

United States Fire Administration



Technical Report Series

Fire, Police, and EMS Coordination at Apartment Building Explosion Harlem, New York City



Federal Emergency Management Agency



**United States Fire Administration
National Fire Data Center**

United States Fire Administration Fire Investigations Program

The United States Fire Administration develops reports on selected major fires throughout the country. The fires usually involve multiple deaths or a large loss of property. But the primary criterion for deciding to do a report is whether it will result in significant "lessons learned." In some cases these lessons bring to light new knowledge about fire - the effect of building construction or contents, human behavior in fire, etc. In other cases, the lessons are not new but are serious enough to highlight once again, with yet another fire tragedy report.

The reports are sent to fire magazines and are distributed at national and regional fire meetings. The International Association of Fire Chiefs assists USFA in disseminating the findings throughout the fire service. On a continuing basis the reports are available on request from USFA; announcements of their availability are published widely in fire journals and newsletters.

This body of work provides detailed information on the nature of the fire problem for policymakers who must decide on allocations of resources between fire and other pressing problems, and within the fire service to improve codes and code enforcement, training, public fire education, building technology, and other related areas.

The Fire Administration, which has no regulatory authority, sends an experienced fire investigator into a community after a major incident only after having conferred with the local fire authorities to insure that USFA's assistance and presence would be supportive and would in no way interfere with any review of the incident they are themselves conducting. The intent is not to arrive during the event or even immediately after, but rather after the dust settles, so that a complete and objective review of all the important aspects of the incident can be made. Local authorities review USFA's report while it is in draft. The USFA investigator or team is available to local authorities should they wish to request technical assistance for their own investigation.

This report and its recommendations were developed by USFA staff and by TriData Corporation, Arlington, Virginia, its staff and consultants, who are under contract to assist the Fire Administration in carrying out the Fire Reports Program.

The United States Fire Administration greatly appreciates the cooperation received from Assistant Chief Ed Butler of New York City Fire Department, Deputy Inspector Mike McCann, New York City Police Department, Assistant Chief Macneil Cross, Emergency Medical Services, and other members of their departments.

For additional copies of this report write to the United States Fire Administration, National Fire Data Center, 16825 South Seton Avenue, Emmitsburg, Maryland 21727.

**Fire, Police, and EMS Coordination
at Apartment Building Explosion
Harlem, New York City
(November 2, 1992)**

Investigated by: Dr. Denis Onieal

This is Report 068 of the Major Fires Investigation Project conducted by TriData Corporation under contract EMW-90-C-3338 to the United States Fire Administration, Federal Emergency Management Agency.



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**Fire, Police, EMS Coordination
at Fatal Apartment Building Explosion
Harlem, New York City**

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OVERVIEW

An undetected natural gas leak in an eleventh floor apartment of a 12-story fire resistive residential structure caused an explosion which killed three elderly residents and injured 34 others, including 19 police officers and six firefighters.

The efforts of the three lead response agencies, Fire, Police, and EMS, were coordinated within the structure of an Incident Command System (ICS). Integrated and cooperative command, linked with the implementation of a Collapse Rescue Plan; prudent triage and effective use of available resources for medical treatment; and rapid perimeter control to prevent further injuries demonstrated that seemingly overwhelming emergencies can be managed by applying good standard operating procedures. The lessons learned/reinforced by each agency at this incident can serve as a model to assist other emergency responders in planning for similar situations.

SUMMARY OF KEY ISSUES	
Issues	Comments
Cause of Explosion	Natural gas leak; source of ignition unknown.
Structure	Fire resistive brick and concrete 12-story apartment building on a structural steel frame, topped by a 2-story utility plant.
Casualties	Three elderly residents killed by explosion; 34 people injured: 16 residents, 19 police officers, 6 firefighters.
Incident Management	Excellent Fire, Police and EMS coordination. FDNY's 5-step Collapse Rescue Plan effectively used, within ICS organization. Rapid perimeter and traffic control in highly congested area of Manhattan.

NEW YORK CITY

New York City is the largest city in the country with a population of 7.5 million, occupying the five boroughs: Manhattan, Brooklyn, Bronx, Queens, and Staten Island. The borough that most people identify as New York City is Manhattan; the borough with the Empire State Building, the World Trade Center, Madison Square Garden, and Broadway. One of the northern sections of the borough of Manhattan is called Harlem, which lies roughly between the north end of Central Park and the Harlem River which separates Manhattan Island from the Bronx.

Harlem is a densely populated residential area with hundreds of high-rise residential buildings and thousands of three to six story apartment buildings and row tenements. The residents of Harlem span a wide range of economic levels, ethnic origins, and races. There are thriving businesses, churches, and community activities.

The New York City Fire Department has approximately 10,000 firefighters and officers assigned to 219 fire stations throughout the five

boroughs. They are organized into 209 Engine Companies, 143 Ladder Companies, and numerous special units, organized into 49 Battalions, and 11 Divisions. Harlem is part of the 5th Division, known as Northern Manhattan Command. There are five Rescue companies in the fire department, one assigned to each borough. The FDNY responded to 374,617 fires and emergencies during 1992.

The New York City Police Department has 30,000 officers and superiors organized into 75 precincts and specialized units. They responded to 8,663,627 "9-1-1" calls for help in 1992. The Police Emergency Services Unit (ESU) includes bomb technicians, SWAT teams, canine units, divers, hostage negotiators, and a number of units that routinely respond to extricate victims from automobile accidents and other mishaps. The Emergency Services Unit has 35 units working city-wide at any given time.

Emergency Medical Services responds to an average of one million calls per year with 3,000 employees. Each 24-hour day, EMS staffs 474 tours (two people in one ambulance for eight hours is a tour) to provide 150 to 200 ambulances on the streets at peak periods. The fleet includes both ALS and BLS ambulances. These units are supplemented by 100 tours per day provided by volunteer ambulance corps.

THE BUILDING

The building where the explosion occurred is located in a middle class section of Harlem, at the intersection of 135th Street and Madison Avenue. It is part of a seven building complex known as Riverton Houses. This complex was once the home of Mayor David Dinkins, former Army Secretary Clifford Alexander, Jr., and Samuel Pierce, Secretary of Housing and Urban Development under President Reagan.¹

The fire resistive structure at 45 East 135th Street was built in 1947. It consisted of 12 floors of apartments, topped by a 2-story utility plant, constructed primarily of brick and concrete on a structural steel frame. There were eight apartments on each floor, two apartments in each of four wings. The Red Cross stated that there were 103 families living in the building.² Natural gas was piped to all of the apartments to serve cooking stoves.

¹ The New York *Times*, Tuesday, November 3, 1992, B-2.

² *Ibid.*

THE EXPLOSION

At 5:05 p.m., an explosion and subsequent fire rocked the upper levels of the structure. Later investigation determined that the source of the explosion was a gas leak in an eleventh floor apartment which was ignited when the apartment's 84-year-old occupant returned home. Whether the explosion was set off by an electric switch or some type of open flame is unknown, but the occupant apparently had just opened the apartment door when the explosion occurred. The elevator was stuck on the eleventh floor as a result of the explosion, so it is surmised that he got off the elevator, walked into the apartment, and something ignited the accumulated gas as he entered.

The force of the explosion blew out the exterior brick walls on the ninth through the twelfth floors on the south and west sides of the building, and shattered windows in surrounding buildings in the neighborhood. In the area of the explosion, sections of floors crumbled, leaving the steel skeleton of the structure exposed. Building debris, bricks, broken glass, and apartment contents were blown out and down to the streets below. Flames were visible on the eleventh and twelfth floors. The noise and vibration of the explosion was felt by some fire department units that were 12 blocks away.

The apartment occupant and two other building residents were killed and 16 were injured, but miraculously no passersby were injured as the debris rained down on the streets below. On that day 15 of the building's residents were on a bus trip to Atlantic City. Had they been home, the death and injury toll could have been much higher.

MAJOR EMERGENCY PROBLEMS

With so many people and buildings in this densely populated neighborhood, and with several different emergency agencies and operations involved in dealing with the explosion and fire, there were several issues of immediate concern:

1. What caused the explosion? Was it a gas leak, a terrorist act, or some "souvenir" ordnance? What was the possibility of subsequent explosions during the rescue efforts?

2. How to account for all the people in the building and on the ground?
 - Where were all the dead and injured? Were there victims awaiting rescue in the debris of the destroyed floors or on the rooftops of surrounding buildings? Every commanding officer interviewed kept saying that they couldn't believe that there weren't more deaths and injuries.
 - If there were relatively few in the building, had victims been blown out of the building into the surrounding neighborhood? How far, and where to search?
 - How many passersby were under the building debris on the ground? How many were in their cars buried under the rubble?
3. What was the possibility that the remaining parts of the 12-story structure would collapse? How severely was the building damaged?
4. How to conduct rescue operations while minimizing the risk of additional injuries was a major concern.

The number of media representatives at the scene was a significant problem. New York City is a media center for the world. There are six local television stations, four daily newspapers, and 71 commercial radio stations (43 FM, 21 AM). Coincidentally, there was a political dinner for a senatorial candidate only four blocks away from the incident. The media and numerous elected and appointed officials attending the dinner soon converged at the scene. All were clamoring for information.

THE EMERGENCY RESPONSE

With such a large area, population, and demand for services, and three large emergency response agencies, there are municipal directives which establish which agency responds to and/or takes control of a particular incident in New York City. If the incident escalates into an interagency response, the lead agency is "in charge." Under the charter, the Fire Department is in charge of all fires and building collapses, as was the case for this explosion and fire.

The incident is described below from the point of view of the Fire, Police, and EMS agencies involved; the problems faced and solutions developed by each responding agency. For clarity, they are presented

separately. The reader, however, should remember that these operations were concurrent and required coordination throughout the incident.

The first emergency responders on the scene were neighborhood police officers who heard the explosion. They reported the explosion and fire over the radio, and proceeded up into the building to help evacuate building residents. They met residents coming down the stairs, several with minor injuries, but when the officers reached the tenth floor, they discovered that the stairway had been blown out. They found the 84-year-old apartment occupant still alive and carried him down the stairs on an ironing board.

FIRE DEPARTMENT

As the lead agency in all fires and building collapses, the New York City Fire Department has a procedure they follow for all building collapses called the Collapse Rescue Plan (CRP)³. The CRP was originally based on the experiences of the London Fire Brigade during the bombing blitz of World War II. The purpose of the CRP is to maximize the chances of survival for the largest number of victims while minimizing the dangers to rescuers that building collapse operations present. A plan such as the CRP encourages planning and training in collapse rescue operations; works well within the tenets of the ICS; and minimizes the free-lancing and control problems that are often faced by command officers in large rescue operations.

The 5-step CRP is as follows:

1. ***Survey the Collapse Site*** - The first part of the survey should be a safety survey. Examine the site for emergent hazards that would further endanger rescuers, e.g., gas leaks, unstable structures or structural members. The second part of the survey should identify the locations of known victims and areas where survivors are most likely to be found.⁴
2. ***Rescue Victims Who Are on the Surface of the Rubble*** - This step can be the most productive in terms of successful victim rescue, but can also be very dangerous, if debris shifts or a secondary collapse occurs.

³ Vincent Dunn, *Collapse of Bunting Buildings: A Guide to Fireground Safety*, New York Fire Engineering, 1988, p. 232.

⁴ Conversation with Vincent Dunn, Deputy Chief, FDNY, Sept. 22, 1992.

3. ***Explore Voids*** - Most collapse configurations leave void spaces in which victims may be trapped. Voids can be created by furniture or other contents as well as the configuration of collapsed structural members.
4. ***Selected Debris Removed*** - This phase of the operation may require tunneling or trenching to reach victims in known locations and often requires shoring to support sections that may collapse as debris is removed.
5. ***General Debris Removal*** - After all known surviving victims have been removed, the rest of the rubble must be examined for any unexpected victims (a building visitor, a passerby). This stage may require the use of heavy equipment and must proceed under the assumption that there may be additional live victims under the debris. Every section of debris must be checked.

For more information about CRP operations, see Vincent Dunn, "31st Street Collapse," W.N.Y.F., New York City Fire Department, 4th Issue, 1988; or Vincent Dunn, "Collapse Rescue Operations," *Fire Engineering*, February 1989.

Upon arrival at 5:07 p.m., fire companies found two floor structures of the building seriously destroyed, fire on two floors, and reports of numerous injuries. The Battalion Chief (16th Battalion) transmitted a second alarm at 5:14 p.m. The Deputy Chief (5th Division) had heard the explosion from 12 blocks away and was also responding.

As the first crews of firefighters were ascending the stairs, they met the descending police officers who were carrying the 84-year-old victim down the stairs on an ironing board. The police officers in the building at that time were patrol officers and were not wearing any protective clothing. Since the possibility of a secondary explosion or collapse had not been eliminated, the Battalion Chief requested that the remaining police officers evacuate the building. The police cooperated fully.

Although the explosion had disabled the elevators, the standpipe system remained operable. Fire units walked up to the tenth floor and began operating hose lines, attacking the fire and conducting searches for injured residents. They used ground ladders to bridge the damaged stairways.

The Fifth Division Chief, at the Command Post, transmitted the notification for a major collapse, and then the third alarm at 5:18 p.m.

The major collapse notification summoned two additional rescue companies, the Tactical Support Unit, and the Rescue Liaison Officer, in addition to the 3rd alarm assignment. A total of 18 engine companies, 13 ladder companies, 4 rescue companies, 4 battalion chiefs, one division chief, the Safety Battalion Chief, Field Communications Unit, Mask Service Unit, and several additional special units responded to the incident.

The Citywide Command Officer on duty, an Assistant Chief, responded to assume overall command of the incident. The IC was faced with several major problems: controlling the activities of all rescuers, locating all the victims inside the building, locating any victims outside the building, extinguishing the fire, and evaluating the possibility of a secondary explosion and/or collapse.

The Fire Department command post was set up at the northeast corner of 135th Street and Madison Avenue. All chief officers were on the command channel, Channel 6; all rescue companies were on Channel 4; and all operating fire companies were on the tactical channel, Channel 1. Extra radios were provided by the Field Communication Unit to those officers who were required to monitor more than one radio channel. The Operations Officer, Division 6, went to the tenth floor, and took charge of all firefighting and rescue in the building, including the Rescue companies. Simultaneous rescue and suppression efforts, complicated by explosion damage, high-rise operations, and darkness, required strong command and close coordination, control, and monitoring.

During the primary search, fire units uncovered two additional victims, both women, 92 and 93-years-old. One was already deceased while the other was found alive but died of injuries soon after arrival at Harlem Hospital.

As part of the CRP, the gas and electric service to the building was shut off, eliminating the possibility of a secondary gas explosion. There was a continuing concern that the blast could have been the result of a bomb or some other cause. Police Emergency Services Unit personnel, equipped with protective equipment and trained dogs, searched the entire building for evidence of a bomb. None was found.

The perimeter search portion of the CRP was conducted by police and fire units, but no additional victims were discovered.

Newspaper, radio, and television reporters immediately crowded the Command Post, several coming directly from the political dinner a few blocks away. The reporters crowded around the Command Post seeking

information until the IC had time to assign a Public Information Officer (PIO). The PIO gave brief, but frequent updates that satisfied most of the press and elected officials at the scene.

Once the fire was extinguished, primary and secondary searches of all floors had been completed and all victims had been removed, the incident was declared under control at 7:27 p.m. For the most part, fire department operations and control of the incident were terminated, and the Police Department became the lead agency. A few fire units were left at the scene until the next day in the event of a secondary fire.

POLICE DEPARTMENT

Almost as soon as the explosion occurred, Police Department patrol units and walking beat officers were at the scene. Police officers ran into the building and began evacuating residents. Several elderly residents were confused and had to be gingerly escorted down the stairs, while some younger and more agile residents escaped the building before they could be accounted for. The man in whose apartment the blast occurred, was found by police officers amidst the rubble on the tenth floor, placed on an ironing board, and carried down the stairs by the police. He was still alive and was transported to Harlem Hospital where he died a few days later.

During this early rescue phase of the operation 19 police officers were injured. Twelve of the officers were transported to hospitals for evaluation, but all were treated and released.

The Police Department established their command post in the River-ton Houses building manager's office, across the street from the explosion, near the intersection of 135th and Madison. It was close enough to the fire department command post to facilitate coordination and gave police superiors access to telephones, office equipment, and tenant records to assist in identifying the building residents.

During firefighting operations, the Police Department secured the building perimeter, assisted in the perimeter search for additional victims, and closed off arterial streets and re-routed traffic so that responding emergency equipment would not be delayed. During this time, the Police Department IC was gathering information: What happened? Could it happen again? Who was injured, killed, trapped? Where were the injured and deceased taken? He also made sure that ESU personnel, the Bomb Squad, and Police Command Vehicle were summoned. The Command Vehicle is a rolling communications center, equipped with 100 portable radios on separate frequencies to handle just such an incident. He also

requested the Task Force, a group of 26 officers trained to respond to major incidents.

The Police IC's primary concern was victim tracking. He assigned a detective supervisor as the Documentation Officer to document the injured, deceased. A team of detectives was sent to each surrounding hospital to account for the injured who may have taken themselves to the hospital. One detective was assigned to the Medical Examiner's Office to try to identify and document any deceased victims. Other detectives interviewed building residents to find out who had escaped the explosion and who was still missing. This information was cross-referenced with resident information in the building manager's office. The information was shared with the Fire Department IC as it became available.

The second responsibility of the Police was security. He assigned a Captain to establish a "frozen" perimeter, 75 feet around the building itself, within which only emergency workers were permitted to enter. In addition to keeping people away from the danger of falling debris, it provided security for the personal property that had been blown out of the building. He assigned another Captain to establish a "general" perimeter, one-half block around the building, to exclude vehicular traffic and provide safety to displaced residents and onlookers. To ease the traffic burden, the IC assigned a citywide traffic division Captain to close off the 135th Street exits from the East River (FDR) Drive.

It soon became apparent that something had to be done to protect the displaced tenants. A school just around the corner, PS #197, was opened. This served as the Red Cross staging area for evacuees. It was a place where tenants could be accounted for, where relatives could check on their loved ones, and where people arriving home to find their building damaged could go for protection, information, and documentation.

The possibility that the cause of this blast was a bomb could not be excluded. Once the fire was extinguished, ESU personnel with trained canines searched the entire structure for bombs or evidence of a bomb. None was found. With the fire out, the utilities shut off, and the probability that the incident was caused by a bomb eliminated, a more thorough secondary search for victims commenced. The Police Department took floors seven and below, while the Fire Department took floors eight and above. No additional victims were discovered.

During the first critical 30 minutes of the operation, the Police IC faced the same press deluge as his Fire Department counterpart. He also

set up a press area and assigned a PIO who briefed the press and elected officials as frequently as information became available.

When the fire had been extinguished, and the possibility of secondary collapse eliminated, the Fire Department gave up its lead role. For the next seven days, the operation was coordinated through the Police Department. In all, 175 police officers and superiors responded to this incident from the 28th, 32nd, and 40th Precincts, as well as ESU, Traffic, and specialized units. Those seven days will be discussed in a later paragraph.

EMERGENCY MEDICAL SERVICES

There were a total of 35 casualties on November 2nd: one fatality at the scene, 25 people transported to local hospitals (12 police officers, four firefighters, nine civilians), and nine people who were treated at the scene, but not transported. The Fire Department reported that six firefighters were injured; EMS transported four to area hospitals. (Two firefighters were counted among the treated, but not transported.)

An EMS Deputy Chief became the EMS IC and set up a CP within close proximity to the Police and Fire CPs, at the intersection of 135th and Madison. A total of 16 ambulances responded, 11 BLS, 5 ALS, along with a total of 23 supervisors. A number of specialized EMS units were also summoned, including a Field Communications Unit, two Mobile Emergency Response Vans (converted school busses used for treatment and care of the injured before transport), two Emergency Response Squads (equipped with lighting, generators, and hazardous materials equipment), one Special Operations Unit (lights and more powerful generators), and two Logistical Supply Units (ambulances converted to carry extra supplies).

The injured were triaged, stabilized and transported to local hospitals, based on the severity of their injuries. The most severely injured were taken to the closest hospital, Harlem Hospital. Others less seriously injured were distributed to other area hospitals to prevent any one hospital's emergency room from being overwhelmed. Most of the hospitals, Beth Israel, Doctors, Metropolitan, Columbia Presbyterian, St. Luke's, Lincoln, and Elmhurst, were less than 30 minutes away.

In addition to providing treatment and transportation for the injured, the EMS IC had to address the medical needs of the displaced residents in PS #197, who had health problems and were without medication. Within 45 minutes of the explosion, all of the injured had

been treated and released at the scene or transported to area hospitals for additional treatment.

One patient died in the emergency room and one died after being admitted. None of the other patients were admitted to hospitals. Most of their injuries were cuts, bruises, and minor fractures.

Once the searches by police and fire units were complete, EMS changed hats to deal with the long term care problems, remaining at the scene until the next day. Several of the elderly displaced building residents at PS #197 were in need of prescription medication. Some couldn't remember exactly where they left it in their apartments, or had lost it escaping the building. Others lived in apartments that were so damaged that finding a small medicine container would be next to impossible. The building was still far too dangerous to allow them to reenter and search for the medication, so it had to be replaced.

Obtaining replacement medication is complicated by the fact that many people do not know the proper name and exact dosage of their medications; many refer to them as "my heart pills" or "blood thinners."

Those in need of medication had to be transported to area hospitals for examinations and prescriptions. EMS sent representatives to each hospital to make sure that these people were "fast-tracked" through the system. The Red Cross assisted in caring for the displaced residents.

THE LONG-TERM OPERATION

Most of the emergency was resolved by 11 p.m. By that time, EMS and the Fire Department had a few units standing by at the scene. The media and the elected and appointed officials had left, and all of the specialized equipment from each agency had been returned. The Police Department had taken over as lead agency and secured the building and the surrounding area for the night. It was still considered a crime scene because the cause of the explosion had yet to be determined. Thirty police officers remained in and around the building. People were still being sheltered in PS #197, and the Red Cross was securing temporary shelter for those who required it. Traffic in the immediate area remained restricted.

Recovery operations began the next morning. The Department of Sanitation was summoned to remove debris from the area and surrounding streets. The Traffic Department was called to remove damaged vehicles. The Police strung lights in the hallways of floors one through eight and

established a command post in the building lobby. At this lobby command post, the police and building manager's office screened people requesting access.

A large room in the building management office was used to 'brief' tenants about the recovery efforts. There were two briefings each day and after each briefing, tenants were permitted access to their apartments. Tenants were taken in escorted groups to their apartments to retrieve valuables, medication, pets, personal items, and cash.

These daily briefings were opportunities for each involved agency (Police, Fire Marshall, Building, Housing Preservation, Red Cross, Traffic, and Emergency Management) to explain their operation to the building's tenants. Many tenants showed signs of stress and were offered counseling, particularly with respect to what caused the explosion and the likelihood of it happening again.

At the daily briefings a representative of each agency explained the progress of their recovery efforts and their agency's operations for the day. Each agency sent the same representative to the briefing each day. Using the same representative also helped cement working relationships among the city agencies and increased the confidence that the tenants had in each agencies' response.

INTERAGENCY COORDINATION AND COOPERATION

Although most communities plan for emergencies, few ever reach the complexity of routine daily operations in New York City. In this incident a high-rise building, in a densely populated area, that happens to be near the crossroads of three boroughs (Manhattan, the Bronx, and Queens), exploded in the middle of rush hour. One hundred seventy-five police officers, 185 firefighters, 75 EMS personnel, the Office of Emergency Management, the Building Department, and various other city agencies responded. Within 45 minutes, everyone had been rescued, treated, and transported to hospitals. The fire was under control, and the area was secured. Within two hours the surrounding areas had been searched for victims, and the possibility of a secondary explosion had been eliminated. The operations were conducted in the dark, on a rainy night, on three floors without outside walls that were 100 feet in the air. Within four to five hours, the majority of the operation was terminated, and emergency units were back on duty, ready for service.

Two of the major elements of this success are planning and coordination. By city charter, each responding agency has its mission

clearly defined. Each knows who is in charge, their responsibilities, and their resources. This has been refined over years of training and experience.

Although each of these primary agencies had its own Command Post and IC, they were in proximity to one another to facilitate coordination and communication. The City's Office of Emergency Management (OEM) also dispatched a command unit to the scene to assist with interagency coordination. Each agency had a representative at the OEM command post, and there were meetings every hour at which each agency described their operation, their goal, and their progress.

LESSONS LEARNED or REINFORCED

All Agencies

1. Planning is the key to successful interagency response.

Identify roles, relationships, and responsibilities. Make sure that the people in charge of each agency know each other before a disaster happens. Practice with communications; observe each other's operations; try to develop some understanding of each other's operational procedures and problems.

2. The Incident Command System provided a command structure which delineated duties and responsibilities and fostered communication.

At this incident, the parts came together to form a cohesive organization; there was no duplication of effort, working at cross-purposes, or interagency "rivalry." Each agency commander recognized and cooperated with the mission of the appropriate lead agency, communicated needs and concerns, and was prepared to contribute resources when and where required.

3. Each commander felt pressure from the media.

Dealing with the survivors and the incident was the primary concern, but the media were a problem for all of the agencies. There was constant pressure, even though each IC felt that they cooperated with the media as much as they possibly could. Each said that they wished they had appointed a PIO earlier in the incident.

4. Do not assume that the worst has already happened. Consider the possibility that something else may occur.

In this case, the cause of the explosion could not be immediately determined. Both Fire and Police commands concerned themselves with the possibility that the cause may still be present and set about ensuring that the possibility of a second explosion was eliminated.

5. When an incident involves the dislocation of large numbers of people, try to identify a large building: or area away from the incident to shelter them.

Displaced residents tend to be upset, they want to talk with someone "in charge," and they want to know what happened. Residents congregating in the area of the incident subject themselves to the possibility of additional injury and cause a major distraction to the management of the incident. Residents are difficult to document and account for when they are walking around - a particular problem when they are needed to be questioned about people who might be missing.

6. Appoint a Documentation Officer to record each agency's actions, reports, resources used, and unfulfilled needs (for future reference). The Documentation Officer appoints someone to track victims, their extent of injuries, and where they were transported.

Each agency at this incident had someone appointed to complete this task.

7. When involved in long-term operations, Liaison Officers from each agency should meet regularly to discuss their plan, operation, needs, and problems.

During the emergency operation at this incident, representatives from every agency met once per hour at the OEM Command Vehicle. Later, during the week-long recovery operation, the involved agencies met in the building manager's office every day at 1:00 p.m. to discuss what they had done and what they planned to do. There was little confusion, and both the tenants and the press felt that the operation was being conducted as quickly and efficiently as possible.

8. Be prepared for the appearance of elected and appointed officials.

Elected officials should be kept as well informed as possible. They can be helpful in dealing with the press because they are usually willing to

go on the record to explain what happened and what is being done. Don't overwhelm them with details or provide them with sketchy information that may later turn out to be unreliable.

9. Call for help as soon as the possibility exists that you may need it.

Each Incident Commander recognized the need for resources and acted accordingly.

10. Keep track of your emergency personnel. Increase supervision and accountability during danzerous operations. Communicate frequently. Obtain progress reports from subordinates.

Once again, at this incident, there was close accountability for personnel. Each commander noted this as one of the factors which limited rescuer injuries.

11. The best source of information about potential victims or missing people is other victims.

Identify and interview the known victims as quickly as possible regarding the location of others.

Police

12. Secure the area. Limit access to protect evidence collection and preservation, and damaged property.

In this incident, the Police IC set up two perimeter zones, closed down streets, and closed off the exit ramp of a major highway. The incident was treated as a crime scene (which it could have been).

13. Coordinate long term recovery operations.

Police set up a command post in the building manager's office to provide information for the dislocated victims and their families. They held briefings once a day which included all agencies operating at the site. Each operating agency participated in a daily meeting to outline what they had done, and what yet had to be accomplished. This eliminated confusion and facilitated coordination. Every agency had the same story to tell the residents, the public, and the press.

14. In long-term recovery operations, try to use the same people every day.

The agency representatives develop a working relationship amongst themselves, and the victims have an increased sense of confidence in the recovery operation because they “know” the officials involved.

15. Personal property is very important to victims.

Police provided 24-hour security for the building. Once victims were permitted back into the building, they were carefully screened in the lobby before being allowed to proceed. Police officers accompanied people to the floors for both safety and security. Every entry and everything removed was documented.

16. Attempt, as quickly as reasonably possible, to return the area to normal: open up streets, take a lower police profile, admit other city agencies to help begin the process of restoration.

The sightseers leave when there is nothing to see. It gives the victims some sense of a return to normalcy, that they are on the road to a recovery. It quickens the pace of clean-up and restoration.

17. People need reassurance.

This may take the form of just talking. They want to know what happened, and if it could happen again. They want to talk with someone in charge, someone they can trust. Some victims may require more formal stress counseling.

Fire

18. Develop and be prepared to implement a collapse Rescue Plan.

The sequence of survey, surface rescue, void rescue, selected debris removal, and general debris removal was followed. Practice in this plan is needed because most fire departments seldom experience this type of event.

19. Immediately shut off all utilities.

There may be breaks in gas, electric, and water lines that could cause additional problems.

20. During: nighttime operations. make sure the area is well illuminated.

The area where the firefighters were working was between the tenth and twelfth floors, and there were no outside walls. Floors and ceilings were collapsed. Tripping and falling hazards were all over the area. Portable lighting was a priority concern.

21. Relieve operating companies frequently.

Fatigue is a factor in injuries. Commanders should continually monitor companies for any evidence of fatigue.

EMS

22. Provide an area to shelter and monitor uninjured residents.

In this incident, a public school was used as a shelter and EMS personnel were assigned to provide for the medical needs of the residents, including any minor injuries that had not been reported. This will ensure that all receive attention, that all residents can be accounted for, and that friends and relatives can locate displaced occupants. This is particularly important with an elderly population who may need to have prescription medications replaced and may require other forms of assistance, particularly in a stressful situation.

23. Identify, as best you can. who is on life sustaining medication. Devise methods to replace the medication.

With the concurrent demand for emergency treatment of injured victims, it is going to take a while for an emergency room physician to get around to this problem. At this incident, people received medication on an emergency basis and were “fast tracked” through the hospital’s treatment clinics the next day.

24. Do not overload one hospital with all of the victims. send the most seriously injured to the closer hospitals, and the less seriously injured to hospitals further away.

In this event, victims were dispatched to eight different hospitals, all within a 30 minute drive. The most seriously injured were sent to the closest hospital, two blocks away.

Appendix A
Photograph



Photograph provided by The New York Post

Exterior view of explosion damage on upper floors of 12-story apartment building at 45 East 135th Street, New York City.