

**NIST NCSTAR 1-4A**

**Federal Building and Fire Safety Investigation of the  
World Trade Center Disaster**

**Post-Construction Fires Prior to  
September 11, 2001**

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National Institute of Standards and Technology  
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# ABSTRACT

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Fires occurred in World Trade Center (WTC) 1, 2, and 7 prior to September 11, 2001. This report documents the facts of significant fires in the buildings after first occupancy as they relate to the performance of the automatic sprinkler, manual suppression, fire detection, and smoke purge systems. The ultimate goal of this review was to identify from New York City Fire Department (FDNY) records significant but not well-known fires for further study.

From the information contained in FDNY fire reports and fire investigation records provided to the National Institute of Standards and Technology (NIST), 47 fires occurred in WTC 1, 2, and 7 that were of sufficient size and duration to activate multiple sprinklers or were estimated by NIST to be capable of doing so, over the time period the buildings were occupied. This total does not include the major 1975 office fire in WTC 1 or the 1993 bombing.

The records indicate that in areas protected by automatic sprinklers, no fire activated more than three sprinklers. Three sprinklers would provide coverage for a floor area of approximately 675 ft<sup>2</sup> (63 m<sup>2</sup>). This area is much smaller than the 9,000 ft<sup>2</sup> (800 m<sup>2</sup>) damaged by the 1975 fire in an office space unprotected with automatic sprinklers.

Many of the fires that occurred were recorded as suspicious or unknown in cause, occurred during off peak work hours, and involved materials such as trash or paper-based supplies. In cases where sprinklers were activated, the FDNY records indicated that the sprinklers either extinguished the fire completely or aided in controlling the spread.

Keywords: Fire, fire detection, manual fire suppression, smoke purge systems, sprinklers, World Trade Center.

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# LIST OF ACRONYMS AND ABBREVIATIONS

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## Acronyms

DTAP	dissemination and technical assistance program
FDNY	New York City Fire Department
FEMA	Federal Emergency Management Agency
HVAC	heating, ventilating, and air conditioning
NIST	National Institute of Standards and Technology
PANYNJ	Port Authority of New York and New Jersey
R&D	research and development
WTC	World Trade Center
WTC 1	World Trade Center 1 (North Tower)
WTC 2	World Trade Center 2 (South Tower)
WTC 7	World Trade Center 7

## Abbreviations

ft <sup>2</sup>	square foot
m <sup>2</sup>	square meter

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# PREFACE

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## Genesis of This Investigation

Immediately following the terrorist attack on the World Trade Center (WTC) on September 11, 2001, the Federal Emergency Management Agency (FEMA) and the American Society of Civil Engineers began planning a building performance study of the disaster. The week of October 7, as soon as the rescue and search efforts ceased, the Building Performance Study Team went to the site and began its assessment. This was to be a brief effort, as the study team consisted of experts who largely volunteered their time away from their other professional commitments. The Building Performance Study Team issued its report in May 2002, fulfilling its goal “to determine probable failure mechanisms and to identify areas of future investigation that could lead to practical measures for improving the damage resistance of buildings against such unforeseen events.”

On August 21, 2002, with funding from the U.S. Congress through FEMA, the National Institute of Standards and Technology (NIST) announced its building and fire safety investigation of the WTC disaster. On October 1, 2002, the National Construction Safety Team Act (Public Law 107-231), was signed into law. The NIST WTC Investigation was conducted under the authority of the National Construction Safety Team Act.

The goals of the investigation of the WTC disaster were:

- To investigate the building construction, the materials used, and the technical conditions that contributed to the outcome of the WTC disaster.
- To serve as the basis for:
  - Improvements in the way buildings are designed, constructed, maintained, and used;
  - Improved tools and guidance for industry and safety officials;
  - Recommended revisions to current codes, standards, and practices; and
  - Improved public safety.

The specific objectives were:

1. Determine why and how WTC 1 and WTC 2 collapsed following the initial impacts of the aircraft and why and how WTC 7 collapsed;
2. Determine why the injuries and fatalities were so high or low depending on location, including all technical aspects of fire protection, occupant behavior, evacuation, and emergency response;
3. Determine what procedures and practices were used in the design, construction, operation, and maintenance of WTC 1, 2, and 7; and
4. Identify, as specifically as possible, areas in current building and fire codes, standards, and practices that warrant revision.

NIST is a nonregulatory agency of the U.S. Department of Commerce's Technology Administration. The purpose of NIST investigations is to improve the safety and structural integrity of buildings in the United States, and the focus is on fact finding. NIST investigative teams are authorized to assess building performance and emergency response and evacuation procedures in the wake of any building failure that has resulted in substantial loss of life or that posed significant potential of substantial loss of life. NIST does not have the statutory authority to make findings of fault nor negligence by individuals or organizations. Further, no part of any report resulting from a NIST investigation into a building failure or from an investigation under the National Construction Safety Team Act may be used in any suit or action for damages arising out of any matter mentioned in such report (15 USC 281a, as amended by Public Law 107-231).

## Organization of the Investigation

The National Construction Safety Team for this Investigation, appointed by the then NIST Director, Dr. Arden L. Bement, Jr., was led by Dr. S. Shyam Sunder. Dr. William L. Grosshandler served as Associate Lead Investigator, Mr. Stephen A. Cauffman served as Program Manager for Administration, and Mr. Harold E. Nelson served on the team as a private sector expert. The Investigation included eight interdependent projects whose leaders comprised the remainder of the team. A detailed description of each of these eight projects is available at <http://wtc.nist.gov>. The purpose of each project is summarized in Table P-1, and the key interdependencies among the projects are illustrated in Fig. P-1.

**Table P-1. Federal building and fire safety investigation of the WTC disaster.**

Technical Area and Project Leader	Project Purpose
Analysis of Building and Fire Codes and Practices; Project Leaders: Dr. H. S. Lew and Mr. Richard W. Bukowski	Document and analyze the code provisions, procedures, and practices used in the design, construction, operation, and maintenance of the structural, passive fire protection, and emergency access and evacuation systems of WTC 1, 2, and 7.
Baseline Structural Performance and Aircraft Impact Damage Analysis; Project Leader: Dr. Fahim H. Sadek	Analyze the baseline performance of WTC 1 and WTC 2 under design, service, and abnormal loads, and aircraft impact damage on the structural, fire protection, and egress systems.
Mechanical and Metallurgical Analysis of Structural Steel; Project Leader: Dr. Frank W. Gayle	Determine and analyze the mechanical and metallurgical properties and quality of steel, weldments, and connections from steel recovered from WTC 1, 2, and 7.
Investigation of Active Fire Protection Systems; Project Leader: Dr. David D. Evans; Dr. William Grosshandler	Investigate the performance of the active fire protection systems in WTC 1, 2, and 7 and their role in fire control, emergency response, and fate of occupants and responders.
Reconstruction of Thermal and Tenability Environment; Project Leader: Dr. Richard G. Gann	Reconstruct the time-evolving temperature, thermal environment, and smoke movement in WTC 1, 2, and 7 for use in evaluating the structural performance of the buildings and behavior and fate of occupants and responders.
Structural Fire Response and Collapse Analysis; Project Leaders: Dr. John L. Gross and Dr. Therese P. McAllister	Analyze the response of the WTC towers to fires with and without aircraft damage, the response of WTC 7 in fires, the performance of composite steel-trussed floor systems, and determine the most probable structural collapse sequence for WTC 1, 2, and 7.
Occupant Behavior, Egress, and Emergency Communications; Project Leader: Mr. Jason D. Averill	Analyze the behavior and fate of occupants and responders, both those who survived and those who did not, and the performance of the evacuation system.
Emergency Response Technologies and Guidelines; Project Leader: Mr. J. Randall Lawson	Document the activities of the emergency responders from the time of the terrorist attacks on WTC 1 and WTC 2 until the collapse of WTC 7, including practices followed and technologies used.

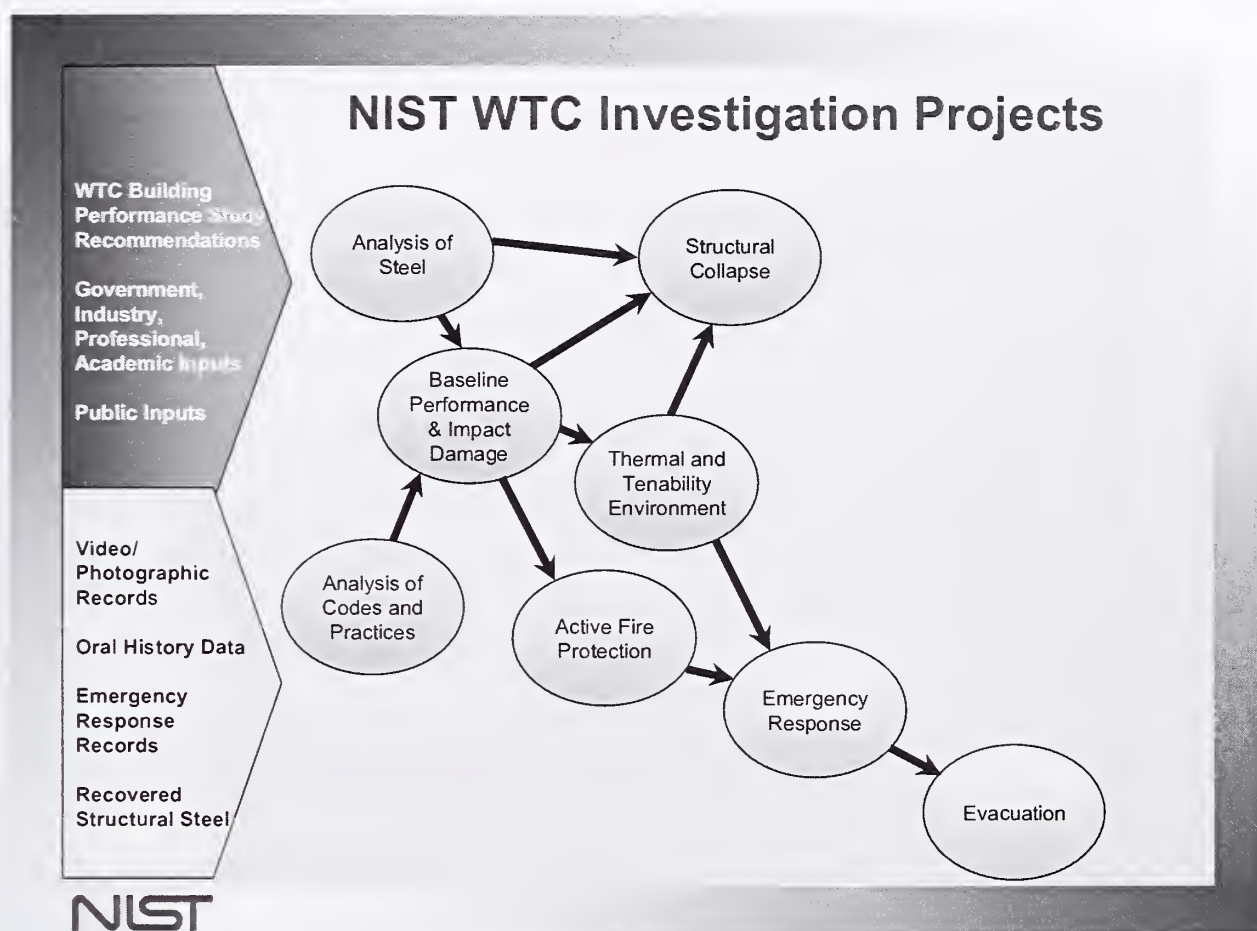


Figure P-1. The eight projects in the federal building and fire safety investigation of the WTC disaster.

### National Construction Safety Team Advisory Committee

The NIST Director also established an advisory committee as mandated under the National Construction Safety Team Act. The initial members of the committee were appointed following a public solicitation. These were:

- Paul Fitzgerald, Executive Vice President (retired) FM Global, National Construction Safety Team Advisory Committee Chair
- John Barsom, President, Barsom Consulting, Ltd.
- John Bryan, Professor Emeritus, University of Maryland
- David Collins, President, The Preview Group, Inc.
- Glenn Corbett, Professor, John Jay College of Criminal Justice
- Philip DiNunno, President, Hughes Associates, Inc.



- Robert Hanson, Professor Emeritus, University of Michigan
- Charles Thornton, Co-Chairman and Managing Principal, The Thornton-Tomasetti Group, Inc.
- Kathleen Tierney, Director, Natural Hazards Research and Applications Information Center, University of Colorado at Boulder
- Forman Williams, Director, Center for Energy Research, University of California at San Diego

This National Construction Safety Team Advisory Committee provided technical advice during the Investigation and commentary on drafts of the Investigation reports prior to their public release. NIST has benefited from the work of many people in the preparation of these reports, including the National Construction Safety Team Advisory Committee. The content of the reports and recommendations, however, are solely the responsibility of NIST.

## **Public Outreach**

During the course of this Investigation, NIST held public briefings and meetings (listed in Table P-2) to solicit input from the public, present preliminary findings, and obtain comments on the direction and progress of the Investigation from the public and the Advisory Committee.

NIST maintained a publicly accessible Web site during this Investigation at <http://wtc.nist.gov>. The site contained extensive information on the background and progress of the Investigation.

## **NIST's WTC Public-Private Response Plan**

The collapse of the WTC buildings has led to broad reexamination of how tall buildings are designed, constructed, maintained, and used, especially with regard to major events such as fires, natural disasters, and terrorist attacks. Reflecting the enhanced interest in effecting necessary change, NIST, with support from Congress and the Administration, has put in place a program, the goal of which is to develop and implement the standards, technology, and practices needed for cost-effective improvements to the safety and security of buildings and building occupants, including evacuation, emergency response procedures, and threat mitigation.

The strategy to meet this goal is a three-part NIST-led public-private response program that includes:

- A federal building and fire safety investigation to study the most probable factors that contributed to post-aircraft impact collapse of the WTC towers and the 47-story WTC 7 building, and the associated evacuation and emergency response experience.
- A research and development (R&D) program to (a) facilitate the implementation of recommendations resulting from the WTC Investigation, and (b) provide the technical basis for cost-effective improvements to national building and fire codes, standards, and practices that enhance the safety of buildings, their occupants, and emergency responders.

**Table P–2. Public meetings and briefings of the WTC Investigation.**

Date	Location	Principal Agenda
June 24, 2002	New York City, NY	Public meeting: Public comments on the <i>Draft Plan</i> for the pending WTC Investigation.
August 21, 2002	Gaithersburg, MD	Media briefing announcing the formal start of the Investigation.
December 9, 2002	Washington, DC	Media briefing on release of the <i>Public Update</i> and NIST request for photographs and videos.
April 8, 2003	New York City, NY	Joint public forum with Columbia University on first-person interviews.
April 29–30, 2003	Gaithersburg, MD	NCST Advisory Committee meeting on plan for and progress on WTC Investigation with a public comment session.
May 7, 2003	New York City, NY	Media briefing on release of <i>May 2003 Progress Report</i> .
August 26–27, 2003	Gaithersburg, MD	NCST Advisory Committee meeting on status of the WTC investigation with a public comment session.
September 17, 2003	New York City, NY	Media and public briefing on initiation of first-person data collection projects.
December 2–3, 2003	Gaithersburg, MD	NCST Advisory Committee meeting on status and initial results and release of the <i>Public Update</i> with a public comment session.
February 12, 2004	New York City, NY	Public meeting on progress and preliminary findings with public comments on issues to be considered in formulating final recommendations.
June 18, 2004	New York City, NY	Media/public briefing on release of <i>June 2004 Progress Report</i> .
June 22–23, 2004	Gaithersburg, MD	NCST Advisory Committee meeting on the status of and preliminary findings from the WTC Investigation with a public comment session.
August 24, 2004	Northbrook, IL	Public viewing of standard fire resistance test of WTC floor system at Underwriters Laboratories, Inc.
October 19–20, 2004	Gaithersburg, MD	NCST Advisory Committee meeting on status and near complete set of preliminary findings with a public comment session.
November 22, 2004	Gaithersburg, MD	NCST Advisory Committee discussion on draft annual report to Congress, a public comment session, and a closed session to discuss pre-draft recommendations for WTC Investigation.
April 5, 2005	New York City, NY	Media and public briefing on release of the probable collapse sequence for the WTC towers and draft reports for the projects on codes and practices, evacuation, and emergency response.
June 23, 2005	New York City, NY	Media and public briefing on release of all draft reports for the WTC towers and draft recommendations for public comment.
September 12–13, 2005	Gaithersburg, MD	NCST Advisory Committee meeting on disposition of public comments and update to draft reports for the WTC towers.
September 13–15, 2005	Gaithersburg, MD	WTC Technical Conference for stakeholders and technical community for dissemination of findings and recommendations and opportunity for public to make technical comments.

- A dissemination and technical assistance program (DTAP) to (a) engage leaders of the construction and building community in ensuring timely adoption and widespread use of proposed changes to practices, standards, and codes resulting from the WTC Investigation and the R&D program, and (b) provide practical guidance and tools to better prepare facility owners, contractors, architects, engineers, emergency responders, and regulatory authorities to respond to future disasters.

The desired outcomes are to make buildings, occupants, and first responders safer in future disaster events.

## National Construction Safety Team Reports on the WTC Investigation

A final report on the collapse of the WTC towers is being issued as NIST NCSTAR 1. A companion report on the collapse of WTC 7 is being issued as NIST NCSTAR 1A. The present report is one of a set that provides more detailed documentation of the Investigation findings and the means by which these technical results were achieved. As such, it is part of the archival record of this Investigation. The titles of the full set of Investigation publications are:

NIST (National Institute of Standards and Technology). 2005. *Federal Building and Fire Safety Investigation of the World Trade Center Disaster: Final Report on the Collapse of the World Trade Center Towers*. NIST NCSTAR 1. Gaithersburg, MD, September.

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# Chapter 1

## NEW YORK CITY FIRE DEPARTMENT RECORDS

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Fires occurred in World Trade Center (WTC) 1, 2, and 7 prior to September 11, 2001. This report documents the facts of significant fires in the buildings after first occupancy as they relate to the performance of the automatic sprinkler, manual suppression, fire detection, and smoke purge systems. The ultimate goal of this review was to identify from New York City Fire Department (FDNY) records significant but not well known fires for further study.

### 1.1 BACKGROUND

The fire protection engineering department of the Port Authority of New York and New Jersey (PANYNJ) maintained records of all significant fire events in the WTC buildings. These records were lost in the collapse of the towers.

Two significant fire events involving WTC 1 are well known. On February 14, 1975, a fire started on floor 11 of WTC 1. Workers reported the fire to WTC police headquarters. When police reached the fire floor, they reported a serious fire and ordered the heating, ventilating, and air conditioning (HVAC) system be placed into the smoke purge mode. Fire spread through unprotected floor openings in utility closets. Fire damage occurred on floor 10 through floor 19. Approximately 9,000 ft<sup>2</sup> (800 m<sup>2</sup>) of the floor 11 contents were destroyed or damaged. At that time, sprinklers had not been installed in the office spaces. However, fire barriers divided the floor into quadrants. The fire on floor 11 was confined to the southeast quadrant. Fire damage on other floors was confined to the utility closets. The fire was extinguished by the FDNY. More details about this fire incident can be found in Powers (1975) and Lathrop (1975).

At 12:18 p.m. on February 26, 1993, a bomb exploded in an underground parking garage of the WTC complex. The explosion occurred on the B2 level in the area of the garage under WTC 3 and adjacent to WTC 1. The explosion resulted in a loss of normal electric power in WTC 1 and WTC 2. HVAC systems shut down. Smoke spread throughout WTC 1 and to a lesser extent in WTC 2. More details about this fire can be found in Isner and Klein (1993a, 1993b). The only historic record of smaller fire incidents in WTC 1, 2, and 7 known to this investigation are the fire reports and fire investigation reports prepared by the FDNY. These reports were provided to NIST by the FDNY for use in this Investigation.

### 1.2 FDNY FIRE REPORTS AND FIRE INVESTIGATION REPORTS

The FDNY released 397 Bureau of Operations Fire Reports and 112 Bureau of Fire Investigation Records (Fire Marshals' Reports), which served as the basis for a summary of the fire history in WTC 1, 2, and 7. The National Institute of Standards and Technology (NIST) obtained reports of fires for the period of 1970–2001 and fire investigation records between 1977 and 2001 for WTC 1, 2, and 7, which in total, consisted of over 500 documents on which to report. These records included all responses to fires in WTC 1, 2, and 7 by the FDNY. All of these records consist of standardized forms that may be

supplemented with other materials. Many were for minor fire events, such as fires that were extinguished by occupants before FDNY arrival. These were not of interest for this investigation. The records of significant fires were identified.

Significant fire incidents were those that exercised the fire suppression systems, specifically multiple sprinklers or multiple standpipes (with or without the activation of at least one sprinkler). These fires will be discussed individually, organized by the building in which they occurred. In addition to these fires, generalized facts relating to those fires involving the use of one standpipe line and one sprinkler and the use of one standpipe line will be provided throughout this report. Appendixes A through H of this report are explanation of numeric codes and reproductions of relevant fire reports. As an aside, the majority of fire records for significant fires documented the performance of the detectors and sprinkler systems, but almost all reports lacked information about the performance of the smoke purge system.

### **1.2.1 Fire Record Forms**

Depending upon the type and date of the incident, a specific fire report form was used by the FDNY to document the incident. For each type of emergency responded to by the FDNY, responders either completed a form that would describe a structural fire (BF-24) or a form that would describe any other type of emergency (BF-25), such as a nonstructural fire, transportation fire, and/or any other nonfire emergency. For this historical summary, only those events logged and organized under the structural fire form, 345 documents total, were of interest and used. A structural fire form is a one-page document (unless additional information is recorded on separate sheets) that gives valuable information about the fire event on various subjects, including:

- Alarm—the date and time of the received alarm
- Injuries and casualties—the numbers of each for the incident
- Extinguishment—details of the sprinkler and standpipe performance
- Ignition—information on the equipment involved in ignition, the form of the ignition source, the material type and form that was ignited, and the ignition factor (cause)
- Structure—information on the class of construction, the use of the building, and its status (vacant, occupied, under construction, etc.)
- Fire origin—the fire location and classification
- Fire extension—the means of fire extension and number of buildings/vehicles involved
- Damage—information on the damage done by flame, smoke, and water
- Detectors—the type, power source, and performance of the detectors in the fire area

Each subject of the incident is given a set of codes or numbers that correspond to any incident, and in order to read the fire records successfully, an understanding of the codes is necessary (see Appendixes A,



B, and C). For the nonstructural B-25 record forms, the only fire-related subjects included are the injury and casualty numbers, ignition, and structure information.

Depending upon the date of the fire incident, certain information is lacking from the structural fire form. Before 1980, a different record form for structural fire incidents was used that left out the following subjects: fire extension, damage, detectors, and portions of the ignition data. Because of this, detection data are not available for the majority of the fires occurring before 1980.

### 1.2.2 Overview of Fire Incidents 1970–2001 from FDNY Records

Table 1–1 contains the categorization of all structural fire incidents contained in the FDNY records for WTC 1, 2, and 7 available to this investigation. The table contains information on the category of fire incident (whether or not the detection and/or sprinkler systems activated), the time period over which the fires occurred, the numbers of records in that category, and a descriptive statement about the category.

**Table 1–1. Categorization of WTC 1, 2, and 7 fires from FDNY records.**

Category	Dates	Number	Generalization of Incidents
<b>WTC 1</b>			
No detection, no sprinkler	1980–2001	66	Unattended food/appliances, overheated elevator equipment, discarded material, welding operations, electrical failure and suspicious fires
No detection information and no sprinklers	1970–1979	79	Trash can fires, discarded material, food on stove, electrical failure, overheated equipment
Detection, no sprinklers	1980–2000	57	Unattended food/appliances, overheated elevator equipment, discarded material, welding operations, electrical failure
Detection and sprinklers	1977–1999	18	Suspicious, electrical failure, discarded material
<b>WTC 2</b>			
No detection, no sprinkler	1980–1999	37	Discarded material, welding too close, overheated equipment, suspicious, elevator motor
No detection information and no sprinklers	1975–1979	40	Discarded material, fire in office furniture, trash can fires
Detection, no sprinklers	1981–1999	40	Food on stove, small elevator fire, electrical failure, suspicious, overheated equipment
Detection and sprinklers	1977–2000	5	Mechanical failure, suspicious
<b>WTC 7</b>			
No detection, no sprinkler	2000	1	Trash can fire/discarded material
Detection, no sprinklers	1990	1	Electrical switch on floor — explosion
Detection and sprinklers	1988	1	Suspicious

All FDNY records provided to NIST, unless the records were not readable, contained relevant information about the type and performance of the suppression system. Because of this, reports of incidents in which the sprinkler system activated can range from 1970 to 2001. When the table lists “[detection]” in brackets, this is meant to symbolize that either detection was present or no information on detector performance was included on the form (as is the case with the older records). An attempt was made to compare all investigation records with the fire reports, especially those which activated the suppression system. Looking at the records in Table 1–1, it is clear that only 24 fires activated the sprinkler system from 1970–2001 from all three buildings. Many of the other structural fires without sprinkler activation were labeled as suspicious, trash can fires, electrical failures, unattended food/appliances, or overheated equipment.

In order to report on significant structural fires occurring in WTC 1, 2, and 7, the FDNY records had to be reviewed for those incidents that activated sprinklers, detectors, or were extinguished by hose line and those smaller fires that self-extinguished or could be extinguished using a fire extinguisher. The structural fire incidents without detection information (before 1980), had to be reviewed to locate any fires that activated the sprinkler system.

The retrofit installation of sprinklers into WTC buildings 1 and 2 was accomplished in two phases. During the first phase in 1976, sprinkler risers/mains were installed throughout WTC 1 and WTC 2. Sprinklers were installed to protect corridors, storage rooms, lobbies, and certain tenant/PANYNJ spaces. In the second phase of the retrofit from 1983 to 2001, sprinklers were installed in all remaining places in the complex (PACO 2002; shown in Appendix I). Prior to the retrofit, only the sub-grade areas and selected hazard areas were protected by automatic sprinklers. This retrofit, proceeded throughout the buildings as much as practical when other renovations of the office spaces were under way, such as when change of tenants occurred.

After the installation of the sprinkler risers in 1976, tenants had the option of providing sprinklers or compartmentation for fire protection in compliance with Local Law 5. It was therefore possible that during the period of time when retrofit installation of sprinklers was under way, a fire that occurred may or may not have been in an area protected by automatic sprinklers.

The forms used by the FDNY after 1987 give a detailed description of the event and whether or not a system was present at the time of the fire; however, a fire recorded before 1987 will give data only on the number of sprinklers opened. Because of this, an effort was made to look through all reports, especially those that mentioned detection performance, in order to identify fires involving the use of standpipe lines by the FDNY as an alternate indication of a significant fire.

The next section of the report will highlight significant fires occurring in WTC 1, 2, and 7. The significant fires will be described individually by WTC building, and organized by the date on which they occurred in the building. In addition to these significant fires, (1) the fires that activated one sprinkler head and involved the use of one standpipe and (2) the fires that involved the use of only one standpipe, due to the number of incidents, will be generalized as to the nature of the incidents and the procedures followed by the FDNY.



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## Chapter 2

### SIGNIFICANT FIRES IN WTC 1, 2, AND 7

#### 2.1 FIRE INCIDENTS OCCURRING IN WTC 1

After reviewing all the New York City Fire Department (FDNY) records of fire incidents in World Trade Center 1 (WTC 1) since 1970, the significant fires were selected. There were 12 significant fires found for WTC 1, and the fire reports are included in Appendix D. Table 2–1 provides a summary of the fire incident information from the FDNY records, which is followed by individual paragraphs about each incident.

**Table 2–1. Significant fires in WTC 1 extinguished by sprinklers and/or multiple standpipe lines.**

Significant Fire	Incident Date	Fire Location	No. of Sprinklers Activated	No. of Standpipes Used	Cause of Fire	Material Ignited
1	9/9/77	B-6 level storage room	2	0	None listed	Not listed
2	9/23/77	Dumpster on B-4 level	2	0	Not classified	Trash/waste
3	10/16/81	Floor 19 office area	–	2	Discarded material	Furniture
4	12/23/83	2 dumpsters on B-4 level	2	1	Suspicious	Trash/waste
5	1/27/85	Office space on mezzanine level (floor 2)	2	1	Incendiary	Trash/waste
6	9/10/85	Garbage dumpster in service elevator lobby on floor 43	2	1	Suspicious	Trash/waste
7	11/1/85	Storage closet on B-4 level	3	1	Suspicious	Supplies/stock
8	6/7/86	Dumpster fire on floor 106, compactor room on floor 107	2	1	None listed	Trash/waste
9	9/30/91	Office on B-4 level	≥1	2	Discarded material	Trash/waste
10	11/19/91	Electrical closet on floor 93	0	2	Short circuit	Electrical wire or cable insulation
11	7/23/92	Level B-5 at the power distribution panel	0	2	Electrical failure	Electrical wire or cable insulation
12	11/10/99	Computer room on floor 104	3	≥1	None listed	Plastics, electronic equip

**Key:** ≥ symbol denotes that at least one of the units of the suppression system was used (and not specifically identified by the fire report); – indicates that the report acknowledges 0 sprinklers open; however, due to the date of the fire, the space may not have had a sprinkler system installed.

### Significant Fire #1

On September 9, 1977, at 11:04 p.m., the FDNY received an alarm for a fire in the B-6 level storage room at the address of WTC 1. The fire activated two sprinklers, and was noted to be extinguished before the FDNY's arrival.

### Significant Fire #2

Another fire occurred on September 23, 1977, at 11:48 p.m., in a dumpster on the B-4 level of WTC 1. This fire also activated two sprinklers, and the FDNY noted that the fire had been extinguished prior to their arrival.

In both cases, no injuries or casualties resulted from these fires, and the damage was confined to the area of origin.

### Significant Fire #3

Six years later, on October 16, 1981, at 7:12 p.m., a fire occurred on floor 19 of WTC 1. The FDNY noted that they used two standpipe lines to extinguish the fire and that one person was evacuated from the scene. Again, the fire report notes that no sprinklers opened, but does not note whether or not sprinklers were present at the time of the fire. Given the date of the incident, sprinklers are not expected to be located on floor 19. The fire was caused by discarded material and involved furniture in an office area of the floor.

### Significant Fire #4

Six years later on December 23, 1983, at 2:50 a.m., the FDNY responded to an alarm of fire and heavy smoke conditions on the B-4 level of WTC 1. The FDNY found two dumpsters fully involved in separate locations on the same floor and noted that the two activated sprinklers extinguished a major portion of the fire. The FDNY extinguished the rest of the flames by stretching hose from the standpipe system. Again, no injuries or casualties resulted from this fire. The cause noted on the report was suspicious and the damage was confined to the origin of the fire.

### Significant Fire #5

On January 27, 1985, at 8:53 p.m., the FDNY was called for a fire located in an unoccupied office on the mezzanine level of WTC 1. Two sprinklers contained the incendiary (involving arson) fire consuming trash paper/waste. When the FDNY arrived, they extinguished the remaining fire with one standpipe line. Building and content damage was confined to less than 15 percent of the space. Also, no injuries or casualties were reported.

### Significant Fire #6

Eight months later on September 10, 1985, at 4:05 p.m., the Port Authority Police informed the FDNY on arrival of a sprinkler flow and smoke condition on floor 43. A medium smoke condition was report by the FDNY on floor 43, where a fire was extinguished by two sprinklers. The fire report notes the use of one standpipe line; however, this was used during the overhaul process. This fire originated suspiciously in a garbage dumpster in a service elevator lobby. There was no building or content damage as well as no injuries or casualties reported.

### Significant Fire #7

On November 1, 1985, at 4:05 a.m., the FDNY was called for another suspicious fire producing heavy smoke on the B-4 level under WTC 1 and WTC 2. This fire occurred in a storage closet of the men's bathroom, and the FDNY noted that three sprinklers activated to keep the fire under control until their arrival. Upon arrival, the FDNY extinguished the remaining fire in the closet area with one standpipe line. Again, the damage was noted to be confined to the area of origin.

### Significant Fire #8

Less than a year later, on June 7, 1986, at 9:49 a.m., the FDNY received an alarm for a heavy smoke condition on floor 110. For this call, fires were burning in two separate places: a garbage dumpster on floor 106 and the compactor room on floor 107. Sprinklers were noted in operation in both locations and seemed to control the fires, until the FDNY could complete extinguishment with one standpipe line on floor 106. There was no report of injuries or casualties for the previous two fires.

### Significant Fire #9

An additional fire occurred in WTC 1 where multiple standpipe lines were used along with the activation of the sprinkler system. This fire occurred on September 30, 1991, at 6:32 p.m., in an office on the B-4 level. The fire report noted that the sprinkler system operated; however, there is no mention of how many sprinklers or even their activation in the Operations/Comments section of the report. Two 1 3/4 in. or larger hose lines were used by the FDNY to extinguish this fire. The cause of the fire was abandoned material (cigarette) igniting boxes/carton material in an office. The fire damage was confined to the area of origin and smoke damage was confined to the floor. There was one uniformed officer injured and no civilian injuries or casualties.

### Significant Fire #10

A fire occurred on November 19, 1991, at 6:27 p.m., and two 2 1/2 in. standpipe hose lines were used by the FDNY. The FDNY responded to WTC 1 for this fire due to a report of fire and smoke condition in electrical closets on possibly four floors (floors 93–96) and an alarm transmitted from floors 93 through 98. According to the fire report, the sprinklers were in service, but did not operate for this fire. The noted cause of this fire was a short circuit and the material that was ignited was electrical wire or cable insulation. The fire and smoke damage was confined to its area of origin (electrical closet). Two occupants were removed from stalled elevators during this incident, and occupants were evacuated from the scene, although an exact number is not given. Also, two occupants were injured and required first aid.

### Significant Fire #11

The FDNY responded to WTC 1 on July 23, 1992, at 10:02 p.m., due to a transformer fire on the 5th subbasement level. Firefighters found a fire situation in a large power distribution panel, where a firefighter was knocked unconscious by a shock blast from the panel. Similar to the fire in November 1991, two 2 1/2 in. standpipe hose lines were used by the FDNY on this fire. The cause of the fire was an electrical failure and the material ignited was electrical wire or cable insulation. No appreciable damage is noted. As mentioned earlier, one firefighter was injured as well as three civilians.

### Significant Fire #12

The final fire associated with WTC 1 was one that occurred on November 10, 1999, at 11:01 p.m., in a computer room on floor 104. The FDNY noted that the fire was “knocked down” by three sprinklers



when they arrived and they completed extinguishment with a line extended from the standpipe. The flame damage was confined to the area of origin and computer equipment was involved in fueling the fire. There was one injury and no casualties reported in the FDNY record for this fire.

Table 2–1 presents the 12 significant fires in WTC 1. Five of the 12 fires occurred on the basement levels and two occurred on the upper levels (above floor 100). The causes of these significant fires include suspicious, discarded materials, and electrical failures.

## 2.2 FIRE INCIDENTS OCCURRING IN WTC 2

Table 2–2 presents the significant fire occurring in WTC 2. There were three significant fires found for WTC 2, and the fire reports are included in Appendix E. Table 2–2 provides a summary of the fire incident information from FDNY records, which is followed by individual paragraphs about each incident.

**Table 2–2. Significant fires in WTC 2 extinguished by sprinklers and/or multiple standpipe lines.**

Significant Fire	Incident Date	Fire Location	Number of Sprinklers Activated	Number of Standpipes Used	Cause of Fire	Material Ignited
1	5/19/75	Floor 32	–	3	Incendiary	Trash/waste
2	4/12/77	Ductwork over grill in restaurant on floor 107	2	0	None listed	Ductwork
3	3/22/93	Fan motor room on floor 108	2	0	Mechanical failure	Not classified

**Key:** – Indicates that the report acknowledges 0 sprinklers open; however, due to the date of the fire, the space may not have had a sprinkler system installed.

### Significant Fire #1

A fire occurred on May 19, 1975, at 9:38 p.m., on floor 32 of WTC 2. The FDNY noted that they used three standpipe lines to extinguish the fire and that the Port Authority reported occupants trapped on floors 31 and 32. The fire report notes that no sprinklers opened, but does not note whether or not sprinklers were present at the time of the fire. Given the date of the incident, sprinklers are not expected to be located on floors 31 and 32. The fire was labeled as incendiary and involved trash/waste. The FDNY stated that the fire involved the core area of the floor and was confined to that area. More than 20 people (civilians and uniformed personnel) were injured by this incident.

### Significant Fire #2

On April 4, 1977, at 1:15 p.m., the FDNY was called to WTC 2 for a fire in the ductwork over the grills in a restaurant on floor 107. The FDNY record on this fire noted that the fire was extinguished prior to its arrival. The damage was confined to the area of origin, and the fire caused no injuries or casualties.

### Significant Fire #3

The second fire occurred on March 22, 1993, at 8:39 a.m., and caused a smoke condition on floor 108. The fire activated two sprinklers due to an overheated bearing in a fan motor room on floor 108. The

damage to the area did not exceed 15 percent of the space, and there were no injuries or casualties reported.

Table 2–2 presents the three significant fires in WTC 2. No fires were discovered in WTC 2 where multiple sprinklers or standpipes were used with another suppression system. Two of the three fires occurred on the upper levels (above floor 100) and the other occurred on floor 32. The causes of these significant fires included incendiary and mechanical failures.

## **2.3 ADDITIONAL FIRES INVOLVING DEPLOYMENT OF STANDPIPE LINES IN WTC 1 AND WTC 2**

The fires described in this section (31 in total) involve the use of one standpipe, with and without the activation of one sprinkler for WTC 1 and WTC 2. Four of the 31 reports describe fires that were extinguished with one sprinkler and one standpipe line (see Appendix F). Three of these fires were located in WTC 1 between the years of 1986–1991 and the other in WTC 2 in 1981. Two of these fires occurred in basement levels, one occurred on floor 106 of WTC 1, and the last on floor 5 in WTC 1. In some of the fire reports, the FDNY noted that the sprinkler controlled the fire, and the standpipe was used to actually extinguish the remaining fire. Half of the fires were labeled as incendiary/suspicious, one was an electrical failure, and the last was unknown.

In addition, 27 of the 31 fire reports describe fires that were extinguished using one standpipe line (see Appendix G). Twenty of these fires occurred in WTC 1 and the other seven occurred in WTC 2. A majority of these fires (19) are labeled as incendiary/suspicious or unknown, while the other causes of the fires are attributed to short circuits, abandoned material/cigarette, welding close to combustibles, and a mechanical failure. The dates of occurrence for these fires range from 1973–1999, with a majority (23) occurring between the years of 1973–1985. These fire incidents did not result in any casualties, but five civilians and one uniformed officer were injured.

Two of the 27 fires involved a 300-person (April 19, 1980) and a 1,500-person (April 17, 1981) evacuation. These will be described in further detail. On April 19, 1980, at 2:06 p.m., the FDNY received reports of an activated smoke detector in the return air duct on floor 106 of WTC 1. The FDNY also received reports of heavy smoke on floor 106, light smoke on floor 109, and heavy odor of smoke in stairways A and B. The report notes that while only one standpipe was used, approximately 300 people were evacuated from the Windows on the World restaurant on floor 107 via stairway C (which was clear of smoke). The fire cause was labeled as abandoned or discarded material and involved plastic material. This fire did not cause any injuries or casualties.

On April 17, 1981, at 9:18 a.m.; the FDNY was informed of a fire on floor 7 and a smoke condition on floors 7 through 11 of WTC 1. The FDNY hooked up one standpipe and extinguished the fire located in an air conditioning unit in the “MER” room on floor 7. The cause of this fire was labeled as a mechanical failure. The fire report notes that the Port Authority personnel reported an evacuation of approximately 1,500 people from floors 9 through 23. However, no injuries or casualties were reported from this fire.

## 2.4 FIRE INCIDENTS OCCURRING IN WTC 7

Table 2–3 presents the significant fire occurring in WTC 7. There was one significant fire found for WTC 7, and the fire report is included in Appendix H. Table 2–3 provides a summary of the fire incident information from FDNY records, which is followed by an individual paragraph on the incident.

**Table 2–3. Significant fires in WTC 7 extinguished by sprinklers and/or multiple standpipe lines.**

Significant Fire	Incident Date	Fire Location	Number of Sprinklers Activated	Number of Standpipes Used	Cause of Fire	Material Ignited
1	5/20/88	Construction shanties on floor 3	Multiple, number not listed	1	Suspicious	Shanties

### Significant Fire #1

In WTC 7, a fire occurred on May 20, 1988, at 12:38 a.m., in the construction shanties on floor 3. Although the fire report does not specifically note the number of sprinklers that activated, the operations notes state that Ladder Truck 10 found the sprinklers (noting more than one) in operation and shut them down. The FDNY had to complete the extinguishment by stretching a line from the standpipe to the fire source. This fire is noted by the report as being suspicious in nature and the flame damage was confined to the area of origin.

It is possible that the fire incidents that were not specifically highlighted, especially those in the areas without sprinklers, involved other methods of extinguishment before FDNY arrival, such as a WTC houseline (pre-connected standpipe hose), hand extinguisher, or bucket of water, as noted on some of the FDNY reports. All other fires, the majority, included in other categories were either self-extinguished, extinguished prior to FDNY arrival (by staff, etc.), or a hand extinguisher was used by the FDNY.

## 2.5 SUMMARY

In summary, 16 significant fires occurred in WTC 1, 2, and 7, with 12 occurring in WTC 1, three in WTC 2, and one in WTC 7. In addition to these, 31 fires occurred in WTC 1 and WTC 2, which involved the use of one standpipe (with or without the activation of one sprinkler). Of these additional 31 fires, 23 occurred in WTC 1 and eight occurred in WTC 2. The following paragraphs will summarize findings from the 16 significant fires that occurred in all three buildings.

After reviewing the 16 significant fires, trends developed relating to the time of day that the fires occurred. Overall, 12 of the 16 fires occurred between the hours of 6 p.m. and 4 a.m. The fires that occurred during office hours (between 7 a.m. and 6 p.m.) included a dumpster fire in the floor 43 elevator lobby (WTC 1), a dumpster fire on floor 106 (WTC 1), a kitchen fire on floor 107 (WTC 2), and a bearing overheating in the fan motor room on floor 108 (WTC 2). Almost all of the incendiary (arson) and suspicious fires (5 out of 6 fires) and unclassified or unlisted fires (4 out of 5 fires) occurred after business hours (before 7 a.m. and after 6 p.m.).



In addition to the time of day of the fire, trends in the cause of the fire and the materials involved in the fire can be highlighted. Of the 16 fires and their causes, five were labeled as unlisted or unclassified, six as suspicious or incendiary, two as discarded material, and three as an electrical failure or mechanical failure. For the material involved in the fire, eight reports noted trash, waste, and supplies; two reported not listed or not classified; one reported furniture; three reported electrical equipment; one reported duct work; and one reported shanties were the material involved in the fire.

Lastly, the location of the fires throughout the buildings was of interest. Of the 16 fires, 4 fires were concentrated above floor 100 and 6 fires were located in the basement. The others (six fires) were spread throughout the rest of the building.

## **2.6 ATTACHMENTS TO THIS FIRE HISTORY**

Appendixes A through H are included as supplements to this report. The first three sections, Appendixes A through C, are explanations of the numeric codes used in the fire reports by the FDNY. Appendix A is included to explain the codes for the fire reports produced prior to and including 1980, Appendix B is included to explain the fire reports produced from 1981 to May 31, 1987, and Appendix C is included to explain the fire reports produced from June 1, 1987, to the present. The report code explanations are divided into the same sections as the fire report and give short descriptions for the numbers used in the fire report under each section. For example, if the ignition factor for a fire occurring in 1990 was given a number code of 54, the reader can find that the cause of the fire was a “short circuit, ground fault.”

Appendixes D through H are reproductions of the actual fire reports produced by the FDNY on the significant fires highlighted in the sections above. The reader can use Appendixes A through C (depending upon the date of the fire) to read the fire reports in more detail than what is provided in this fire history report.

## **2.7 CONCLUSIONS**

From the information contained in FDNY fire reports and fire investigation records provided to NIST, 47 fires occurred in WTC 1, 2, and 7 that were of sufficient size and duration to activate multiple sprinklers or were estimated by NIST to be capable of doing so, over the time period the buildings were occupied. This total does not include the major 1975 office fire in WTC 1 or the 1993 bombing.

The records indicate that in areas protected by automatic sprinklers, no fire activated more than three sprinklers. Three sprinklers would provide coverage for a floor area of approximately 675 ft<sup>2</sup> (63 m<sup>2</sup>). This area is much smaller than the 9,000 ft<sup>2</sup> (800 m<sup>2</sup>) damaged by the 1975 fire in an office space unprotected with automatic sprinklers.

Many of the fires that occurred were recorded as suspicious or unknown in cause, occurred during off-peak work hours, and involved materials such as trash or paper-based supplies. In cases where sprinklers were activated, the FDNY records indicated that the sprinklers either extinguished the fire completely or aided in controlling the spread.

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## **Appendix A**

### **EXPLANATION OF NUMERIC CODES PRIOR TO 1980**

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**Explanation of Numeric Codes Used on Fire and Emergency Reports -**

**Prior to 1980**

CLASSIFICATION OF BUILDING  
BY USECOMMERCIAL

01	Bank
02	Brewery
03	Coal Pocket
04	Department Store
05	Electric Power Plant
06	Factory: Multi occupancy
07	Factory: Single Occupancy
08	Foundry
09	Freight Depot
10	Garage: Non-Storage
11	" " Storage
12	Gas Works
13	Lumber Yard
14	Motor Vehicle Repair Shop
15	Office Building
16	Oil Selling Station
17	Oil Storage Plant
18	Pier, Wharve, Dock, Bulkhead Building
19	Restaurant, Diner
20	Shed, Newsstand, Shanty
21	Shipyard, Drydock
22	Stable
23	Steam Generating plant
24	Store Building, Taxpayer
25	Warehouse, Storehouse
26	Store Building & Private Dwelling
39	Other Commercial

PUBLIC

40	Airport Building
41	A-yum
42	Bridge
43	Bus Terminal
44	Church, Synagogue
45	Dance Hall, Banquet Hall
46	Dispensary, Clinic
47	Ferry Terminal
	Government Building (Not otherwise classified);
48	City
49	Intersate
50	Federal
51	Foreign
52	State
53	Hospital, Infirmary
54	Nursing Home
55	Railroad Station
56	School; College, University
57	" Private High
58	" Public High
59	" Public Junior High
60	" Private Elementary
61	School: Public Elementary
62	" Children's Nursery
63	" Other
64	Television Studio
65	Theatre, Legitimate
66	Theatre, Motion Picture
67	Transit System - Station Structure
68	Tunnel
69	Other Public

RESIDENTIAL

80	Apartment Hotel "A"
81	Apartment House "A"
82	Boarding House, Rooming House "B"
83	Convent, Rectory, Monastery, etc.
84	Dormitory-School Club, Lodge
85	Hotel "B"
86	Lodging House "B"
87	Motel
88	Pvt. Dwelling: 1 Family
89	" Two Family
90	Tenement: New Law "A"
91	" Old Law "A"
92	Converted Dwelling "A"
99	Other Residential

BUILDING STATUS

1	Occupied
2	Partly Occupied, Good Condition
3	Partly Occupied, Deteriorating
4	Vacant
5	Under Demolition
6	Under Construction

DAMAGE (to Building or Contents)

0	None-No Appreciable
1	Light 0-15%
2	Medium 16%-49%
3	Heavy 50% & Greater

AREA FIRE ORIGIN - FLOOR

00	Outside Building
01	1st Floor
02	2nd Floor
03	3rd and Higher
04	Attic
05	Roof
06	Basement
07	Cellar
08	Sub-cellar

AREA FIRE ORIGIN - ROOM OR AREA

10	Area Not in Building
11	Attic
12	Awning
13	Balcony
14	Basement
15	Bathroom Toilet
16	Bedroom, Sleeping Area
17	Ceiling
18	Cellar
19	Chimney
20	Classroom Lecture Area
21	Closet
22	Cockloft
23	Court-Exterior
24	Court-Interior
25	Dining Room, Dining Area
26	Duct-Air Conditioning
27	Duct-Exhaust
28	Flooring
29	Furnace Room
30	Hallway-Private
31	Hallway-Public
32	Incinerator Closet or Room
33	Kitchen, Cooking Area

34	Living Room
35	Lobby
36	Machinery Room
37	Office Area
38	Operating Laboratory Area
39	Partition
40	Porch
41	Projection Booth
42	Recreation Area
43	Roof
44	Sales Showroom Display Area
45	Shaft-Duct, Pipe
46	Shaft-Dumbwaiter
47	Shaft-Elevator
48	Shaft-Exterior Light
49	Shaft-Interior Light
50	Shaft-Vent
51	Shipping Receiving Loading Area
52	Stage
53	Stairway
54	Storage Room Area
55	Vacant-Room, Apartment or Area
56	Work Area Workroom
57	Other Areas, Not Classified (State area)

AREA FIRE ORIGIN-OCCUPANCY CLASSIFICATIONCOMMERCIAL

00	Factory: Chemicals
01	Clothing: Dresses
02	Undergarment
03	Other (State Type)
04	Dry Cleaning Laundry
05	Electrical Products
06	Food & Drink Products
07	Furniture
08	Furs, Fur Goods
09	Hats:
10	Men's
11	Women's
12	Leather, Leather Products
13	Machine Shop Metal works
14	Paints
15	Paper Products
16	Petroleum Products
17	Plastics, Rubber
18	Printing & Allied Industries
19	Shoes
20	Textiles
21	Toy or Doll
22	Woodworking
23	Other Factories not classified (state type)
24	Store:
25	Auto Accessories
26	Bakery
27	Butcher
28	Candy, Cigar, Stationery
29	Clothing
30	Department, large
31	Department, small (5410)
32	Dry Cleaner & Tailor
33	Drug
34	Electrical Appliances
35	Fruit & Vegetables
36	Furniture
37	Grocery, Dairy, Delicatessen
38	Haberdashery
39	Ladies Accessories
40	Laundry
41	Paint Hardware

(2)

40 Restaurant Luncheonette  
 41 Shoe  
 42 Shoe Repair  
 43 Super Market  
 44 Tavern  
 45 Other Stores not  
 classified (state  
 type)  
 Garages:  
 46 Non Storage  
 47 Storage  
 48 Oil Selling Station  
 49 Motor Vehicle Re-  
 pair Shop  
 50 Office Building  
 Warehouse:  
 51 Film  
 52 Paper, Rags, Fibre  
 53 Other (state type)  
 54 Freight Depot  
 55 Pier  
 56 Shipyard  
 57 Lumber Yard  
 58 Shed, Newstand, Shanty, etc.  
 59 Other Commercial  
 Building Occupancies,  
 not classified (state  
 type)

RESIDENTIAL

60 Apartment Hotel,  
 Multiple Dwelling "A"  
 61 Apartment House, Mul-  
 tiple Dwelling "A"  
 62 Boarding House, Rooming  
 House Multiple  
 Dwelling "A"  
 63 Hotel, Multiple  
 Dwelling "B"  
 64 Lodging House, Mul-  
 tiple Dwelling "B"  
 65 Private Dwelling  
 66 Rectory, Convent,  
 Monastery  
 67 Tenement House,  
 New Law, Multi-  
 ple Dwelling "A"  
 68 Tenement House, Old  
 Law, Multiple  
 Dwelling "A"  
 69 Other Residential,  
 not classified  
 (state type)

PUBLIC

70 Airport  
 71 Cabaret, Banquet  
 Hall  
 72 Church  
 73 Dance Hall  
 74 Hospital  
 75 Motion Picture  
 Theatre  
 76 N.Y. Transit  
 System-Station  
 77 Passenger Depot  
 78 School  
 79 Theatre  
 80 T.V. Studio  
 81 Other Public, not  
 classified (state  
 type)

MANNER EXTENSION

00 Confined to area  
 of origin  
 01 Cockloft  
 02 Door or opening  
 between rooms  
 03 Floor  
 04 Hall Stairway  
 05 Partition  
 06 Pipe Recess  
 07 Shaft-Dumbwaiter  
 08 Shaft-Elevator

09 Shaft-Air, Light,  
 Chute, Duct, etc.  
 10 Ceiling  
 11 Window  
 12 Other (state how)

CLASSIFICATION BY TYPE FIRE  
OR EMERGENCYTRANSPORTATION FIRES

87 Ship, Vessel  
 88 Motor Vehicle  
 89 Other Transportation  
 (state type)

NON-STRUCTURAL FIRES

86 ADV (Abandoned/  
 Derelict Motor  
 Vehicle)  
 90 Bonfire  
 91 Brush, Grass  
 92 Demolition Wood,  
 Building Site  
 93 Dump, Land Fill  
 94 Rubbish-Outside  
 Building  
 95 Manhole  
 96 N.Y. Transit System-  
 Yard Roadway, Ties,  
 etc.  
 97 Railroad-Yard, Road-  
 way, Ties, etc.  
 98 Tunnel, Bridge  
 99 Other Non-Structural,  
 not classified  
 (state type)

EMERGENCY

02 Chimney  
 03 Elevator, Escalator  
 04 Explosives Escort  
 05 First Aid - Assist  
 Person(s)  
 06 First Aid - Resucita-  
 tion  
 07 Marine  
 08 Precarious Condition  
 Signs, Trees, etc.  
 09 Subway-Railroad  
 10 Water Leak  
 11 Bomb-Unexploded,  
 Scare  
 12 Collapse-Cave in  
 13 Collision-Vehicular  
 Incident  
 14 Controlled Fire,  
 Permitted  
 15 Flood Condition-  
 Broken Water Main  
 16 Incinerator  
 17 Leak-Fuel Oil, Gasoline  
 etc.  
 18 Leak-Illum. Gas, Flam,  
 Vapor  
 19 Lightning  
 20 Oil Burner  
 21 Person Locked in,  
 Locked out  
 22 Power - Electrical  
 23 Pressure Rupture  
 24 Refrigerant Leak  
 25 Smoke Condition,  
 Odor, Fumes  
 26 Sprinkler  
 27 Steam Discharge  
 28 Other



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## **Appendix B**

### **EXPLANATION OF NUMERIC CODES FROM 1981 TO 1987**

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**Explanation of Numeric Codes Used on Fire and Emergency Reports -**

**From 1981 to May 31, 1987**

## Type of Report

- 1 Structural
- 2 Transportation Fire
- 3 Non-Structural Fire
- 4 Emergency Response
- 5 False Alarm
- 6 Additional data (for SF 24A)

## How Reported

- 1 Street Box Manual
- 2 Telephone
- 3 Verbal
- 4 Class 3—Manual, PFA
- 5 Class 3—Verbal, PFA
- 6 Class 3—Other Automatic, PFA
- 7 Class 3—ERS
- 8 Street Box—FAS
- 9 Class 3—Manual, FONY
- 10 Pre-recorded Alarm

## Initial Alarm

- 0 Special Call Other Than Engine Only—No Chief
- 1 Box (Street or Class 3)
- 2 Special Call Engine Only—No Chief
- 3 Special Call (Chief Corrected)
- 4 SFD

## Highest Alarm

- 0 Initial Alarm
- 1 More than the Initial Alarm & less than 3 Engine & 2 Ladder Co. at work
- 2 2nd Alarm
- 3 3rd Alarm
- 4 4th Alarm
- 5 5th Alarm
- 6 Simultaneous
- 7 Signal 7-5

## How Extinguished

- 0 Before Arrival
- 1 Head Extinguishers
- 2 Sprinkler Heads (State Number)
- 3 Booster Stream
- 4 Low Pressure Hydrant Stream
- 5 One 1½" or larger hose line from a pumping unit or a standpipe outlet, regardless of fire termination (Con trolling Nozzle, Backups, Stang Multi Vessel Ladder Pipe, J/L, foam Nozzle, etc.)
- 6 Two 1½" or larger hose lines as above
- 7 Three 1½" or larger hose lines as above
- 8 Four or more 1½" or larger hose lines as above
- 9 Other (State How)

## Ignition Stage—Termination Stage

- 0 Smolder Stage, before any flame
- 1 Flame Stage
- 2 Undetermined or not reported

## EQUIPMENT INVOLVED IN IGNITION

## Heating Systems

- 11 Central heating unit
- 12 Water heater
- 13 Fixed, stationary local heating unit
- 14 Unknown fireplace
- 15 Portable local heating unit
- 16 Chimney, gas vent flue
- 17 Chimney connector, vent connector
- 18 Heat transfer system
- 19 Heating system not classified above
- 20 Heating system, undetermined

## Cooking Equipment

- 21 Fixed, stationary surface unit
- 22 Fixed, stationary oven
- 23 Fixed, stationary food warming appliance
- 24 Deep fat fryer
- 25 Portable cooking, warming unit
- 26 Open fire pit
- 27 Griddle, broil, duct
- 28 Cooking equipment not classified above
- 29 Cooking equipment, undetermined

## Air Conditioning, Refrigeration Equipment

- 31 Central air conditioning, refrigeration equipment
- 32 Water cooling device, tower
- 33 Fixed, stationary local refrigeration unit
- 34 Fixed, stationary local air conditioning unit
- 35 Portable air conditioning, refrigeration unit
- 36 Air conditioning, refrigeration equipment not classified above
- 37 Air conditioning, refrigeration equipment, undetermined

## Electrical Distribution Equipment

- 41 Fixed wiring
- 42 Transformer, associated overcurrent or disconnect equipment
- 43 Meter, meter box
- 44 Power switch gear, overcurrent protection devices
- 45 Switch, receptacle, outlet
- 46 Lighting fixture, lampholder, ballast, sign
- 47 Cord, plug
- 48 Lamp, light bulb
- 49 Electrical distribution equipment, not classified above
- 50 Electrical distribution equipment, undetermined

## Appliances, Equipment

- 51 Television, radio, phonograph
- 52 Dryer
- 53 Washing machine
- 54 Floor care equipment
- 55 Sewing machine, generator
- 56 Hand tools
- 57 Portable appliance designed to produce controlled heat
- 58 Portable appliance designed not to produce heat
- 59 Appliances, equipment not classified in 51 through 58
- 60 Appliances, equipment, undetermined

## Special Equipment

- 61 Electronic equipment
- 62 Vending machine, drinking fountain
- 63 Office machine
- 64 Biomedical equipment device
- 65 Sewing pump, compressor
- 66 Combustion engine
- 67 Conveyor
- 68 Printing press
- 69 Special equipment, not classified above
- 70 Special equipment, undetermined

## Processing equipment

- 71 Furnace, oven, kiln
- 72 Casting, molding, forging equipment
- 73 Heat treating equipment
- 74 Working, shaping machine
- 75 Coating machine
- 76 Painting equipment
- 77 Chemical process equipment
- 78 Waste recovery equipment
- 79 Processing equipment, not classified above
- 80 Processing equipment, undetermined

## Service, Maintenance Equipment

- 81 Welder, torch
- 82 Boring, brake
- 83 Rectifier, charger
- 84 Tarpot, hot kettle
- 85 Arc, oil lamp
- 86 Elevator
- 87 Torch
- 88 Service, maintenance equipment, not classified above
- 89 Service, maintenance equipment, undetermined

## Other Object, Exposure Fire

- 91 Separate, removed exposure
- 92 Separate, detached exposure
- 93 Separately occurring exposure
- 94 Attached, protected exposure

## 95 Attached, unprotected exposure

- 96 Vehicle
- 98 No equipment involved—
- 99 Other object, exposure fire not classified above
- 90 Other object, exposure fire
- 00 Equipment involved in ignition undetermined or not reported

## FORM OF HEAT OF IGNITION

## Heat from Fuel-Fired, Fuel Powered Object

- 11 Spark, ember, flame escaping from gas fueled equipment
- 12 Heat from gas fueled equipment
- 13 Spark, ember, flame escaping from liquid fueled equipment
- 14 Heat from liquid fueled equipment
- 15 Spark, ember, flame escaping from solid fueled equipment
- 16 Heat from solid fueled equipment
- 17 Spark, ember, flame escaping from equipment; fuel not known
- 18 Heat from equipment; fuel not known
- 19 Heat from fuel-fired, fuel-powered object, not classified above
- 10 Heat from fuel-fired, fuel-powered object, undetermined

## Heat from Electrical Equipment Arcing, Overloaded

- 21 Water caused short circuit arc
- 22 Short circuit arc from mechanical damage
- 23 Short circuit arc from defective, worn insulation
- 24 Unspecified short circuit arc
- 25 Arc from faulty contact, loose connection, broken conductor
- 26 Arc, spark from operating equipment or switch
- 27 Heat from overloaded equipment
- 28 Fluorescent light ballast
- 29 Heat from electrical equipment arcing overloaded, not classified above
- 30 Heat from electrical equipment arcing, overloaded undetermined

## Heat from Smoking Material

- 31 Cigarette
- 32 Cigar
- 33 Pipe
- 34 Heat from smoking material, not classified above
- 35 Heat from smoking material, undetermined

## Heat from Open Flame, Spark

- 41 Cutting torch operation
- 42 Welding torch operation
- 43 Torch operation, other than cutting and welding
- 44 Candle, taper
- 45 Match
- 46 Lighter
- 47 Open fire
- 48 Backfire from internal combustion engine
- 49 Heat from open flame, spark, not classified above
- 50 Heat from open flame, spark, undetermined

## Heat from Hot Object

- 51 Heat, spark from friction
- 52 Molten, hot material
- 53 Hot ember, ash
- 54 Electric lamp
- 55 Recharge, recondition
- 56 Heat from properly operating electrical equipment
- 57 Heat from improperly operating electrical equipment
- 58 Heat from hot object, not classified above
- 59 Heat from hot object, undetermined

## Heat from Explosive, Fireworks

- 61 Explosive
- 62 Blasting agent
- 63 Fireworks
- 64 Paper cap, party popper
- 65 Model rocket, not amateur rocketry
- 66 Incendiary device
- 67 Heat from explosive, fireworks, not classified above
- 68 Heat from explosive, fireworks, undetermined

2

**Heat from Natural Source**

- 71 Sea's heat.
- 72 Spontaneous ignition chemical reaction.
- 73 Lightning discharge.
- 74 Static discharge.
- 75 Heat from natural source, not classified above.
- 76 Heat from natural source, undetermined.

**Heat Spreading from Another Hostile Fire (See pages)**

- 81 Heat from direct flame, convection currents.
- 82 Radiated heat.
- 83 Heat from flying brand, ember, spars.
- 84 Conducted heat.
- 85 Heat spreading from another hostile fire, not classified above.
- 86 Heat spreading from another hostile fire, undetermined.

**Other Form of Heat of Ignition**

- 87 Multiple forms of heat of ignition.
- 88 Other form of heat of ignition.
- 89 Form of heat of ignition undetermined.

**TYPE OF MATERIAL IGNITED****Gas**

- 11 Natural gas.
- 12 LP city gas (LPG and air mol).
- 13 Manufactured gas.
- 14 LP gas.
- 15 Anesthetic gas.
- 16 Acetylene.
- 17 Specialty gas other than anesthetic.
- 18 Gas not classified above.
- 19 Gas.

**Flammable, Combustible Liquid**

- 21 Class IA flammable liquid.
- 22 Class IB flammable liquid.
- 23 Gasoline.
- 24 Class IC flammable liquid.
- 25 Class II combustible liquid.
- 26 Class IIA combustible liquid.
- 27 Class IIB combustible liquid.
- 28 Class IIB combustible liquid.
- 29 Flammable, combustible liquid not classified above.
- 30 Nonflammable, combustible liquid undetermined.

**Volatile Solid Chemical**

- 31 Fat, grease (food).
- 32 Grease (nonfood).
- 33 Polish.
- 34 Adhesive, resin, etc.
- 35 Asplid paint, varnish.
- 36 Combustible metal.
- 37 Solid chemical (specific type).
- 38 Reductive material.
- 39 Volatile solid chemical, not classified above.
- 40 Volatile solid chemical undetermined.

**Plastic**

- 41 Polymethane.
- 42 Polystyrene.
- 43 Polyvinyl.
- 44 Polycrylic.
- 45 Polyester.
- 46 Polyolefin.
- 47 Plastic, not classified above.
- 48 Plastic, undetermined.

**Material Product**

- 51 Rubber.
- 52 Cork.
- 53 Leather.
- 54 Grass, leaves, hay, straw.
- 55 Grain, grainy matter.
- 56 Coal, coal in cigarettes, peat.
- 57 Food stuff.
- 58 Furniture.
- 59 Natural product, not classified above.
- 60 Natural product undetermined.

**Wood, Paper**

- 61 Growing wood.
- 62 Felled but unseasoned wood.
- 63 Sawn wood.
- 64 Wood shavings.
- 65 Hardboard, plywood.
- 66 Fiberboard (low density material, wood pulp).
- 67 Paper, untreated, uncoated.
- 68 Cardboard.
- 69 Wood, paper, not classified above.
- 70 Wood, paper, undetermined.

**Fabric, Textile, Fur**

- 71 Man-made fabric, fiber, finished goods.
- 72 Cotton, rayon, cotton fabric, finished goods.
- 73 Wool, wool mixture fabric, finished goods.
- 74 Fur, silk, other fabric, finished goods.
- 75 Wig.
- 76 Human hair.
- 77 Fabric, textile, fur, not classified above.
- 78 Fabric, textile, fur, undetermined.

**Material Compounded with Oil**

- 81 Linoleum.
- 82 Oil cloth.
- 83 Treated and/or coated paper.
- 84 Waterproof papers.
- 85 Dry rags.
- 86 Asphalt treated material.
- 87 Material compounded with oil, not classified above.
- 88 Material compounded with oil, undetermined.

**Other Type of Material Ignited**

- 89 Multiple types of material first ignited.
- 90 Type of material not applicable.
- 91 Type of material not classified above.
- 92 Type of material undetermined or not reported.

**FORM OF MATERIAL IGNITED****Structural Component, Finish**

- 11 Exterior roof covering, surface, finish.
- 12 Exterior sidewall covering, surface, finish.
- 13 Exterior trim, appointments.
- 14 Floor covering, surface.
- 15 Interior wall covering, surface items permanently affixed to wall and door surface.
- 16 Ceiling covering, surface.
- 17 Structural member, framing.
- 18 Thermal, acoustical insulation within wall, partition or floor/ceiling space.
- 19 Structural component, finish not classified above.
- 20 Structural component, finish, undetermined.

**Furniture**

- 21 Upholstered sofa, chair, vehicle seats.
- 22 Nonupholstered chair, bench.
- 23 Cabinetry.
- 24 Dining board.
- 25 Appliance housing or casing.
- 26 Furniture not classified above.
- 27 Furniture, undetermined.

**Soft Goods, Wearing Apparel**

- 31 Mattress, pillow.
- 32 Bedding, blanket, sheet, comforter.
- 33 Linen, other than bedding.
- 34 Wearing apparel not on a person.
- 35 Wearing apparel on a person.
- 36 Curtain, blind, drape, tapestry.
- 37 Goods not made of.
- 38 Luggage.
- 39 Soft goods, wearing apparel not classified above.
- 40 Soft goods, wearing apparel, undetermined.

**Amusement, Recreational Material**

- 41 Christmas tree.
- 42 Decoration for special event.
- 43 Book.
- 44 Magazine, newspaper, writing paper.

- 45 Toy, game.
- 46 Amusement, candy.
- 47 Tarpaulin, tent.
- 48 Amusement, recreational material not classified above.
- 49 Amusement, recreational material, undetermined.

**Suppliers, Stock**

- 51 Box, carton, bag.
- 52 Basket, barrel.
- 53 Pallet, skid (not in use).
- 54 Rope, cord, twine, yarn.
- 55 Packing, wrapping material.
- 56 Bulk storage.
- 57 Bulk storage.
- 58 Cleaning supplies.
- 59 Supplies, stock not classified above.
- 60 Supplies, stock, undetermined.

**Power Transfer Equipment, Fuel**

- 61 Electrical wire, cable insulation.
- 62 Transformer.
- 63 Conveyor belt, drive belt, V belt.
- 64 Tire.
- 65 Fuel.
- 66 Power transfer equipment, fuel, not classified above.
- 67 Power transfer equipment, fuel, undetermined.

**General Form**

- 71 Agricultural products.
- 72 Fence, pole.
- 73 Fertilizer.
- 74 Growing, living form.
- 75 Rubbish, trash, waste.
- 76 Cooking materials.
- 77 Sign.

**Special Form**

- 81 Dust, fiber, lint.
- 82 Pyrotechnics, explosives.
- 83 Atomized, vaporized liquid.
- 84 Ghost.
- 85 Palletized material, material stored on pallets.
- 86 Gas or liquid in or from pipe or container.
- 87 Rotted material.
- 88 Adhesive.

**Other Form of Material**

- 89 Multiple form of material ignited.
- 90 Form of material not applicable.
- 91 Form of material not classified above.
- 92 Form of material undetermined or not reported.

**IGNITION FACTOR****Incendiary**

- 11 Intentional, not during civil disturbance.
- 12 Incendiary, during civil disturbance.

**Suspicious**

- 21 Suspicious, not during civil disturbance.
- 22 Suspicious, during civil disturbance.

**Misuse of Heat of Ignition**

- 31 Abandoned, discarded material.
- 32 Throwing.
- 33 Falling asleep.
- 34 Inadequate control of open fire.
- 35 Tugging, walking too close to.
- 36 Children with child playing.
- 37 Unconscious, mental, physical impairment.
- 38 Misuse of heat of ignition not classified above.
- 39 Misuse of heat of ignition, undetermined.

**Misuse of Material Ignited**

- 41 Fuel spilled, released accidentally.
- 42 Improper fueling techniques.
- 43 Flammable liquid used to kindle fire.
- 44 Washing part, cleaning, refinishing, painting.
- 45 Improper container.
- 46 Combustible too close to heat.
- 47 Improper storage.
- 48 Children with, child playing.
- 49 Misuse of material ignited not classified above.
- 50 Misuse of material ignited, undetermined.



**Mechanical Failure, Malfunction**

- 51 Part failure, leak, break.
- 52 Automatic control failure.
- 53 Manual control failure.
- 54 Short circuit, ground fault.
- 55 Other electrical failure.
- 56 Lack of maintenance, worn out.
- 57 Backfire.
- 59 Mechanical failure, malfunction not classified above
- 50 Mechanical failure, malfunction, undetermined.

**Design, Construction, Installation Deficiency**

- 61 Design deficiency.
- 62 Construction deficiency.
- 63 Installed too close to combustibles.
- 64 Other installation deficiency.
- 65 Property too close to.
- 69 Design, construction, installation deficiency not classified above.
- 60 Design, construction, installation deficiency, undetermined.

**Operational Deficiency**

- 71 Collision, overturn, knockdown.
- 72 Accidentally turned on, not turned off.
- 73 Unattended.
- 74 Overloaded.
- 75 Spontaneous heating.
- 76 Improper startup, shutdown procedures.
- 79 Operational deficiency not classified above.
- 70 Operational deficiency, undetermined.

**Natural Condition**

- 61 High wind.
- 62 Earthquake.
- 63 High water, including floods.
- 64 Lightning.
- 69 Natural condition not classified above.
- 60 Natural condition, undetermined.

**Other Ignition Factor**

- 91 Animal.
- 92 Rekindled from a previous fire.
- 99 Other ignition factor not classified above.
- 00 Ignition factor undetermined or not reported.

**Construction Class**

- 0 No Building Involved.
- 1 Fireproof Structure.
- 2 Fire Protected Structure.
- 3 Non-fireproof Structure.
- 4 Wood Frame Structure.
- 5 Metal Structure.
- 6 Heavy Timber Structure.

**Classification of Building By Use—Commercial**

- 01 Bank.
- 02 Brewery.
- 03 Coal Pocket.
- 04 Department Store.
- 05 Electrical Power Plant.
- 06 Factory: Multi Occupancy.
- 07 Factory: Single Occupancy.
- 08 Foundry.
- 09 Freight Depot.
- 10 Garage: Non-Storage.
- 11 Garage: Storage.
- 12 Gas Works.
- 13 Lumber Yard.
- 14 Motor Vehicle Repair Shop.
- 15 Office Building.
- 16 Oil Selling Station.
- 17 Oil Storage Plant.
- 18 Pier, Wharve, Dock, Bulkhead Building.
- 19 Restaurant, diner.
- 20 Shed, Newsstand, Shanty.
- 21 Shipyard, Drydock.
- 22 Stable.
- 23 Steam Generating Plant.
- 24 Store Building, Taxpayer.
- 25 Warehouse, Storehouse.
- 26 Store Building & Private Dwelling.
- 39 Other Commercial.

**Classification of Building By Use—Public**

- 40 Airport Building.
- 41 Asylum.
- 42 Bridge.
- 43 Bus Terminal.
- 44 Church, Synagogue.
- 45 Dance Hall, Banquet Hall.
- 46 Dispensary, Clinic.
- 47 Ferry Terminal.
- Government Buildings—(Not otherwise classified):
- 48 City.
- 49 Interstate.
- 50 Federal.
- 51 Foreign.
- 52 State.
- 53 Hospital, Infirmary.
- 54 Nursing Home.
- 55 Railroad Station.
- 56 School: College, University.
- 57 School: Private High.
- 58 School: Public High.
- 59 School: Public Jr. High.
- 60 School: Private Elementary.
- 61 School: Public Elementary.
- 62 School: Children's Nursery.
- 63 School: Other.
- 64 Television Studio.
- 65 Theatre, Legitimate.
- 66 Theatre, Motion Picture.
- 67 Transit System—Station Structure.
- 68 Tunnel.
- 69 Other Public.

**Residential**

- 80 Apartment Hotel "A."
- 81 Apartment House "A."
- 82 Boarding House, Rooming House "B."
- 83 Convent, Rectory, Monastery, etc.
- 84 Dormitory—School, Club, Lodge.
- 85 Hotel "B."
- 86 Lodging House "B."
- 87 Motel.
- 88 Private Dwelling: One Family.
- 89 Private Dwelling: Two Family.
- 90 Tenement: New Law "A."
- 91 Tenement: Old Law "A."
- 92 Converted Dwelling "A."
- 99 Other Residential.

**Building Status**

- 1 Occupied.
- 2 Partly Occupied, Good Condition.
- 3 Partly Occupied, Deteriorating.
- 4 Vacant.
- 5 Under Demolition.
- 6 Under Construction.

**Damage to Building or Contents**

- 0 None.
- 1 1 to 15%.
- 2 16 to 49%.
- 3 50% or Greater.

**Area Fire Origin—Floor**

- 00 Outside Building.
- 01 1st floor.
- 10
- 94 94th and Higher.
- 95 Attic.
- 96 Roof.
- 97 Basement.
- 98 Cellar.
- 99 Sub-cellar.

**Area Fire Origin—Room or Area**

- 10 Area Not in Building.
- 11 Attic.
- 12 Awning.
- 13 Balcony.
- 14 Basement.

- 15 Bathroom Toilet.
- 16 Bedroom, Sleeping Area.
- 17 Ceiling.
- 18 Cellar.
- 19 Chimney.
- 20 Classroom Lecture Area.
- 21 Closet.
- 22 Cockloft.
- 23 Court—Exterior.
- 24 Court—Interior.
- 25 Dining Room, Dining Area.
- 26 Duct—Air Conditioning.
- 27 Duct—Exhaust.
- 28 Flooring.
- 29 Furnace Room.
- 30 Hallway—Private.
- 31 Hallway—Public.
- 32 Incinerator Closet or Room.
- 33 Kitchen, Cooking Area.
- 34 Living Room.
- 35 Lobby.
- 36 Machinery Room.
- 37 Office Area.
- 38 Operating Laboratory Area.
- 39 Partition.
- 40 Porch.
- 41 Projection Booth.
- 42 Recreation Area.
- 43 Roof.
- 44 Sales Showroom Display Area.
- 45 Shaft—Duct, Pipe.
- 46 Shaft—Dumbwaiter.
- 47 Shaft—Elevator.
- 48 Shaft—Exterior Light.
- 49 Shaft—Interior Light.
- 50 Shaft—Vent.
- 51 Shipping Receiving Loading Area.
- 52 Stage.
- 53 Starway.
- 54 Storage Room Area.
- 55 Vacant—Room, Apartment or Area.
- 56 Work Area, Workroom.
- 57 Other Areas, Not Classified (state area).

**Area Fire Origin—Occupancy Classification—Commercial****Factory:**

- 99 Chemicals.

**Clothing:**

- 01 Dresses.
- 02 Undergarment.
- 03 Other (state type).
- 04 Dry Cleaning Laundry.
- 05 Electrical Products.
- 06 Food & Drink Products.
- 07 Furniture.
- 08 Furs, Fur Goods.

**Hats:**

- 09 Men's.
- 10 Women's.
- 11 Leather, Leather Products.
- 12 Machine Shop Metal Works.
- 13 Paints.
- 14 Paper Products.
- 15 Petroleum Products.
- 16 Plastics, Rubber.
- 17 Printing & Allied Industries.
- 18 Shoes.
- 19 Textiles.
- 20 Toy or Doll.
- 21 Woodworking.
- 22 Other Factories Not Classified (state type).

**Store:**

- 23 Auto Accessories.
- 24 Bakery.
- 25 Butcher.



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**Area Fire Origin—Occupancy Classification—**  
(continued)**Store:**

- 26 Candy, Cigar, Stationery.
- 27 Clothing.
- 28 Department, Large.
- 29 Department, Small (5&10).
- 30 Dry Cleaner & Tailor.
- 31 Drug.
- 32 Electrical Appliances.
- 33 Fruit & Vegetables.
- 34 Furniture.
- 35 Grocery, Dairy, Delicatessen.
- 36 Haberdashery.
- 37 Ladies Accessories.
- 38 Laundry.
- 39 Paint Hardware.
- 40 Restaurant Luncheonette.
- 41 Shoe.
- 42 Shoe Repair.
- 43 Super Market.
- 44 Tavern.
- 45 Other Stores Not Classified (state type).

**Garages:**

- 46 Non Storage.
- 47 Storage.
- 48 Oil Selling Station.
- 49 Motor Vehicle Repair Shop.
- 50 Office Building.

**Warehouse:**

- 51 Film.
- 52 Paper, Rags, Fibre.
- 53 Other (state type).
- 54 Freight Depot.
- 55 Pier.
- 56 Shipyard.
- 57 Lumber Yard.
- 58 Shed, Newsstand, Shanty, etc.
- 59 Other Commercial Building Occupancies. Not Classified (state type).

**Residential:**

- 60 Apartment Hotel, Multiple Dwelling "A."
- 61 Apartment House, Multiple Dwelling "A."
- 62 Boarding House, Rooming House, Multiple Dwelling "B."
- 63 Hotel, Multiple Dwelling "B."
- 64 Lodging House, Multiple Dwelling "B."
- 65 Private Dwelling.
- 66 Rectory, Convent, Monastery, etc.
- 67 Tenement House, New Law, Multiple Dwelling "A."
- 68 Tenement House, Old Law, Multiple Dwelling "A."
- 69 Other Residential, Not Classified (state type).

**Public:**

- 70 Airport.
- 71 Cabaret, Banquet Hall.
- 72 Church.
- 73 Dance Hall.
- 74 Hospital.
- 75 Motion Picture Theatre.
- 76 N.Y. Transit System—Station.
- 77 Passenger Depot.

- 78 School.
- 79 Theatre.
- 80 T.V. Studio.
- 81 Other Public, Not Classified (state type).

**Manner Extension:**

- 00 Confined to area of origin.
- 01 Cockloft.
- 02 Door or Opening Between Rooms.
- 03 Floor.
- 04 Hall Stairway.
- 05 Partition.
- 06 Pipe Recess.
- 07 Shaft-Dumbwaiter.
- 08 Shaft—Elevator.
- 09 Shaft—Air, Light, Chute, Duct, etc.
- 10 Ceiling.
- 11 Window.
- 12 Other (state how).

**Number of Occupancies:**

- 01 1 Occupancy.
- 02 2 Occupancies.
- 99 99 or more Occupancies.

**Buildings:**

- 0 did not spread beyond building of origin.
- 1 1 structure or vehicle.
- 9 9 or more buildings or vehicles.

*Note:* Form BF-24A must be submitted for each building or vehicle listed in this coded space.

**Smoke Detector:**

- 0 No detector present.
- 1 Ionization type, power disconnected or battery removed by occupant.
- 2 Ionization type, provided early warning.
- 3 Ionization type, failed to operate, battery powered.
- 4 Ionization type, failed to operate, line voltage power.
- 5 Photoelectric type, power disconnected or battery removed by occupant.
- 6 Photoelectric type, provided early warning.
- 7 Photoelectric type, failed to operate, battery powered.
- 8 Photoelectric type, failed to operate, line voltage power.
- 9 Not possible to determine if detector operated or not.

**Classification by Type Fire or Emergency:****Transportation Fires:**

- 87 Ship, Vessel.
- 88 Motor Vehicle.
- 89 Other Transportation (state type).

**Non Structural Fires:**

- 86 ADV (Abandoned/Derekt Motor Vehicle).
- 90 Bonfire.
- 91 Brush Grass.
- 92 Demolition Wood, Building Site.
- 93 Dump, Land Fill.
- 84 Rubbish—Outside Building.

- 95 Manhole.
- 96 N.Y. Transit System—Yard, Roadway, Ties, etc.
- 97 Railroad—Yard, Roadway, Ties, etc.
- 98 Tunnel, Bridge.
- 99 Other Non-Structural, Not Classified (state type).

**Emergency:**

- 02 Chimney.
- 03 Elevator, Escalator.
- 04 Explosives Escort.
- 05 First Aid—Assist Person(s).
- 06 First Aid—Resuscitation.
- 07 Marine.
- 08 Precarious Condition—Signs, Trees, etc.
- 09 Subway—Railroad.
- 10 Water Leak.
- 11 Bomb—Unexploded, Scare.
- 12 Collapse—Cave In.
- 13 Collision—Vehicular Incident.
- 14 Controlled Fire, Permitted.
- 15 Flood Condition—Broken Water Main.
- 16 Incinerator.
- 17 Leak—Fuel Oil, Gasoline, etc..
- 18 Leak—Hum. Gas, Flam. Vapor.
- 19 Lightning.
- 20 Oil Burner.
- 21 Person Locked In, Locked Out.
- 22 Power—Electrical.
- 23 Pressure Rupture.
- 24 Refrigerant Leak.
- 25 Smoke Condition, Odor, Fumes.
- 26 Sprinkler.
- 27 Steam Discharge.
- 28 Defective Alarm Device (other than Sprinkler).
- 29 Smoke Detector.
- 30 Other.

**Power for Equipment:**

- 01 1 23 volts A.C.
- 02 24 volts A.C.
- 11 1-6 volts D.C.
- 12 7-12 volts D.C.
- 15 115 volts A.C.
- 28 208 volts A.C.
- 30 220-230 volts A.C.
- 33 231-330 volts A.C.
- 34 331 or higher volts AC.
- 50 25-50 volts A.C.
- 61 Butane.
- 62 Coal, Coke, Charcoal, Peat.
- 63 Fuel Oil, No. 1 or No. 2.
- 64 Fuel Oil, No. 3 or No. 4.
- 65 Fuel Oil, No. 5 or No. 6.
- 66 Gasoline.
- 67 Kerosene.
- 68 LN gas (stored as liquid).
- 69 LP gas (stored as liquid).
- 70 Natural or illuminating gas (as a gas).
- 71 Paper.
- 72 Propane.
- 99 Other.

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## **Appendix C**

### **EXPLANATION OF NUMERIC CODES FROM 1987 TO PRESENT**

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**Explanation of Numeric Codes Used on Fire and Emergency Reports -**

**From June 1, 1987, to present**

FD-204 (Rev. 5-22-65)

**14.1 TYPE OF REPORT**

Code No.

- 1 Structural
- 2 Transportation Fire
- 3 Non-Structural Fire
- 4 Emergency Response
- 5 False Alarm
- 6 Additional data (BF-24A)

**14.2 HOW REPORTED**

Code No.

- 10 Telephone
- 20 Street — Manual
- 21 Glass 3 — Manual
- 30 Glass 3 — P.F.A.
- 31 Glass 3 Valve, Sprinkler — P.F.A.
- 32 Glass 3, Other Automatic — P.F.A.
- 40
- 50 Verbal
- 60 Pre-Recorded Telephone Alarm
- 70 Tie Line (Direct Line to Dispatcher — Pipeline Corp.)
- 80 Street Box — ERS
- 81 Glass 3 — ERS
- 90 Cable Television Link

Note: 1. P.F.A. stands for Private Fire Alarm. These are recorded using the 3-Box-Terminal Description.

2. If the alarm was encountered while responding to or returning from another alarm, it is considered a verbal alarm.

3. A pre-recorded telephone alarm (PRTA) is used to designate those telephone alarms received from recording or pre-dialed machines, whether directly to DTY, 2-digit telephone or an alarm service.

**14.3 INITIAL ALARM**

Code No.

- 0 Special Call Other Than Engine Only — No Chief
- 1 Box (Street or Glass 3)
- 5 Special Call Engine Only — No Chief
- 6 Special Call (Chief Operator)
- 9 Split

**14.4 HIGHEST ALARM**

Code No.

- 0 Initial Alarm
- 1 More than the Initial Alarm & Less than 3 Engines & 2 Ladder Cos. at work.
- 2 2nd Alarm
- 3 3rd Alarm
- 4 4th Alarm
- 5 5th Alarm
- 6 Simultaneous
- 7 Signal 7-5

**14.5 BOROUGHS**

Code No.

- 1 Manhattan
- 2 Bronx
- 3 Staten Island
- 4 Brooklyn
- 5 Queens

**14.6 HAZARDOUS MATERIALS**

14.6.1 Class to be obtained from DOT, required labels or placard or from shipping papers or other documents

Code No.

- 00 No Hazardous Materials Involved
- 11 Class A Explosives
- 12 Class B Explosives
- 13 Class C Explosives
- 15 Blasting Agents
- 21 Flammable Gases
- 22 Non-Flammable Gases
- 23 Poison Gases
- 24 Chlorine
- 25 Oxygen

**FIRE RECORD CODE LIST**

- 31 Flammable Liquids, Flashpoint 100 degrees or less
- 32 Combustible Liquids, Flashpoint greater than 100 degrees

- 41 Flammable Solids
- 42 Spontaneously Combustible Materials

- 43 Materials Dangerous when Wet

- 51 Oxidizers

- 52 Organic Peroxides

- 61 Poisons

- 62 Etiologic (Infectious) Substances

- 63 Irritants

- 71 Radioactive - I Materials

- 72 Radioactive - II Materials

- 73 Radioactive - III Materials

- 81 Corrosives

- 9A Multiple Classes (More than one hazardous material)

- 9B Other

14.6.2 Amount & Unit — the letter designating the unit of measurement shall follow the two digits indicating the amount. Example: 2000 gals. of gasoline would be correctly coded as 00 in the "Amount" field

000 No Hazardous Material Involved

01 Less than 1

02 1-5

03 10-49

05 100-499

06 500-999

07 1,000-4,999

08 5,000-9,999

09 10,000-49,999

10 50,000-99,999

11 100,000 and more

12 100,000 and more

13 100,000 and more

14 100,000 and more

15 100,000 and more

16 100,000 and more

17 100,000 and more

18 100,000 and more

19 100,000 and more

20 100,000 and more

21 100,000 and more

22 100,000 and more

23 100,000 and more

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88 100,000 and more

89 100,000 and more

90 100,000 and more

91 100,000 and more

92 100,000 and more

93 100,000 and more

94 100,000 and more

95 100,000 and more

96 100,000 and more

97 100,000 and more

98 100,000 and more

99 100,000 and more

- 2 Standpipe present but not used

- 3 No standpipe present

- 4 Equipment present, not in service. (Record action taken in Operations Section)

**14.11 CONDITION ON ARRIVAL CODES**

- 0 No indication of fire

- 1 Overheat

- 2 Smoldering

- 3 Open Flame

- 8 Out on Arrival

**14.12 EQUIPMENT INVOLVED IN IGNITION****1. HEATING SYSTEMS**

- 10 Solar panel

- 11 Central heating unit, furnace

- 12 Water heater

- 13 Woodstove, wall furnace, fixed local heating unit

- 14 Indoor fireplace

- 15 Portable heating unit

- 16 Chimney gas vent flue

- 17 Chimney vent connector

- 18 Heat transfer system, ducts, pipes

- 19 Not classified above

**2. COOKING EQUIPMENT**

- 21 Fixed, stationary surface unit, stove

- 22 Fixed, stationary oven

- 23 Fixed, stationary food warming appliance

- 24 Deep fat fryer

- 25 Portable cooking, warming unit

- 26 Open food grill

- 27 Griddle, brood, duct

- 29 Not classified above

**3. AIR CONDITIONING, REFRIGERATION EQUIPMENT**

- 31 Central air conditioning, refrigeration equipment

- 32 Water cooling device, tower

- 33 Cold boxes, freezers, refrigerators

- 34 Fixed, stationary local air conditioning unit

- 35 Portable air conditioning, refrigeration unit, dehumidifier

- 39 Not classified above

**4. ELECTRICAL DISTRIBUTION EQUIPMENT**

- 41 Fixed Wiring, power lines, junction boxes

- 42 Transformer, overcurrent or disconnected equipment

- 43 Motor, motor box

- 44 Power Switch gear fused, circuit breakers

- 45 Switch, receptacle outlet

- 46 Lighting fixture, lamp-holder, ballast, sign

- 47 Cord, plug

- 48 Lamp, light bulb

- 49 Not classified above

**5. APPLIANCES EQUIPMENT**

- 50 Dishwasher

- 51 Television, radio, sound or picture

- 52 Clothes dryer

- 53 Washing machine

- 54 Floor care equipment, vacuum

- 55 Separate motor, generator

- 56 Hand tools, soldering irons, drills

- 57 Controlled heat appliance, electrical blankets, steam

- 58 Iron, heat tapes

- 59 Electrical razors, can openers

- 59 Not classified above

**6. SPECIAL EQUIPMENT**

- 61 Electronic equipment, radar, x rays, computer, tele

- 62 phone, transmitter, equipment

- 63 Vending machine, drinking fountain

- 64 Office machines

- 65 Remedical equipment, device

- 66 Separate pump, compressor, sump pump

- 67 Internal combustion engine

- 68 Conveyer

- 69 Printing press

- 69 Not classified above



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**7. PROCESSING EQUIPMENT**

- 71. Furnace, oven, kiln.
- 72. Casting, molding, forging.
- 73. Heat treating, quench tank.
- 74. Working, shaping, machine saws, graders, sanders, etc.
- 75. Coating machine, asphalt saturating, rubber spreading machines.
- 76. Painting, dipping, spraying.
- 77. Chemical process, distilling.
- 78. Waste recovery.
- 79. Not classified above.

**8. SERVICE, MAINTENANCE EQUIPMENT**

- 81. Incubator.
- 82. Repairing, brake.
- 83. Recharge, charger, battery.
- 84. Large, tar kettle.
- 85. Arc, oil lamp, gas mantles.
- 86. Elevator.
- 87. Torches, burner burners.
- 88. Not classified above.

**9. OTHER OBJECTS, EXPOSURE FIRE**

- 90. Vehicle, exhaust systems, vehicle parts.
- 91. No equipment involved.
- 92. Other object, Exposure Fire not classified above.

**14.13 FORM OF HEAT IGNITION**

- 1. **HEAT FROM FUEL-FIRED, FUEL-POWERED OBJECT**  
The difference between subdivision 11 and subdivision 12 is whether a spark, ember or flame actually escaped from the equipment, or whether it was simply overheating of outside surface of the equipment (or its internal heat) causing the ignition of nearby combustibles.

- 11. Spark, ember, flame escaping from gas fueled equipment.
- 12. Heat from gas fueled equipment, pilot lights, normal flames.
- 13. Spark, ember, flame escaping from liquid fueled equipment.
- 14. Heat from liquid fueled equipment, pilot lights.
- 15. Spark, ember, flame escaping from solid fueled equipment.
- 16. Heat from solid fueled equipment.
- 17. Spark, ember, flame escaping from equipment, fluid not known.
- 18. Heat from equipment, fluid not known.
- 19. Not classified above.

**2. HEAT FROM ELECTRICAL EQUIPMENT ARCING, OVERLOADED.**

- 21. Water caused short circuit arc.
- 22. Short circuit arc from mechanical damage.
- 23. Short circuit arc from defective, worn insulation.
- 24. Unspecified short circuit arc.
- 25. Arc from faulty contact, loose connection, broken conductor.
- 26. Arc, spark from operating equipment or switch.
- 27. Heat from overloaded equipment, wires, motors.
- 28. Fluorescent light ballast.
- 29. Not classified above.

**3. HEAT FROM SMOKING MATERIAL**

- 31. Cigarette.
- 32. Cigar.
- 33. Pipe.
- 34. Not classified above.

**4. HEAT FROM OPEN FLAME, SPARK**

- 41. Cutting torch operation (separating metals).
- 42. Welding torch operation (joining metals).
- 43. Blow torches, plumbers torches, Bunsen Burners, soldering, paint stripping.
- 44. Candle, taper.
- 45. Match.
- 46. Lighter (flame type).
- 47. Campfires, bonfires, burning fires, rubbish fires.
- 48. Backfire from internal combustion engine.
- 49. Not classified above.

**5. HEAT FROM HOT OBJECT**

- 51. Heat, spark from friction, overheated tires.
- 52. Molten metal, hot forging and hot glass.
- 53. Hot ember, ash.
- 54. Electric lamp, light bulbs.
- 55. Rekindle, reignition.
- 56. Heat from properly operating electrical.
- 57. Heat from improperly operating electrical equipment.
- 58. Not classified above.

**6. HEAT FROM EXPLOSIVES, FIREWORKS**

- 61. Explosives, bombs, ammunition.
- 62. Blasting agent.
- 63. Fireworks, squibs.
- 64. Paper cap, party popper.
- 65. Model rocket, amateur rocketry.
- 66. Incendiary device.
- 67. Not classified above.

**7. HEAT FROM NATURAL SOURCE**

- 71. Sun's heat.
- 72. Spontaneous ignition, chemical reaction.
- 73. Lightning discharge.
- 74. Static discharge.
- 75. Not classified above.

**8. HEAT SPREADING FROM ANOTHER HOSTILE FIRE (EXPOSURE)**

- 81. Heat from direct flame, convection currents.
- 82. Reradiated heat.
- 83. Heat from flying brand, ember, spark.
- 84. Conducted heat.
- 85. Not classified above.

**9. OTHER FORM OF HEAT OF IGNITION**

- 97. Multiple forms of heat of ignition.
- 98. Not classified above.

**14.14 TYPE OF MATERIAL IGNITED**

- 1. **GAS**
  - 11. Natural gas.
  - 12. LP-Gas (LP and air mix).
  - 13. Manufactured gas.
  - 14. LP-Gas.
  - 15. Anesthetic gas.
  - 16. Acetylene.
  - 17. Specialty gas other than anesthetic.
  - 18. Not classified above.
- 2. **FLAMMABLE, COMBUSTIBLE LIQUID**
  - 21. Ethyl ether, pentane and ethylene oxide (Class 1A).
  - 22. Acetone, ethyl alcohol, JP4 jet fuel and methyl ethyl ketone (Class 1B).
  - 23. Gasoline.
  - 24. Butyl alcohol, propyl alcohol, styrene and turpentine (Class 1C).
  - 25. Kerosene, Fuel Oil 1, 2, 4, 5 and Diesel Fuel.
  - 26. No. 6 fuel oil, cottonseed oil and cresset oil (Class 1D).
  - 27. Cooking oil, transformer and lubricating oil (Class 1E).
  - 28. Not classified above.
- 3. **VOLATILE SOLID, CHEMICAL**
  - 31. Fat, grease (food).
  - 32. Grease (nonfood), petroleum jellies.
  - 33. Polish, paraffin, wax.
  - 34. Creosote, pitch, adhesive, resin, tar, pitch, rosin, asphalt.
  - 35. Applied paint, varnish.
  - 36. Combustible metal magnesium, titanium and zirconium.
  - 37. Solid chemical, explosives.
  - 38. Radioactive material.
  - 39. Not classified above.

**4. PLASTIC**

- 41. **RIGID PLASTICS**  
Included are molded plastics such as appliance cases, floor tile, decorative kitchen laminates.
- 42. **FOAM PLASTICS**  
Included are rigid thermal foam insulation for walls and refrigerators.

**43. FLEXIBLE PLASTICS**

- Included is electrical wire insulation.
- 44. **FLEXIBLE FOAM PLASTICS**  
Included are mattresses, furniture interior foam and carpet pads.
- 45. **FILM PLASTICS**  
Included are polyethylene trash bags, photographic film and coated wallpaper.
- 46. Plastic not classified above.

**5. NATURAL PRODUCTS**

- 51. Furbear.
- 52. Cork.
- 53. Leather.
- 54. Grass, leaves, hay and straw.
- 55. Grain, leathers, felt, kapok, hemp, jute, cotton, before processing.
- 56. Coal, coke, briquettes, peat.
- 57. Food, starch, excluding fat and grease.
- 58. Fibrous.
- 59. Not classified above.

**6. WOOD, PAPER**

- 61. Growing wood, tree.
- 62. Felled but uncut wood.
- 63. Finished lumber, finished wood.
- 64. Wood shavings, sawdust, excelsior.
- 65. Hardboard, plywood.
- 66. Fiberboard, wood pulp, press board.
- 67. Paper, unthreaded, uncoated.
- 68. Cardboard.
- 69. Not classified above.

**7. FABRIC, TEXTILE, FUR**

- 71. Man-made fabric, fiber, finished goods.
- 72. Cotton, rayon, cotton fabric.
- 73. Wool, wool mixture, fabric.
- 74. Fur, silk, other fabric.
- 75. Wig.
- 76. Human hair.
- 77. Not classified above.

**8. MATERIAL COMPOUNDED WITH OIL**

- 81. Linoleum.
- 82. Oil cloth.
- 83. Treated endor coated paper, wax paper.
- 84. Varnish of canvas.
- 85. Oil rag.
- 86. Asphalt treated material.
- 87. Not classified above.

**9. OTHER TYPE OF MATERIAL IGNITED**

- 97. Multiple types of material first ignited.
- 98. Not classified above.

**14.15 FORM OF MATERIAL IGNITED****1. STRUCTURAL COMPONENT, FINISH**

- 11. Exterior roof covering, surface, finish.
- 12. Exterior sidewall, covering surface, finish, eaves.
- 13. Doors, porches and platforms.
- 14. Tile, carpet, rug flooring and stairs.
- 15. Interior wall covering.
- 16. Ceiling covering surface.
- 17. Structural member, framing.
- 18. Thermal, acoustical insulation, within wall or ceiling.
- 19. Not classified above.

**2. FURNITURE**

- 21. Upholstered sofa, chair, vehicle seats.
- 22. Nonupholstered chair, bench.
- 23. Cabinetry, filing cabinets, pianos, dressers, desks, tables and bookcases.
- 24. Working board.
- 25. Appliance housing or casing.
- 26. Not classified above.

**3. SOFT GOODS, WEARING APPAREL**

- 31. Mattress, pillow.
- 32. Bedding, blanket, sheet, comforter, heating pad.
- 33. Linen, towels, tablecloths.
- 34. Wearing apparel not on a person.
- 35. Wearing apparel on a person.
- 36. Curtain, blind, drape, tapestry.
- 37. Fabric, yard goods.
- 38. Luggage.
- 39. Not classified above.



**4. ADORNMENT, RECREATIONAL MATERIAL**

41. Christmas tree.
42. Decoration for special event.
43. Book.
44. Magazine, newspaper, writing paper, Mus.
45. Toy, game.
46. Awning, canopy.
47. Tarpaulin, tent.
49. Not classified above.

**5. SUPPLIES, STOCK**

51. Box, carton, bag.
52. Basket, barrel.
53. Pallet, skid.
54. Rope, cord, twine, yarn.
55. Packing, wrapping material.
56. Bulk storage.
57. Bulk storage.
58. Brooms, brushes, mops, cleaning cloths, cleaning supplies.
59. Not classified above.

**6. POWER TRANSFER EQUIPMENT, FUEL**

61. Electrical wire, cable insulation.
62. Transformer.
63. Conveyor belt, drive belt, v belt.
64. Tire.
65. Fuel.
69. Not classified above.

**7. GENERAL FORM**

71. Agricultural product.
72. Fence, pole.
73. Fertilizer.
74. Furals, brush and grass.
75. Film, cellophane, rubbish, trash, waste.
76. Cooking materials.
77. Sign.

**8. SPECIAL FORM**

81. Dust, fiber, lint, sawdust.
82. Pyrotechnics, explosives.
83. Abandoned, vaporized liquid.
84. Chaps.
85. Material stored on pallets.
86. Accelerants.
87. Polled material.
88. Adhesive.

**9. OTHER FORM OF MATERIAL**

97. Multiple form of material ignited.
99. Not classified above.

**14.16 IGNITION FACTOR (CAUSE)****1. INCENDIARY**

11. Incendiary.
12. Incendiary, during civil disturbance.

**2. SUSPICIOUS**

21. Suspicious.
22. Suspicious, during civil disturbance.

**3. MISUSE OF HEAT OF IGNITION**

31. Abandoned, discarded material, cigarette, etc.
32. Thawing.
33. Falling asleep.
34. Inadequate control of open fire.
35. Cutting, welding too close to.
36. Children with matches, lighter, etc.
37. Unconscious, mental, physical impairment.
39. Not classified above.

**4. MISUSE OF MATERIAL IGNITED**

41. Fuel spilled, released accidentally.
42. Improper tinning technique.
43. Flammable liquid used to kindle fire.
44. Washing part, cleaning, refinishing, painting.
45. Improper container.
46. Combustible too close to heat.
47. Improper storage.
49. Not classified above.

**5. MECHANICAL FAILURE, MALFUNCTION**

51. Part failure, leak, break.
52. Automatic control failure.
54. Short circuit, ground fault.
55. Other electrical failure.
56. Lack of maintenance, worn out, failure to clean.
57. Backfire.
59. Not classified above.

**6. DESIGN, CONSTRUCTION, INSTALLATION DEFICIENCY**

61. Design deficiency, catalytic converter failure.
62. Construction deficiency.
63. Installed too close to combustibles.
64. Other installation deficiency.
65. Property too close to, included are exposure fires.
69. Not classified above.

**7. OPERATIONAL DEFICIENCY**

71. Collision, overturn, knockdown.
72. Accidentally turned on, not turned off.
73. Unattended.
74. Overloaded.
75. Spontaneous heating.
76. Improper startup, shutdown procedures.
79. Not classified above.

**8. NATURAL CONDITION**

81. High wind.
82. Earthquake.
83. High water, including floods.
84. Lightning.
89. Not classified above.

**9. OTHER IGNITION FACTORS**

91. Animal.
92. Rekindled from a previous fire.
93. Not classified above.
99. No fire.

**14.17 JUVENILE INVOLVED IN IGNITION**

0. Juvenile Not involved in ignition or No information that a Juvenile was involved.
1. Juvenile involved in ignition.

**14.18 CONSTRUCTION CLASS****Code No.**

0. No building involved.
1. Fireproof Structure.
2. Fire Protected Structure.
3. Non Fireproof Structure.
4. Wood Frame Structure.
5. Metal Structure.
6. Heavy Timber Structure.

**14.19 CLASSIFICATION OF BUILDING BY USE****COMMERCIAL**

- 592 Bank.
- 723 Brewery.
- 895 Coal Storage.
- 581 Department Store.
- 615 Electrical Power Plant.
- 708 Factory, Multi-Occupancy.
- 709 Factory, Single Occupancy.
- 771 Foundry.
- 894 Freight Depot.
- 882 Garage, Non-Storage.
- 889 Garage, Storage.
- 767 Gas Works, Natural Gas Plant.
- 851 Lumber Yard.
- 573 Motor Vehicle Repair Shop, Paint Shop.
- 571 Oil Building, Store, City, Federal or Commercial.
- 571 Oil Selling Station.
- 841 Oil Storage Plant.
- 898 Pier, Wharf, Dock, Bulkhead Building.
- 161 Restaurant, Diner.
- 925 Shed, Newstand, Seamy.
- 781 Shipyard, Drydock.
- 815 Stable.
- 614 Steam Generating Plant.

- 599 Storebuilding, Taxpayer.
- 891 Warehouse, Storehouse.
- 410 Store Building & Private Dwelling.
- 588 Other Commercial.

**PUBLIC**

- 171 Airport Building.
- 361 Asylum.
- 921 Bridge.
- 173 Bus Terminal.
- 133 Church, Synagogue.
- 121 Dance Hall, Banquet Hall.
- 334 Dispensary, Clinic.
- 177 Ferry Terminal.
- 331 Hospital, Infirmary.
- 311 Nursing Home.
- 174 Railroad Station, Street Level.
- 175 Railroad Station, Below Grade.
- 176 Railroad Station, Above Grade.
- 241 School, College, University.
- 215 School, High School.
- 214 School, Junior High.
- 213 School, Elementary.
- 211 School, Children's Nursery.
- 210 School, Other.
- 185 Television Studio.
- 181 Theatre, Legitimate.
- 183 Theatre, Motion Picture.
- 170 Transit System—Station Structure.
- 922 Tunnel.
- 119 Other Public.

**RESIDENTIAL**

- 489 Apartment Hotel "A".
- 429 Apartment House "A".
- 439 Boarding House, Rooming House "B".
- 485 Convent, Rectory, Monastery, etc.
- 461 Dormitory—School, Club, Lodge.
- 449 Hotel "B".
- 430 Lodging House "B".
- 440 Motel.
- 411 Private Dwelling: One Family.
- 414 Private Dwelling: Two Family.
- 430 Tenement: New Law "A".
- 433 Tenement: Old Law "A".
- 422 Converted Dwelling "A".
- 430 Other Residential.

**SPECIAL PROPERTIES**

- 972 Airport Runway.
- 994 Cemetery.
- 931 Construction Site.
- 932 Dump, Landfill.
- 931 Open Land, Fields.
- 935 Parking Area, Lot.
- 933 Pipeline, Power Line Right-of-Way.
- 932 Public Street.
- 932 Railroad Switching Yard, marshalling yard.
- 936 Vacant Lots.
- 939 Unknown Property Not Classified.

**14.20 BUILDING STATUS CODE****Code Description**

- 1 Occupied: The building is normally fully occupied or is intended to be fully occupied. A few vacant areas, which are notable, may exist.
  - 2 Partly Occupied: The building is in good condition and more than 25 percent of the areas are vacant.
  - 3 Partly Occupied, Deteriorating: The building has some vacant areas and these are expected to remain vacant until demolition or alteration because of the condition of the building or its surroundings.
  - 4 Vacant: The building is entirely vacant. (Even if squatters are present.)
  - 5 Under Demolition: The building is in the process of being torn down.
  - 6 Under Construction: The building is under construction and does not have any occupants.
  - 7 Under Construction: The building is partially occupied, whether under a temporary certificate of occupancy or not.
- Note: The status code applies to the building, not the fire area. Therefore, codes 1, 2 and 3 may be used whether the fire itself occurred in a vacant or occupied area, and code 1 may apply even if the fire occurred in a vacant area (for example, a fire in a vacant apartment being repainted for a new tenant). The occupied or vacant status of the fire area is now recorded on the "Area of Origin" Code. (See Paragraph 2.10.2i)

4

**14.21 COMPLEX****11. PUBLIC RECREATION COMPLEX**

Included are zoos, amusement parks and general recreation parks.

**12. STADIUM, EXHIBITION HALL COMPLEX**

Included ballparks, racetracks, sports gardens and arenas.

**14. CLUB COMPLEX**

Included are golf clubs, tennis clubs and country clubs.

**23. EDUCATIONAL COMPLEX**

Included are schools, colleges and universities.

**33. MEDICAL CARE COMPLEX**

Included are Hospitals, Medical Centers, Mental Institutions.

**34. PRISON COMPLEX****40. BUSINESS WITH RESIDENTIAL COMPLEX**

Included are apartments over stores.

**41. DWELLING COMPLEX (ONE AND TWO FAMILY)****42. APARTMENT COMPLEX****44. HOTEL COMPLEX**

Included are motels, inns and lodges.

**47. MOBILE HOME PARK COMPLEX****58. SHOPPING COMPLEX**

Included are department stores, malls, discount houses and shopping centers. Also included are groups of business and commercial establishments which may contain theaters and other places of assembly.

**59. OFFICE COMPLEX**

Included are non-military government office complexes.

**61. POWER PRODUCTION COMPLEX****63. MILITARY RESERVATION DEFENSE COMPANY****65. FARM COMPLEX****70. INDUSTRIAL PLANT, MANUFACTURING COMPLEX****80. WAREHOUSE, STORAGE COMPLEX****91. CONSTRUCTION COMPLEX**

Included are construction operations.

**93. CAMPSITE COMPLEX****94. WATERFRONT COMPLEX**

Included are marinas.

**95. RAILROAD TRANSPORT COMPLEX****96. ROAD COMPLEX**

Included are highways, streets and all public ways.

**97. AIRPORT COMPLEX****98. NO COMPLEX**

If other properties meeting the definition for a complex as defined above are identified, they may be indicated by Complex Code 99.

**AREA FIRE ORIGIN****14.22 FLOOR CODE NO.****00 OUTSIDE BUILDING**

01 1st floor

to to

84 84th and Higher

85 Attic

96 Roof

97 Basement

98 Cellar

99 Sub-Cellar

**14.23 AREA FIRE ORIGIN—****OCCUPANCY CLASSIFICATION****00 NOT IN BUILDING****COMMERCIAL**

Factory:

99 Displays

01 Dresses

02 Undergarment

03 Other (state type)

04 Dry Cleaning Laundry

05 Electrical Products

06 Food and Drink Packages

07 Furniture

08 Furs, Fur Goods

09 Mens Hats

10 Womens Hats

11 Leather, Leather Products

12 Machine Shop Metal Works

13 Paints

14 Paper Products

15 Petroleum Products

16 Plastics, Rubber

17 Printing and Allied Industries

18 Shoes

19 Textiles

20 Toy or Doll

21 Woodworking

22 Other Factories not classified (state type)

Store:

23 Auto Accessories

24 Bakery

25 Butcher

26 Candy, Gagar, Stationary

27 Clothing

28 Department, large

29 Department, small (5 &amp; 10)

30 Dry Cleaner &amp; Tailor

31 Drug

32 Electrical Appliance

33 Fruits and Vegetables

34 Furniture

35 Grocery, Dairy, Delicatessen

36 Haberdashery

37 Ladies Accessories

38 Laundry

39 Paint, Hardware

40 Restaurant Luncheonette

41 Shoe

42 Shoe Repair

43 Supermarket

44 Tavern

45 Other Stores not classified (state type)

Garages:

46 Non Storage

47 Storage

48 Oil Filling Station

49 Motor Vehicle Repair Shop

50 Office Building

Warehouse:

51 Film

52 Paper, Rags, Fibre

53 Other (state type)

54 Freight Depot

55 Pier

56 Shipyard

57 Lumber yard

58 Shed, Newsstand, Shanty, etc.

59 Other Commercial Building Occupancies, not classified (state type)

Residential:

60 Apartment, Hotel, Multiple Dwelling "A"

61 Apartment House, Multiple Dwelling "A"

62 Boarding House, Rooming House, Multiple Dwelling "B"

63 Hotel, Multiple Dwelling "B"

64 Lodging House, Multiple Dwelling "B"

65 Private Dwelling

66 Rectory, Convent, Monastery, etc.

67 Tenement House, New Law, Multiple Dwelling "A"

68 Tenement House, Old Law, Multiple Dwelling "A"

69 Other Residential, not classified (state type)

Public:

70 Airport

71 Cabaret, Banquet Hall

72 Church

73 Dance Hall

74 Hospital

75 Motion Picture Theatre

76 N.Y. Transit System Station

77 Passenger Depot

78 School

79 Theatre

80 TV Studio

81 Other Public, not classified (state type)

**14.24 AREA OF FIRE ORIGIN****0. MEANS OF EGRESS**

01 Hallway, corridor, mall.

02 Exterior stairway.

03 Interior stairway.

04 Escalator.

05 Lobby, entrance way.

06 Not classified above.

**1. ASSEMBLY AREA**

11 Food seats (100 or more persons).

12 Without fixed seats (100 or more persons).

13 With or without fixed seats, (less than 100 persons).

14 Living room, family room, lounge area.

15 Sales, showroom area.

16 Library, art galleries, exhibit.

17 Swimming pool area.

18 Not classified above.

**2. FUNCTION AREAS**

21 Bedrooms, patient rooms, cells, lockups.

22 Wards, dormitories, barracks.

23 Dining area, luncheon room, cafeteria.

24 Kitchen, cooking area, cloakroom.

25 Laundry area.

26 Health clubs, massage parlors, barber, beauty.

**3. FUN AREAS (continued)**

31 Laboratory.

32 Printing or photographic room.

33 First aid, treatment room.

34 Operating room.

35 Electronic, computer, telephone room, telephone booth.

36 Performance, stage area, indoor sports.

37 Projection room, stage light.

38 Process, manufacturing area.

39 Not classified above.

**4. STORAGE AREAS**

41 Tank, bin, product storage room.

42 Closet.

43 Supply room.

44 Records storage room, vault.

45 Shipping, receiving, loading mail room.

46 Trash or rubbish container, compactor.

47 Garage, carport, vehicle storage.

48 Not classified above.

**5. SERVICE FACILITIES**

51 Elevator, dumbwaiter.

52 Electrical, plumbing, ventilation shaft.

53 Light shaft.

54 Laundry or mail chute.

55 Duct.

56 Display window.

57 Chimney, flue, stovepipe.

58 Conveyor.

59 Not classified above.

**6. SERVICE, EQUIPMENT AREA**

61 Machinery room.

62 Heating equipment, water heater area.

63 Switchgear area, transformer vault.

64 Incinerator room area.

65 Maintenance shop, workshop, paint shop, welding shop.

66 Test cell.

67 Enclosure with pressurized air.

68 Enclosure with enriched oxygen atmosphere.

69 Not classified above.

**7. STRUCTURAL AREAS, NON-FUNCTIONAL**

71 Graft space, cellar, substructural area.

72 Exterior balcony, open porch.

73 Floor and ceiling assembly concealed floor/ceiling space.

74 Roof and ceiling assembly, concealed roof/ceiling space.

75 Wall assembly, concealed wall space.

76 Exterior wall surface.

77 Exterior roof surface.

78 Awning, overhang.

79 Not classified above.

**8. TRANSPORTATION, VEHICLE AREAS**

- 81. Passenger area.
- 82. Trunk, load carrying area.
- 83. Engine, running gear, wheel area.
- 84. Fuel tank, fuel line.
- 85. Operating, control area, cab, cockpit.
- 86. Exterior exposed surface.
- 89. Not classified above.

**9. OTHER AREAS OF ORIGIN**

- 91. On or near railroad right of way, embankment.
- 92. On or near highway, public way, street.
- 93. Terrace, patio, courtyard.
- 94. Lawn, field, open area, vacant lot.
- 95. Wildland area, woods.
- 97. Multiple location.
- 98. Vacant room, apartment or area.
- 99. Not classified above.

**14.25 MANNER OF EXTENSION****Code No.**

- 00 Confined to area of origin.
- 01 Cockloft.
- 02 Door or opening between rooms.
- 03 Floor.
- 04 Hall, Stairway.
- 05 Partition.
- 06 Pipe Recess.
- 07 Shaft-dumbwaiter.
- 08 Shaft-Elevator.
- 09 Shaft-air, Light, Chute, Duct, etc.
- 10 Ceiling.
- 11 Window.
- 12 Other (state type)

**14.26 NUMBER OF OCCUPANCIES****Codes Description**

- 01 1 occupancy
- 02 2 occupancies
- 
- 
- 
- 99 99 or more occupancies

**14.27 BUILDINGS****Code: 0 to 9**

- 0— did not spread beyond building of origin
- 1—1 structure or vehicles
- 
- 
- 

- 9—9 or more buildings or vehicles

NOTE: Form BF-24A must be submitted for each building or vehicle listed in this coded space.

**14.28 DAMAGE CODES****14.28.1 Percentage Codes**

- 0 No appreciable damage
- 1 From 1 through 15%
- 2 From 16 through 49%
- 3 50% or greater

**14.28.2 Extent of Damage Codes: To be used in the Damage Category Boxes "Flame, Smoke and Water".**

- 1. Confined to object or origin.
- 2. Confined to part of room or area of origin.
- 3. Confined to room of origin.
- 4. Confined to fire-rated compartment of origin.
- 5. Confined to floor of origin.
- 6. Confined to structure of origin.
- 7. Extended beyond the structure of origin.
- 9. No damage of this type.

**14.29 SMOKE AND HEAT DETECTOR CODES****14.29.1 Present**

- 1 Present
- 0 Not Present

**14.29.2 Type**

- 1. Smoke
- 2. Heat

**14.29.3 Power Source**

- 1. Battery
- 2. A/C

**14.29.4 Performance**

- 1. In room of fire; operated
- 2. Not in room of fire; operated
- 3. In room of fire; did not operate
- 4. Not in room of fire; did not operate
- 5. In room; fire too small to operate
- 6. Did not operate; power source removed
- 9. Not classified

**14.30 POWER FOR EQUIPMENT**

- 01 1-23 volts A.C.
- 02 24 volts A.C.
- 11 1-6 volts D.C.
- 12 7-12 volts D.C.
- 15 115 volts A.C.
- 26 208 volts A.C.
- 30 220-230 volts A.C.
- 33 231-330 volts A.C.
- 34 331 or higher volts A.C.
- 50 25-50 volts A.C.
- 61 Butane
- 62 Coal, Coke, Charcoal, Peat
- 63 Fuel Oil, No. 1 or No. 2
- 64 Fuel Oil, No. 3 or No. 4
- 65 Fuel Oil, No. 5 or No. 6
- 66 Gasoline
- 67 Kerosene
- 68 LN gas (stored as liquid)
- 69 LP gas (stored as liquid)
- 70 Natural or Illuminating gas (as a gas)
- 71 Paper
- 72 Propane
- 99 Other

**14.31 CODE FOR TYPE OF ACTION TAKEN**

- 1. Extinguishment
- 2. Rescue
- 3. Investigation
- 4. Remove Hazard
- 5. Standby
- 6. Salvage
- 7. First Aid
- 9. Cancelled Enroute

**14.32 CLASSIFICATION BY TYPE FIRE OR EMERGENCY****TRANSPORTATION****Code No.**

- 87 Ship, Vessel
- 88 Motor Vehicle
- 89 Other Transportation (state type)

**NON-STRUCTURAL FIRES****Code No.**

- 84 Explosion, no after fire
- 85 Outside Spill/Leak with Fire
- 86 ADV (Abandoned/Derelict Motor Vehicle)
- 90 Bonfire
- 91 Brush, Grass
- 92 Demolition Wood, Building Site
- 93 Dump, Land Fill
- 94 Rubbish—Outside Building
- 95 Manhole
- 96 N.Y. Transit System—Yard, Roadway, Ties, etc.
- 97 Railroad Yard, Roadway, Ties, etc.
- 98 Tunnel, Bridge
- 99 Other Non-Structural, not classified (state type)

**EMERGENCY****Code No.**

- 03 Elevator, Escalator
- 04 Explosives Escort
- 05 First Aid—Assist Person(s)

**06 First Aid—Resuscitation**

- 07 Marine
- 08 Precarious Condition—Signs, Trees, etc.
- 09 Subway, Railroad
- 10 Water Leak
- 11 Bomb—Unexploded, Scare
- 12 Collapse—Cave In
- 13 Collision—Vehicular Incident
- 14 Controlled Fire, Permitted
- 15 Flood Condition—Broken Water Main
- 16 Incinerator
- 17 Leak—Fuel Oil, Gasoline, etc.
- 18 Leak—Illuminating Gas, Flammable Vapor
- 19 Lightning
- 20 Oil Burner
- 21 Person Locked In, Locked Out
- 22 Power Electrical
- 23 Pressure Rupture
- 24 Refrigerant Leak
- 25 Smoke Condition, Odor, Fumes
- 26 Sprinkler—Leak, Water Discharge, Damaged Head, etc.
- 27 Steam Discharge
- 28 Defective Alarm Device (other than Sprinkler)
- 29 Smoke Detector
- 30 Defective Alarm (Sprinkler)—Surge, Work on System, etc.
- 31 Other

**14.33 MOBILE PROPERTY TYPE CODES**

- 11 Automobile
- 12 Bus
- 13 Motorcycle, Snowmobile
- 14 Motorhome
- 15 Travel Trailer
- 17 Mobile Home
- 20 Freight, Road Transport
- 30 Rail Transport
- 40 Water Transport
- 50 Air Transport
- 60 Heavy Equipment
- 70 Special Vehicles, Containers
- 99 Other Mobile Property Types



## Appendix D

### SIGNIFICANT FIRES IN WTC 1

Significant fire incidents occurring in WTC 1

Significant Fire	Incident Date	Fire Location	# Sprinklers Activated	# Standpipes Activated	Cause of Fire	Material Ignited
1	9/9/77	B-6 level storage room	2		None listed	Not listed
2	9/23/77	Dumpster on B-4 level	2		Not classified	Trash/waste
3	10/16/81	Floor 19 office area	-	2	Discarded material	Furniture
4	12/23/83	2 dumpsters on B-4 level	2	1	Suspicious	Trash/waste
5	1/27/85	Office space on mezzanine level (floor 2)	2		Incendiary	Trash/waste
6	9/10/85	Garbage dumpster in service elevator lobby on floor 43	2	1	Suspicious	Trash/waste
7	11/1/85	Storage closet on B-4 level	3	1	Suspicious	Supplies/stock
8	6/7/86	Dumpster fire on floor 106, compactor room on floor 107	2	1	None listed	Trash/waste
9	9/30/91	Office on B-4 level	≥1	2	Discarded material	Trash/waste
10	11/19/91	Electrical closet on floor 93	0	2	Short circuit	Electrical wire or cable insulation
11	7/23/92	Level B-5 at the power distribution panel	0	2	Electrical failure	Electrical wire or cable insulation
12	11/10/99	Computer room on floor 104	3	≥1	None listed	Plastics, electronic equipment

## REPORT - STRUCTURAL FIRE

FOR FIRE RECORDS USE ONLY	TYPE REPORT		DATE AND TIME ALARM RECEIVED				DURATION OF INCIDENT		HOW REPORTED		HIGHEST ALARM		LOCATION		REPORT	
	MONTH	DAY	YEAR	CO. NO.	HOUR	MINUTE	HOURS	MINUTES	INITIAL ALARM	SECOND ALARM	BOX NUMBER	ADMIN. COMPANY	BLOCK NUMBER	REPORT NUMBER	FILE NUMBER	REPORT NUMBER
	1	09	09	77	1	2306	01 00	4	1 0	1 0070	5006	0113	0063	01	321	

AIDED AND CASUALTIES				RESP.	EXTINGUISHMENT	INVESTIGATION	STRUCTURE	AREA FIRE ORIGIN										
CIVILIANS	FIACUATED	FIRST AID	HURT	KILLED	UNIFORMED	ENG. TO. MARINE	CODE	NO. SPRINK. FIVE LBS	CAUSE	FIRE MARSHAL	CONSTRUCT	USE	STATUS	STATUS	STATUS	STATUS	STATUS	STATUS
00 00 00 00 00 00 03 2 0 02 00 0																		

ADDRESS 1 World Trade Center Man.  
 NUMBER 110 STREET 200-200 BOROUGH  
 BUILDING 110 STORIES 200-200 AREA  
 (Second Card)

NAME OF OCCUPANT Sgt. Daniels P.A. Police ROOM/APT NO.  
 LEFT IN CHARGE

COMPANIES	TYPE	NO.	SECT.	FIS.	NO.	SECT.	FIS.	NO.	SECT.	FIS.	NO.	SECT.	FIS.	NO.	SECT.	FIS.
5	006	0	10	7	001	0	10	7	008	0	10					

## OPERATIONS

Upon arrival at command post was told of fire in B 6 level storage room, operations as follows.

Ladder 1 made necessary investigation, located fire, vented, overhauled.

Ladder 8 checked for extension, vented overhauled.

Engine 6 stretched line from standpipe and stood fast.

Fire was extinguished by sprinkler system before arrival.

EN. 4 supervised operations on fire floor.

Fire Patrol 2 on the scene.

Rudy E. DiGeorgio 2306 1 of 1  
 TYPE FULL NAME TIME OF ARRIVAL TYPE FULL NAME TIME OF ARRIVAL



FOR FIRE RECORDS USE ONLY		DATE AND TIME ALARM RECEIVED				DURATION OF INCIDENT		ALARM		LOCATION		REPORT			
TYPE REPORT	MONTH	DAY	YEAR	CO. NO.	HOUR	MINUTE	HOURS	MINUTES	HOW REPORTED	INITIAL ALARM	HIGHEST ALARM	BOROUGH	ALARM	INCIDENT	REPORT
1	09	23	77	1	22	00	25	4	1	0	1	0070	5	006	0113

AIDED AND CASUALTIES				EXTINGUISHMENT		INVESTIGATION		STRUCTURE		AREA FIRE ORIGIN	
CIVILIANS				RESP.	EXTINGUISHMENT	INVESTIGATION	STRUCTURE	AREA FIRE ORIGIN			
EVAQUATED	FIRST AND	INJURED	DECEASED	UNINFORMED	ENJOYING	CAUSE	STRUCTURE	AREA FIRE ORIGIN			
00	00	00	00	03	2	0	02	00	1	63	1

ADDRESS		BUILDING		AREA		NAME OF OCCUPANT		LEFT IN CHARGE	
NUMBER	STREET	NUMBER	STORIES	BOROUGH	AREA	NAME OF OCCUPANT	ROOM/APT. N.	LEFT IN CHARGE	
1	World Trade Ctr.	110	250	Man		PONTA	B-4 (Level)		
						Ptl Lorenza (PONTA)			

TYPE	NO.	SECT.	PTS.	NO.	SECT.	PTS.	NO.	SECT.	PTS.	NO.	SECT.	PTS.	NO.	SECT.	PTS.
5	006	0	05	7	001	0	05								

## OPERATIONS

Responded to 3-70-10 (Manual Alarm)

Upon arrival was informed of fire in Dumpster B-4 level 1 WTC. Ordered investigation and found fire therein, which had been extinguished prior to the arrival of this dept. Operations as follows:

E.6- Rolled up lengths stood fast.

L.1- Search. examination, ventilation of B-4 level, conditions as stated.

NAME		TIME OF ARRIVAL		NAME		TIME OF ARRIVAL	
TYPE FULL NAME	TIME OF ARRIVAL	TYPE FULL NAME	TIME OF ARRIVAL	TYPE FULL NAME	TIME OF ARRIVAL	TYPE FULL NAME	TIME OF ARRIVAL
Michael R. Porgio	1251						

ADMINISTRATIVE COMPANY

## REPORT — STRUCTURAL FIRE

OF 24 (1.60)

INCIDENT LOCATION				DATE AND TIME				INCIDENT				BOX LOCATION				REPORT				COR. RESP.							
TYPE REPORT				ALARM RECEIVED				MINUTES				HOURS				MINUTES				HOURS				MINUTES			
ADDITIONAL				DAY				MONTH				YEAR				MOUSE				HOURS				MINUTES			
ADDITIONAL				DAY				MONTH				YEAR				MOUSE				HOURS				MINUTES			
1	01	5	006	0113	10-16-81	1912	02:30	6	1	7	1	8084	0172	01	531	03	2										

EXTINGUISHMENT				IGNITION				STRUCTURE				AREA FIRE ORIGIN				FIRE EXTENSION				SPECIAL USE			
EXTINGUISHMENT				IGNITION				STRUCTURE				AREA FIRE ORIGIN				FIRE EXTENSION				SPECIAL USE			
EXTINGUISHMENT				IGNITION				STRUCTURE				AREA FIRE ORIGIN				FIRE EXTENSION				SPECIAL USE			
EXTINGUISHMENT				IGNITION				STRUCTURE				AREA FIRE ORIGIN				FIRE EXTENSION				SPECIAL USE			
01	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	

STREET NAME				BUILDING (ED)				AREA				LEFT IN CHARGE										
STREET NAME				BUILDING (ED)				AREA				LEFT IN CHARGE										
STREET NAME				BUILDING (ED)				AREA				LEFT IN CHARGE										
STREET NAME				BUILDING (ED)				AREA				LEFT IN CHARGE										
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

NAME OF OCCUPANT				ROOM APT. NO.				POWER			
NAME OF OCCUPANT				ROOM APT. NO.				POWER			
NAME OF OCCUPANT				ROOM APT. NO.				POWER			
NAME OF OCCUPANT				ROOM APT. NO.				POWER			
U.S. Trading Corp	103	103	103	1973	1973	1973	1973	1973	1973	1973	1973

EQUIPMENT INVOLVED IN IGNITION				OPERATIONS			
EQUIPMENT INVOLVED IN IGNITION				OPERATIONS			
EQUIPMENT INVOLVED IN IGNITION				OPERATIONS			
EQUIPMENT INVOLVED IN IGNITION				OPERATIONS			
5	010	20	5	005	10	5	007
5	010	20	5	005	10	5	007
5	010	20	5	005	10	5	007
5	010	20	5	005	10	5	007

Responded to alarm box 8084. Upon arrival were informed by Port Authority personnel of a fire in the above location. Initial reports also indicated that the fire had penetrated the skin of the bldg signal 10-75 was transmitted. Port Authority personnel stretched initial hand line into fire location Eng. 10-6 stretched standpipe line, extinguished main body of fire, washed down.

Eng. 6- Took handline from P.A. personnel, assisted in extinguishment.

Eng. 7- Relieved Eng. 10 on line, supplied standpipe.

Lad. 1- To fire floor, performed primary and secondary searches, vented, overhauled.

Lad. 8- To 20th floor, performed primary and secondary searches on that and upper floors.

ADMINISTRATIVE COMPANY

**STRUCTURAL FIRE, TRANSPORTATION FIRE, NON-STRUCTURAL FIRE OR EMERGENCY**

TYPE REPORT		DATE AND TIME ALARM RECEIVED				BOX LOCATION		IGNITION				STRUCTURE		AREA OF ORIGIN				FIRE EXTENSION			
MONTH	DAY	YEAR	HOUR	MINUTE	BOROUGH	BOX NO.	BUILDING NO.	FLOOR INVOLVED	HEAT FORM	MATERIAL TYPE	MATERIAL FORM	USE	STATUS	RISK	DAMAGE	COMB'S DNGR	FLOOR CODE	PARALLEL CODE	OCCUPANCY	MANNER OF	OCCUPANCIES
6	10	16	31	1912	1	8084	00														

NUMBER		STREET NAME		TYPE	
INCL. HYPER	SWTH	SWTH	SWTH	TYPE	SWTH
		World Trade Center			

IF MOBILE PROPERTY

YR	MAKE	MODEL	SERIAL NO.	LICENSE	STATE

UNIT	PTS.	195	201	207	213	218	225	231	236
189									

**OPERATIONS**

Lad.8 (cont.)- Forced door to Office room#2073

Res.1- Checked vent ducts and stairways on and above fire floor, secured passenger elevators serving fire floor.

Patrol#1- On scene, salvage work on 16th and 17th floors.

Patrol#2- On scene, salvage work on 18th floor.

Div.1- D.C. Rossi on scene, in charge of Department operations upon arrival.

B.C. \_\_\_\_\_ 1 \_\_\_\_\_ D.C. \_\_\_\_\_ 1 \_\_\_\_\_

James J. McKenna 1916 John D. Rossi

TYPE FULL NAME TIME OF ARRIVAL TYPE FULL NAME TIME OF ARRIVAL

PAGE 2 OF 2



BF-24 (1/80)-175M-608551 (63)

TYPE REPORT				INCIDENT LOCATION				DATE AND TIME				ALARM RECEIVED				MILITARY DURATION				BOX LOCATION				REPORT				CDS, RESP.																															
COMMUNITY BOARD				ADJ. COMPANY				BLOCK NUMBER				DAY				YEAR				HOURS				MINUTES				HIGHEST ALARM				BOX NUMBER				REPORT NUMBER				FIRE BATTALION				ENGINE NUMBER				ENGINE ADDRESS											
1				015				0113				12-23-83				00:25				2				1				0				1				8093				0228				01:075				03:2											
EVACUATED				FIRST AID				INJURED				KILLED				CIVILIANS				AIDED AND CASUALTIES				EXTINGUISHMENT				IGNITION				STRUCTURE				AREA FIRE ORIGIN				FIRE EXTENSION				SPECIAL USE															
UNFURNISHED				UNFURNISHED				UNFURNISHED				UNFURNISHED				UNFURNISHED				UNFURNISHED				UNFURNISHED				UNFURNISHED				UNFURNISHED				UNFURNISHED				UNFURNISHED				UNFURNISHED				UNFURNISHED				UNFURNISHED							
FURNITURE				FURNITURE				FURNITURE				FURNITURE				FURNITURE				FURNITURE				FURNITURE				FURNITURE				FURNITURE				FURNITURE				FURNITURE				FURNITURE				FURNITURE				FURNITURE							
ELECTRICAL				ELECTRICAL				ELECTRICAL				ELECTRICAL				ELECTRICAL				ELECTRICAL				ELECTRICAL				ELECTRICAL				ELECTRICAL				ELECTRICAL				ELECTRICAL				ELECTRICAL				ELECTRICAL				ELECTRICAL							
PLUMBING				PLUMBING				PLUMBING				PLUMBING				PLUMBING				PLUMBING				PLUMBING				PLUMBING				PLUMBING				PLUMBING				PLUMBING				PLUMBING				PLUMBING				PLUMBING							
MECHANICAL				MECHANICAL				MECHANICAL				MECHANICAL				MECHANICAL				MECHANICAL				MECHANICAL				MECHANICAL				MECHANICAL				MECHANICAL				MECHANICAL				MECHANICAL				MECHANICAL				MECHANICAL							
OTHER				OTHER				OTHER				OTHER				OTHER				OTHER				OTHER				OTHER				OTHER				OTHER				OTHER				OTHER				OTHER				OTHER				OTHER			

STREET NAME: **World Trade Center**

STREET NO.: **136**

STREET TYPE: **136**

BUILDING: **99**

STORIES: **137**

AREA: **200 X 200**

NAME OF OCCUPANT: **Port Authority**

EQUIPMENT INVOLVED IN IGNITION: **96**

ROOM, APT. NO.: **136**

MAKE: **MAKES**

MODEL: **MODEL**

UNIT: **5**

PTS: **010**

ITEM: **10**

LEFT IN CHARGE: **P.A. Police**

POWER: **187**

OPERATIONS

Responded to report of fire in B-4 Level, and heavy smoke condition. Found two dumpsters fully involved in separate locations on same floor. Sprinklers extinguished major portion of fire. Section 10-43 code 1.

of fire. Signal 10-44 code 1.  
Engine Co. 10 - Stretched from standpipe, and extinguished remaining fire.  
Ladder Co. 1 - Overhauled, checked for extension and vented.

PAGE 1 OF 1  
 S.C. Rudolph S. Quatrone 1st D.C. 02:53 <sup>BN</sup> TIME OF ARRIVAL  
 TYPE FULL NAME Rudolph S. Quatrone TIME OF ARRIVAL

## 06F-24 (1180)

TYPE REPORT				INCIDENT LOCATION				DATE AND TIME ALARM RECEIVED				INCIDENT DURATION				REPORT				CUB. RESP.			
COMMUNITY BRAND				BLOCK NUMBER				DAY MONTH YEAR				MINUTES HOURS				BOX LOCATION				BOX NUMBER			
1				01 5 010				01 37 01				2 1 1				01 11 02				8000783			

AIDED AND CASUALTIES				EXTINGUISH MEANT				IGNITION				STRUCTURE				AREA FIRE ORIGIN				FIRE EXTENSION				SPECIAL USE			
FATALITY				FATALITY				FATALITY				FATALITY				FATALITY				FATALITY				FATALITY			
00 00 00 00				2 01 00				3 96 66				60 75 11				1 1 1 1				1 02 59 59				00 00 00			

STREET NAME				TYPE				BUILDING				AREA				200x200			
1				World Trade Center				1				110				133			
New York City Port Authority NY, NJ																			

NAME OF OCCUPANT				ROOM, APT, NO				EQUIPMENT INVOLVED IN IGNITION			
56				100				130			
Sgt. Doubraski, PA Police											

UNIT				PTS				ITEM				POWER			
180				190				200				210			
5 006 05				7 001 05				7 010 05				100			

LEFT IN CHARGE				MODEL				SIN				107			
151				151				151				151			
OPERATIONS															

On arrival, found two sprinkler heads containing fire in unoccupied office occupancy on mezzanine level. Units assigned as follows:

Eng. 6: Stretched line, stood fast.  
 Lad. 1: Located fire, searched, extinguished remaining fire. Shut down sprinkler system.  
 Lad. 10: Checked for extension.

10-41 signal (code 1) transmitted.

B.C. *John J. Spillane* 1 0.C. *John J. Spillane* 2055

PAGE 1 OF 1

TIME OF ARRIVAL

On arrival, found two sprinkler heads containing fire in unoccupied office occupancy on mezzanine level. Units assigned as follows:

Fig. 6: Stretched line, stood fast.

Lad. 1: Located fire, searched

Lad. 10: Checked for extension.

10-41 signal (code 1) transmitted.

6.C. *John J. Spillane*  
John J. Spillane  
TYPE CITY NAME



NIST NCSTAR 1-4A, WTC Investigation

TYPE REPORT				DATE AND TIME ALARM RECEIVED				BOX LOCATION				IGNITION				STRUCTURE				AREA OF ORIGIN				FIRE EXTENSION															
MONTH	DAY	YEAR	ALARM	MINUTE	BOROUGH	BOX NO.	BUILDING NO.	TOWN	STAGE	FLAME INVOLVED	FLAME FORM	MATERIAL TYPE	MATERIAL FORM	CONSTRUCTION	USE	STATUS	RISC DAMAGE	CONT'S DMSL	FLOOR CODE	RM AREA CODE	OCCUPANCY	MANNER OF OCCUPANCY																	
6	09	10	85	1605	1	8084																																	
NUMBER (ENCL. KIT/PHED)				STREET NAME				TYPE				IF MOBILE PROPERTY																											
1				World Trade Center								8160199																											
YR				MARK				MODEL				25 SERIAL NO				LICENSE				STATE																			
5 007 02																																							
UNIT				PTS				135				201				207				213				219				225				231				236			

## OPERATIONS

Engine 6- (teamed with E.10) Assisted E. 10 in Standpipe stretch.

Engine 7- Manned the Standpipe phone in Stairway B on 1st Fl., relayed messages to and from Command Center

Ladder 10- To 43 fl, stairway B, found fire, searched 43 fl (negative) made necessary examination and overhaul of fire area.

Ladder 1-to 44 fl, searched for fire, smoke extension, searched for troubled occupants (negative) Checked top ten fls (101-110) for smoke (Neg.)

Ladder 8- Made secondary search of 43 fl (negative). Searched fls 44 to 49. Searched affected service elevator cars #17 & 29.

Batt. 4- Set up operations post on 43 fl. Communicated with Command Center, supervised operations of units on 43 and 44 fls.

E.4, E.3 (HiRise Unit), L.15 & Res. Co 1 stood fast, took up.

Brooklyn Cos responding on supplemental Boxes 9031 & 9032 at 1617 hrs Batt 31, Batt 32, E. 205, E. 279, L.101, L.110 stood fast, took up.

F.C.U. - Established Field Hqtrs, Monitored Communications.

Sprinkler heads (2) replaced by P.A. personnel.

Signal 10-41, Code 1 transmitted, Evidence of separate, previous fire reported to FM McCaffrey.

Responded to Scene: AC Matthew Farrell, Manhattan Borough Commander

Signal	Time	By
10-84	1609	E.10
10-76	1615	Batt 1
P.W.H.	1627	Div 1
U.C.	1640	Div 1

S.C.	Signature	BN	D.C.	Signature	DIV.	PAGE
	Kenneth T. McGowan	1611		John Hodgens		2 OF 2
	TYPE FULL NAME	TIME OF ARRIVAL		TYPE FULL NAME	TIME OF ARRIVAL	

FIRE RECORDS

**OPERATIONS**

Upon arrival to box 8093, at the World Trade Center complex found the following conditions. Proceeded to W.T.C. Command Post and was informed by Port Authority P.D. of heavy smoke condition on B24 level in area under trade center between nos. 1&2 WTC. Report from companies was for fire in storage closet of mens bathroom in this area , with three sprinkler heads activated keeping fire under control until arrival of P.D. units Co's operated V12:

Joseph L. Barracato  
 (1)  
 Joseph L. Barracato  
 TYPE FULL NAME  
 0408  
 TIME OF ARRIVAL  
 DC  
 DIV.



## REPORT - ADDITIONAL DATA

## STRUCTURAL FIRE, TRANSPORTATION FIRE, NON-STRUCTURAL FIRE OR EMERGENCY

TYPE REPORT		DATE AND TIME ALARM RECEIVED				BOX LOCATION		IGNITION				STRUCTURE		AREA OF ORIGIN		FIRE EXTENSION	
MONTH	DAY	YEAR	HOUR	MINUTE	BOX NO.	BUILDING NO.	ITEM STAGE	EQUIP. INVOLVED	HEAT FORM	MATERIAL TYPE	MATERIAL FORM	USE	STATUS	RISK DANGER	FLOOR CODE	RW AREA CODE	OCCUPANCY
6	11	01	85	0405	1	8093											

NUMBER		STREET NAME		TYPE		IF MOBILE PROPERTY	
INCL. HYDRA.	SWAT	PRIN. DRIFT					
182			WTC				

VR	MA	WC	51	54	MODEL	79	SERIAL NO	LICENSE	STATE

UNIT	PTS.	199	201	207	213	219	225	231	236

## OPERATIONS

E-10 stretched line into fire area from standpipe and extinguished all remaining in closet area

E-7 Stretched line from opposite side of fire and stood fast

E-6 assisted E10 in stretching line and relieved on line and then washdown

L-10 found fire and performed necessary VES and overhaul in area, made primary and secondary search, then up

L-1 performed necessary VES and checked for possible extension in surrounding areas

Times: 10-84 0408

10-75 0410

All hands 0425

10-41-1 0425

by Joseph L. barracato 1 DC 0408 DIV. 2 OF 2

Joseph L. barracato 0408

TYPE FULL NAME TIME OF ARRIVAL TYPE FULL NAME TIME OF ARRIVAL

ADMINISTRATIVE COMPANY

## BF 24 (180) 175M 80451 (HJ)

## OPERATIONS

B.C.	D.C.	DIV.	PAGE
10-10-68	1	BN	OF
10-10-68	10-10-68	10-10-68	10-10-68
TYPE FULL NAME	TYPE FULL NAME	TYPE FULL NAME	TYPE FULL NAME
10-10-68	10-10-68	10-10-68	10-10-68
TIME OF ARRIVAL	TIME OF ARRIVAL	TIME OF ARRIVAL	TIME OF ARRIVAL
10-10-68	10-10-68	10-10-68	10-10-68



## REPORT — ADDITIONAL DATA

## STRUCTURAL FIRE, TRANSPORTATION FIRE, NON-STRUCTURAL FIRE OR EMERGENCY

TYPE REPORT		DATE AND TIME ALARM RECEIVED				BOX LOCATION		IGNITION				STRUCTURE		AREA OF ORIGIN		FIRE EXTENSION					
MONTH	DAY	YEAR	HOUR	MINUTE	BOX NO.	BUILDING NO.	TERM. STAGE	FOUR INVOLVED	HEAT FORM	MATERIAL TYPE	MATERIAL FORM	CONSTRUCTION	USE	STATUS	FLOOR DAMAGE	FLOOR CODE	FLOOR CODE	OCCUPANCY	MANNER OF	OCCUPANCY	
6	06	07-86	09	49	1	8084	0	3	00	00	99	75	1	15	1	1	94	57	40	00	99

NUMBER (INC. HYPER)	SWITCH	SWITCH	SWITCH	STREET NAME	TYPE	SWITCH	SWITCH
1				WTC			

IF MOBILE PROPERTY

YEAR	MAKE	MODEL	SERIAL NO.	LICENSE	STATE

UNIT	PTS.	195	201	207	213	219	225	231	236
1	001	05	5	003	02				

- 1.7- Upon arrival reported to **OPERATIONS** 106th floor and stretched from standpipe to fire and extinguished same. Fire in dumpster assisted 1.10 in making search of area. Negative
- 1.6 Reported to 106th floor. Ordered to stand fast. Then up.
- 1.10 Reported to 106th floor. Ordered to stand fast. Then up.
- 1.10 Reported to 107th floor. Found fire in compactor room. Sprinkler in operation. Forced entry to sprinkler shut-off room. Shut same. Made necessary search and examination. Then up.
- 1.1 Reported to 107th floor. Assisted Ladder 10 in search and examination. Negative search. Then up.
- R-1 searched floors above fire. Light smoke. Negative. Then up.
- 1.3/1.11-115 unit: ordered to 10-2
- Field Comm Unit: - ordered to 10-2
- Batt. 4: Supervised operations on 106-110 floors. Units 1.7, 1.10 1.1 and R-1. Then up.

B.C.	BN.	D.C.	DIV.	PAGE
				11
				OF
TYPE FULL NAME	TIME OF ARRIVAL	TYPE FULL NAME	TIME OF ARRIVAL	

ADMINISTRATIVE COMPANY





[illegible]

TYPE REPORT		DATE AND TIME ALARM RECEIVED				BOX LOCATION		ALARM NUMBER		BUILDING NO.		CROSS ST. ADDRESS		EAST-WEST ADDRESS		FLOOR NO.		MATERIAL TYPE		MATERIAL TYPE		CONSTRUCTION		STRUCTURE		AREA OF ORIGIN		FIRE EXTENSION					
MONTH	DAY	YEAR	HOUR	MINUTE	SECOND	BOX NO.	ALARM NO.	BUILDING NO.	CROSS ST. ADDRESS	EAST-WEST ADDRESS	FLOOR NO.	MATERIAL TYPE	MATERIAL TYPE	CONSTRUCTION	STRUCTURE	AREA OF ORIGIN	FIRE EXTENSION																
6	1	9	18	27	1	6024	0562	00	3	11	22	43	6	1	5	9	1	9	8	9	5	2	0	9	0	0	0	0					
IF MOBILE PROPERTY		TYPE		YR.	128	MAKE		163	MODEL		158	V.I.N.		153	LICENCE		STATE																
		5		205	02	5		279	02	5		055	02	5		074	02	5		015	02	5		001	02	5		224	02	5		003	02
		7		010	20	7		001	30	7		015	30	7		006	20	7		110	10	7		131	10	7		006	30	7		020	0

DAMAGE		DETECTORS	
SPR. PERFORMANCE	SMOKE	WATER	POWER
2	1	1	0

STREET NAME		TYPE	
WORLD TRADE CENTER			

BUILDING		AREA	
STORIES	WIDTH	LENGTH	
99	0250	0250	

OCCUPANT (Driver)		ROOMMATE	

## OPERATIONS

STRATEGY: To attempt to contain the fire situation to electrical closets, and to prevent panic and hysteria in occupancies with large civilian populations, and establish parameters of fire and smoke condition as quickly as possible.

## Action taken:

1. On arrival at WTC command post, assumed command of fire situation.
2. Communicated with Ladder Co. 10 who confirmed fire situation on floors 93, 94, 95 and possibly on 96.
3. Ordered the transmission of signal 10-76 based on: potential for large volume of fire, height to fire area, time involved in units response, difficulty in effecting good voice communications in building.
4. Ordered Manhattan Dispatcher to Alert 10-76 arriving units to assemble in Lobby Staging area, pending unit assignment.
5. Ordered first alarm units to conduct diligent search.
6. Ordered 1st alarm Engine companies to stretch from the "A" stairwell, but not to use water until confirmation of power off was received for electrical closets.

BC: ONE BN 1830 CC DIV 2

Lawrence M. Byrnes

TYPE FULL NAME TIME ARRIVED TYPE FULL NAME TIME ARRIVED



BF 24A (12.86)

## REPORT — ADDITIONAL DATA

## STRUCTURAL FIRE, TRANSPORTATION FIRE, NON-STRUCTURAL FIRE OR EMERGENCY

TYPE REPORT		DATE AND TIME ALARM RECEIVED				BOX LOCATION		INCIDENT NUMBER		BUILDING NO.		FLOOR INVOLVED		IGNITION		STRUCTURE		AREA OF ORIGIN		FIRE EXTENSION		
MONTH	DAY	YEAR	HOUR	MINUTE	SECOND	BOX NUMBER	INCIDENT NUMBER	BUILDING NO.	FLOOR INVOLVED	HEAT FORM	MATERIAL TYPE	MATERIAL FORM	CONSTRUCTION	USE	STATUS	FLOOR CODE	OCCUPANCY	AREA CODE	MANNER	SECONDARY	RECEIVED REPORT	
6	11	15	91	18	27	1	0034	0562	00	3	41	23	43	26	1	59	1	93	81	52	09	04

DAMAGE		DETECTORS	
SPR PERFORMANCE	% DAMAGED	FLAME	SMOKE
2	1	1	0

STREET NAME		TYPE	
NUMBER (INCL. HYTHON)	SURVEY CHECK	STREET NAME	TYPE
11		WORLD TRADE CENTER	

B U I L D I N G		AREA	
STORIES	WIDTH	LENGTH	
99	0250	0250	

OCCUPANT (Driver)		ROOMAPT.	
TYPE	YR.	MAKE	MODEL

IF MOBILE PROPERTY		V.I.N.		LICENSE		STATE	
TYPE	YR.	MAKE	MODEL	V.I.N.	LICENSE	STATE	

## OPERATIONS

7. Confirmed with WTC personnel, engineering staff as to time frame for electrical power removal for effected floors,
8. Denied WTC Police request to initiate general evacuation of floors "93 to roof level", based on unknowns of: a. smoke conditions, b. stair availability, c. numbers of people that may be involved,
9. Upon notification by WTC Engineering staff of (2) elevators stuck at floor 88 and 101, Ladder Co. 6 assigned task of victim removal, as accompanied by WTC elevator mechanic,
10. As Chief Officers arrived at Command Post they were issued WTC Handie Talkies and their assignments,
11. Called for EMS response for reported burn victim (mechanic with facial burns and for possible needs,
12. Primary search of upper floors proved to be time consuming due to large floor area and limited Handie Talkie capabilities, conducted by 1st alarm trucks,
13. Rescue Company 1 assigned to follow up secondary search of floors with entrance located ladder companies
14. 10-76 Signal proved very effective, provided immediate response of Chief Officers to initiate various sector controls.

 EC Lawrence M. Byrnes 1830  
 815

DC

DIV

3

TYPE FULL NAME

TIME ARRIVED

TYPE FULL NAME

TIME ARRIVED



BF-24A (12/86)

## REPORT - ADDITIONAL DATA

## STRUCTURAL FIRE, TRANSPORTATION FIRE, NON-STRUCTURAL FIRE OR EMERGENCY

TYPE REPORT		DATE AND TIME ALARM RECEIVED				BOX LOCATION		INCIDENT NUMBER		BUILDING NO.		IGNITION		STRUCTURE		AREA OF ORIGIN		FIRE EXTENSION						
MONTH	DAY	YEAR	HOUR	MINUTE	BOOROUGH	BOX NUMBER	INCIDENT NUMBER	BUILDING NO.	COND. ON ARRIVAL	EQUIP. INVOLVED	HEAT FORM	MATERIAL TYPE	MATERIAL FORM	CONSTRUCTION	USE	FLOOR CODE	OCCUPANCY	AREA CODE	MANNER					
6	11	1991	18	27	1	2084	0562	00	3	41	2	5	43	6	1	5	01	1	98	8	52	09	04	0

ADDRESS		STREET NAME		TYPE	
BORO	NUMBER (INCL. HYPHEN)	SUFFIX	PREF. DIR.	STREET NAME	TYPE
1	1			WORLD TRADE CENTER	

SPK. PERFORMANCE		DAMAGE		DETECTORS	
% DAMAGED	FLAME	SMOKE	WATER	PRESENT	TYPE
2	1	1	0	0	0

World Trade Center

BUILDING		AREA	
STORIES	WIDTH	LENGTH	
9	00	0250	0250

IF MOBILE PROPERTY		OCCUPANT (Driver)		ROOM/APT.		LICENSE		STATE	
TYPE	YR.	MAKE	MODEL	V.I.N.	LICENSE	STATE			

UNIT		PTS.		243		249		255		261		261		273		279	

## OPERATIONS

## Chief Officers at scene:

DAC. E. Butler,,,	CW Duty,
DC. M. MeyerS	Div. 1,
DC. V. Dunn	Div. 3,
B.C. L. Byrnes	Batt. ONE,
B.C. R. Ardisson	Batt. 2
B.C. Davison	Batt. 4,
B.C. Roche	Batt. 6,
B.C. Shelley	Batt. 31,
B.C. Wagner	Batt. 32,
B.C. Dawe	Batt. 7,
B.C. Cesark	Safety Battalion.

## Personnel Present at Scene:

R. Schhizer Fire Comm. Liaison,  
 D.C. Basile EMS Supervisor,  
 Lt. Valle NYPD Pct. 1 supervisor,  
 Mr. T. Cancelliere WTC Bldg Mgr.,  
 (2) Representative of Salvation Army.

BC	ONE	DC	L	DIV.
B.N.	B.N.			
Lawrence M. Byrnes	1830			
TYPE FULL NAME	TIME ARRIVED	TYPE FULL NAME	TIME ARRIVED	

BF-24A (12/86)

## REPORT — ADDITIONAL DATA

## STRUCTURAL FIRE, TRANSPORTATION FIRE, NON-STRUCTURAL FIRE OR EMERGENCY

TYPE REPORT				DATE AND TIME ALARM RECEIVED				BOX LOCATION		INCIDENT NUMBER		BUILDING NO.				IGNITION				STRUCTURE				AREA OF ORIGIN		FIRE EXTENSION			
MONTH	DAY	YEAR	HOUR	MINUTE	ROOFTOP	BOX NUMBER	INCIDENT NUMBER	BUILDING NO.	END OF WORK	FOUR INVOLVED	HEAT FORM	MATERIAL TYPE	MATERIAL FORM	CONSTRUCTION	USE	STATUS	FLOOR CODE	OCCUPANCY	AREA CODE	MANNER	OCCUPANCY	RECEIVED REPORT							
6	11	19	91	1827	1	8084	0562	00	38	41	26	12	61	1	59	1	93	58	52	09	30	0							
										ADDRESS				STREET NAME				TYPE		SUITE									
										11				WORLD TRADE CENTER															
SYN. PERFORMANCE				DAMAGE				DETECTORS				BUILDING				STORIES				AREA									
DAMAGED				FLAME				SMOKE				WATER				PRESENT				TYPE				POWER					
2				1				1				1				0				0				0					
										World Trade Center																			
										OCCUPANT (Driver)				ROOM/APT.															
										TYPE				YR.				128				MAKE				143			
										MODEL				156				V.I.N.				L.I.C.E.N.S.E				STATE			
										189				195				201				207				213			
										219				225				231				237				243			
										249				255				261				267				273			
										279																			

## OPERATIONS

## Time Sequences:

Signal

Time

By Order of:

Box 8084

1827

Dispatcher,

10-84

1630

Batt. 1,

10-76

1833

Batt. 1,

10-44

1842

Batt. 1,

10-84

1845

Div. 1,

10-75

1848

Div. 1,

22-8084

1858

Batt. 1,

10-84

1904

Car. 6B, Chief Butler,

UC/8084

2008

Car. 6B, via FCU.

## Injuries:

\_\_\_\_\_, superficial burns,  
 \_\_\_\_\_, chest pains.

Unit Citations to be submitted for Ladder Co. 10 and Engine Co. 10.

B.C. \_\_\_\_\_ ONE  
 B.N. \_\_\_\_\_  
 Lawrence M. Byrnes 1830  
 TYPE FULL NAME TIME ARRIVED  
 D.C. \_\_\_\_\_ DIV. \_\_\_\_\_  
 TYPE FULL NAME TIME ARRIVED  
 PAC 5 0



REPORT — ADDITIONAL DATA  
 STRUCTURAL FIRE, TRANSPORTATION FIRE, NON-STRUCTURAL FIRE OR

TYPE REPORT		DATE AND TIME ALARM RECEIVED				BOX LOCATION		BOX NUMBER		BOX TYPE		IGNITION		STRUCTURE		APPROX. ORIGIN		
MONTH	DAY	YEAR	HOUR	MINUTE	ADDRESS	BOX NUMBER	BOX TYPE	BOX TYPE	BOX TYPE	BOX TYPE	BOX TYPE	MATERIAL TYPE	MATERIAL FORM	CONSTRUCTION	STORY	STORY	STORY	
6	11	1991	10	08	1000	0552	00	03	04	02	03	04	05	06	07	08	09	10

DAMAGE		DETECTORS	
PERCENT	TYPE	TYPE	PERCENT
21	1	0	0

DAMAGE		DETECTORS	
PERCENT	TYPE	TYPE	PERCENT
21	1	0	0

DAMAGE		DETECTORS	
PERCENT	TYPE	TYPE	PERCENT
21	1	0	0

DAMAGE		DETECTORS	
PERCENT	TYPE	TYPE	PERCENT
21	1	0	0

DAMAGE		DETECTORS	
PERCENT	TYPE	TYPE	PERCENT
21	1	0	0

DAMAGE		DETECTORS	
PERCENT	TYPE	TYPE	PERCENT
21	1	0	0

DAMAGE		DETECTORS	
PERCENT	TYPE	TYPE	PERCENT
21	1	0	0

DAMAGE		DETECTORS	
PERCENT	TYPE	TYPE	PERCENT
21	1	0	0

DAMAGE		DETECTORS	
PERCENT	TYPE	TYPE	PERCENT
21	1	0	0

DAMAGE		DETECTORS	
PERCENT	TYPE	TYPE	PERCENT
21	1	0	0

DAMAGE		DETECTORS	
PERCENT	TYPE	TYPE	PERCENT
21	1	0	0

DAMAGE		DETECTORS	
PERCENT	TYPE	TYPE	PERCENT
21	1	0	0

DAMAGE		DETECTORS	
PERCENT	TYPE	TYPE	PERCENT
21	1	0	0

DAMAGE		DETECTORS	
PERCENT	TYPE	TYPE	PERCENT
21	1	0	0

DAMAGE		DETECTORS	
PERCENT	TYPE	TYPE	PERCENT
21	1	0	0

DAMAGE		DETECTORS	
PERCENT	TYPE	TYPE	PERCENT
21	1	0	0

DAMAGE		DETECTORS	
PERCENT	TYPE	TYPE	PERCENT
21	1	0	0

DAMAGE		DETECTORS	
PERCENT	TYPE	TYPE	PERCENT
21	1	0	0

DAMAGE		DETECTORS	
PERCENT	TYPE	TYPE	PERCENT
21	1	0	0

DAMAGE		DETECTORS	
PERCENT	TYPE	TYPE	PERCENT
21	1	0	0

DAMAGE		DETECTORS	
PERCENT	TYPE	TYPE	PERCENT
21	1	0	0

DAMAGE		DETECTORS	
PERCENT	TYPE	TYPE	PERCENT
21	1	0	0

DAMAGE		DETECTORS	
PERCENT	TYPE	TYPE	PERCENT
21	1	0	0

DAMAGE		DETECTORS	
PERCENT	TYPE	TYPE	PERCENT
21	1	0	0

DAMAGE		DETECTORS	
PERCENT	TYPE	TYPE	PERCENT
21	1	0	0

DAMAGE		DETECTORS	
PERCENT	TYPE	TYPE	PERCENT
21	1	0	0

DAMAGE		DETECTORS	
PERCENT	TYPE	TYPE	PERCENT
21	1	0	0

DAMAGE		DETECTORS	
PERCENT	TYPE	TYPE	PERCENT
21	1	0	0

DAMAGE		DETECTORS	
PERCENT	TYPE	TYPE	PERCENT

## OPERATIONS

## Unit Operations:

Eng. 10: Responded to the 93rd floor, stretched  
of 2 1/2" hose, hooked up to standpipe in  
assisted Eng. 10 in search and size up  
94th floors, used a fog nozzle to ext  
in electrical closets, assisted in sav  
civilians, connected to buildings stand  
Eng. 6: Responded to the 95th floor, stretched  
2 1/2" hose, stood fast, assisted in sea  
of fire area, connected to and supply  
siamese,  
Eng. 7: Responded to the 93rd floor, stretched  
2 1/2" hose from the "B" stairway, opp  
ECC. connected to standpipe and supply  
Eng. 4: Responded to the 97th floor, hook  
2 1/2" hose, stood fast, assisted in  
Following Engin Companies reported to Lobby  
stood fast: Eng. 18, 205, 24, 18

\*\* E-10 also used dry chem on 6/3

Laurence M. Byrnes  
TYPE FULL NAME

ONE  
R.N.  
1830  
TIME ARRIVED

BF-24A (12-80)

## REPORT - ADDITIONAL DATA

## STRUCTURAL FIRE, TRANSPORTATION FIRE, NON-STRUCTURAL FIRE OR EMERGENCY

TYPE REPORT				DATE AND TIME ALARM RECEIVED				BOX LOCATION		INCIDENT NUMBER		BUILDING NO.		IGNITION		STRUCTURE		AREA OF ORIGIN		FIRE EXTENSION		
MONTH	DIV	YEAR	HOUR	MINUTE	BOX NUMBER	INCIDENT NUMBER	BUILDING NO.	END OR AREA	EQUIP. INVOLVED	HEAT FORM	MATERIAL TYPE	MATERIAL FORM	CONSTRUCTION	USE	STATUS	FLOOR CODE	OCCUPANCY	AREA CODE	MANNER	OCCUPANCY	PREVIOUS REPORT	
6	11	1991	16	27	1	6084	0562	00	3	41	23	52	61	1	59	1	93	81	52	09	20	0

DAMAGE		DETECTORS	
SPR. PERFORMANCE	FLAME	SMOKE	WATER
2	1	1	0

WORLD TRADE CENTER	
1	1

STREET NAME		TYPE	
1	1	1	1

AREA	
WIDTH	LENGTH
99	0250

OCCUPANT (Driver)		ROOM/APT.	
1	1	1	1

IF MOBILE PROPERTY		TYPE		YEAR		MAKE		MODEL		VIN		LICENSE		STATE	
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

UNIT		MTG		DATE		TIME	
1	1	1	1	1	1	1	1

## OPERATIONS

## UNIT OPERATIONS cont:

- Lad. 10: Conducted primary search on floors 93, 94, 95, and 96. Unit split into 3 teams, located fire condition in electrical distribution closets, called for placement of hand lines, conducted opening up operations on 94th floor to check for fire extension, evacuated unknown member of civilians from floors 94 through 95 during initial operations.
- Lad. 1: Conducted primary search on 93rd floor, conducted secondary search on floors 94 to 101, proved to be negative, conducted survey on floors 81 through 92 for water damage to electrical closets due to hand-line use, negative.
- Lad. 15: Conducted primary and secondary search of floors 93 to 97, negative results.
- Lad. 8: Conducted examination of floors 92 to 101 for possible fire extension from electrical closets, negative, conducted secondary search on floors 94 and 95.
- Lad. 110: Performed secondary search of floors 96 through 110, negative results.

ONE  
B.N.

DC.

DIV.

Lawrence M. Byrnes 1830  
TYPE FULL NAME TIME ARRIVED

TYPE FULL NAME TIME ARRIVED



BF-24A (12/5/01)

## REPORT - ADDITIONAL DATA

### STRUCTURAL FIRE TRANSPORTATION FIRE NON-STRUCTURAL FIRE OR EMERGENCY

TYPE REPORT		DATE AND TIME				BOX LOCATION		INCIDENT NUMBER		BUILDING NO.		IGNITION		STRUCTURE		AREA OF ORIGIN		FIRE EXTENSION		
MONTH	DAY	YEAR	HR	MIN	SEC	STREET	BOX NO.	INCIDENT NO.	BUILDING NO.	FLOOR	WING	CAUSE	MATERIAL	STRUCTURE	FLOOR	AREA	AREA	AREA	REMARKS	
6	11	91	16	27	1	2084	0067	00	3	41	28	48	61	1	591	1	95	51	52	09

DAMAGE		DETECTORS		STREET NAME		TYPE	
IS DAMAGED	CLASH	SMALL	WATER	PRESENT	TYPE	POWER	PERFORMANCE
2	1	1	0	0	0	0	0

BUILDING		STORIES		AREA	
STORIES	AREA	WIDTH	LENGTH	STORIES	AREA
99	0250	0250			

IF MOBILE PROPERTY		TYPE		YR.		MAKE		MODEL		VIN.		LICENSE		STATE	
189	195	201	207	213	219	225	231	237	243	249	255	261	267	273	279

## OPERATIONS

## Unit Operations Cont:

- Lad. 6: Conducted secondary search 66 floors 105 to 110, negative results, removed (2) civilians from stalled elevators on the 38th and 101st floors, no injuries to civilians, or damage to building,
- Lad. 20: Conducted secondary search of floors 98, 99, and 100 negative results,
- Lad. 131: Conducted search of floors 105 to 110, with negative results.

Field Communications Unit: Set up Communications/Command Post in Basement, WTC Command Post,

Battalion 2 supervised Lobby Staging Area,

Battalions 4, 6, and 7 operated on various floors with units so assigned,

Division 3 operated as Operations OIC on various floors.

Division 1 operated at the Command Post as CIC.

BC. <i>Lawrence M. Byrnes</i> Lawrence M. Byrnes TYPE FULL NAME	ONE EN 1830 TIME ARRIVED	DC. <i>Harold Meyer</i> Harold Meyer TYPE FULL NAME	DIV. 1 TIME ARRIVED
---	-----------------------------------	---	------------------------



[illegible]

[illegible]

## OPERATIONS

Due to high electrical voltage (130000volts confirmed, no water was used in initially, pending confirmation of power off at the electrical distribution panel.

Due to large floor area of the 5th floor-sub-basement, responding units were split into teams viz: Ladder Co. 10 and Engine 10 using the K13 stair to approach the fire area, Ladder 1 to use 2nd stairway-K12, to access the 5th sub-basement level. These units were tasked with pinpointing the fire area, an area of 200' x 400'.

A member of Ladder Co. 1 having found the fire situation in a very large power distribution panel, attempted to relay information to his officer. Prior to his transmission firefighter was struck by a shock blast generated by the involved panel. Ladder 1 firefighter knocked unconscious required a concerted effort to remove to a separate safe area.

## Unit Operations.

Engine 10 - Operated on 5th sub level, stretched a 2 1/2" hand line from the standpipe, operated when power off confirmation received. Company

Engine 7 - Operated on fire floor with line off standpipe, operated under D.C. Demarest, Batt. 4, extinguished fire, used dry chemical extinguishers on fire.

DC	<i>Lawrence M. Byrnes</i>	1	DC		DIV.	
		B.N.				
	Lawrence M. Byrnes	2205				
	TYPE LINE NAME	TIME ARRIVED		TYPE FULL NAME		TIME ARRIVED



3F-24A (12/86)

### REPORT - ADDITIONAL DATA

#### STRUCTURAL FIRE, TRANSPORTATION FIRE, NON-STRUCTURAL FIRE OR EMERGENCY

TYPE REPORT				DATE AND TIME ALARM RECEIVED				BOX LOCATION		MODEM NUMBER		BUILDING NO.		EQUIP. INVOLVED		IGNITION		STRUCTURE		AREA OF ORIGIN		FIRE EXTENSION		REVISED REPORT	
MONTH	DAY	YEAR	HOUR	MINUTE	BOROUGH	BOX NUMBER	MODEM NUMBER	BUILDING NO.	EQUIP. INVOLVED	HEAT FORM	MATERIAL TYPE	MATERIAL FORM	CONSTRUCTION	USE	STATUS	FLOOR CODE	OCCUPANCY	AREA CODE	MANNER	OCCUPANCY	EXTENSION	REVISED REPORT			
6	07	23	92	2202	1	8093	0455	01	242	24	43	61	1	642H	99	32	63	00	99	0					

NUMBER (INCL. HYPHEN)		SUPPLY	PREF.	STREET NAME	TYPE	SUITE
57		60		WORLD TRADE CENTER		93

SPE. PERFORMANCE		DAMAGE		DETECTORS	
% DAMAGED	FLAME	SMOKE	WATER	PRESENT	TYPE
0	0	0	0	0	0

OCCUPANT (Driver)		ROOM/APT.	
Port Authority NY/NJ		5th sub. base.	

IF MOBILE PROPERTY		TYPE	YR.	MAKE	MODEL	V.I.N.	LICENSE	STATE

UNIT		PTS.		243		249		255		261		267		273		279	

## OPERATIONS

Operation cont:

Engine 6 - Assisted Eng 7 in stretch of and operation of a 2 1/2" line into fire area, performed search of area, overhauled as necessary,

Engine 55 - Operated with and relieved Eng. 7 on hand line on fire floor, took up hose lines,

Engine 4 - Under supervision of BC. Turnee, B2, transported injured member of Lad. 1 to ambulance on the B1 level of the fire building, relieved Eng. 10 on a hand line, overhauled, took up hand line,

Engine 24 - Transported Air Cylinders fire area under supervision of BC. Jackson,

Engine 3 - Ordered to and did provide air cylinders to operating units of the 25 level.

Engin

Engine 5 - Operated as Command Post Company

Stood Fast - Eng9Sat1, Engines 15, 29, 33, 34, 207/Maxi, 284/Sat.3,

BC Lawrence M. Byrnes 1  
B.N. 2205  
TYPE FULL NAME TIME ARRIVED  
DIV. 3

STRUCTURAL FIRE, TRANSPORTATION FIRE, NON-STRUCTURAL FIRE OR EMERGENCY

## OPERATIONS

Ladder 20- Supplied spare SCBA cylinders to staging area,

CAC 22B



STRUCTURAL FIRE, TRANSPORTATION FIRE, NON-STRUCTURAL FIRE OR EMERGENCY

## OPERATIONS

B.C. Costa Batt. 7,  
B.C. Miocio Batt. 6,  
B.C. Nardone Batt. 9.  
B.C. ROSS Batt. 31.

1

D.C.

DIV.

PAC

cap. 22

TYPE FULL NAME

TIME ARRIVED

TYPE FULL NAME

TIME ARRIVED

RF 24A (12/65) **REPORT - ADDITIONAL DATA**

**STRUCTURAL FIRE TRANSPORTATION FIRE NON STRUCTURAL FIRE OR EMERGENCY**

TYPE REPORT				DATE AND TIME				BOX LOCATION				IGNITION				STRUCTURE				AREA OF ORIGIN				EXTENSION			
MONTH	DAY	YEAR	TIME	WHEEL	BRIDGE	BOX NUMBER	WHEEL	BRIDGE	BOX NUMBER	CAUSE OF LOSS	CAUSE OF LOSS	CAUSE OF LOSS	CAUSE OF LOSS	CAUSE OF LOSS	CAUSE OF LOSS	CAUSE OF LOSS	CAUSE OF LOSS	CAUSE OF LOSS	CAUSE OF LOSS	CAUSE OF LOSS	CAUSE OF LOSS	CAUSE OF LOSS					
6	7	22	92	2200	1	8055	0655	01	342	24	24	24	24	24	24	24	24	24	24	24	24	24					

NUMBER (INCL. HYPHEN)				STREET NAME				TYPE			
57	58	59	60	61	62	63	64	65	66	67	68
				WORLD TRADE CENTER							

DAMAGE				DETECTORS			
SPR. PERFORMANCE	FLAME	SMOKE	WATER	WATER	WATER	WATER	WATER
0	0	0	0	0	0	0	0

PORT AUTHORITY NY/NJ			
84	85	86	87

OCCUPANT (Driver)				ROOM/APT.			
113	114	115	116	117	118	119	120

IF MOBILE PROPERTY				TYPE				VIN				LICENSE				STATE			
121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138		

OPERATIONS																	
139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156

## Operations cont:

Greater alarms transmitted due to magnitude of fire area involved, potential for smoke and heat problems, numbers of employees in building need to supply and relieve operating personnel.

Injuries: FF. Amedio, Lad. 1, concussion, removed to Beckman Hosp.,  
 FF. Cancel, Lad 10, granted ML.,  
 FF. Hanson, Lad. 10, granted ML.,  
 FF. Selletti, Lad. 10, Granted ML.

Note: Staff and employees of the New York Port Authority provided excellent guidance and assistance. Help provided included mechanical, ventilation, electrical distribution disciplines which made for a much easier fire ground operation.

B.C. Lawrence M. Byrnes 1 B.N. DC. DIV. 6  
 TYPE FULL NAME TIME ARRIVED TYPE FULL NAME TIME ARRIVED  
 CFC 225



## REPORT -- STRUCTURAL FIRE

BF-24 (12)

TYPE REPORT		INCIDENT LOCATION		DATE AND TIME		ALARM RECEIVED		INCIDENT DURATION		HOW REPORTED		BOX LOCATION		REPORT NUMBER		REPORT		COMPANIES		HAZ MAT		SPECIAL USE	
COMMUNITY BOARD	1	ADJACENT	1	MONTH	10	DAY	23	HOUR	01	MINUTES	30	INITIAL ALARM	BOX NUMBER	8084	REPORT NUMBER	0103	FLIGHT BATTALION	ADJACENT	OTHERS	CLASS	AMOUNT	HAZ MAT	REVISOR REPORT
0000	0100	00	21	11	26	11	01	30	10	11	71	8084	0103	0648	01	185	03	02	01	63	04	0	0

AIDED AND CASUALTIES		EXTINQUISHMENT		IGNITION		STRUCTURE		FIRE ORIGIN		FIRE EXTENSION		DAMAGE		DETECTORS	
EVACUATED	WOUNDED	DECEASED	STP. PERF.	MATERIAL TYPE	HEAT FORM	STATUS	COMPLEX	FLOOR CODE	OCCUPANCY	MANAGER	NO. BLDG.	SMOKE	WATER	PRESSURE	
0000	0100	00	21	11	26	11	01	30	10	11	71	8084	0103	0648	

BF-24

BOMB		STREET NAME		AREA		DEFECTIVE DETECTOR	
NUMBER	SUFFIX	STREET NAME <td>TYPE <td>WIDTH/LENGTH</td> <td>BRAND</td> <td>SERIAL NO.</td> <td></td> </td>	TYPE <td>WIDTH/LENGTH</td> <td>BRAND</td> <td>SERIAL NO.</td> <td></td>	WIDTH/LENGTH	BRAND	SERIAL NO.	
11	1	WORLD TRADE CENTER	126	99 200 200			

PORT AUTHORITY	
NAME OF OCCUPANT	211

LEFT IN CHARGE MIKE HURLY

FSD  
BADGE NO.

EQUIPMENT INVOLVED IN IGNITION

ROOM/APT		MAKE		MODEL		SERIAL NUMBER		POWER	
YR.									

UNIT	PTS	ITEM
W	10	050060270010500705
R	10	050060270010500705
I	10	050060270010500705

## OPERATIONS

Upon arrival at box 8084 found fire on the 104th floor which was knocked down by three sprinkler heads. Initially a 10-76 was transmitted until the source of the smoke condition was found. B-1 then operated with 3 Engines and 2 Trucks and all other units returned to Quarters. Units operated as follows:

L-10 Gained access to building, found smoke condition on 103rd and 104th floors, found fire in computer room on the 104th floor, performed search and overhauling.

E-10 Took hydrant, stretched line to the slamese, stretched line from standpipe, completed extinguishment.

L-1 Assisted L-10, performed search of areas above and adjacent to the fire.

E-6 Took hydrant, assisted E-10 in stretch off the standpipe.

B.C.		D.C.		PAGE	
NAME	01	NAME	01	PAGE	1 OF 2
John Akerman	23:07	NAME	01	PAGE	1 OF 2
TYPE FULL NAME	TIME OF ARRIVAL	TYPE FULL NAME	TIME OF ARRIVAL	PAGE	1 OF 2
ADMINISTRATIVE COMPANY	23:07	ADMINISTRATIVE COMPANY	23:07	PAGE	1 OF 2

REPORT -- ADDITIONAL DATA

STRUCTURAL FIRE, TRANSPORTATION FIRE, NON-STRUCTURAL FIRE OR EMERGENCY

The diagram illustrates a 256-bit fire alarm transmission format. The data is organized into several sections, each with a specific label and bit range:

- TYPE REPORT** (bits 1-10)
- DATE AND TIME ALARM RECEIVED** (bits 11-18)
- BOX LOCATION** (bits 19-23)
- INCIDENT NUMBER** (bits 24-27)
- BUILDING NO.** (bits 28-31)
- CODE ON ARRIVAL** (bits 32-35)
- EQUIP. INVOLVED** (bits 36-39)
- HEAT FORM** (bits 40-43)
- MATERIAL TYPE** (bits 44-47)
- MATERIAL FORM** (bits 48-51)
- CONSTRUCTION** (bits 52-55)
- USE** (bits 56-59)
- STATUS** (bits 60-63)
- FLOOR CODE** (bits 64-67)
- OCCUPANCY** (bits 68-71)
- AREA CODE** (bits 72-75)
- MANNER** (bits 76-79)
- OCCUPANCY** (bits 80-83)
- RECEIVED REPORT** (bits 84-87)
- SFR. PERFORMANCE** (bits 88-91)
- DAMAGE** (bits 92-95)
- DETECTORS** (bits 96-99)
- SFR. PERFORMANCE** (bits 100-103)
- FLAME** (bits 104-107)
- SMOKE** (bits 108-111)
- WATER** (bits 112-115)
- PRESSUR** (bits 116-119)
- TYPE** (bits 120-123)
- POWER** (bits 124-127)
- PERFORMANCE** (bits 128-131)
- OCCUPANT (Driver)** (bits 132-135)
- ROOM/APPT.** (bits 136-139)
- IF MOBILE PROPERTY** (bits 140-143)
- TYPE** (bits 144-147)
- YR. 126** (bits 148-151)
- MAKE** (bits 152-155)
- MODEL** (bits 156-159)
- V.I.N.** (bits 160-163)
- LICENSE** (bits 164-167)
- STATE DM** (bits 168-171)
- STORES** (bits 172-175)
- WIDTH** (bits 176-179)
- LENGTH** (bits 180-183)
- AREA** (bits 184-187)
- IF MOBILE PROPERTY** (bits 188-191)
- TYPE** (bits 192-195)
- YR. 126** (bits 196-199)
- MAKE** (bits 200-203)
- MODEL** (bits 204-207)
- V.I.N.** (bits 208-211)
- LICENSE** (bits 212-215)
- STATE DM** (bits 216-219)
- IF MOBILE PROPERTY** (bits 220-223)
- TYPE** (bits 224-227)
- YR. 126** (bits 228-231)
- MAKE** (bits 232-235)
- MODEL** (bits 236-239)
- V.I.N.** (bits 240-243)
- LICENSE** (bits 244-247)
- STATE DM** (bits 248-251)

## OPERATIONS

E-7 Stretched precautionary line from standpipe.  
F.S.D. for World Trade Center - Mr. Mike Hurly.  
O.E.M. Lt. Wilson.

F.M. Kregler #361 responded on BFL's own knowledge of prior suspicious activity. Job #11201.

E.C.	<i>John M. Akerman</i>	01
		B.N.
Bc John Akerman		23:07
TYPE FULL NAME		TIME ARRIVED

D.C. \_\_\_\_\_ DIV. \_\_\_\_\_ PAGE 2 OF \_\_\_\_\_  
TYPE FULL NAME \_\_\_\_\_ TIME ARRIVED \_\_\_\_\_



## Appendix E

### SIGNIFICANT FIRES IN WTC 2

---

Significant fire incidents occurring in WTC 2

Significant Fire	Incident Date	Fire Location	# Sprinklers Activated	# Standpipes Activated	Cause of Fire	Material Ignited
1	5/19/75	Floor 32	-	3	Incendiary	Trash/waste
2	4/12/77	Duct work over grill in restaurant on floor 107	2		None listed	Duct work
3	3/22/93	Fan motor room on floor 108	2		Mechanical failure	Not classified

1. TYPE OF RECORD		2. DATE AND TIME ALARM RECEIVED				3. DURATION OF ALARM		4. LOCATION		5. INCIDENT		6. REPORT	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	2	3	4	5	6	7	8	9	10	11	12	13	14

7. ADDRESS		8. BUILDING		9. FLOOR		10. AREA		11. INCIDENT		12. REPORT	
1	2	3	4	5	6	7	8	9	10	11	12
1	2	3	4	5	6	7	8	9	10	11	12
1	2	3	4	5	6	7	8	9	10	11	12

OPERATIONS

Upon arrival was informed by Port Authority Police of smoke condition on 32 floor and occupants reported trapped on 31 and 32 floors. Established command post and ordered Engine 6 (28) and Engine 7 to proceed to fire area and operate in separate stairways. Ladders 10 and 11 to transmit immediate report of fire conditions and to make search for occupants and perform necessary duties. Battalion 4 to supervise operations in fire area. Division 1 assumed command upon arrival. Ordered one additional engine and ladder units. Then transmitted 2nd alarm upon receipt of report from fire area of "heavy fire and smoke condition". Battalion 1 with Engine 10 and Ladder 8 ordered to operate in third stairway. Additional units put to work as required and to relieve operating units. Fire area involved core area throughout and was confined to same.

Four minor fires in previous two hours were suspected arson and were each reported via dispatcher to fire marshal and same ordered to respond.

E.6(28) Stretched line to 32nd via stairway B. Operated to extinguish major body of fire. Then relieved by E.7.

E.7- Assisted E.6 in stretching and advancing line. Then stretched 2nd line to 32nd via stairway B and operated to extinguish fire.

13. OPERATIONS		14. REPORT	
1	2	3	4
1	2	3	4
1	2	3	4

E.27- Stretched line to 32nd fl. Operated to extinguish remaining fire. Assisted in search. Overhauled fire area.  
 L.10- Forced door to 32nd fl- stairway "C". Operated house hose line to assist in making search. Then operated on 32nd fl. continuing search. Made examination. Then assisted in overhauling. Then relieved by L.1.  
 L.1- Made search of floors 33, 34, and 35. Then made examination at 33rd fl. for extension off fire.  
 E.10 (Spec. called)- Ordered to stand fast at 31st fl. Then relieved on hose lines 32nd fl. to assist in overhauling. Then took up lines of E.6 & 7.  
 L.8- (Spec. called)- Assisted in making secondary search of office occupancies 32nd fl. Then relieved L.10 overhauling fire.  
 Batt.4- Supervised units initially operating on the 32nd fl.  
 Batt.1- Ordered to assist in supervision in fire area. Then relieved Batt.4 and supervised secondary search, examination and overhauling.  
 E.9- Ordered to stand fast. Then made search of 44th fl.  
 E.55- Relieved operating units on the 32nd fl. where necessary.  
 E.24- Made examination 20th, 40th and 60th fls. (2 WTC)  
 E.17- Made search examination 20, 40th, 60th fls (1 WTC)  
 L.15- Made search of perimeter office occupancies 32nd fl. Then made search and examination of 44th fl. Then made final examination of 31st fl. core area.  
 Batt.32 Supervised examination in #1 WTC. Then supervised examination in #2 WTC 44th and 60th fls.  
 Mar. 1- Stretched line to gate and ordered to stand fast.  
 Res. 1- Administered oxygen to Fr. O'Neill E.7. Then made examination for fire extension around perimeter of fire area and relieved 31st fl.  
 Superpumper System- Superpumper and Sat. 2 ordered to return to gate. Sat. 1 ordered to stand fast at hook up site then to gate/relieve air flow of said hosemen.  
 PCU. Established Field Hdqts. Monitored HT circuits. Transmitted Progress reports. Maintained control.  
 MSU- Serviced Units, Exchanged 30 cylinders.

Time of Special Calls: 2150 hrs.

2nd alarm: 2154 hrs.

under control: 2257 hrs.

Chief Officers Operating:

BC Votruba, Batt. 1 BC Bagley. En



TYPE FULL NAME



BF-24 (1/2/00)

61300-1000-10

INCIDENT LOCATION				DATE AND TIME ALARM RECEIVED				INCIDENT DURATION				BOX LOCATION				REPORT				COMPANIES RESPONDING				HAZ MAT				SPECIAL USE															
COUNTY BOARD				YEAR MONTH DAY				HOURS MINUTES				BOX NUMBER				FIRE ORIGIN				FIRE EXTENSION				DAMAGE				DETECTORS				HAZ MAT				SPECIAL USE							
1015010				032293				0839				0040				1015010				0058101				030201				0000				00000000				123							

AIDED AND CASUALTIES / EXTIN.				IGNITION				STRUCTURE				FIRE ORIGIN				FIRE EXTENSION				DAMAGE				DETECTORS							
CIVILIANS				MATERIAL TYPE				FLOOR				STATUS				AREA OF ORIGIN				NO. OF BLDG.				% DAMAGED				TYPE			
00000000				00000000				00000000				00000000				00000000				00000000				00000000				00000000			

EQUIPMENT INVOLVED IN IGNITION				EQUIPMENT INVOLVED IN EXTIN.				EQUIPMENT INVOLVED IN DAMAGE				EQUIPMENT INVOLVED IN DETECTION			
EQUIPMENT INVOLVED IN IGNITION				EQUIPMENT INVOLVED IN EXTIN.				EQUIPMENT INVOLVED IN DAMAGE				EQUIPMENT INVOLVED IN DETECTION			
ACS108				ACS108				ACS108				ACS108			

DEFECTIVE DETECTOR				DEFECTIVE DETECTOR				DEFECTIVE DETECTOR			
DEFECTIVE DETECTOR				DEFECTIVE DETECTOR				DEFECTIVE DETECTOR			
DEFECTIVE DETECTOR				DEFECTIVE DETECTOR				DEFECTIVE DETECTOR			

DEFECTIVE DETECTOR				DEFECTIVE DETECTOR				DEFECTIVE DETECTOR			
DEFECTIVE DETECTOR				DEFECTIVE DETECTOR				DEFECTIVE DETECTOR			
DEFECTIVE DETECTOR				DEFECTIVE DETECTOR				DEFECTIVE DETECTOR			

Upon arrival at Box 8087 found smoke condition on the 108th floor caused by a overheated bearing in a fan motor room ACS-108-4. Smoke Det. caused 2 sprinkler heads to go off. Units operated VIZ:

E10-Hooked up to standpipe on the 108th fl. stood fast, then up.

L10-Made necessary search and examination, found cause of smoke condition, checked for extension found neg. Then up.

E6-Assisted L10 in search, then up.

BC: Gordon Symon BN: 0844 DIV: 1 OF: 2

TYPE FULL NAME: Gordon Symon TYPE FULL NAME: GOLD - ADMINISTRATIVE COMPANY

WHITE - FIRE RECORD YELLOW - BATTALION PINK - REFERRAL GOLD - ADMINISTRATIVE COMPANY

F-24A (12/86) 15442-801/331-RC2E-N

## REPORT — ADDITIONAL DATA

## STRUCTURAL FIRE, TRANSPORTATION FIRE, NON-STRUCTURAL FIRE OR EMERGENCY

TYPE REPORT		DATE AND TIME ALARM RECEIVED				BOX LOCATION		INCIDENT NUMBER	BUILDING NO.	IGNITION			STRUCTURE		AREA OF ORIGIN		FIRE EXTENSION		REVISED REPORT	
MONTH	DAY	YEAR	HOUR	MINUTE	BOROUGH	BOX NUMBER	CAUSE OR ORIGIN			EQUIP INVOLVED	HEAT FORM	MATERIAL TYPE	MATERIAL FORM	CONSTRUCTION	USE	STATUS	FLOOR CODE	OCCUPANCY		AREA CODE
6	05	22	93	0835	1	808	0058	00												

ADDRESS		NUMBER (INCL HYPHEN)		STREET NAME		TYPE		SUITE	
57	2	66	WTC	86		93			

SPK PERFORMANCE		DAMAGE		DETECTORS	
% DAMAGED	FLAME	SMOKE	WATER	PRESENT	POWER

OCCUPANT (Driver)

BUILDING		AREA	
STORIES	WIDTH	LENGTH	

IF MOBILE PROPERTY		TYPE		YR		MAKE		MODEL		VIN		LICENSE		STATE		DM	

UNIT		PTS		243		248		255		261		261		273		276	

## OPERATIONS

E7-Assisted E10 in stretching line, then up.

L1-Assisted L10 in search, then up.

B.C.		Gordon Symon		B.N.		DC		DIV		PAGE	
										2	OF 2

## Appendix F

### FIRES WITH STANDPIPES AND SPRINKLERS IN WTC 1 AND WTC 2

---

Additional fire incidents involving the deployment of standpipe lines in WTC 1 and WTC 2:

- Fires involving the use of one standpipe line and the activation of one sprinkler (4 in total)

## BF 24 (1/80)

TYPE REPORT			INCIDENT LOCATION			DATE AND TIME ALARM RECEIVED			INCIDENT DURATION			BOX LOCATION			REPORT			COS.											
COMMUNITY BLOCKED	BLOCK NUMBER	MONTH	DAY	YEAR	HOUR	MINUTE	MINUTES	HOW REPORTED	HIGHEST ALARM BOX NUMBER	REPORT NUMBER	FILING ATTENTION	BOGEY NUMBER	ENGINE MAINE	LADDER	RSP.														
1	01	5	006	0113	09-29-81	0904	01:10	6	1	1	8087	0287	01	531	03	3													
AIDED AND CASUALTIES			EXTINGUISHMENT			IGNITION			STRUCTURE			AREA FIRE ORIGIN			FIRE EXTENSION			SPECIAL USE											
EVAUATED	FIRST AID	KILLED	INFORMED	CODE	STANDARD LINES USED	TEAM STAGE	EQUIP INVOLVED	MATERIAL TYPE	CONDUCT	USE	Status	BLDG DAMAGE	FLOOR CODE	OCCUPANCY	MANAGER OF OCCUPANCY	ND BLOSS	SIDE DETECTORS												
00	00	00	01	5	01	01	3	9B	00	67	44	21	1	15	1	1	98	54	50	00	01	06							
NUMBER			STREET NAME			TYPE			BUILDING			STORAGE																	
2			World Trade Center			I			99			210x210			Mr. Barnelli (RSD)														
Ebasco Services			B6 Storage			ROOM ART NO			LEFT IN CHARGE																				
NAME OF OCCUPANT			POWER			UNIT			PTS			ITEM			MAKE			MODEL			VIN								
EQUIPMENT INVOLVED IN IGNITION			5			010			10			7			001			10			7			015			10		

## OPERATIONS

OPERATIONS

Responded to alarm box 8087. Upon arrival found light fire, medium smoke conditions in storage room (office records) at above address and location. Transmitted signal 10-75. Fire had activated 1 April 1975. Fire extinguished by fire department. No injuries reported. No damage to building or contents.

ler head. Fire was confined to and extinguished fire, washed down.

For 6- Relieved Eng. 10 on line.

Lad. 1- Bored, f  
overhauled.

PAGE 1 OF 2

B.C. \_\_\_\_\_ D.C. \_\_\_\_\_ BN. \_\_\_\_\_ DW. \_\_\_\_\_

TIME OF ARRIVAL \_\_\_\_\_

TYPE FULL NAME \_\_\_\_\_

ADMINISTRATIVE COMPANY



08-24 (1/80) 1754 60851 (B2)

**TYPE REPORT**

**INCIDENT LOCATION**

**DATE AND TIME ALARM RECEIVED**

**BOX LOCATION**

**REPORT**

**LMS RESP.**

**EVALUATED**

**FIRST AID**

**KILLED**

**CIVILIANS**

**AIDED AND CASUALTIES**

**EXTINGUISHMENT**

**IGNITION**

**STRUCTURE**

**AREA FIRE ORIGIN**

**FIRE EXTENSION WITHIN BLDG.**

**SPECIAL USE**

**NAME OF OCCUPANT**

**EQUIPMENT INVOLVED IN IGNITION**

**ROOM, APT NO.**

**OPERATIONS**

Upon arrival found alarm for fire in dumpster on 106 th floor. sprinkler head controlled fire.  
Eng. 10 Supplied standpipe system, stretched handline & extinguished fire.  
Eng. 6 Supplied standpipe system & assisted Eng. 10.  
Eng. 7 Made search & examination of floors 98-105.  
Lad. 10 Made necessary search, examination & overhaul of fire area.  
Lad. 1 Made necessary search & examination of 106 & 107 floors.

B.C. Kenneth P. Markgraf  
TIME OF ARRIVAL 04:15  
PAGE 1 OF 1



NIST NCSTAR 1-4A, WTC Investigation



# REPORT — STRUCTURAL FIRE

TYPE REPORT				INCIDENT LOCATION				DATE AND TIME ALARM RECEIVED				INCIDENT DURATION				BOX LOCATION				REPORT				COMPANIES RESPONDING				HAZ MAT				SPECIAL USE																							
COMMUNITY				STREET				DAY				HOURS				MINUTES				W/TH ALARM				HIGHEST ALARM				BOX NUMBER				FIRE ORIGIN				FIRE EXTENSION				DAMAGE				DETECTORS				NO. OF DETECTORS							
BRAND				MODEL				YEAR				MIN				SEC				W/TH ALARM				HIGHEST ALARM				BOX NUMBER				FIRE ORIGIN				FIRE EXTENSION				DAMAGE				DETECTORS				NO. OF DETECTORS							
1				01 5 010 03 24 91				2104 01 25 21 17 1				8084 0332 0406 01 380 07 05 05				000 0																																							
1				01 5 010 03 24 91				2104 01 25 21 17 1				8084 0332 0406 01 380 07 05 05				000 0																																							
1				01 5 010 03 24 91				2104 01 25 21 17 1				8084 0332 0406 01 380 07 05 05				000 0																																							
1				01 5 010 03 24 91				2104 01 25 21 17 1				8084 0332 0406 01 380 07 05 05				000 0																																							
1				01 5 010 03 24 91				2104 01 25 21 17 1				8084 0332 0406 01 380 07 05 05				000 0																																							
1				01 5 010 03 24 91				2104 01 25 21 17 1				8084 0332 0406 01 380 07 05 05				000 0																																							
1				01 5 010 03 24 91				2104 01 25 21 17 1				8084 0332 0406 01 380 07 05 05				000 0																																							
1				01 5 010 03 24 91				2104 01 25 21 17 1				8084 0332 0406 01 380 07 05 05				000 0																																							
1				01 5 010 03 24 91				2104 01 25 21 17 1				8084 0332 0406 01 380 07 05 05				000 0																																							
1				01 5 010 03 24 91				2104 01 25 21 17 1				8084 0332 0406 01 380 07 05 05				000 0																																							
1				01 5 010 03 24 91				2104 01 25 21 17 1				8084 0332 0406 01 380 07 05 05				000 0																																							
1				01 5 010 03 24 91				2104 01 25 21 17 1				8084 0332 0406 01 380 07 05 05				000 0																																							
1				01 5 010 03 24 91				2104 01 25 21 17 1				8084 0332 0406 01 380 07 05 05				000 0																																							
1				01 5 010 03 24 91				2104 01 25 21 17 1				8084 0332 0406 01 380 07 05 05				000 0																																							
1				01 5 010 03 24 91				2104 01 25 21 17 1				8084 0332 0406 01 380 07 05 05				000 0																																							
1				01 5 010 03 24 91				2104 01 25 21 17 1				8084 0332 0406 01 380 07 05 05				000 0																																							
1				01 5 010 03 24 91				2104 01 25 21 17 1				8084 0332 0406 01 380 07 05 05				000 0																																							
1				01 5 010 03 24 91				2104 01 25 21 17 1				8084 0332 0406 01 380 07 05 05				000 0																																							
1				01 5 010 03 24 91				2104 01 25 21 17 1				8084 0332 0406 01 380 07 05																																											

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## **Appendix G**

### **FIRES WITH STANDPIPES IN WTC 1 AND WTC 2**

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Additional fire incidents involving the deployment of standpipe lines in WTC 1 and WTC 2:

- Fires involving the use of one standpipe line (27 in total)

DATE AND TIME ALARM RECEIVED										LOCATION										REPORT											
ALARM		DAY		YEAR		HOUR		MINUTE		HOURS		MINUTE		FOUR		FIVE		SIX		SEVEN		EIGHT		NINE		TEN		ELEVEN		TWELVE	
1	05	24	73	03	10	01	20	21	1	1	00	67	7	01	00	33	00	68	01	36	5										

FIRE AND CASUALTIES										EXTINGUISHMENT										INVESTIGATION										STRUCTURE										AREA FIRE ORIGIN																			
CIVILIANS										FIRE										CAUSE										FIRE										FIRE										FIRE									
00	00	00	00	00	00	05	2	6	00	01	0	64																																															

ADDRESS 1 World Trade Center Man, Man,  
NUMBER STREET BOROUGH

World Trade Center  
NAME OF OCCUPANT ROOM NO.

BUILDING 110 570 x 970  
STORIES AREA  
(Below Grade)

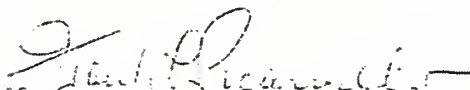
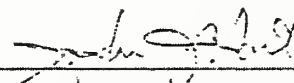
Mickey Seetock -  
Superv. Engr.

LEFT IN CHARGE  
PA - Lt. Newman #21

5	00	0	10	5	00	7	0	02	5	02	7	0	02	5	01	0	02	7	01	0	10	7	00	1	0	10
---	----	---	----	---	----	---	---	----	---	----	---	---	----	---	----	---	----	---	----	---	----	---	----	---	---	----

#### OPERATIONS

On arrival found fire in elevator car (J3) - B2 level, -J-4 area - Heavy smoke condition in adjacent areas, B-2 level. Light smoke cond. in Concourse, on 19th, 35th & 76th floors and various other floors. Fire was confined and extinguished with 1 hose line and one P.D. hand line from standpipe. Areas involved with smoke were searched, occupants assisted where required. Operations as follows:  
 E6 - stretch line from standpipe J-4 area, ext. fire in elev. & shaft.  
 E7 - assist E6 in stretching handline.  
 E10 - made search upper floors - 77th to 79th (light smoke cond.)  
 E27 - made search upper floors - 36th fl. & vic.  
 L10(L18) - report to CP - search & examination of concourse area.  
 L1 - forced elev. door B-2 level, examine car, overhaul.  
 B2 - supervise operations of E6 & L1 opening elev. car door & ext. fire B-2 ~~IVY~~ level (264)


  
 Frank L. Picariello 0312 John J. Hart  
 TYPE FULL NAME TIME OF ARRIVAL TYPE FULL NAME TIME OF ARRIVAL

DATE AND TIME		ALARM RECEIVED		REPORT		LOCATION		INCIDENT		REPORT					
MONTH	DAY	YEAR	HOURS	MINUTES	SECONDS	ALARM	INCIDENT	REPORT	REPORT	REPORT	REPORT				
06	15	73	2015	00	45	2	1	0	1	0067	7 010	0033	0104	02	325

LADDED AND CASUALTIES		RESP.		EXTINGUISHMENT		INVESTIGATION		STRUCTURE		AREA FIRE ORIGIN									
CIVILIANS	REPORT	REPORT	REPORT	REPORT	REPORT	REPORT	REPORT	REPORT	REPORT	REPORT	REPORT								
00	00	00	00	01	05	2	9	00	01	1	64	1	15	1	1	06	57	50	00

ADDRESS 1 World Trade Center Manhattan  
NUMBER STREET BOROUGH

Unoccupied 6513  
NAME OF OCCUPANT ROOM NO.

BUILDING 110 200x200  
STORIES AREA

Security Guards  
LEFT IN CHARGE

5	006	0	10	7	010	0	10												
---	-----	---	----	---	-----	---	----	--	--	--	--	--	--	--	--	--	--	--	--

### OPERATIONS

Upon arrival found fire in rubbish in room 6515 On the 65th. floor, fire confined and extinguished. Fire was in an unoccupied office of bldg E.6: Stretched line off standpipe extinguished. fire, had taken rolled ups to 65th. floor.

L.10: Overhauled, made necessary examination, ventilated.

On Scene: Fire Patrol #2.

Injured Member: Fr. 1st. Vincent Segretto #9050 Lad. 10, twist right knee  
 Dr. Schwartz notified. No time lost.

<u>Louis Fike</u>	<u>2</u>	<u>John J. Hart</u>	<u>1</u>
<small>TYPE FULL NAME</small>	<small>EN</small>	<small>TYPE FULL NAME</small>	<small>PAGE</small>
<u>2017</u>	<u>2017</u>	<u>2017</u>	<u>2017</u>
<small>TIME OF ARRIVAL</small>	<small>TIME OF ARRIVAL</small>	<small>TIME OF ARRIVAL</small>	<small>TIME OF ARRIVAL</small>

FIRE RECORD

REPORT - STRUCTURAL FIRE																		
FOR FIRE RECORDS USE ONLY		TYPE REPORT		DATE AND TIME ALARM RECEIVED				DURATION OF INCIDENT		LOCATION			REPORT					
				MONTH	DAY	YEAR	CD NO.	HOUR	MINUTE	HOURS	MINUTES	HOW REPORTED			INITIAL ALARM	HIGHEST ALARM	RD/BOOTH	ALARM
		1	0	11	7	1	90	1	1	1	1	1	00707	010	0033	0096	01	999

AIDED AND CASUALTIES				RESP.	EXTINGUISHMENT	INVESTIGATION	STRUCTURE	AREA FIRE ORIGIN													
CIVILIANS		FIRE																			
EVAQUATED	FIRST AID	INJURED	KILLED	UNIFORMED INJURED	EST. SO. CASUALTIES	LODGING	CODE	TO BEING	CAUSE	CONSTRUCT	USE	STATUS	EST. SO. CASUALTIES	LODGING	CODE	TO BEING	CAUSE	CONSTRUCT	USE	STATUS	
00	00	00	00	00	01	00	01	15	00	01	15	00	01	15	00	01	15	00	01	15	00

ADDRESS **2 World Trade Center**

BUILDING **110** STREET **200x200** BOROUGH **Port Authority**

(Second Card) STORES AREA

NAME OF OCCUPANT **Mr. Sarnelli (Fire Safety Dir)**

ROOM/APT. NO. **110**

LEFT IN CHARGE

TYPE	NO.	SECT.	FIS	NO.	SECT.	FIS	NO.	SECT.	FIS	NO.	SECT.	FIS	NO.	SECT.	FIS	NO.	SECT.	FIS	NO.	SECT.	FIS		
5	006			5	007			20	027			12	010			20	001			20	008		
7	015			10																			

## OPERATIONS

Received Alarm Class 3-70-4,  
On Arrival proceeded to the 5th. floor, smoke reported there and floors above.

E-6 took in rolled-up ladders and masks, proceeded to check out 9th and 10th. floors, then checked 21st, 22nd, and 61st. floors.

E-7- found fire, rubbish burning on foyer of 5th. floor, extinguished with line taken from standpipe.

L-10- examined and overhauled, checked 14th to 17th. floors for smoke.

L-1- checked following floors, 9, 10, 11, 61st and 69th. assisted in crowd control.

E-27- checked 10th and 11th. floor and assisted in crowd control.

L-8- checked the 80th thru 99th. floor.

L-15- checked 100th thru 110th. floors.

Deputy chief Hart was on scene.

BC. Whitney supervised following Cos. L-1-, L-10, E-7, E-27( Batt. 4)

Sgt. Leaghan of FF.#2 was on scene.

Fire was also found on 49th. floor, Extinguished on arrival, found and checked out by E-7. Fire Marshall Peritti Called, because of suspicious fire.

*Charles M. Blach* 1

Charles M. Blach 0907 John J. Hart

TYPE FULL NAME TIME OF ARRIVAL TIME OF ARRIVAL

DIV. PAGE 1 OF 1



10/721-400-1020700-1

## REPORT - STRUCTURAL FIRE

FOR FIRE RECORDS USE ONLY		DATE AND TIME ALARM RECEIVED										DURATION OF INCIDENT		LOCATION				REPORT	
		TYPE REPORT		MONTH	DAY	YEAR	CO. NO.	HOUR	MINUTE	HOURS	MINUTES	HOW REPORTED	INITIAL ALARM	HIGHEST ALARM	BOROUGH	BOI NUMBER	ADMN. COMPANY		
1	1	10	30	75	1	0308	00	25	4	14	01	0070	7	010	0033	0181	01	445	

AIDED AND CASUALTIES					RESP.	EXTINGUISHMENT	INVESTIGATION	STRUCTURE	AREA FIRE ORIGIN
CIVILIANS									
EVACUATED	FIRST AID	INJURED	KILLED	UNIFORMED INJURED	LADDER	CODE	CAUSE	CONSTRUCT.	USE
00	00	00	00	00	01	26	00	01	64

ADDRESS # 2 World Trade Center		Manhattan	
NUMBER	STREET	BOROUGH	
110		250x250	
BUILDING	STORIES	AREA	
(Second Card)			

Port of N.Y. Authority	
NAME OF OCCUPANT	ROOM/APT. NO.
Fire Safety Director	
LEFT IN CHARGE	

5	006	0	05	7	010	0	05
---	-----	---	----	---	-----	---	----

**OPERATIONS**

Responded to Class 3-70-4

Upon arrival found fire in planter on 32 floor there confined and ~~extinguished~~ extinguished as follows.

E.6 - Carry in rolled up lengths, hook up to S/P outlet, stretch line and operate on and extinguish fire and necessary wash down.

L.10 - Make necessary examination of 32 and 33 floors and overhaul burnt debris on 32 floor.

*Fergus J. McDermott* 1st D.C. PAGE

**Fergus J. McDermott #2** DIV. ☐ OF ☐

TYPE FULL NAME TIME OF ARRIVAL TYPE FULL NAME TIME OF ARRIVAL

FOR FIRE RECORDS USE ONLY		TYPE REPORT		DATE AND TIME ALARM RECEIVED						DURATION OF INCIDENT		HOW REPORTED		HIGHEST ALARM		LOCATION		REPORT	
		MONTH	DAY	YEAR	CO. NO.	HOUR	MINUTE	HOURS	MINUTES	INITIAL ALARM	HIGHEST ALARM	BOROUGH	BOX NUMBER	ADJUV. COMPANY	BLOCK NUMBER	REPORT NUMBER	PLING BATTALION	BADGE NUMBER	
1	03	09	76	1	16	03	00	30	4	1	0	1	0079	5	006	0010	0124	04	280

AIDED AND CASUALTIES				RESP.	EXTINGUISHMENT	INVESTIGATION	STRUCTURE	AREA FIRE ORIGIN														
CIVILIANS																						
EVAKUATED	FIRST AID	INJURED	KILLED	UNIFORMED INJURED	ENG. SO. MARINE	LADDERS	CODE	NO. SPRING	STANDPIPE	INT. USED	EXT. CO. IN	CAUSE	FIRE MARSHAL	CONSTRUCT	USE	STATUS TO HIGHEST	EXTINGUISH	FLOOR CODE	ROOM OF AREA CODE	OCCUPANCY	MANING OF EXTENSION	
00	00	00	00	00	03	2	6	00	01	1	64		1	15	1	1	0	80	10	50	00	

ADDRESS	1 World Trade Center		Man.
	NUMBER	STREET	BOROUGH
BUILDING	110	204 x 204	
(Second Card)	STORIES	AREA	

Various	
NAME OF OCCUPANT	ROOM/APT. NO.
Lt. John Elliott PAPD	
LEFT IN CHARGE	

COMPANIES	5	055	0	10	7	008	0	05												
TYPE	NO.	SECT.	PIS																	

## OPERATIONS

On arrival found light fire condition in rubbish piled against wall in main concourse which had caused scorching to said wall.

E 55 Stretched line from standpipe outlet and extinguished fire. washed down.

L 8 Examined for extension and ~~was~~ hauled.

*Stanley Hirschfeld* 4 D.C. DIV PAGE  
 Stanley Hirschfeld 1608 1 1  
 TYPE FULL NAME TIME OF ARRIVAL TYPE FULL NAME TIME OF ARRIVAL

ADMINISTRATIVE COMPANY

## OPERATIONS



FOR FIRE RECORDS USE ONLY		DATE AND TIME ALARM RECEIVED				REPORT OF INCIDENT		LOCATION		ALARM		INCIDENT		REPORT		
MONTH	DAY	YEAR	CO. NO.	HOUR	MINUTE	HOURS	MINUTES	HOW REPORTED	INITIAL ALARM	HIGHEST ALARM	FOR BUREAU	FOR COMPANY	REPORT NUMBER	REPORT NUMBER	REPORT NUMBER	
06	24	77	1	22	05	01	55	4	0	7	1	0070	5	006	0113	0158 01 531

AIDED AND CASUALTIES				RESP.		EXTINGUISHMENT		INVESTIGATION		STRUCTURE		AREA FIRE ORIGIN	
CIVILIANS				FIRE		FIRE		FIRE		FIRE		FIRE	
EVACUATED	FIRE	INJURED	DEATHS	RESCUED	RESCUED	RESCUED	RESCUED	RESCUED	RESCUED	RESCUED	RESCUED	RESCUED	RESCUED
00	03	07	00	00	03	4	0	00	01	1	62	1	15

ADDRESS		BUILDING		FLOOR		FLOOR		FLOOR		FLOOR		FLOOR	
NUMBER	STREET	NUMBER	STREET	NUMBER	STREET	NUMBER	STREET	NUMBER	STREET	NUMBER	STREET	NUMBER	STREET
1	World Trade Ctr	110	250	x250									

COMPANY		COMPANY		COMPANY		COMPANY		COMPANY		COMPANY		COMPANY	
TYPE	NO	TYPE	NO	TYPE	NO	TYPE	NO	TYPE	NO	TYPE	NO	TYPE	NO
5	006	0	20	5	007	0	12	5	024	0	12	1	001

## OPERATIONS

Responded to 3-70-2(Manual Alarm)

While responding Batt.1 notified via dept. radio of special call additional Ladder Co(L.15) due to report of fire 46th fl. Upon arrival was informed of fire 46th fl public hallway near freight elevator. Ordered investigation and found fire therein, which had been extinguished prior to the arrival of this dept. Evacuation instituted by Port Authority personnel prior to arrival of Fire Dept. units. Report of smoke detector operational of the 103rd fl. Fire located between freight elevators 49 & 17.

E.6- Rolled up lengths to the 44th fl. Connected to standpipe therein and stretched to fire floor(46th) Washed down fire area for overhauling purposes.

E.7- Assisted in stretch, then ordered to search, examination of 53rd to 58th fls. Also Checked 45th fl. report of smoke condition.

E.24- Reported to secondary command post (200-55). Then ordered to check smoke condition report 200-55. Then ordered to search, examination of 53rd to 56th fls. Also checked out smoke detector 103rd fl.

*James J. McKenna* 1 PC 1 PAGE  
 James J. McKenna 2208 Matthew J. Farrell 1 3  
 TYPE FULL NAME TIME OF ARRIVAL TYPE FULL NAME TIME OF ARRIVAL

ADMINISTRATIVE COMPANY



BF-24A (6/76)

## REPORT — Additional Data

## Structural Fire, Transportation Fire, Non-Structural Fire or Emergency

FOR FIRE RECORDS USE ONLY		DATE AND TIME ALARM RECEIVED				ALARM	
TYPE REPORT	MONTH	DAY	YEAR	CD. NO.	HOUR	MINUTE	BOX NUMBER
	1	06	24	77	2	2205	1 0070

TYPE	NO.	SECT.	FIS.

## OPERATIONS

- L.1- Initially to the fire floor (46th) operated for overhauling search & examination, ventilation of same. Then search, examination & ventilation of the 107th to 46th fl. Stairway "B".
- L.8- Initially to secondary command post. (West St). Then ordered to check 78th to 60th fls search & examination. Also assisted in overhauling fire floor (46th)
- L.15- Special called to report to West St. Then through lobby to secondary command post. Enroute found (2) civilian cleaning personnel (female) had been removed to lobby suffering smoke inhalation. Performed first Aid on injured civilians. Then relieved by Res. 1 with resuscitator. Then ~~xxx~~ ordered to search 47th to 52nd fls as (2) injured civilians reported to have worked on the 48th & 50th fls.
- Res.1- Relieved L.15 and administered first aid (Inhalation) to injured civilians. Then ordered Office r & remainder of members went to investigate report of smoke & people on the 55th fl. I ~~then~~ Down to 46th fl. Search, exa mination of floors enroute.
- Batt.1- Initia lly in command, then ordered to ~~set up~~ set up additional command in lobby, as first aid station. Two public ambulances standing by with (4) resuscitators. Directed search operations of E.7, L.15, Res. 1. Ordered smoke purge 45th to 107 when fire was out.
- Batt.2- Ordered to supervise units on the fire floor & report conditions therein. Supervised in part operation of E.6, L.1
- Batt.32 - Ordered to supervise operations of units above fire floor.
- Div.1- In overhauled command of operations at command post B.1 level.

by James J. McKenna SH. D.C. Matthew J. Farrell PAGE 2 OF 3

James J. McKenna 2208 Matthew J. Farrell TIME OF ARRIVAL

BF-24A (6/76)

## REPORT = Additional Data

### Structural Fire, Transportation Fire, Non-Structural Fire or Emergency

FOR FIRE RECORDS USE ONLY		DATE AND TIME ALARM RECEIVED		ALARM	
TYPE REPORT	MONTH	DAY	YEAR	CO. NO.	BOX NUMBER
1	06	24	77	2	0070

COMPANY	TYPE	NO.	SECT.	PIS.

#### OPERATIONS

Act Asst Chief Munk on the scene to supervised overall operations.

Remarks: L. I checked all elevator ~~xxx~~ cars before leaving scene.  
 Ordered 10-41 Code 1 due to report from Port Authority police of labor trouble with Maintenance personnel (Temco)  
 Dept. Photographer ordered to scene to take pictures of fire area.

Alarm was turned in by Mr. Nick Cappola, Temco Maintenance  
 (2) Beekman Ambulances on the scene under Mr. B. John

#### Injured Civilians:

Name	Address	Injury
██████████	██████████	Treated Beekm Smoke inhal. & Released
██████████	██████████	Smoke inhal. " " "
██████████	██████████	Smoke Inhal. Received O2 nc removed to Hos

Note : All of the above are employees of the Temco Co.

Sgt. Steve Fox Bd# 264	Burn to Fingers Rt Hand.
Ptl A. Halicker	Burn to Rt Wrist
Ptl Meyers	Smoke inhal
Ptl. Carcaic	Smoke Inhal.

Note: Police members of Port Authority Police Dept. All injured treated at Beekman Hospital & released.

James J. McKenna	2208	Matthew J. Farrell	PAGE 1 OF 1
TYPE FULL NAME	TIME OF ARRIVAL	TYPE FULL NAME	TIME OF ARRIVAL

ADMINISTRATIVE COMPANY

88-24 (6/23-50M-12:070175)

REPORT

FOR FIRE RECORDS USE ONLY		DATE AND TIME ALARM RECEIVED				DURATION OF INCIDENT		HOW REPORTED		ALARM		INC.	
TYPE REPORT	MONTH	DAY	YEAR	CO. NO.	HOUR	MINUTE	HOURS	MINUTES	INITIAL ALARM	HIGHEST ALARM	BOUNCING	NO. NUMBER	ADJ. COMPANY
	1	07	13	77	1	1530	00	30	1	1	0	0070	5 006
												0113	0122
												01	10

AIDED AND CASUALTIES				RESP.		EXTINGUISHMENT		INVESTIGATION		STRUCTURE		AREA FIRE ORIGIN	
CIVILIANS													
EVACUATED	PORT. AID	INJURED	AUTO	UNFURNISHED	PROP. SO. ALARM	CODE	CAUSE	CAUSE	CAUSE	USE	USE	USE	USE
00	00	00	00	00	00	30	2	5	00	01	0	1	15
												09	57
												50	00

ADDRESS # 1 World Trade Center Tower B  
 NUMBER 110 STREET 600 x 600 PORTUGAL  
 BUILDING 110 STORIES  
 (Second Card)

Port Authority  
 NAME OF OCCUPANT  
Mr. Sarnelle FSD.  
 LEFT IN CHARGE

CO.	TYPE	NO.	SPEC.	FIG.	NO.	FIG.	NO.	FIG.	NO.	FIG.	NO.	FIG.	NO.	FIG.
5	007	0	05	7	001	0	05							

OPERATIONS

- On arrival found fire to be in airconditioning room on the 9th fl
- E. 7 Stretched line, extinguished fire.
- L. 1 Made necessary search and overhaul.

BC Theodore A. Campbell 1-535  
 TYPE FULL NAME  
 TIME OF ARRIVAL

ADMINISTRATIVE COMPANY



REPORT: STRUCTURAL FIRE																																																																						
FOR FIRE RECORDS USE ONLY		DATE AND TIME ALARM RECEIVED				DURATION OF INCIDENT		LOCATION			REPORT																																																											
TYPE REPORT		MONTH	DAY	YEAR	CD NO.	HOUR	MINUTE	HOURS	MINUTES	HOW REPORTED	INITIAL ALARM	HIGHEST ALARM	BOROUGH	ALARM	INCIDENT	REPORT																																																						
1		06	04	77	1	1105	00	20	4	1	2	1	0070	6	0060113	0070	04 999																																																					
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AIDED AND CASUALTIES				RESP.	EXTINGUISHMENT	INVESTIGATION	STRUCTURE	AREA FIRE ORIGIN																																																														
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5 006 0 05		7 001 0 05		7 001 0 05		7 001 0 05																																																																
<p>On arrival found fire in accumulated rubbish in elevator lobby of 35th floor which had caused scorching of the walls and ceiling. Port Authority personnel had extinguished fire with hand extinguishers and standpipe hose. Fire termed suspicious by P.A.P.D.</p>																																																																						
<p>E 6 Responded with rolled-up ladders, hooked-up to standpipe and stood fast.</p>																																																																						
<p>L 1 Searched, examined for extension and overhauled.</p>																																																																						
<p>ABC James Hallinan 4 DC</p> <p>James Hallinan 1110</p> <p>TYPE FULL NAME TIME OF ARRIVAL TYPE FULL NAME TIME OF ARRIVAL</p> <p>ADMINISTRATIVE COMMENTS</p>																																																																						



FOR FIRE RECORDS USE ONLY		DATE AND TIME ALARM RECEIVED				DURATION OF INCIDENT		LOCATION				REPORT				
TYPE REPORT		MONTH	DAY	YEAR	CO. NO.	HOUR	MINUTE	HOURS	MINUTES	HOW REPORTED	INITIAL ALARM	HIGHEST ALARM	ALARM	INCIDENT	REPORT	
1		02	13	78	1	2018	00	45	4	1	0	1	8089	5	006	0113

AIDED AND CASUALTIES				RESP.		EXTINGUISHMENT		INVESTIGATION		STRUCTURE		AREA FIRE ORIGIN	
CIVILIANS													
EVAKUATED	FIRST AID	INJURED	KILLED	UNINFORMED INJURED	ENG. SO. M-TIME	LADDER	NO SPRINKLERS OPEN	STANBY FIRE TINES USED	CAUSE	FIRE MARSHAL	CONSTRUCT	USE	STATUS
00	00	00	00	00	03	2	5	00	01	1	62	1	15

ADDRESS 2 World Trade Ctr Man  
 NUMBER STREET BOROUGH  
 BUILDING 110 200 x200  
 (Second Card) STORIES AREA

Port of N.Y. Authority 107  
 NAME OF OCCUPANT ROOM/APT. NO.  
Sgt. Wescott POLYA Police  
 LEFT IN CHARGE

COMPANIES		TYPE NO. SECT. PTS.		10/22		20/29		35/36		42/43		49/50		56	
5		006	0210	7	001	0	10								

## OPERATIONS

Responded to manual alarm box 8089-

Upon arrival was informed of fire 107th fl. Ordered investigation and found fire in rubbish & maint. materials therein. Batt. 1 ordered additional Battalion Chief to respond on report of definite fire. Batt.4 responded.

R.6- Rolled up lengths to the fire floor extinguished remaining fire

L.1- Search, examination of fire floor & floor above. Opened walls for examination. Overhauled burned materials.

En.4- Ordered to supervise operations on the fire floor.

Div. 1- Responded to scene, and assumed command.

Note: Batt.1 transmitted 10-41 Code 2 & requested F.M. to respond.

B.C. James J. McKenna 2020 Matthew J. Farrell 1 PAGE  
 BN. DIV. DP  
 TYPE FULL NAME TIME OF ARRIVAL TYPE FULL NAME TIME OF ARRIVAL

ADMINISTRATIVE COMPANY



FOR FIRE RECORDS USE ONLY		DATE AND TIME ALARM RECEIVED				DURATION OF INCIDENT		LOCATION			REPORT									
TYPE REPORT		MONTH	DAY	YEAR	CD. NO.	HOUR	MINUTE	HOURS	MINUTES	HOW REPORTED	INITIAL ALARM	HIGHEST ALARM	BOROUGH	BOX NUMBER	ADMIN. COMPANY	ALARM	INCIDENT	REPORT NUMBER	FILING BATTALION	RADDO NUMBER
1		01	18	79	1	2353	00 45	4	1 0	1	8027	5	006	0113	0164	01	352			

AIDED AND CASUALTIES				RESP.	EXTINGUISHMENT	INVESTIGATION	STRUCTURE	AREA FIRE ORIGIN												
CIVILIANS																				
EVAQUATED	FIRST AID	INJURED	KILLED	UNIFORMED INJURED	ENG. TO. ALARMS	LADDERS CODE	NO SPRINK. TESTS OPEN	STANDPIPE PILES USED	STANDPIPE FLOOR TO FLOOR	CAUSE	FIRE MARSHAL	CONSTRUCT. USE	STATUS	STATUS TO FLOOR	STATUS TO FLOOR	STATUS TO FLOOR	STATUS TO FLOOR	STATUS TO FLOOR	STATUS TO FLOOR	STATUS TO FLOOR
00	00	00	00	00	03	2	5	00	01	1 62		1 15	1 1	0	06	31	50	00		

ADDRESS 2 World Trade Center Man. N.Y. State  
 NUMBER 110 STREET 150x150 BOROUGH Man.  
 BUILDING 110 STORIES 150x150 AREA Man.  
 (Second Cord) LEFT IN CHARGE Don Bailly P.A. Police

TYPE	NO.	SECT.	PTS.	164	70/71	77/10	16/22	28/29	25
5	006	0	10	<del>5-007-0</del>	7	001	0	10	7
0	008	0	10						

COMPANIES

OPERATIONS

Upon arrival was told of fire on the 6th floor, operations as follows.  
 Ladder 1 made necessary investigation, located the fire, vented, overhauled and searched.  
 Ladder 8 searched and vented floor above, overhauled.  
 Engine 6 stretched a line from standpipe and extinguished the fire.  
 Engine 6 washed down.  
 Batt. 2 on the scene.  
 Div. 1 on the scene.

*Joseph A. Hingerton* 1 D.C. 2355 1 of 1  
 TYPE FULL NAME TIME OF ARRIVAL TYPE FULL NAME TIME OF ARRIVAL

ADMINISTRATIVE COMPANY

NIST NCSTAR 1-4A, WTC Investigation



STRUCTURAL FIRE, TRANSPORTATION FIRE, NON-STRUCTURAL FIRE OR EMERGENCY

## OPERATIONS

Eng. 6 Masks, rolledups, responded to fire floor via freight elevator to 104 fl. via stairway to 106 fl. Met Lad. 1 who had located fire on 106 fl. Hooked 4 lengths of 2 1/2 hose to standpipe, operated on fire.

(1) White Copy: File Records (2) Canary Copy: Battalion (3) Pink Copy: Administrative Company (4) Goldenrod Copy: Retention



REPORT - ADDITIONAL DATA																							
STRUCTURAL FIRE, TRANSPORTATION FIRE, NON-STRUCTURAL FIRE OR EMERGENCY																							
TYPE REPORT		DATE AND TIME ALARM RECEIVED				BOX LOCATION		IGNITION				STRUCTURE		AREA OF ORIGIN		FIRE EXTENSION							
MONTH	DAY	YEAR	HOUR	MINUTES	SECONDS	BOX NO.	BUILDING NO.	FLOOR STAGE	GROUP INVOLVED	MATERIAL TYPE	MATERIAL FORM	CAUSE	STATUS	BUILDING DAMAGE	CONT'S DAME	FLOOR CODE	RAILROAD CODE						
6	04	19	20	14	06	1	6086	01	3	98	30	40	50	1	15	1	1	106					
NUMBER		STREET NAME		CITY		STATE		ZIP		IF MOBILE PROPERTY		YEAR		MAKE		MODEL		SERIAL NO.		LICENSE		STATE	
1		WORLD TRADE		CITY		STATE		ZIP		IF MOBILE PROPERTY		YEAR		MAKE		MODEL		SERIAL NO.		LICENSE		STATE	
UNIT		FIS		201		207		213		219		226		233		240		247		254		261	
OPERATIONS																							
Operations of Cos. continued:																							
Lad. 1 to 106 floor to investigate activated smoke alarm, searched, and located fire, checked floor above for extension, and overhauled.																							
Eng. 7 Responded to 109 fl. to investigate a sprinkler alarm, found no sprinkler flow, and light smoke condition.																							
Lad. 8 Responded to 109 fl. with Eng. 7.																							
Eng. 7, and Lad. 8 then reported to 108, 107, and 106 fls. made search and assisted in evacuation of Restaurant.																							
Eng. 10, Responded to 106 fl. to assist and relieve Eng. 6 on the line.																							
2nd. alarm units reported to command post, stood fast then ordered to take up by DAC Glasse.																							
Rescue 1 responded on 2nd. alarm, reported to 107 fl. assisted in evacuation of restaurant, then to 106 fl. to assist Lad. 1, then ordered to take up.																							
B.C.		James J. McKenna										RN.		1409		DIV.		PAGE		3 of 3			
TYPE FULL NAME		TIME OF ARRIVAL		TYPE FULL NAME		TIME OF ARRIVAL		TYPE FULL NAME		TIME OF ARRIVAL		TYPE FULL NAME		TIME OF ARRIVAL		TYPE FULL NAME		TIME OF ARRIVAL		TYPE FULL NAME		TIME OF ARRIVAL	
(1) White Copy: Fire Records		(2) Canary Copy: Battalion		(3) Pink Copy: Administrative Company		(4) Goldenrod Copy: Referral																	



REPORT - ADDITIONAL DATA

STRUCTURAL FIRE, TRANSPORTATION FIRE, NON-STRUCTURAL FIRE OR EMERGENCY

TYPE REPORT		DATE AND TIME ALARM RECEIVED		BOX LOCATION		IGNITION		STRUCTURE		AREA OF ORIGIN		FIRE EXTENSION	
MONTH	DAY	YEAR	HOUR	MINUTE	SECOND	BOX NO.	ROOM NO.	FLOOR	WALL	CEILING	FLOOR	CEILING	WALL
6	04	20	14	06	1	8085	01	3	98	30	40	50	1

NUMBER		HYDRO		PUMP		STREET NAME		TYPE		IF MOBILE PROPERTY	
1	2	3	4	5	6	7	8	9	10	11	12
1											

YR.	MAKE	MODEL	70 SERIAL NO.	LICENSE	STATE

OPERATIONS

Operations of Cos. continued:

Chief Officers on scene:

DAC Glasse, City wide command Chief.

D.C. Rossi Dept. chief 1st. Div.

B.C. James J. McKenna Chief 1st. Batt.

B.C. Louis Pike Chief 2nd. Batt.

B.C. John T. Carroll Chief 4th. Batt.

B.C. Edward J. Miller Chief 6th. Batt.

Field Comm. unit, Lieut. Soranno on scene.

Fire Patrol #2 on scene.

W.T.C. fire safety director Mr. John Barrett on scene.

P.A. Patrolmen Cemonuk, and Oorbeek on Duty at Command Post.

Building Mechanical System failures noted:

#1 Sprinkler alarm received for unsprinklerd 109 Fl.

#2 Return air duct smoke detectors did not shut fans down.

#3 Heat fused link shut damper in purge system.

#4 107 floor standpipe phone unreliable due to feed back from radios.

B.C. James J. McKenna DC

James J. McKenna 1409

TYPE FULL NAME TIME OF ARRIVAL

(1) White Copy: Fire Records (2) Copy: Battalion (3) Pink Copy: Administrative Company (4) Goldenrod Copy: Reference



NIST NCSTAR 1-4A, WTC Investigation



## REPORT - STRUCTURAL FIRE

BF 24 (11/80)

INCIDENT LOCATION		DATE AND TIME		ALARM RECEIVED		INCIDENT DURATION		HOW REPORTED		BOX LOCATION		REPORT		COS. RESP.					
EMERGENCY	REPORT	COMPANY	LOCATION	MONTH	DAY	YEAR	HOURS	MINUTES	INITIAL	ALARM	BOX	LOCATION	REPORT	ENGINE	RESP.				
1	01	5	006	0113	11	04	80	0123	00:15	6	1	0	1	8093	0026	01	531	05	2

AIDED AND CASUALTIES		EXTINGUISHMENT		IGNITION		STRUCTURE		AREA FIRE ORIGIN		FIRE EXTENSION		SPECIAL USE	
EVACUATED	FIRST AID	INJURED	KILLED	UNFOLDED	CO2	SPRINKLER	STANDPIPE	STAMPED	LINE USED	HEAT FORM	MATERIAL TYPE	CONSTRUCT	USE
00	00	00	00	5	00	01	3	98	00	60	75	00	1
15	1	0	0	99	56	50	00	01	0	6	1	1	2
3	1	1	1	0	99	56	50	00	01	0	6	1	1

NUMBER	STREET NAME	TYPE	DATE	THREAT
1	World Trade Center	1	130	130

NAME OF OCCUPANT	ROOM, APT. NO.	YR	MAKE	MODEL	POWER
N.Y.N.J. Port Authority	Carpenter's Rm.	99	250x290	AREA	Barbolla (FSD)

UNIT	PTS.	ITEM
5	010	10
7	001	05

EQUIPMENT INVOLVED IN IGNITION	
99	250x290

OPERATIONS	
1	1

Responded to alarm box 8093. Upon arrival found cause to be for a rubbish fire at the above location. Eng. 10- Stretched standpipe line, extinguished fire, washed down. Lad. 1- Searched, found fire, vented, checked for extension, overhauled.

ADMINISTRATIVE COMPANY

B.C. James J. McKenna 1 D.C. 0126 SN. 0126 DIV. 1 PAGE 1 OF 1

TYPE FULL NAME James J. McKenna TIME OF ARRIVAL 0126

TYPE REPORT				INCIDENT LOCATION				DATE AND TIME ALARM RECEIVED				INCIDENT DURATION				BOX LOCATION				REPORT				COS. RESP.															
COMPANY BOARD				ADJUTANT COMPANY				MONTH DAY YEAR				HOURS MINUTES				INITIAL ALARM HIGHEST ALARM				BY NUMBER				REPORT NUMBER				FIRE BATTALION				ENGINE NUMBER				LADDER NUMBER			
1	01	5	006	0113	02	-17	-81	0859	00	40	4	1	0	1	8084	0141	01	531	03	2																			

AIDED AND CASUALTIES				EXTINGUISHMENT				IGNITION				STRUCTURE				AREA FIRE ORIGIN				FIRE EXTENSION				SPECIAL USE																															
CIVILIANS				STAMPED LINES USED				EQUIP INVOLVED				MATERIAL TYPE				MATERIAL FORM				USE				STATUS				BLOS DAMAGE				FLOOR CODE				OCCUPANCY				MANAGER OF OCCUPANCY				NO BLOS				SHORT DETECTORS				WITHIN BLDG			
EVAUATED	FIRST AID	INJURED	KILLED	UNKOWNED	SPANNED	NAIL OPEN	CODE	HEAT FORM	MATERIAL FORM	FACTOR	CONSTRUCT	STATUS	BLOS DAMAGE	FLOOR CODE	OCCUPANCY	MANAGER OF OCCUPANCY	NO BLOS	SHORT DETECTORS	WITHIN BLDG	FIRE EXTENSION	SPECIAL USE																																		

NAME OF OCCUPANT				STREET NAME				BUILDING				AREA				LEFT IN CHARGE				POWER			
EQUIPMENT INVOLVED IN IGNITION				TYPE				ROOM APT NO				MAKE				MODEL				S/N			
Port Authority N.Y., N.J.				World Trade Center				110				300x300				Mr. Barnell J.B.D.							

OPERATIONS

Upon arrival at box 8084, found fire in air condition duct and filters on 108 floor

Eng. 10 Used house line, and extinguished fire.

Led. 1 Overhauled and checked for extension.

e.c. *James J. McKenna*

James J. McKenna

D.C. \_\_\_\_\_

BN. \_\_\_\_\_

9900

PAGE \_\_\_\_\_

OF \_\_\_\_\_

DIV. \_\_\_\_\_

TIME OF ARRIVAL \_\_\_\_\_

UNIT	PTS.	ITEM	194	200	206	212	217
5	010	057	001-05				

YEAR	MAKE	MODEL	151	155	159	163	167

# REPORT - STRUCTURAL FIRE

09 24 (11/80)

TYPE REPORT		INCIDENT LOCATION		DATE AND TIME		ALARM RECEIVED		INCIDENT DURATION		HIGHEST ALARM		BOX LOCATION		REPORT		COS. RESP.	
COMMAND	BOUO	ADJIN	COMPANY	ALARM	LOCATION	YEAR	MONTH	DAY	HOUR	MINUTE	MINUTES	BOX	NUMBER	REPORT	NUMBER	REPORT	NUMBER
1	01	006	0113	04	47-81	0918	01	30	7	1	2	1	8084	0145	01	196	0913

AIDED AND CASUALTIES		EXTINGUISH		IGNITION		STRUCTURE		AREA FIRE ORIGIN		FIRE EXTENSION		SPECIAL USE	
FIRST AND	EVACUATED	RELIED	UNINJURED	CODE	SPRINKLER	STANDPIPE	STAGE	EQUIP INVOLVED	HEAT FORM	MATERIAL TYPE	FACION	CONSTRUCT	USE
99	00	00	00	5	00	01	3	31	20	00	50	1	15
1	1	1	1	1	1	1	1	1	1	1	1	1	1

STREET NAME		TYPE		ROOM, APT. NO.		BUILDING		AREA		LEFT IN CHARGE	
NUMBER	STREET	TYPE	ROOM	APT. NO.	BUILDING	AREA	LEFT IN CHARGE	AREA	LEFT IN CHARGE	AREA	LEFT IN CHARGE
1	World Trade Center	1	1	1	1	1	1	1	1	1	1

ADMINISTRATIVE COMPANY

Port Authority N.Y., N.J.

Bill Barnelli P.S.D.

EQUIPMENT INVOLVED IN IGNITION

HVAC Unit

UNIT	PTS	ITEM
5	010	10
5	006	10
5	007	10
7	001	10
7	015	10

## OPERATIONS

Upon arrival at box 8084, was informed by PA police of fire in MER room on the 7th floor with smoke condition on 7 thru 11 floors, transmitted 2nd alarm.

Eng. 10 Masks, rolledups, responded to 7th floor, hooked up to standpipe, extinguished fire in air condition unit in MER room.

Eng. 6 Masks, rolledups, responded to 7th floor, stood fast.

Eng. 7 Masks, rolledups, responded to 7th floor, stood fast.

Lad. 1 Masks, responded to 7th floor, V.S.O. air condition unit, checked for extension in A/C duct.

Lad. 15 Masks, vented and searched floors 8 thru 13, checked for extension in A/C duct.

Masks, under direction of BO Moffet, Ba. 4 searched floors 13 thru 18.

8 C	8 N	D C	DIV.	PAGE
				1
TYPE FULL NAME			TIME OF ARRIVAL	



## REPORT — Additional Data

**Structural Fire, Transportation Fire, Non-Structural Fire or Emergency**

The diagram illustrates a 35mm film strip. On the left, a section of the film is shown with sprocket holes. A frame is highlighted with a date and time stamp: "1 04 17 8 2 09 18 1 8084". The frame is divided into sections for "DATE AND TIME", "ALARM", and "BOX NUMBER". The "DATE AND TIME" section contains "1 04 17 8", the "ALARM" section contains "2 09 18", and the "BOX NUMBER" section contains "1 8084". The film strip continues to the right, showing sprocket holes and a frame with a date and time stamp: "1 04 17 8 2 09 18 1 8084". The film strip is labeled "35mm" and "TYPE NO. 561. PTL".

OPERATIONS  
continued

Rescue 1    Masks, searched floors 18 thru 23.

2nd. alarm units:

Engs. 24, 15, 55, 9, 241, and Marine 1 were ordered to stand fast at there assigned locations.

Div. 1, D.C. DeCaprio responded and supervised operations  
 Chiefs Gormley, Bishop, and Farrell also on scene.

P.A. personell reported evacuation of aprox, 1,500 persons from floors 9 thru 23.

F.C. unit on scene

F.P. 2 on scene.

**TIMES**

Box	0918
2-2	0928
U/C	0959

cc Peter Castello

Peter Costello

0920

Angelo DeCaprio

DIV. PAGE  
2 of 2

ADMINISTRATIVE COMPANY

REF ID: A66089

DATE AND TIME  
ALARM RECEIVED  
INCIDENT LOCATION  
REPORT

COS RESP.

STRUCTURE AREA FIRE ORIGIN FIRE EXTENSION SPECIAL USE

1 01 5 006 0113 05 05-81 1025 01:05 7 1 0 1 8084 0036 01 352 03 2

STREET NAME

World Trade Center

P.A. N.Y. & N.J.

EQUIPMENT INVOLVED IN INCIDENT

NAME OF OCCUPANT

HILL Emmell F.S.D.

OPERATIONS

Batt-1 Responded to the U.T.O., upon arrival we were informed of a small fire on the second floor of tower # 1.  
Eng-6 With masks and rolled up reported to the second floor, where they operated a line from the standpipe on a fire in a storage closet, washed down and took up.  
Lad-1 Vented and overhauled in the fire area.  
Batt-1 Transmitted a signal 10-41 code 1.

UNIT PTS

5 006 05 7 001 03

TIME OF ARRIVAL

1030

TYPED FULL NAME

Joseph A. Hingerford

SIGNATURE

J. A. Hingerford

DIV.

PAGE

OF

# REPORT - STRUCTURAL FIRE

[illegible]

OPERATIONS

Responded to smoke condition at MAX B-2 level. Building personnel reported heavy smoke condition. Found fire in open shaft.

Engine 10- stretched line from standpipe, and extinguished fire.  
Ladder 1- searched , vented checked for extension, overhauled.

1st  
Joseph L. Barracato  
Joseph L. Barracato  
20:59  
BN  
D C  
DIV  
PAGE 1 OF 1  
TYPE FULL NAME  
TIME OF ARRIVAL  
TIME OF ARRIVAL

ADMINISTRATIVE COMPANY





## AF 24 (1980) 175M KOS5 (193).

UNIT	PTS.	110	134
5 010 05 7 010 05			
188	194	200	206
212	217		

Upon arrival at box was informed of fire in service elevator room on the 15th floor.

Engine 10 extinguished fire.

Ladder 10 checked for extension and overhauled.

One sprinkler head was released.

NAME Kenneth P. Markgraf DC 1 DIV 1 PAGE 1 OF 1  
 TYPE FULL NAME Kenneth P. Markgraf BN 1628 TIME OF ARRIVAL 1628  
 NUMBER OF ARRIVAL 1628

## REPORT — STRUCTURAL FIRE

BF 24 (1/90) 175M (0055) (B3)

INCIDENT LOCATION		DATE AND TIME		ALARM RECEIVED		INCIDENT DURATION		BOX LOCATION		REPORT		CIS RESP					
ADDITIONAL	COMPANY	BLOCK	NUMBER	DAY	MONTH	YEAR	HOUR	MINUTE	MINUTES	HOURS	INITIAL	ALARM	BOX				
TYPE	REPORT	NUMBER	ALARM	HIGHEST	ALARM	BOX	LOCATION	REPORT	NUMBER	BATTALION	REPORT	NUMBER	REPORT				
1	01	5	010	0113	12-28-84	14:35	00:25	6	1	1	1	0087	0269	01	150	01	1

ADDED AND CASUALTIES		EXTINGUISHMENT		IGNITION		STRUCTURE		AREA FIRE ORIGIN		FIRE EXTINCTION		SPECIAL USE	
EVALUATED	FIRST AID	INJURED	KILLED	UNINJURED	CODE	SPRINKLER	NO OPEN	STAMPED	ITEM USED	EQUIP INVOLVED	MATERIAL TYPE	MATERIAL TYPE	FACION
NUMBER	STREET NAME	TYPE	DATE	TIME	YR	MAKE	MODEL	YEAR	MAKE	MODEL	YEAR	MAKE	MODEL
2	WORLD TRADE CENTER	1	1	15	1	0	1	23	35	59	00	00	0

NAME OF OCCUPANT		ROOM, APT NO		YR		MAKE		MODEL		YEAR		POWER	
UNIT	PTS	ITEM	194	200	206	212	217	151	166	187	187	187	
5	010	05	7	010	05								

IRV SMALL, Fire Safety Director

LEFT IN CHARGE

## OPERATIONS

Upon arrival found fire in the freight elevator lobby, 23rd floor. Units operated as follows:  
 Engine 10 stretched line from the standpipe and operated line.  
 Ladder 10 V.B.S. performed necessary overhaul, used can on the fire.  
 COMM. 10-41-COD. 1 Transmitted.

B.C. *Joseph L. Bauracato* BN. *1040* hrs  
 J.O. L. BAURACATO TYPE FULL NAME  
 DIV. *1040* TIME OF ARRIVAL  
 PAGE *1040* OF *1040*



210

\*\*\*\*\*

Thomas Kilker  
TYPE FULL NAME

## REPORT — STRUCTURAL FIRE

FD-201 (Rev. 12-13-67)

TYPE REPORT		INCIDENT LOCATION		DATE AND TIME		ALARM RECEIVED		DURATION		BOX LOCATION		REPORT		DIS RESP																																																	
REPORTING AGENCY	REPORT NUMBER	MONTH	DAY	YEAR	HOUR	MINUTE	SECONDS	MINUTES	SECONDS	BOX NUMBER	BOX LOCATION	REPORT NUMBER	REPORT DATE	REPORT TIME	REPORT BY																																																
1	0004	01	05	05	17	02	00	05	00	0071	01	075	03	21																																																	
<table border="1"> <thead> <tr> <th colspan="2">FIRE</th> <th colspan="2">EXTINGUISH</th> <th colspan="2">CAUSE</th> <th colspan="2">DAMAGE</th> <th colspan="2">LOSS</th> <th colspan="2">SPECIAL</th> </tr> <tr> <th>TYPE</th> <th>LOCATION</th> <th>TYPE</th> <th>LOCATION</th> <th>TYPE</th> <th>LOCATION</th> <th>TYPE</th> <th>LOCATION</th> <th>TYPE</th> <th>LOCATION</th> <th>TYPE</th> <th>LOCATION</th> </tr> </thead> <tbody> <tr> <td>STRUCTURE</td> <td>AREA</td> <td>AREA</td> <td>AREA</td> <td>AREA</td> <td>AREA</td> <td>AREA</td> <td>AREA</td> <td>AREA</td> <td>AREA</td> <td>AREA</td> <td>AREA</td> </tr> <tr> <td>200</td> <td>00</td> <td>00</td> <td>00</td> <td>00</td> <td>00</td> <td>00</td> <td>00</td> <td>00</td> <td>00</td> <td>00</td> <td>00</td> </tr> </tbody> </table>																FIRE		EXTINGUISH		CAUSE		DAMAGE		LOSS		SPECIAL		TYPE	LOCATION	TYPE	LOCATION	TYPE	LOCATION	TYPE	LOCATION	TYPE	LOCATION	TYPE	LOCATION	STRUCTURE	AREA	AREA	AREA	AREA	AREA	AREA	AREA	AREA	AREA	AREA	AREA	200	00	00	00	00	00	00	00	00	00	00	00
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FIRE		EXTINGUISH		CAUSE		DAMAGE		LOSS		SPECIAL																																																					
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ADMINISTRATIVE COMPANY

## OPERATIONS

Responded to EES alarm, report of smoke in building. As units were responding informed by dispatcher of numerous reports of smoke from 30 to 55th floor. After searching found cause of smoke to be coming from MEH ft. room on 55th floor. Fire was caused by welding operation resultant heat caused insulating to ignite inside of fan room. Units operated viz.

- Engine Co. 10 - Stretched line from standpipe on 55th floor and extinguished fire.
- Ladder Co. 10 - Searched, overhauled, checked for extension.
- Ladder Co. 1 - Searched, checked for extension.
- Engine Co. 6 - Searched, maned command post.

Quartermaster  
 1st ON 17:51  
 TIME OF ARRIVAL  
 TIME OF DEPARTURE  
 TIME OF RECALL



[illegible]



[illegible]

F-24A (12-86) REPORT - ADDITIONAL DATA

STRUCTURAL FIRE, TRANSPORTATION FIRE, NON-STRUCTURAL FIRE OR EMERGENCY

TYPE REPORT				DATE AND TIME ALARM RECEIVED				BOX LOCATION				FIRE ORIGIN				STRUCTURE				AREA OF ORIGIN				FIRE EXTENSION			
MONTH	DAY	YEAR	MINUTE	SECOND	BOX NUMBER	BOX NUMBER	BOX NUMBER	BOX NUMBER	BOX NUMBER	BOX NUMBER	BOX NUMBER	BOX NUMBER	BOX NUMBER	BOX NUMBER	BOX NUMBER	BOX NUMBER	BOX NUMBER	BOX NUMBER	BOX NUMBER	BOX NUMBER	BOX NUMBER	BOX NUMBER	BOX NUMBER				
6	12	07	89	13	33	1	8054	02	21																		

DAMAGE				DETECTORS			
SMK	FLAME	WATER	SMOKE	SMOKE	SMOKE	SMOKE	SMOKE

NUMBER - (INCL. HYPHEN)				STREET NAME				TYPE				SUBST.			
41	1			WTC											

OCCUPANT (ELEV)				ROOM/APT.			

IF MOBILE PROPERTY				TYPE				MAKE				MODEL				VIN				LICENSE				STATE			

7 COB 10																							

## OPERATIONS

L-8- search floors 9-40 results negative and then up.  
 B-6- established operations post on 6th floor., then went to 7th floor MER and directed operation of units. Supervised E10, E6, E4 and L15.  
 B-4- supervised operations of L15, L10, an L8 on floors above fire units conducted primary and secondary search of floors above, results negative.  
 Times 10-76 1314 - E10  
 Under control 1340 - Div 1  
 Injured Civilians - [REDACTED] - smoke inhalation  
 [REDACTED] - smoke inhalation  
 taken to St. Vincents Hospital  
 [REDACTED] - smoke inhalation  
 [REDACTED] - smoke inhalation  
 taken to Peekman  
 RMS Chief Cervo directed operations for EMS  
 PA operations Commander on scene Capt. Stinger.

by Charles Callahan 1317 Robert J. Blum 1330  
 TYPE FULL NAME TIME ARRIVED TYPE FULL NAME TIME ARRIVED  
 1 of 2



RE-24 (12/06) 4X 00244[illegible][illegible][illegible]

P.A.		NAME OF OCCUPANT	/11	ACQUAINT	LEFT IN CHARGE	FBI NUMBER	SERIAL NUMBER	POWER	BAGGAGE KEY
098		EQUIPMENT INVOLVED IN IGNITION		YR	MAKE	MODEL		76-4	

	UNIT	PTS	ITEM	PTG
W R I	5	006 20	5 007 13	5 004 12
				5 053 07
				5 005 07

## OPERATIONS

Upon arrival at box 3087, 2 WTC found rubbish fire in shaft on the 94th floor. Signal 10-76 was transmitted. Units operated as follows:

- E6-Stretched line from standpipe, stood fast, then up.
- E4-Operated houseline out of stairway "B" on the 94th floor and extinguished fire in utility shaft, then up.
- E7-Assisted L10 in search of upper floors, then up.
- E24-Stood fast at Lobby Command Post, then up.
- E5-Stood fast at Lobby Command Post, then up.

1	ES-Stood fast at Lobby Command Post, then up.	cc <i>David M. Byrne</i>	DA	1	PAGE 1 OF 3
2	<i>Lawrence M. Byrne</i>	DA	6A	01	
3	LAWRENCE M BYRNES	TYPE FULL NAME	13-21	TIME OF ARRIVAL	
4					
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24A (12/06) 100-475310-1001

## REPORT — ADDITIONAL DATA

## STRUCTURAL FIRE, TRANSPORTATION FIRE, NON-STRUCTURAL FIRE OR EMERGENCY

TYPE REPORT		DATE AND TIME ALARM RECEIVED				BOX LOCATION		INCIDENT NUMBER		IGNITION				STRUCTURE		AREA OF ORIGIN		FIRE EXTENSION				
MONTH	DAY	YEAR	HOUR	MINUTE	SECOND	BOX NUMBER	INCIDENT NUMBER	INCIDENT NUMBER	INCIDENT NUMBER	CAUSE OF FIRE	EQUIP INVOLVED	FUEL FORM	MATERIAL TYPE	INITIAL FORM	CONSTRUCTION	USE	FLOOR CODE	2ND FLOOR	AREA CODE	MANAGER	OCCUPANCY	REPORTED REPORT
6	08	11	94	13	17	1	8087	0254	00													

NUMBER (INCL TYPE)		STREET NAME		TYPE	
1	2	WTC			

DAMAGE		DETECTORS	
FLAME	SMOKE	PRESENT	TYPE

OCCUPANT (Driver)		ROOM/APT.	

IF MOBILE PROPERTY		TYPE		MAKE		MODEL		V.I.N.		LICENSE		STATE	

UNIT		PTS		UNIT		PTS		UNIT		PTS		UNIT		PTS	
5	224	02		5	024	07		5	028	02		5	003	02	
7	101	10		7	003	07		7	005	07		7	018	07	
7	010	20		7	001	20		7	015	20		7	008	20	

## OPERATIONS

E3-Stood fast at the Lobby Command Post, then up.  
 E5S-Stood fast at Lobby Command post, then up.  
 L10-Operated on the 107th floor, opened various walls and doors, finding no fire or extension, then up.  
 L15-Assisted R1 in opening up a wall exposing fire in shaft, made necessary search and exam from 94 thru 99th floor (Termination point of shaft) Negative.  
 L8-Made necessary search and exam of floors 100 thru 106, found negative.  
 L5-Stood fast at the Lobby Command Post, then up.  
 L18-Stood fast at the Lobby Command Post, then up.  
 L101-Search 75, 91 and 92nd floor, found negative, then up.  
 L1-Made necessary search and exam of floors 104 thru 106, then up.  
 E224-Stood fast at the Lobby Command Post, then up.  
 R1-Used Thermal-Imaging camera and located fire in shaft on the 94th floor.  
 Batt14-Supervised operation on the fire floor, then up.  
 Batt8-Supervised operations on 107 and 74 floors, then up.  
 Batt2-Stood fast, then up.  
 FCU-Monitored handi-talkie circuit, progress reports, then up.

BC Lawrence M. Byrnes 01  
 EN  
 Lawrence M Byrnes 13:21  
 TYPE FULL NAME TIME ARRIVED

BC David Corcoran 1  
 DIV  
 David Corcoran 13:25  
 TYPE FULL NAME TIME ARRIVED

PAGE  
 2 OF 2



1-4-24A (12/86) 15-A12-06-931-0028-N

# REPORT -- ADDITIONAL DATA

## STRUCTURAL FIRE, TRANSPORTATION FIRE, NON-STRUCTURAL FIRE OR EMERGENCY

TYPE REPORT		DATE AND TIME ALARM RECEIVED					BOX LOCATION		INCIDENT NUMBER	BUILDING NO.	IGNITION				STRUCTURE		AREA OF ORIGIN		FIRE EXTENSION												
MONTH	DAY	YEAR	HOUR	MINUTE	SECOND	BOX	NUMBER	COND. OF ARRIVAL			EQUIP. INVOLVED	HEAT FORM	MATERIAL TYPE	MATERIAL FORM	CONSTRUCTION	USE	STATUS	FLOOR CODE	OCCUPANCY	AREA CODE	MANNER	OCCUPANCY	REVISED REPORT								
6	06	29	99	07	47	18	084	0128	00																						
										ADDRESS																					
										NUMBER (INCL. HYPHEN)		SUFFIX		PREST. DIRECT		STREET NAME										TYPE		SUFFIX			
										1						WORLD TRADE CENTER															
										57						68										88		93			
										48		53		94		113		114		123											
										OCCUPANT (Driver)		ROOM/APT.																			
										IF MOBILE PROPERTY		TYPE		YR.		128		MAKE		143		MODEL		158		V.I.N.		225		231	
										199		195		201		207		213		219		225		231							
										237		UNIT		P.T.S.		243		249		255		261		267		273		279			

### OPERATIONS

E-6 Took hydrant, assisted E-7 in stretch.

B.C. William Oehm 01 D.C. \_\_\_\_\_ DIV. \_\_\_\_\_ PAGE 2 OF 2

William Oehm 07:51 N/A 00:00

TYPE FULL NAME TIME ARRIVED TYPE FULL NAME TIME ARRIVED



## Appendix H

### SIGNIFICANT FIRES IN WTC 7

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#### Significant fires occurring in WTC 7

Significant Fire	Incident Date	Fire Location	# sprinklers activated	# standpipes activated	Cause of fire	Material Ignited
1	5/20/88	Construction shanties on floor 3	Multiple, # not listed	1	Suspicious	Shanties

## 8F-2a (12'68") 231630 N. 52° 0' W

## OPERATIONS

E7-assisted E40.  
E4-Stratched line to X 4th floor. Stood first.  
E6-assisted E4.

89	<i>Rudolph S Quatrone</i>	B7D-1 BY	O.C.	0.V.	PAGE <u>1</u> OF <u>  </u>
	<b>Rudolph S Quatrone</b>	0043			
TYPE FULL NAME		TIME OF ARRIVAL	TYPE FULL NAME		TIME OF ARRIVAL
		WHITE FISH RECORDS	PINK—REFERRAL		GOLD—ADMINISTRATIVE COMPANY
		YELLOW—BATTALION			

BF-24A (12/89) (Rev. 10-1-89)

## REPORT — ADDITIONAL DATA

## STRUCTURAL FIRE, TRANSPORTATION FIRE, NON-STRUCTURAL FIRE OR EMERGENCY

TYPE REPORT			DATE AND TIME ALARM RECEIVED			BOX LOCATION		INCIDENT NUMBER	BUILDING NO	IGNITION			STRUCTURE		AREA OF ORIGIN		FIRE EXTENSION		REVISED REPORT	
MONTH	DAY	YEAR	HOUR	MINUTE	BOROUGH	BOX NUMBER	EQUIP INVOLVED			HEAT FORM	MATERIAL TYPE	MATERIAL FORM	CONSTRUCTION	USE	STATUS	FLOOR CODE	OCCUPANCY	AREA CODE		MANNER
6	05	20	89	00	35	1	0008	0008	3098	97	97	97	1	501	1	03	50	35	00	99

ADDRESS	NUMBER (INCL HYPHEN)		SUFFIX PREFIX DIRECT	STREET NAME	TYPE	SOUTH DIRECTION
	57	68				
1	7			W 40		

SPK PERFORMANCE		DAMAGE		DETECTORS	
% DAMAGED	FLAME	SMOKE	WATER	PRESENT	POWER
1	1	1	6	6	1
1	1	1	6	6	1

OCCUPANT (Driver)		ROOM/APT.	
94	113	114	123

IF MOBILE PROPERTY		TYPE		YR.		MAKE		MODEL		V.I.N.		LICENSE		STATE	
189	195	201	207	213	219	225	231	237	243	249	255	261	267	273	279
7	010	20	7	021	20	7	008	20							

## OPERATIONS

Operations as follows;

L8-Assisted L10 Made primary and secondary search of 5-10,11,12. Then up.  
 L1-Made search and examination of the 4th floor. Then assisted L8 in the examination of upper floors. Then up.

Batt 4-Supervised L10 and L10 on fire floor.

Batt 2-Supervised E4 and E6 and L1 on floors above fire.

FGU- SOP

MSU- SOP

E3- Stood fast.

Batt 6- Stood fast.

BC Richard B. Quatroppe Bn-1  
 BN.  
Richard B. Quatroppe 0043  
 TYPE FULL NAME TIME ARRIVED  
 DC \_\_\_\_\_ DIV \_\_\_\_\_  
 TYPE FULL NAME TIME ARRIVED  
 PAC 2 C



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## **Appendix I**

### **EXTRACTED PAGE FROM PACO REPORT ON SPRINKLER PROGRAM**

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**PACO 2002 Report: World Trade Center General Description of All Building Systems and the Capital Program. Extracted page.**

**Miscellaneous Life Safety Improvements and Sprinklerization Program**

## 12. Miscellaneous Life Safety Improvements and Sprinklerization Program

### 12.1 Description of the Program

The initial base building provided for Fire Standpipe (FSP) protection in the Towers and Plaza Buildings and no sprinkler system installation (except in the sub-grade Levels). In response to the enactment of Local Law 5 and other NYC Building Code Local Law enactments related to the fire protection of high rise office towers built after 1973 the Port Authority voluntarily retrofitted the WTC complex to comply with the new NYC Building Code Requirements supplemented by PA imposed life safety requirements unique to the WTC. These requirements provided tenants the option of achieving fire protection compliance by a compartmentalization or a sprinklerization option. The Scope of miscellaneous life safety and sprinkler system upgrades/improvements, other than certain fire alarm, concourse circulation and blast recovery improvements discussed elsewhere, included but was not limited to:

### 12.2 Scope of Fire Life Safety Improvements

#### Architectural Modifications - On all floors:

- Upgraded core wall construction to provide for a 2 hour rated fire separation from one side of a tower floor to the opposite side (Where core wall were already 2 hour rated, such as in elevator shafts, upgraded where not previously required).
- Installed a double acting set of rated HM fire doors in the core corridors where the above 2 hour rated fire separation crossed the corridor (This enabled one half of a typical tower floor to serve as a horizontal fire refuge for the other.) Doors included special magnetic hold open hardware and closures linked to smoke detectors in floor return air ducts.
- Restored all ceilings in corridors and lobbies affected by fire protection installations.
- Provided slab-to-slab 1hour fire rated walls to enable a maximum of 10,000 gross square foot compartmentalization on each side of the 2 hour rated fire separations.

#### Sprinkler System Installation

- The entire WTC complex was fully sprinklered. The Sprinkler System was installed in three basic phases. Phase 1: Sub-grade areas for the initial building construction; Phase 2: Sprinkler riser/main installation throughout 1 & 2 WTC including the sprinklerization of corridors, storage rooms, lobbies and certain tenant/PA spaces in 1976 in compliance with Local Law 5 to provide tenants with a compartmentation or sprinkler fire protection option; Phase 3: The full sprinklerization of the entire complex for all remaining places from 1983 to the 2001(including 1993 blast recovery and ongoing up-grades/improvements and replacements).
- The Tower sprinkler systems were fed in the various zones from the gravity feed fire reserve tanks located on the 20<sup>th</sup>, 41<sup>st</sup>, 75<sup>th</sup> and 110<sup>th</sup> Floors through a 4" vertical sprinkler riser located in the Janitor Closet on each floor of each building in the WTC complex.

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