The Blackout of 2003

Editor's Note: On August 14, 2003, a massive power outage struck New York City and, indeed, an extensive part of the Northeast. The following comprehensive article--authored by numerous FDNY members, who are acknowledged at the end--provides a detailed look at FDNY operations during this period. Additionally, two Probies, who worked their first tours during the blackout, provide their perspectives.

Overview

Shortly after 1600 hours on August 14, 2003, New York City and much of the northeast portion of the United States suffered a total loss of electrical power. Chief of Operations Salvatore J. Cassano, as Acting Chief of Department, and in consultation with Fire Commissioner Nicholas Scoppetta, supervised all FDNY operations from the Fire Department Operations Center (FDOC) at Headquarters. Lessons learned from 9/11, recommendations from the subsequent McKinsey & Company report--*Increasing FDNY's Preparedness*--and operational plans devised during Y2K planning were instrumental in preparing for this Citywide event--one of the busiest days in the Department's history.

First, the decentralized Borough Command system placed a Staff Chief in each borough. Each of these Chiefs reported directly to Chief Cassano, providing him with up-to-date status reports on the activity level in their respective boroughs. This constant update of timely information enabled the Chief to assign, monitor and move resources as needed.

Second, strategically placed and outfitted apparatus and response vehicles were primed and ready for action. Sixty-five additional units--including 20 Engine Companies, seven Ladder Companies and 21 Rapid Response Teams--were brought into service.

The time of the blackout worked in FDNY's favor. Because it occurred a little after 4 p.m., Fire Operations was able to hold over its day tour force to augment the night tour members. An additional 850 Firefighters and 250 Officers were on duty that night, bringing the total work force to approximately 3000. Mutual aid was provided by nearby jurisdictions to assist EMS.

Third, and perhaps most critical of all, the new radios worked well throughout the incident. Additionally, a Police Officer--for the first time ever--was assigned to FDOC and assisted Chief Cassano by keeping him apprised of any police activity that might impact Fire or EMS operations.

These factors contributed strongly to the systematic, planned, Department-wide response to this incident, an incident that had Firefighters handling 2248 calls for fires (including 70 serious structural fires), medical emergencies and non-emergencies on August 14 and 2809 calls the following day. (Typically, Firefighters respond to approximately 1000 calls on a summer day.) EMS had the busiest two days in its history, with 5299 calls on August 14 and 5021 calls on August 15, representing approximately a 60 percent increase over their usual workload of 3000 calls a day.

all photos by Todd Maisel, New York Daily News, unless stated otherwise

The summer heat and enforced walking--because mass transit was disabled--combined to generate many overcome civilians who required aid.

One of the most difficult problems to overcome centered on communications and its impact on dispatching. Glitches encountered seemed to be a function of Verizon operations and the Department is working with Verizon's employees to rectify them. In spite of these difficulties, FDNY's dispatch personnel handled 200 percent more Fire and EMS calls than usual, indicative of their dedication and expertise.

Read on for more detailed information about the blackout of 2003, including summaries of activity in the individual boroughs, planning, logistics and communications. Members will see how FDNY's planning and operational strategies--as implemented by its dedicated Firefighters, Fire Officers, Fire Marshals, EMTs, Paramedics, EMS Officers, Dispatchers and civilian employees--carried this Department through to an effective and successful conclusion of this major incident.

Planning

The blackout was a large-scale emergency that required the implementation of the Incident Command System (ICS) and full activation of the Fire Department Operation Center. The FDOC, operating under the ICS, provides senior decision-makers within the Department with real-time situation awareness, operational planning, logistical management and inter-agency coordination.

The planning section for the blackout, under the direction of the Chief of Planning and Strategy, Deputy Assistant Chief Joseph W. Pfeifer, was responsible for resource deployment, situation awareness and demobilization. Chief of Operations Cassano, after he was briefed on the extent of the blackout, immediately ordered one Command Chief to each borough to oversee operations. Chief Cassano, acting as the Fire Department's Incident Commander, coordinated the boroughs through the Command Center, which was critical for an event of this magnitude, a blackout that affected the entire City as well as the Northeast portion of the country.

Resources management and personnel deployment:

- Holdover and resource deployment--It was anticipated that additional resources would be required for efficient protection of the City. Therefore, all on-duty members were ordered to remain on duty for the 6 x 9 tour. This provided FDNY with 980 additional Firefighters, 191 Lieutenants, 60 Captains, 33 Battalion Chiefs and four Deputy Chiefs. EMS tours were extended to 12 hours. This allowed the Planning Section Chief to provide Operations with enough staffing to deploy 20 reserve Engine Companies, seven reserve Ladder Companies, one reserve Rescue Company, one reserve Marine Company, 21 Rapid Response Vehicles, three Hammer Teams, three foam units, three brush fire units, three additional divisions, one reserve Field Comm Unit and 40 additional ambulances. Apparatus staffing also was increased to five Firefighters. Other members were used for security of quarters and relief purposes. Planning

worked closely with Logistics to make sure Fleet Maintenance and Tech Services could support this plan with the appropriate apparatus and equipment.
- Mutual Aid--Requested by EMS, it provided 30 tours from New Jersey, 24 from New York State, 43 from commercial companies and 76 from community-based volunteer ambulance corps during the two-day period.

Situation awareness--Every 30 minutes, the Chief of Operations received a situation report on fire activity, pre-hospital care emergencies, unit availability and anticipated problems. Based on this report, the Fire Commissioner was briefed for presentation to the Mayor:
- Borough--Reports from the Borough Command Chiefs were vital to the management of this large-scale incident. Based on the situation report from the boroughs, resources were allocated. When a Command Chief requested resources, Operations consulted with Planning and Logistics to ensure City-wide coverage. Resource deployment for each borough was tracked manually on a marker board in the FDOC. Planning also monitored major issues reported from the field and communications; i.e., number of alarms and medical calls per hour, lists of working fires, etc.
- Inter-agency--The Office of Emergency Management (OEM)--the City's inter-agency emergency operation center--and NYPD law enforcement command center at 1 Police Plaza were activated. FDNY representatives were sent to both locations to act as Fire Department liaisons and gather information. City and State agencies all had representatives at OEM. The Planning section Chief received frequent updates about the status of Con Ed, as well as potential problem areas in the City. For example, when a health care facility ran low on fuel, the Fire Department was asked to assist as a last resort. This information was passed on to the Logistics section to coordinate with Fleet Services to provide one of FDNY's fuel trucks for emergency delivery.
- Geographic Information System (GIS)--As electrical power was being restored, the FDNY Phoenix Unit mapped those sections of the City. This gave the Incident Command a color-coded map showing the parts of the City that had full or partial power.

Demobilization--The orderly reduction of resources and staffing to adjust to the current situation:
- 0001 hours on August 15--Based on the situation reports from the boroughs, Commanders in Staten Island and Queens were notified to release approximately 150 Firefighters who were not staffing apparatus. The boroughs made these adjustments by relieving those members who had been working the longest hours.
- 0900 hours on August 15--The Planning and Logistics sections worked together to adjust augmented staffing to approximately 400 Firefighters, 60 Lieutenants and 20 Captains for the 9 x 6 and 6 x 9 tours. Reserve apparatus and Rapid Response Vehicles remained staffed.
- 0900 hours on August 16--Staffing returned to normal levels.

During the past two years, the FDNY has dealt with several national disasters, notably the World Trade Center and the August 14 blackout. It is clear from these incidents that the Incident Command System provides a coordinated method to deal with major events, be it terrorism or an accident. In the future, the FDNY Incident Management Team will be activated to assist at these events. The Fire Department also is actively working to enhance the FDOC with new technology and physical layout to support an Incident Management System. It is anticipated that the Command Chief in each borough will control activities in that borough during a major disaster, while the Command Chiefs assigned to FDOC will coordinate City-wide command.

During the blackout, FDNY Firefighters did so much more than just fight fires. They opened their firehouses to the public and gave water to the thirsty during this hot summer day and night, offered refuge off the street and, perhaps most important of all, provided reassurance and comfort to the frightened and lonely.

photo by FF Chris Landano

Logistics

Using ICS, Chief Cassano designated Deputy Assistant Chief Ronald Spadafora to command the Logistics section. Chief Spadafora selected Lieutenants Edwin Camilleri and Robert Higgins to assist him. Logistical personnel performed their functions admirably for nearly 24 hours, mainly in the areas of communications, supply (diesel fuel), facilities (emergency generators) and ground support (tools and equipment). The Logistics section also interfaced with the Planning section and coordinated efforts dealing with resources (activated units, apparatus and manpower), situation status (mapping) and demobilization.

Under the direction of Assistant Commissioner Stephen Gregory, Bureau of Communications, a communications plan was formulated to maintain and improve the continuity of FDNY operations. At 1615 hours, Commissioner Gregory ordered all Fire Dispatch operations placed in FallBack Step III and dispatchers were directed to prioritize incidents being received. Staffing for both current and incoming tours were verified and resource activity and availability were monitored. Logistics personnel ensured Chief Cassano's holdover order to all members on-duty (9 x 6 tour) was transmitted to Borough Commanders and Division Chiefs via the Borough Communications Offices, as well as redundantly through direct telephone contact.

The initial task of the Logistics section was to establish viable communication via handie-talkies (800MHz radios), telephones and cell phones (Nextel) from FDOC with all Borough Commanders, Division Chiefs and Battalion Chiefs. FDOC was ordered to transmit a teleprinter message to all Chief Officers, instructing them to ascertain their communication capabilities and activate their cell phones. Vital strategic and tactical information was garnered from FDNY liaison officers: EMSC Deputy Assistant Chief John Peruggia was stationed at the Office of Emergency Management (OEM) and Captain Ernest W. Petretti was assigned to NYPD Headquarters using the 800MHz radio and telephones. This information was relayed to Chief Cassano for his use.

Throughout the operation, Logistics and Planning monitored the status of all FDNY units. FDOC was ordered to provide Unit Availability Reports for all five boroughs every 30 minutes. Logistics personnel verified that Engine Companies City-wide

Bureau of Communications Timeline

Thursday, August 14, 2003

Time	Action
1605	Con Edison power lost at Headquarters (HQ) at approximately this time. Reversion to diesel power in some portions of HQ.
1610	Emergency Medical Dispatch (EMD) Operations directed to prepare back-up site at 9 MetroTech Center (MTC).
1615	Back-up site computers are functioning, but are off-line (in training mode).
1615	Indications that the power outage is widespread.
1615	Verification made with all Communications Offices that on detection of the power loss, each facility immediately reverted to emergency power with no complication.
1615	All Borough Fire Dispatch Operations placed in FallBack Step III and directed to prioritize incidents being received.
1617	Established Bureau of Communications HQ Command and in conjunction, also designated a Support Team for facilitation of operations. A Field Command structure also was established.
1620	Off-duty Fire Dispatch personnel began reporting from home to nearest Fire Communications Central Office, to assist and supplement tour operations. EMD personnel reported to 1 MTC.
1630	EMD notified of hospitals being put on diversion.
1630	ERS interface to CADS disconnected in all Borough Operations to prevent volume strain on CAD. ERS alarms to be manually logged and prioritized. High priority incident received via ERS to be entered in CAD for response.
1635	Notified Support Services to transport the portable generator from the quarters of E-207 on Tillary Street to EMD Operations at 1 MTC.
1637	Directions given at HQ Command to log and record Bureau activities during the event.
1645	Verification that security at the Communications Offices was being maintained through the assignment of Fire Marshals from the Bureau of Investigation.
1645	Verified Field Command structure at Fire Dispatch Offices as follows: • Fire Dispatch Communications Office supervision maintained at the Tour Supervisor level. • Oversight supervision provided by on-duty Borough Supervisors in Brooklyn and Manhattan. • Deputy Director operated from the Bronx Communications Office.
1645	Via FDOC, attempted to have an FDNY Buildings Unit stationary engineer and electrician report to and remain at each of the Fire Communications Offices to monitor and maintain auxiliary power.
1645	All Fire Dispatch personnel on-duty are held until further notice.
1650	Administrative oversight provided through Deputy Directors in the Bronx and HQ. From each of their vantage points and by using and monitoring CAD, they were able to gauge activity, assess staffing needs and report back to the HQ Command, leaving technical tour functions to the Tour Supervisors, which were overseen by Borough Supervisors.
1655	EMD students re-deployed to 1 MTC to assist.
1657	BTDS at 9 MTC verifies operation of EMD back-up CAD.
1700	"Dual response" and EDP call types canceled.
1700	Initiated a procedure to monitor Borough Fire radio transmissions from HQ Command by using a bank of four handie-talkie radios, each respectively set to one of the Borough frequencies. Similarly for EMD, this procedure was implemented due to the loss of power to the radios that normally monitor these frequencies. HQ Command also designated telephone lines in each of the Fire Communications Offices, EMD and HQ for dedicated communications between operations.
1710	Three EMD CAD positions were established for RCC in the back-up location.
1710	EMD CAD generated a message: *System capacity exceeded. Complaint table is full.* Notified EMS Command to have all "non-essential" CAD terminals shut down. Notified NYPD that EMD CAD system capacity was saturated.
1730	EMD at 1 MTC operating in a manual mode (cards).
1730	Engine Company availability severely taxed by medical emergency incidents that required Fire units to remain with the patient until arrival of an EMSC ambulance.
1735	Support Services advises portable generator en route to 1 MTC.
1735	Advised by Bureau of Operations, SOC Command Chief Weinlein, Rapid Response Vehicles (RRVs) formed (primarily for Manhattan) and activation of reserve Engine and Ladder apparatus for Manhattan and other areas of the City. Anticipated to take place shortly following

were staffed with five Firefighters. Simultaneously, they monitored manning and tracked additional activated units (reserve apparatus, Rapid Response Vehicles, foam units, brush fire units, fireboat, Rescue, Hammer Teams and Division second sections).

Logistics personnel surveyed Borough Commanders, Division Chiefs and Battalion Chiefs for both permanent and portable emergency generator allotment/serviceability, as well as fuel storage amounts. Manual fuel pump capability also was ascertained. The Buildings Maintenance Division was notified to deliver a back-up generator to the Special Operations Command. Information also was gathered from the Bureau of Support Services and Fleet Services concerning fuel storage levels and their capability for emergency fuel deliveries.

Three firehouses required refueling during the night, which was accomplished by Fleet Services tank trucks. Contact was maintained throughout the operation with Assistant Deputy Director Andrew Diamond, Emergency Crew Supervisor Kevin Alore and Mechanic Supervisor James Monroe of Fleet Services. They assisted the Logistics section in coordinating emergency diesel fuel deliveries to FDNY units and local hospitals. An adequate supply of diesel fuel was maintained throughout the blackout by using the Staten Island Ferry Port Terminal.

Some electrical power was returned to New York City at approximately 0600 hours on August 15th. By 2100 hours, all portions of the City generally were restored. Logistics section personnel performed admirably, demonstrating perseverance and commitment to duty throughout the night and into the afternoon of the next day. Their extraordinary work helped the FDNY to accomplish its mission of saving lives and property during this crisis.

Bureau of Communications

Thursday, August 14th, started as a typical day and was expected to end the same way, with no major incidents or catastrophes for the Bureau of Communications. Nearing the end of business day, at 1600 hours, members of Assistant Commissioner Stephen Gregory's staff and he were preparing to attend a recognition ceremony that Mayor Michael R. Bloomberg was hosting for those who were involved in the implementation of the City's new 311 system. At approximately 1605 hours, Con Edison's power was lost at Headquarters, 9 MetroTech Center.

Back-up diesel generators started and power was restored to those portions of the building that run on the back-up system. Initially, it was unclear whether Headquarters was the only building that lost power. Commissioner Gregory's office overlooks the MetroTech Commons and when he heard the diesel generators in the surrounding buildings kick in, it became apparent that the problem was more widespread. Before the day was over, Communications personnel would be challenged far beyond expectations and, without hesitation, responded to the situation at hand.

Operations overview--Not knowing the extent of the power disruption, but assuming it was major, specific actions were taken to maintain operations and activate emergency procedures. A meeting was convened with all senior Bureau personnel assigned to Headquarters, including those from Fire Dispatch, Emergency Medical Dispatch, Executive Staff, Plant Operations and Telephone Services. Each unit head was charged with determining, as much as possible, the extent of the area affected by the outage and status of their respective operations.

In anticipation of the demands that would be placed on the Department's resources, specific preplanned procedures were implemented immediately:

• FallBack Step III was implemented in Fire Dispatch. Dual and

EDP responses were canceled in Emergency Medical Dispatch to conserve resources.

- A Command coordinating all Bureau activity was established at Headquarters. Bureau personnel were assigned specific tasks and responsibilities to maintain and improve continuity of Operations.
- Director of Fire Dispatch John Porcelli and Chief of Emergency Medical Dispatch Jace Pinkus were assigned to verify staffing for both current and incoming tours and monitor resource availability and activity.
- Projects Manager Jacqueline Hughes assumed the duties of Executive Officer and coordinated and documented Bureau operations and activities, information that was critical to both the ongoing operation and the aftermath reconstruction of the incident.
- The Telephone Services Unit verified telephone operability in Headquarters, Field Units and all remote Department facilities.
- In accordance with existing Department planning and policy, Commissioner Gregory reported to the Operations Command established in FDOC and provided updates on all Communications actions taken.
- Verizon was contacted for status and condition of their facilities and potential impact on FDNY.
- To mitigate a potentially worsening situation, the back-up Emergency Medical Dispatch Center was activated and temporarily staffed by Headquarters EMD personnel.
- A Bureau representative actively participated in multi-agency and vendor conference calls regarding the status and condition of emergency facilities, power and potential problems and contingencies.

Post-event actions and critiques--As with any incident, there are lessons learned and actions that must be taken in preparation for a future incident. Post-August 14th, the Bureau critiqued its operations. Review sessions were conducted to evaluate overall Bureau and radio operations and identify problems and challenges encountered and areas for improvement:

- A multi-agency notification process must be refined. The lack of information (i.e., from Con Ed) regarding the extent and duration of the power outage hampered FDNY's ability to accurately and strategically plan for operations.
- A plan must be developed to free up Fire units from non-urgent medical responses to increase availability of fire apparatus.
- A structured prioritization beyond FallBack Step III in the fire operation is required. This would preclude the depletion of resources in the early stages of an event and further serve to extend Fire unit availability.
- The readiness of reserve Engine Companies should be reassessed to ensure that these units can be placed in service immediately.
- The vulnerability of EMD became evident and the need to decentralize that operation and co-habit it with Fire Dispatch is critical. Lack of interoperability between Fire and EMD CAD systems required Dispatchers to exchange critical information via telephone. Both Fire and EMD operations were affected by telephone line failures.
- The lack of interoperability between FDNY and NYPD CAD requires use of the telephone to exchange critical information that can and should be passed between systems.
- Rapid mobilization routes established for emergency vehicle use must be provided in a more efficient and expedient manner. Consideration also should be given to the establishment of predetermined resource deployment locations for strategic response and relocation and Fire and EMSC units.
- Not all of the voluntary ambulances in the 911 system are ade-

Time	Action
	the 1800 hours tour change. RRVs formed at CPC Ladder Companies and an additional 20+ formed at Randall's Island.
1745	Confirmed with NYPD that EMS radio is operational, functioning under extremely heavy radio traffic.
1800	Due to saturation of EMD CAD system capacity, BTDS recommends a "cold start" be performed.
1800	RRVs staffed and deployed. Although discretion was given to Fire Dispatch Operations to assign these units a designation and location from which to operate, the units formed at Randall's Island were given designations prior to leaving, which created confusion. HQ Command continued to monitor field operations and interact with the Field Command.
1806	EMD notified NYPD that EDP and Pct. assignments (low priority) would not be dispatched.
1810	NYPD Communications notifies EMD via telephone that *they have a stack of calls that they need to link.*
1832-1839	"Cold start" EMD CAD is down; all notifications made, EMD on manual operation.
1842	EMD CAD system back up.
1845	EMD CAD is down again. 9 MTC back-up site is prepared and staffed to take over dispatching and call taking if required.
1845-1849	"Cold start" EMD CAD.
1850	EMD CAD system is up and fully operational. All notifications made to NYPD. "Catch up" on pending EMD jobs continues as heavy call volume noted throughout the City. UPS and air conditioning continue to function without problems at EMD at 1 MTC.
1855	Approximately 200 EMD calls pending City-wide.
1902	As a result of the volume of EMS calls backed up in queue, NYPD Communications requests an additional designated telephone line.
1910	Three EMD ARDs at 9 MTC back-up site re-screen calls and complete "call backs."
1930	EMD Citywide Dispatch Supervisor verifies and advises of a dedicated telephone number at 9 MTC.
1937	Support Services advises that the portable generator is connected at EMD at 1 MTC.
1959	EMD Citywide Dispatch Supervisor directed to call NYPD Platoon Commander to discontinue sending lift jobs and repairs to oxygen.
2019	MARS units calling EMD for assignments to 911 calls.
2030	HQ Command notified that RCC will activate the mutual-aid units. When known, all available resources will be forwarded to EMD.
2040	EMD requested to send an MDT message to all units: *As per Car 5, all FDNY EMS personnel are mandated for a minimum of four hours.*
2055	EMD starting to experience some phone and radio outages.
2100	A Deputy Director deployed to the Manhattan Fire Communications Office from HQ to supplement that borough's operation.
2113	Reports of radio failure at EMD. Radio dispatching transferred to back-up site at 9 MTC.
2125	Received information that power gradually is returning in the borough of Manhattan.
2130	EMD notified that Telemetry is down; operating on Standing Orders only.
2135	Commercial ambulance resources activated by EMS Command.
2145	HQ Command directs EMD to dispatch Staten Island units via City-wide radio due to extreme call volume in Brooklyn South and Staten Island.
2218	Notified that all radio and phone lines are down at the EMD.
2221	Notified that EMD phones at 1 MTC are up, but problems with radios continue.
2221	Telephone system at 9 MTC is down. However, EMD radio operations continue.
2237	EMD radio operation at 9 MTC back-up site is intermittent, with the exception of Bronx North.
2250	EMD Brooklyn North radio frequency now operational at 9 MTC.
2251	EMD radio and telephone phones are operational at 1 MTC. Continued to monitor and transmit on back-up radio system at 9 MTC as three radios at 1 MTC still experiencing intermittent problems. Notified that 1 Police Plaza is up (NYPD radio), no dial-up capabilities.
2257	Reports of EMS 800MHz radio beginning to experience problems.
2300	Notified that EMD radio and telephone system back up at 1 MTC.
2351	Notified that all radio and phone lines are down at 1 MTC.
2355	EMD Manhattan Central operating from 9 MTC; all other frequencies down at both facilities.
2300-0200	Fire Dispatch personnel held over from the day tour gradually were released, based on the stabilization of activity levels.

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Friday, August 15, 2003

Time	Action
0007	Notification that radio and telephone system is operational and back up at 1 MTC.
0012	EMS borough frequencies are intermittent.
0016	HQ Command notified that only one telephone at EMD at 1 MTC is functioning.
0029	EMS Manhattan central radio now is operational at 1 MTC.
0036	HQ Command is notified that all radios and telephones are operational at 1 MTC.
0057	Contingency plan with EMS Operations is established for the relocation of ambulances to firehouses.
0138	NYPD requests update on ambulance availability via telephone.
0159	EMD is holding approximately 497 calls.
0204	Nassau County Fire Comm advises they have resources available if needed. They were advised to call OEM.
0208	EMD is holding approximately 519 calls.
0231	HQ Command notified that all radio and phone lines are down at 1 MTC.
0240	Notified that radio operation at EMD has been restored, but is intermittent. Telephones back up at 1 MTC. "Catch up" continues because there is still a significant number of calls pending. Re-screening continues at both 1 and 9 MTC.
0309	Reports radios are down again at 1 MTC, but working at 9 MTC.
0329	Receiving calls from NYPD via relay.
0500	Preparing New Jersey ambulance deployment.
0800	All power restored at 1 and 9 MTC.

Saturday, August 16, 2003

The deactivation of the EMD back-up at 9 MTC began at 0200 hours and was completed at 0400 hours at which time, all EMD was operating from 1 MTC.

quately equipped with MDTs.

- The loss of telephone services to Emergency Medical Dispatch created three separate outages, ranging from seven to 14 minutes, dramatically impacting on radio communications and dispatching resources. Connections to NYPD SPRINT, Fire and EMD CAD were not available for periods of time due to problems at the Verizon Bridge Street facility.
- Loss of Department cellular telephone and paging networks further hampered FDNY's ability to provide and receive information. However, this problem was not unique to the FDNY; it impacted on all cellular carriers affected by the power outage.
- The proactive implementation of 9 MetroTech emergency back-up EMD Operations resulted in the facility being staffed and ready to go prior to any facilities failure.

This was a familiar sight throughout the City during the blackout--Firefighters helping people evacuate commuter trains and subways. Here, Firefighters help people cross tracks after evacuating train on the Williamsburg Bridge in Brooklyn. In the Bronx, 500 people were evacuated from a stalled commuter train.

- A review of plant operations indicated no dramatic impact or effect as a result of the blackout. With the loss of Con Edison power, FDNY Plant Operations remained fully operational, supplied by diesel generators in the Fire Dispatch Offices. Each of the five Fire Dispatch Offices, as well as all alarm boxes (BARS and ERS), remained operational throughout the incident.
- Designating specific tasks to Headquarters Command support staff ensured proper concentration on work-related issues and improved continuity of Bureau operations.
- In the immediate days following the incident, the Bureau of Communications met with senior Verizon representatives regarding the continuity of critical Fire Department communication services. Verizon has assigned a team of special engineers to work in conjunction with this office, to plan for the reconfiguration and diversification of current Verizon services to critical FDNY facilities. To date, a plan has been developed and approved, which will provide connectivity from multiple Verizon switches to critical FDNY facilities. Implementation and installation are underway.

Summary--The August 14th power outage impacted dramatically on the Department's operations. During that period, Communications' dispatch personnel from both Fire and Emergency Medical handled more than 200 percent more calls than on average. Although the Verizon facilities failures caused several disruptions of service to radio and telephone operation, FDNY dispatch personnel--as always--demonstrated their professionalism in dealing with the worst possible conditions.

The Borough of the Bronx

Deputy Assistant Chief and Bronx Deputy Borough Commander James Jackson became aware that a brownout was occurring in Brooklyn shortly after leaving Department Headquarters. He monitored the Department radio as he returned to the Bronx and due to the number of alarms being transmitted for stuck elevators in Manhattan, surmised that a large-scale blackout had occurred.

Returning to the Bronx Borough Command, Chief Jackson created a checklist of items to anticipate and deal with under blackout conditions. After experiencing blackouts in 1977 and 1965, he was well aware of conditions that could exist.

Once at the Borough Command, he determined that communications were the main consideration in establishing a Command Post. He notified FDOC that he would move the operation of the Borough Command to the Bronx Communications Office. This location proved ideal because they had back-up power, which allowed the Chief to maintain contact with all his units and Department Headquarters, in addition to being able to monitor the progress of all ongoing operations in the response area of the Borough Command. The Department radio, landline telephones and Nextel cellular phones were employed to maintain communications.

After communications, Chief Jackson's initial concerns were maintaining units in service, equipment availability and manpower. Regarding units remaining in service, he advised the Divisions to have all units verify their capability to fuel manually. The Divisions also were to ensure that all battery-powered equipment could be charged. Members held over from the day tour augmented manpower. These members were used for relief, to replace members going on medical leave, manning for the reserve apparatus and manning for the Rapid Response Vehicles. (See page 10.)

The number of alarms being transmitted was well in excess of normal. Bronx units proved themselves more than equal to the task at hand. In addition to a large number of all-hands fires and a second alarm, they also were called upon to handle a wide range of emergencies and CFR-D responses. Units operated with their

usual expertise, adapted to conditions and improvised as necessary. Of particular note was the evacuation of approximately 500 people from a stalled commuter train. Additionally, one unit improvised a power supply for a life support unit by enlisting the aid of a utility company truck, which had a generator. Second sections were established for both Divisions 6 and 7 to ensure that an adequate command structure was in place to deal with the number of incoming alarms.

The professionalism and dedication of all members of units assigned to the Bronx Borough Command were without equal. Their high standard of service to the citizens of New York City was maintained despite the difficult conditions encountered.

A harrowing night in Brooklyn--A Firefighter from Ladder 131 was in serious condition after he fell from a ladder at a blaze at 530 Sixth Avenue. Firefighter above regroups. It is believed a candle started the fire.

The Borough of Brooklyn

Brooklyn units, directed by Deputy Assistant Chief and Brooklyn Deputy Borough Commander Edward Kilduff (Assistant Chief and Brooklyn Borough Commander Thomas Galvin was located at FDOC, working with other Staff Chiefs), responded to a total of 1561 alarms and operated at 357 fires, 1070 emergencies and 109 EMS incidents. During the 26-hour period, there were 25 all-hands fires and two multiple alarms in the borough. Six reserve apparatus were activated, with two arriving first due at working fires. Manpower was held over to provide additional staffing and members were rotated as necessary in many units.

Both multiple alarms were in three-story commercial buildings on Flatbush Avenue and occurred within several hours of each other. The first multiple was a second alarm at 944 Flatbush Avenue at 2241 hours. The fire started in an electronics store on the first floor and extended to the second- and third-floor storage areas, causing extensive damage to the business.

The second multiple was a third alarm at 733 Flatbush Avenue, transmitted at 0558 hours. Once again, fire started on the first floor with heavy extension to the two vacant floors above, as well as to exposures #2 and #4. Units made a strong interior push on the second and third floors with hand-lines, but Commanders at the scene withdrew members because of a heavy fire condition, coupled with roof instability. An outside operation continued for several hours, before placing the fire under control at mid-morning. Many of the same units operated at both fires.

One other fire of note occurred in Greenpoint, where the members of Ladder 106 operated alone for several minutes at a second-floor fire in a four-story frame building. Searching above a heavy fire condition, they removed four overcome occupants from the third and fourth floors, prior to a line being stretched to the fire. Their actions were honored at City Hall the next day as an example of the excellent work performed by the Fire Department during the blackout.

Once again, the resourcefulness and dedication of FDNY members protected the City during a challenging time. There were many unusual incidents and communications problems to overcome and FDNY members successfully answered each call with professionalism and skill. Each firehouse also provided valuable assistance to the community in the form of shelter, information and comfort.

Special acknowledgment goes to the men and women of the Brooklyn Communications Office who handled 2280 calls and dispatched units to 1561 alarms. Their ability to provide effective coverage and dispatch units to multiple incidents simultaneously made the Borough safer for all.

The Borough of Manhattan

Deputy Assistant Chief and Manhattan Deputy Borough Commander Thomas Haring was scheduled to assume City-wide Command after 1600 hours. Before he could do so, the Manhattan Borough Command offices went dark. Landline and cell phones were dead. Battalion Chief (since promoted to Deputy Chief) Paul Cresci, Manhattan Borough Command, investigated and learned that there was a large area blacked out.

The FDNY responded, reacted and adapted as its members always do. Chief Haring often has observed that the FDNY is at its best when conditions are at their worst. August 14 presented the Department with another significant challenge and the field units again performed admirably. Adaptation during crisis is one of FDNY's best attributes.

The blackout presented new challenges and the field solutions followed. Solutions ranged from members hot-wiring generators to power up Command Post locations and operating in high-rise buildings for fires, rescues, emergencies and medical calls without the benefit of lights and elevators throughout the night to the point of exhaustion, to dispatchers handling significantly overloaded communications and processing alarms, telephone calls and unit assignments.

Firehouses were opened to the public for water and safe havens, primarily servicing the numerous stranded commuters and residents. Many high-rise buildings could not even supply water without emergency power for the pumps. Limitations presented by hardware and equipment failures were the difficulties faced; dedicated personnel performing above and beyond the call of duty provided the solutions.

Chief Haring reported to the Manhattan Central Office. Chief Cresci and FF Edward Cutting staffed the Manhattan Borough Command office, where they bypassed the electronic phones' circuitry and re-established communications with an old telephone. Battalions and Divisions relocated to firehouses where there were working telephones.

Command Post locations and deployment areas were established. Unit relocations were provided to Manhattan early in the blackout to assist with the enormous number of elevator rescues and emergencies. Later in the blackout, relocated units returned to their boroughs to assist with an increase in fire duty.

Vehicle traffic in Manhattan was gridlocked. The situation was further complicated by pedestrians flooding the streets after self-evacuating from the now-dark high-rise buildings. The mass

of people suffocated vehicle movement as pedestrians attempted to leave Manhattan Island. Battalion-based walking teams were initiated to patrol districts and assist civilians.

Future considerations

- When modes of communication are affected, Officers should have all available means of communications (Department radio, voice alarm, CADS, 800MHz radios and MDT system) monitored. As more staffing becomes available, these members can be used for this purpose. As the means of communications become restricted, it is crucial that communications are received accurately upon first transmission and acknowledged promptly, thus minimizing repeated transmissions. This will significantly reduce communications when the Department is overloaded. Monitoring several modes of communication is beyond the capability of the lone housewatchman in these situations. When available, an individual member should be assigned to each primary mode of communication available.
- Telephones should be checked for operability. Members readily will know that they can make outgoing calls, but verification should be made periodically to receive incoming calls. Local phone service often will give the impression of ringing when, in fact, the call is not reaching its destination. Fax lines may be operational as back-up phones when not in the Centrex system.
- Provide additional handie-talkie charging capability on the apparatus.
- New unit designations (i.e., Rapid Response Vehicles) should be coordinated in consultation with the Borough Supervising Dispatcher to assist in assignment and response. Failure to consider this will hinder response, delay assignment and result in loss of unit availability.

The day was exhausting; FDNY personnel were exemplary.

The Borough of Queens

Recognizing that the power loss was widespread--based on visual observation and radio transmissions--Deputy Assistant Chief Patrick McNally, Queens Deputy Borough Commander, realized he could not communicate properly from the Queens Borough Command in downtown Flushing. He moved to the Queens Communications Office located in Woodhaven. Thanks to a back-up power supply at this location, the Borough Command was able to establish hard-wire contact with Fire Department Headquarters, Division 13, staffed by Deputy Chief James DiDomenico, and Division 14, under the command of Deputy Chief Mark Ferran. From this site, the Borough Command also could monitor availability of units responding to the many and varied incidents expected on a hot summer night without electricity. The Borough Command also coordinated activation of seven reserve units. Some of the older members likened the workload to a busy 4th of July before the use of illegal fireworks was largely curtailed.

Another common sight during the blackout--checking elevators for trapped people. Manhattan units especially had numerous elevator rescues and emergencies. Here, a Firefighter from Ladder 110 checks elevator for people on Park Avenue in Brooklyn.

Response types

- Structural fires--the majority were related to improper use of candles.
- Assist civilians--elevator and subway evacuations were numerous. Civilians were patient and cooperative.
- Medical calls--the majority were heat-related. There were also calls to supply power to medical equipment.
- Class 3 alarms--power loss caused massive malfunctions.

Unusual problems encountered

- Difficulty opening overhead doors in quarters.
- Problems with the manual operation of fuel pumps.
- Running low or out of gas while using apparatus generators to power equipment, such as handie-talkie battery rechargers.
- Engine Companies OOS while waiting unusually long times for low-priority medical calls due to heavy workload on EMS.

Positive feedback

- Members' dedication and effort were outstanding.
- Dispatchers worked tirelessly and patiently.
- MDT and voice alarm worked well.
- Chiefs conducted proper size-up, increasing unit availability.
- Operations were conducted safely; very few injuries reported.

Overall, considering the burden placed on the Department by the effects of the blackout, FDNY members operated in the finest traditions of the Department by displaying a high level of dedication and professionalism.

The Borough of Staten Island

For Assistant Chief and Staten Island Borough Commander John Casey, the blackout brought back some old memories: He had worked the night of the 1977 blackout, which generated much more looting and fire duty than the one in 2003. (***Editor's Note:*** See the sidebar, "Blackout Scorecard," on page 11. This is a compilation of statistics pertaining to prior blackouts, developed by Deputy Chief Richard A. Travers and which originally appeared in the 4th/1983 issue of *WNYF*. Assistant Chief of Operations Peter E. Hayden updated it.)

Following the 2003 blackout, Chief Casey critiqued the incident. Department operations went well on several levels:

Staffing--With the additional personnel as a result of holding over off-going members, the Staten Island Borough Command staffed four reserve Engine Companies with an Officer and five Firefighters; one reserve Ladder Company with an Officer and five Firefighters, five brush fire units with an Officer and two Firefighters; two Rapid Response Vehicles with an Officer and two Firefighters; and two thawing apparatus with an Officer and two Firefighters.

Staten Island Borough Command--The Staten Island Borough Command office and EMS Division 5 and EMS Battalion 22, located at Seaview Hospital, had emergency power and telephone communications during the entire blackout. Dispensing diesel and gasoline fuel was not interrupted at Seaview.

Deputy Chief Assignments--The Staten Island Borough Command consists of three Battalions in Brooklyn and three on Staten Island. As a result of the Department recall, Chief Casey was able to place one Deputy Chief in each borough in anticipation of increased fire activity. The move increased operations efficiency.

Staten Island Communications Office--The Office maintained power and dispatched units to all the alarms received.

Battalion Chief Liaison--The Staten Island Borough Command assigned a Battalion Chief to the Staten Island Police Borough Command, located at the 122 Pct. Communications were maintained to coordinate operations and keep the Borough Command informed of any civil disturbances throughout the borough. A Battalion Chief also was assigned to the Staten Island

Communications Office to monitor operations.

Fuel Supplies--The Staten Island Borough Command surveyed all units to determine fuel supplies and dispensing capabilities. The information was relayed to all units, including EMS ambulances.

Conversely, the blackout also revealed some deficiencies that should be corrected:

Bronx/Staten Island radio--The Bronx and Staten Island share a radio frequency. With the number of alarms transmitted, unit communications to the central office became very difficult. This was particularly troublesome on the north shore of Staten Island. To correct this, each borough should have its own frequency.

CFR-D response--Units responding to CFR-D calls had to remain on the the scene for long periods of time awaiting ambulances. This was due to the unavailability of ambulances. To correct this and avoid having an Engine Company remain unavailable, the activated units--such as Rapid Response Vehicles--with an Officer and two Firefighters should be CFR-D certified and equipped to handle the CFR-D responses. These units then could relieve Engine Companies that otherwise would be out of service.

photo by FF Chris Landano

Firefighters responded to many CFR-D calls during the blackout, which adversely impacted some of the Engine Companies because they were held until ambulances arrived on the scene. This proved to be a problem, especially in the borough of Staten Island.

Firehouse generators--The lack of generators at all firehouses affected operations. Units were unable to charge radios, it was difficult maintaining and decontaminating equipment, etc. Members improvised to overcome these problems. The installation of permanent generators in all firehouses is the solution. The quarters of Engine 153/Ladder 77 has an underground stream flowing beneath the cellar. The flow has been calculated at 10,000 gallons/24 hours. To prevent flooding, the house has a number of sump pumps. When the blackout occurred, the pumps went down. Approximately one foot of water entered the cellar. Firefighters used portable generators to supply power to the sump pumps until the power was restored. This condition may be found in other firehouses and can be corrected by equipping the firehouses with emergency generators.

At 0600 hours on Friday, August 15, Chief Casey and his aide were the first to arrive at what turned out to be an all-hands in a building just across the street from the Borough office. This fire ended what had been a very busy night for all.

Special Operations Command

Assistant Chief Michael Weinlein, Special Operations Command, was sitting in his office speaking to the Counsel to the Department, Julian Bazel, on the development of a Memorandum of Agreement with the federal government dealing with issues pertaining to a radiological incident in the City, when the lights went out. Initially, the Chief's thoughts were, *what happened?* Recent experiences led him to question whether it was another instance of terrorism or just a breakdown of critical infrastructure.

Whatever the case, he needed to learn whether it was a widespread problem or just a localized incident. Should other problems be anticipated or was it contained to a small area? Myriad questions went through his mind as Chief Weinlein moved to the Fire Department Operations Center (FDOC) to monitor information as it started to be reported. One thing was certain; FDNY members were going to experience a very busy night.

Chief of Operations Cassano convened a meeting of the senior staff to size up and plan for the management of the consequences of this incident. From the chatter on the Department radio and the influx of responses by units to calls for assistance from the public, it quickly became apparent that this was a City-wide phenomenon that originated outside the City and call volume would rise exponentially with time.

The origin was beyond FDNY's control, but the consequences lay squarely upon members' shoulders and resources would be stripped quickly in many parts of the City. Chief Cassano, consulting with his senior staff, decided on a course of action that would lead to the first City-wide activation of the FDNY's newest proactive conceptual planning asset, the Rapid Response Vehicle (RRV). (See accompanying sidebar on page 10.) The Special Operations Command was to deploy as many Rapid Response Vehicles and the reserve Rescue Company on the street as soon as possible. The RRVs, manned by an Officer and a Firefighter, would respond to non-structural incidents to augment in-service units and the reserve Rescue would be activated and become the second section of Rescue 1.

Although some of the SOC Support Ladder Companies and all six of the Chemical Protective Clothing Trucks recently were issued their second piece apparatus, the vision for their use was cloudy. Planning was in place, but the question was whether they would work as envisioned and have a positive impact on operations for consequence management. The RRVs were provided with many of the basic tools necessary to handle many of the non-structural responses in store for this evening. Seven units, located inside firehouses, readily were supplied with personnel and placed in service rather quickly. Their radio designation became RR with the number of the unit where they were housed. For example, the RRV located with Ladder 35 became RR-35.

A second set of RRVs, awaiting assignment to a group of recently trained SOC Support Ladder Company personnel, were placed in service that evening from the Bureau of Training where they were being outfitted with equipment for the SOC Support Ladder Companies. The apparatus had an assortment of tools and equipment that not only would handle non-structural firefighting responses, but could be made available to be used at hazardous-materials incidents when coupled with other units. That afternoon,

there were 11 of these units being readied for service. There were also three Hammer teams operating in the City that day. Usually, the tour of duty for them would end at 1800 hours, but on this evening, they were held over and worked through the night.

Haz-Mat Operations personnel were instrumental in making these units serviceable. Many of the tools used that night came from the cache used at probationary firefighter school. Some of the personnel at the Bureau of Training and some held-over members of Division 6 staffed these units. Haz-Mat Operations coordinated supply efforts and kept FDOC informed regarding when the units were ready to be put in service. This information then was relayed to the Bureau of Communications.

The reserve Rescue Company was formed in March 2003 as a result of intelligence information of an impending attack to New York City. Since the highest alarm rate was in Manhattan during the early stages of the blackout, the reserve Rescue was put into service as the second section of Rescue 1. It was thought that this Rescue Reserve unit might be able to relocate to the outer boroughs as the night progressed, but that didn't happen. As with all units, both sections of Rescue 1 stayed extremely busy for the entire night.

Communications between Headquarters and the Marine Division could be described as sketchy at best. Battalion Chief William Siegel, Chief of the Marine Division, unable to contact Headquarters, staffed the Division to the best of his ability. He placed an additional boat into service. He also had the Marine units respond to areas where the ferries were leaving Manhattan and crossing the East and Hudson Rivers. The ferry traffic--as expected--was heavier than normal and these actions certainly positioned the Department in the best locations to prevent a possible disaster on the water.

The RRVs were placed in service shortly after the start of the incident at 1610 hours on August 14th through 1800 hours on the 18th, responding to non-structural incidents throughout that time frame. Initially, their mission was to alleviate the workload of in-service units to non-structural responses, especially elevator emergencies, but transitioned to a back-up position in anticipation of increased calls during the re-electrification process.

The Department has continued to show its support in taking a proactive planning strategy in this post-9/11 era. Continued planning and adoption of new, innovative and proactive operational assets will keep this Department squarely on the front lines and aid it in achieving its main mission--the protection of life and property of the citizens of New York City.

Rapid Response Vehicles (RRVs)

The Fire Department of New York City has strived in the past decade to develop its capability to respond to the increasing number and severity of haz-mat incidents and terrorist activity. The introduction of Squads 1 and 41 and Rescue 5 as haz-mat technician units in 1996 and the addition of seven Squads as rescue and haz-mat technician units in 1998 was a proactive effort on the part of the Department to enhance response capability in the pre-9/11 environment.

September 11, 2001, forever has changed the way the Department develops its policies and strategies. No longer will members be able to just respond to fire, medical and emergency calls without thinking about terrorism. This post-9/11 world requires members to create policies, develop strategies and implement procedures that necessarily may be outside the box. They may very well be against FDNY's grain and culture. The Department has been very proactive in developing some of these strategies, which will lead to new, innovative and proactive procedures to increase capabilities and assets for the Incident Commander. One such initiative is the Rapid Response Vehicle (RRV).

The RRV first was conceived prior to 9/11 by Battalion Chief John Fanning, Chief of Haz Mat Operations (killed on September 11, 2001, at the World Trade Center), and Deputy Commissioner Thomas Fitzpatrick, in response to the anthrax hoax letters of 2000. The concept was revisited and came to fruition on August 14, 2003, the day the Northeast lost its power grid. Among the losses the World Trade Center claimed were five Rescues, five of the seven Squads, Haz-Mat and numerous CPC Companies--virtually wiping out the rescue and haz-mat response capabilities of the FDNY. Though the capabilities were restored within days, it became apparent that a larger capability would be needed if a future incident/attack occurred at multiple locations throughout the City.

The concept of two-person vehicles with the training and tools to complete specific tasks would be invaluable to the City-wide Incident Commander during periods of increased activity. Though many visions of these units were floated in those early days, the final product evolved into the enhanced Rescue Support Truck Companies. Fifty two-person utility vehicles were ordered for various missions within the grand scheme of the plan.

Seven of these vehicles were issued to Chemical Protective Clothing (CPC) Companies (Ladders 1, 2, 6, 21, 35, 80, 87 and 10, the last of which had been OOS as a CPC since 9/11 and Ladder 1 has been designated as a SOC Support Ladder Company) as a second piece to carry their associated equipment and 21 vehicles were assigned to the 21 newly trained SOC Support Ladder Companies as a second piece for equipment. As of August 15, 2003, 10 vehicles were at Haz-Mat Operations being outfitted with the proper equipment--haz-mat, rescue and firefighting--for eventual transfer to the SOC Support Ladder Companies. Events caused this process to be accelerated.

The call came from Headquarters to activate these vehicles, manned by an Officer and a Firefighter, and send them to Manhattan to increase the borough's non-structural response capability, especially elevator emergency calls. Thus, the Rapid Response Vehicle was born.

Initially meant to be a second vehicle to the SOC Support Ladder Companies, it quickly was recognized by Headquarters staff that they could be used as extra units in a time of crisis. The tool list of this vehicle is dynamic and flexible for any situation. Activation of these units as separate entities is via the Chief of Operations and can vary as the need occurs. So far, they are second pieces to their host units when called as a SOC Support Ladder Company.

They can be used as they were on August 14 to augment non-structural operations. They may be deployed for special events--such as the World Series, National Conventions, parades or demonstrations--but many of their future missions may not have been envisioned yet.

These vehicles reflect part of the new, proactive, thinking-outside-the-box mentality that has permeated the Department in this new era. We do not know what the future FDNY will look like, but the RRV will be part of it.

Probationary Firefighters--A First Tour They Won't Forget

Firefighter Victor Leoncavallo, Engine 39, Manhattan--When Victor Leoncavallo headed to work for his first day as a New York City Firefighter, it represented the culmination of months of anticipation and preparation. His days at the FDNY Training Academy taught him a lot about firefighting, but now he was going to start learning on the job.

His first tour was the night of August 14 and he left his house at 3:30 p.m., to arrive early and get situated. On the ride into work, he was thinking about his father (retired Firefighter Joseph Leoncavallo, Engine 304) and wondering what went through his mind on his first tour as a fireman. FF Leoncavallo arrived at Engine 39, set his gear up at the rig and notified his Officer that he was ready for duty.

As he started checking the apparatus, civilians entered the firehouse, asking him what was going on with the power to their building. At the time, the Firefighter did not realize there was a blackout, but the number of civilians entering the firehouse told him something big was happening. He sent them to housewatch and told them to speak with two of the senior Firefighters. The members explained that there was a state-wide power outage.

FF Leoncavallo immediately donned his bunker gear and soon thereafter, had his first run as a Firefighter: residents trapped in a nearby elevator. Members responded and safely removed the

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