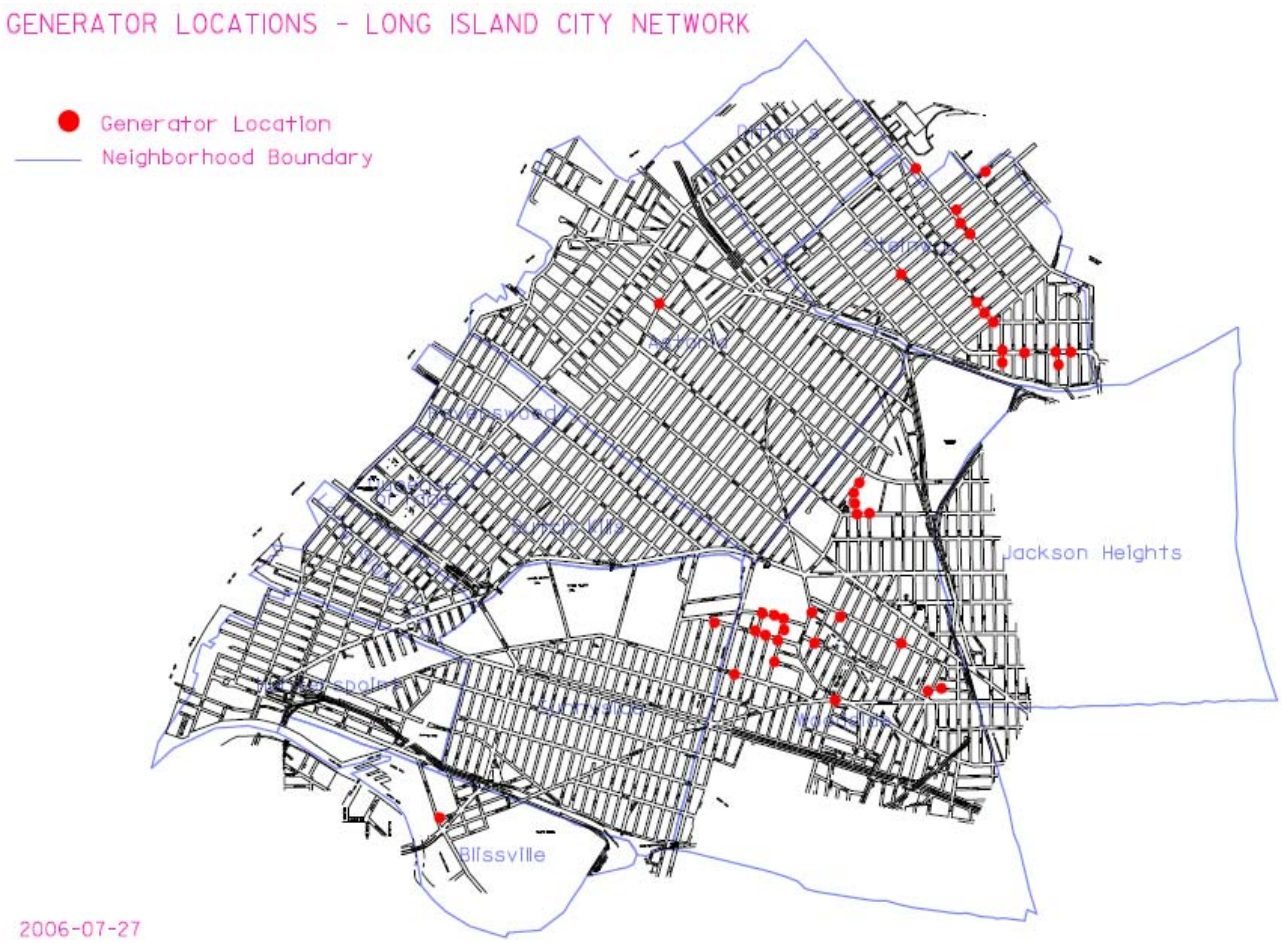


Figure 3: Deployment of mobile generators in response to LIC network customer outages

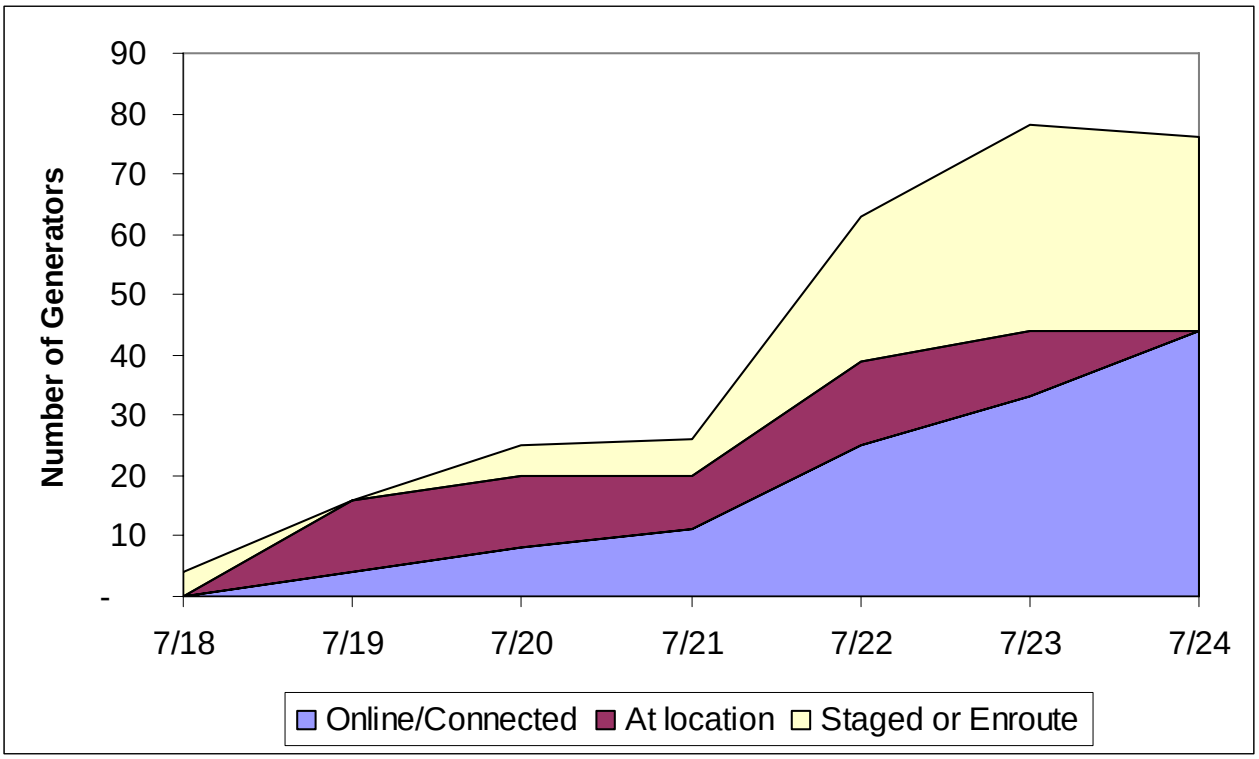


Figure 4: Number of Mobile Generators

Of the 64 units deployed, all but 14 are operating in the Long Island City network, broken down as follows: 50 units are on line in Long Island City, one unit on line in Manhattan, six units on line in Bronx/Westchester, and the seven remaining units on line are in other areas of Brooklyn/Queens outside of the Long Island City network.

The 50 mobile generators in Long Island City network have a combined load capacity of 23 MW and are supplying 2,164 customers within the Long Island City network. This customer base includes various residential and commercial customers.

In addition, there are another 15 units staged throughout the network for load pocket relief, if required. These units have a combined load capacity of 6 MW. Table 16 provides a list of all the generators deployed.

Count	GEN SIZE (KW)	GENERATOR OUTPUT VOLTAGE	GENERATOR SERIAL #	GENERATOR VENDOR	AREA GEN IN SERVICE
1	200	120/208	ERGH0120	ONSITE	B
2	200	120/208	ERGH0121	ONSITE	B
3	200	120/208	18680	H.O.Penn	B
4	400	120/208	Y1579	H.O. Penn	B
5	480	120/208	2118	GE	B
6	225	120/208	18716	Ho PENN	LIC
7	65	120/208	S1184	HO PENN	LIC
8	150	120/208	19239	Milton	LIC
9	150	120/208	19243	Milton	LIC
10	150	120/208	19279	Milton	LIC
11	150	120/208	19280	Milton	LIC
12	176	120/208	7322	GE	LIC
13	200	120/208	4251	Milton	LIC
14	220	120/208	2033	GE	LIC
15	225	120/208	616	GE	LIC
16	230	120/208	18720	H.O.Penn	LIC
17	230	120/208	EXW 156	WHAYNE	LIC
18	300	120/208	S1310	H.O. Penn	LIC
19	300	120/208	17253	H.O. Penn	LIC
20	300	120/208	EXW 186	WHAYNE	LIC
21	300	120/208	S1302	H.O. Penn	LIC
22	300	120/208	S1308	H.O. Penn	LIC
23	300	120/208	4056	GE	LIC
24	320	120/208	2059	GE	LIC
25	320	120/208	7333	GE	LIC
26	320	120/208	2061	GE	LIC
27	320	120/208	2096	GE	LIC
28	350	120/208	18674	H.O. Penn	LIC
29	400	120/208	E060045	CI WALKER	LIC
30	400	120/208	E1265/T1722	Aggreko	LIC
31	400	120/208	19278	H.O. Penn	LIC
32	400	120/208	71	GE	LIC
33	400	120/208	113	H.O. Penn	LIC
34	400	120/208	5829	H.O. Penn	LIC
35	400	120/208	D6971	H.O. Penn	LIC
36	400	120/208	18706	HO PENN	LIC
37	400	120/208	S1222	H.O. Penn	LIC
38	400	120/208	Y1576	H.O. Penn	LIC
39	400	120/208	Y1577	H.O. Penn	LIC
40	400	120/208	Y1578	H.O. Penn	LIC
41	500	208	S1287	H.O. Penn	LIC
42	500	120/208	163	GE	LIC
43	500	120/208	OS239	ONSITE	LIC
44	500	120/208	OS241	ONSITE	LIC
45	600	120/208	3802	Milton	LIC
46	600	120/208	17936	H.O. Penn	LIC
47	800	208	S1173	H.O. Penn	LIC
48	800	120/208	66/11436	H.O. Penn	LIC
49	800	120/208	S1325	H.O. Penn	LIC
50	800	120/208	S1326	H.O. Penn	LIC
51	800	120/208	S1327- 2680	H.O. Penn	LIC
52	800	120/208 Dual	S1378/457	H.O. Penn	LIC
53	2000	4160	G1229	HO PENN	LIC
54	2000	4160	S1363	H.O. Penn	LIC
55	230	120/208	18721	H.O. Penn	LIC
56	500	120/208	P6554	Aggreko	M
57	500	208	S1283	H.O. Penn	Q
58	2000	480	80560/140	H.O. Penn	Q
59	2000	4160	S1362	H.O. Penn	W
60	2000	4160	H80562	Con ED Owned	W
61	2000	4160		H.O. Penn	X
62	2000	480		H.O Penn	W
63	2000	4160		H.O. Penn	W
64	2000	480	GE13761	GE	W

Table 16.

The company is developing a removal schedule of all energized mobile generators. Barring weather and system contingencies, all non-Long Island City units are planned to be de-energized by late August, and our targeted efforts in the Long Island City network is to de-energize all units based on the engineering review, necessary secondary repairs, and system conditions. The schedule for the removal of Long Island City emergency generators should be available by late August.

7. Emergency Generator Safety

This section presents actions being taken to provide for the safety of the public from the generators and the safety of the generators while they remain in operation;

The Environment, Health & Safety (EH&S) group, as safety matter experts in site safety related issues, performs periodic inspections of these energized sites to evaluate the current safety status of the set-up. Deficiencies are reported to Energy Services..

The Energy Services Department (ESD) functions as the single point coordination group between CFS and all other Organizations and/or Groups associated with requests for Generators, Generation Deployment Status Information, Generator Logistical Support needs, Engineering Analysis, Electrical Construction crew deployment for physical Generator hook-up/disconnect, Customer Communication/Coordination issues concerning generator maintenance outages, safety-related remediation issues associated with generation deployment, etc..

Security Services provides security related assistance in terms of acquiring 24/7 security guards for generator unit safety against theft, vandalism, and for safeguarding the general public at each location. Coupled with Security Services, personnel from the Facilities Group perform spot inspections on the security guards to ensure their site presence is maintained. These guards monitor the generator site to prevent public contact with the

generators and associated cable. The generators themselves are surrounded with barricades and tape and high voltage signs are displayed as visual cues for the public to remain a safe distance away. See Figure 5, below.

Figure 5.

The Distribution Engineering (DE) group, functions as a technical support group and are the authors of various Company specifications and/or operational procedures, including grounding requirements associated with the use mobile generators in accordance with specification EO-2144 and Grounding Diagram. Some generators, as determined by engineering analysis, have been field grounded as an added precaution. The vendor has

provided technical maintenance personnel that implement a maintenance program on the generators.

Electric Construction Groups primarily respond to generator deployment locations to perform the initial generator to customer/distribution hook-up (cable runs, connections, etc.) and to establish the initial site safety set-up (barricades, cones, shunt boards, etc.). They are also called upon to perform the disconnection activities and monitor the generator's operational performance (load monitoring, fuel monitoring, etc.), and general unit and site conditions.

8. Equipment and Material Needs

This section provides specific details regarding the equipment and material needs to be provided to support repairs;

The Logistics Section in CERC has been assigned the responsibility for providing services and supplies necessary to support the response operations. It is staffed with personnel from Information Resources, Central Field Services, Purchasing, and Security with other personnel assigned as required to provide appropriate functional support. For example other personnel assigned to Logistics may be staff for a Medical and/or Food Unit. The Logistics Section Chief is the vice president of Central Field Services, and Purchasing. Specific Responsibilities include:

- Certain departmental logistics are appropriate such as deployment of cable, poles and trucks.
- Request additional resources as needed. These resources may be company-owned, contracted or from third parties including other utilities and the government
- Manage, deploy and maintain special materials (i.e., portable generators, fuel, etc.)
- Oversee Purchasing activities: ordering, receiving processing and storing all incident-related resources

- Maintain fixed (CERC) and portable (buses, field command posts) facilities being utilized during the incident
- Assure adequate transportation services at all hours to accommodate mutual aid crews working on the restoration effort. At one point, more than 200 employees from other utilities and contractors supplemented our workforce.

During this restoration effort, over 20 miles of cable was installed as mains or temporary shunts. In order to maintain the adequate supply, cable manufacturers were contacted and their production was shifted to provide the specified cable. Table 17 below shows the availability and production quantity by cable size. Presently we have approximately 138,000 feet of our standard secondary cable (Spec 7656) in stock with an additional 420,000 feet of cable through end of October. Beginning the first week of August, the expected cable shipment is for 12 reels per day.

Table 18 below contains a listing of Secondary Rebuild Material Inventory. There are 23 500- kVA transformers and six 1000- kVA transformers in stock. We do not expect material to be a limiting factor in our reinforcement effort.

CABLE AVAILABILITY AND SCHEDULED DELIVERY

SPEC	DESCRIPTION	SYSTEM ON HAND	# OF FULL REELS	# OF PARTIAL REELS	AVAILABLE at Manuf.	PRODUCTION QUANTITY	TRANSFER DATE	GRAND TOTAL
7560	**500 MCM 27 KV**	172,182	50	30	75,000	113,000	8/4/2006	
						75,600	9/1/2006	
						75,600	9/15/2006	
						67,500	10/6/2006	
						54,000	10/13/2006	
TOTAL		**172,182**			**75000**	**385,700**		**632,882**
7556	**2/0 27 KV**	231,328	72	11	0	105,000	9/29/2006	
						105,000	10/20/2006	
TOTAL		**231,328**			**0**	**210,000**		**441,328**
7658-4L	**4-500 MCM 600V**	232,074	51	25	0	96,000	8/18/2006	
						96,000	9/22/2006	
						96,000	10/6/2006	
TOTAL		**232,074**			**0**	**288,000**		**520,074**
7656	**3-500 &**	137,958	101	107	0	100,000	***	
	2-4/0 600V					40,000	8/11/2006	
						40,000	8/18/2006	
						40,000	8/25/2006	
						40,000	9/1/2006	
						40,000	9/8/2006	
						40,000	9/15/2006	
						40,000	9/22/2006	
						40,000	9/29/2006	
TOTAL		**137,958**			**0**	**420,000**		**557,958**

*** Approximately 12 reels to ship per day starting 8/7/06 and complete by 8/14/06

Table 17.

Description	In Stock	On-Order
Corrugated Copper 500M to 4/0	*	800
Corrugated Copper 500M to 350M	750	1200
Corrugated Copper 750M to 500M	*	80
Copper Corrugated 500 to #4	114	*
Reducing Copper COMPR # 6 AWG # 8 AWG	3	80
Straight COMPR Cu #6 AWG #6 AWG	3	1500
Reducing Copper COMPR # 2 AWG # 6 AWG	12	750
Straight Copper COMPR #2 AWG #2 AWG	64	1240
Reducing Cu COMPR 2/0 AWG #2 AWG	6	160
Straight Copper COMPR 2/0 AWG 2/0 AWG	103	100
Straight COMPR Tinned Cu B&S 4/0	3760	29760
Straight COMPR Tinned Cu 500M B&S	9708	39308
Straight COMPR Tinned Cu 750MC	251	865
1W-2W 500 to 2 - 4/0 Pigtail	*	175
500M 3 Way Insul Fusible All	21	41
Insul 500 MCM 3 Way 3 Way 2 Legs Fusible, 1 Leg Not	104	540
500M 5 Way Insul Fus W/Pigtail	25	330
W/Tails Fusible Ins 500KCMIL, 7 Way 7 Way	360	680
Low Loss 2.25KA 208VAC None Bolted	743	928
NWP Type S2 2000A Low Loss	215	406
Current L 2KA 208BAC None Bolted	32	*
Link 1000 Amp TY G	3	*

* Item supplied via "Just In Time" delivery from manufacturer
Note: Low stock quantities reflect items briefly staged in stores and delivered to work sites.

Table 18: Listing of Secondary Rebuild Material Inventory

9. System Actions

This section discusses the actions that will be taken in the rest of Con Edison's system in response to the immediate lessons learned from the Long Island City network event.

This week's record demands and energy usage presented a severe test of the Con Edison system. The system performed well by using the approach outlined in the August 2 report on maintaining the reliable operation of the distribution system. Our additional actions that will be taken as a result of the LIC event must await further analysis of the event.

The demand experienced by individual feeder cable components in the LIC network will be examined. Autopsies of feeder cables and joints to determine causes of failure will be conducted. Transformers that failed will be deconstructed to determine the causes of their failures. The demand experienced by low-voltage cables and the secondary grid will be modeled to determine the progression of customer outages.

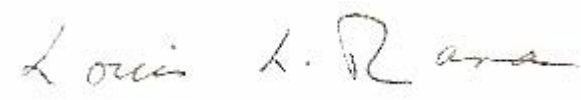
Demand response, generator mobilization, and voltage reduction and their effects in the LIC network will also be evaluated. Further, the limitations of the customer outage tracking will be reviewed and a new approach to customer outage tracking will be implemented. This will include an examination of the call-in protocol.

A future report will encompass the analysis of various factors affecting the LIC network. This report will also reach conclusions and make recommendations to improve service to the public.

Dated: August 4, 2006

Respectfully submitted,

CONSOLIDATED EDISON COMPANY
OF NEW YORK, INC.



By _____
President and Chief Operating Officer

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Appendix A

Incident Command System Implementation Plan for Con Edison

INTRODUCTION

This ICS Implementation Plan provides a framework for Con Edison to implement the National Interagency Incident Management System (NIIMS) Incident Command System (ICS). This system can be used during all incident operations and the management of major inter-departmental events. The implementation of ICS will provide responders with a response management tool that is flexible, provides inter-operability with other response organizations, and provides a ramping up capability, all which need to exist. Also, ICS will aid in improving response management skills, standardize the company's response process, and improve Con Edison's ability to respond as a single entity or part of a multi-entity effort, e.g., with government agencies.

It is critical to the successful implementation of ICS into Con Edison's culture that ICS principles be applied in day-to-day response operations of all kinds. This will enable a continuing development of proficiency and facilitate the smooth expansion of Con Edison's responding organization as an incident expands in size, complexity, or public interest. Using ICS in everyday incident response will accelerate institutionalizing ICS into the Con Edison culture.

Discussion

This Implementation Plan will transition Con Edison from its current use of numerous contingency-specific response organizational approaches to a standard response management system. As noted in CI 260-4, the ICS response management system is Con Edison's response management system. Because of the time it takes personnel to become trained and proficient in the use of ICS, this plan provides an approach to achieve full implementation of ICS in the Con Edison.

Con Edison will periodically analyze its ICS Training Plan to ensure that the program is effective and as cost-efficient as possible. Full implementation of ICS and daily use of ICS principles is expected of everyone and all Con Edison personnel shall support this goal.

Emergency Management works directly for the vice president of Emergency Management and is the Corporate "Program Manager" for refining, finalizing, and carrying out the implementation of ICS for Con Edison.

ICS FEATURES AND IMPLEMENTATION

Incident Classification

A basic characteristic of ICS is its modular organization. The size and depth of the organization is built for the particular incident based on the needs of that incident. Within ICS, incidents are classified (or "typed") based on the size, complexity, and public interest of the response. Incident classification allows for an improved understanding of the overall significance of the incident by combining these factors into a single category. Con Edison has classified incidents as Routine, Upgraded, Serious, and

Full Scale, where a Full Scale incident is the largest and most complex. Appendix B of Corporate Instruction CI 260-4 outlines the characteristics of each class of incident. The senior operating person in the various control rooms and/or the Incident Commanders are responsible for evaluating the size, complexity, and amount of public interest for a particular incident in their area of responsibility and classifying the incident accordingly as soon as possible after the situation begins. This information should be included in the verbal and written incident reports.

Policies / Procedures

With the adoption of ICS as the Con Edison standard response management system, applicable Con Edison departmental policy and procedures have been revised to incorporate ICS into organizational structures and processes.

Incident Management Assist Teams (IMATs)

Recognizing that it is neither realistic nor cost-effective to maintain the highest level of expertise for every individual within a response program, ICS guidance provides for Teams of ICS specialists that can assist and supplement local operating department responders. Incident Management Assist Teams (IMATs) are Con Edison's ICS teams of specialists. IMATs are groups of trained and experienced personnel who exercise and deploy, if required, to assist the local response and support the organization when requested by the Con Edison Incident Commander (IC) or Vice President – Emergency Management. It should be clearly understood that IMATs are intended to assist the

Incident Commander, **not** to supersede or preempt the Incident Commander or local incident management personnel.

Full implementation of ICS will include establishing IMATs who will be available to respond to all classifications of incidents when requested by the IC.

Adoption of the IMAT will enhance training necessary to implement and maintain a large incident ICS response capability at the field level for all operating departments. IMAT members will receive more advanced instruction and will be available to support the incident as required. These assignments will be on a collateral duty (not full-time) basis, with personnel deploying as requested by ICs.

ICS Training Program Elements.

The ICS Training Program consists primarily of general ICS courses and position-specific courses, with team exercises as needed.

1. General ICS Courses. These are divided into three levels of courses, Overview – SAF 3050, Basic ICS – SAF 3060, and Advanced ICS – SAF 3070. These three courses serve as the core curriculum of the training program.

2. Position-Specific Courses. ICS contains position-specific courses for key positions within the ICS organization, such as Operations Section Chief, Planning Section Chief, Resources Unit Leader, etc. These are higher-level courses for persons with some significant level of expertise with ICS. The courses are designed to teach detailed responsibilities of the position and how to perform these responsibilities within the organization.

3. Team Training. This category of training includes small group or team dynamics and is designed to help the people who work together within an ICS organization to be a productive, efficient unit. This training is an essential component of the ICS training program in addition to the individual training described above.

4. The following describes the plan for the training implementation, including target audience and delivery sources. It is summarized in the TLC ICS Training Brochure. The training was developed and conducted by vendors until such time that The Learning Center developed internal ICS instructor expertise and ICS incorporated into Con Edison's established training program. As training was formalized, ICS training courses were assigned numbers to track them in The Learning Center's database. The Learning Center maintains a list of qualified instructors for ICS training and a list of the Con Edison personnel who completed the training.

III. RESPONSIBILITIES

A. Listed below are responsibilities for the implementation of ICS in Con Edison:

1. Vice President Emergency Management/Emergency Management Operations

   a. Oversee the overall implementation of ICS throughout Con Edison.

   b. Ensure that appropriate references and information about ICS are included in relevant manuals and other primary policy and guidance documents for appropriate operating departments.

c. Develop subject matter experts in ICS and assume a lead role in policy formulation, doctrine development, and ICS implementation efforts.

d. Support the development of Incident Management Assist Teams (IMATs).

e. Oversight of the EM Program and responsibility for facilitating the company's preparation and response to incidents.

i. Maintaining CI-260-4

j. Review mobilization plans prepared by company organizations

k. Providing advice and counsel to The Learning Center and to other departments, as requested, for the purpose of developing training courses to implement this Corporate Instruction.

l. Upon request provide a Liaison Officer for exercises and actual events involving outside agencies.

m. Maintaining a list of trained IC's and Section Chiefs who could manage Serious and Full Scale Incidents.

n. Maintaining a database of recommendations, lessons learned, and best practices pertaining to responses to incidents and emergencies.

o. Communicate lessons learned from serious and full-scale incidents.

p. Monitoring and evaluating annual Full Scale exercises.

2. The Learning Center / EH&S Training Manager

a. Coordinate inclusion of the ICS training curriculum and position specific workshops into appropriate existing training.

b. Coordinate with affected company organizations to develop a Con Edison-wide position specific ICS training program.

c. Develop an ICS training database to track ICS training of personnel.

d. Incorporate ICS training into appropriate existing training courses.

e. Establish an ICS Training Coordinator who will be responsible for the following:

(a) Coordinating and conducting training for Con Edison ICS Instructors.

(b) Coordinating Position Specific Workshops and position training opportunities.

(c) Maintaining liaison with other Con Edison training programs for all ICS training.

f. Work to monitor, adapt, and develop as necessary, supporting technology beneficial to response management. This would include technical, training,

and measurement support systems and organizational development improvements to increase incident management effectiveness and efficiency.

g. Incorporate ICS principles as part of leadership development training in Con Edison, as supported by analysis.

3. Environment, Health & Safety

a. Ensure that ICS is thoroughly incorporated into E,H&S mobilization procedures, and other company oil spill and hazardous material response. Adapt and develop as necessary, supporting technology beneficial to response management. This would include technical, training, and measurement support systems and organizational development improvements to increase incident management effectiveness and efficiency.

4. Central Field Services

a. Update logistics policies and procedures to reflect use of ICS for contingency logistics support. This should include a well-defined, scalable, responsive system to support all Con Edison organizations responding to incidents.

6. Operating Department Vice Presidents

a. Responsible for establishing functional qualifications and formal training requirements for their employees to cover the operational portion of the responses to incidents and emergencies that could occur within their areas of responsibility.

8. All Con Edison organizations

    a. Oversee ICS implementation throughout their organization.

    b. Modify existing Emergency Preparedness Plans to reflect implementation of ICS and its use in all response operations at Con Edison.

    c. Recommend changes and improvements to Con Edison's ICS implementation efforts to the Emergency Management.