

Incident Command 9-11: Lessons Learned at the World Trade Center
Presentation by Pete Hayden, Deputy Assistant Chief, Fire Department, New York City

Chuck Burkell - CB

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Other Speaker – OS

CD – Charlie Dickinson

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CB: Hello and welcome to this broadcast of FEMA’s Emergency Education Network.

Caption: Chuck Burkell, U.S. Fire Administration.

CB: On behalf of the U.S. Fire Administration, my name is Chuck Burkell and it is my pleasure to serve as your host for the first part of what will be perhaps one of the most significant shows ever to have been aired by EENET. The title of our presentation today is “A Strategic Analysis of Incident Management Activities Following September the Eleventh, 2001”. Beginning on September 11, 2001, terrorist attacks against the United States of America unleashed a series of events that were catastrophic, unprecedented, and transformational in nature. The American Fire Services faced a series of challenges that it had never faced before. One organization sustained the largest loss of life that had ever been experienced in the history of this country. On April the fifth, the United States Fire Agency’s National Fire Academy hosted its fourteenth annual Executive Fire Officer Graduate Symposium here in Emmitsburg, Maryland. Present were almost 200 graduates of the Executive Fire Officer Program. We invited senior command officers from four fire services’ organizations who responded and served and who continue to serve since September Eleventh.

CB: What you are about to hear and see were presentations and discussions that occurred during our EFOP Graduate Symposium. We are honored to extend and share this experience to all of our viewers today. Our program will feature presentations and insights from command officers who managed at the World Trade Center in New York, the attack on the Pentagon in Arlington Country, Virginia, the attack on United Flight Number 93, in Shanksville, Pennsylvania, and the American Media Anthrax Incident in Boca Raton, Florida. Now, our program is divided into two separate broadcasts. Today, we will receive information from two senior Fire Department of New York command officers who directed efforts at the World Trade Center. In our next broadcast, which will air on June the fifth, we will hear from the Arlington County, Virginia Fire Department, the military district of Washington, the Shanksville Volunteer Fire Department, and the Boca Raton Fire Rescue Services Department. This two part broadcast is dedicated to all those victims, and their families, who suffered greatly by these attacks on America. By examining our history, we believe that learning always can occur. That is the philosophical cornerstone of your National Fire Academy. Our first presenter to discuss the World Trade Center Disaster is Deputy Assistant Chief and Citywide Tour Commander of the Fire Department of New York, Pete Hayden. Chief Hayden is a 33 year veteran of FDNY. On

September Eleventh, he was the on-duty Deputy Chief in Division I and was the initial Incident Commander of World Trade Center 1, the North Tower. He was in the lobby of the North Tower when Tower 2 collapsed. Following the collapses, Chief Hayden was the Executive Officer of the WTC Task Force and then Incident Commander in charge of Rescue and Recovery Operations. Now let's hear Chief Hayden's presentation.

Caption: Pete Hayden, Deputy Assistant Chief, Fire Department, New York City.

PH: Thanks again for the invitation here to speak and on behalf of all the firefighters and chief officers of New York City Fire Department, I first want to thank everybody who provided all their spiritual, emotional, and financial support to all of us. It means so much to all of us and I thank you for the opportunity to come down here and speak today. We have a slide presentation that's going to show a lot of the event that day and what I'm going to try and do, and sometimes it does get difficult, is trying to put it into the Incident Command structure and how we handled the Incident Command System and how it worked and how it didn't work, what we applied and what we didn't apply, and hopefully the lessons that we learned from it. Currently, what I'm doing right now, I left the site about three weeks ago. From day one I had been working down at the site. I was in charge of Rescue and Recovery Operations. They pulled me off, the Fire Department pulled me off, about three weeks ago and I am now working with a consultant group who's doing a study of the New York City Fire Department and how we can prepare for the next, what they call, "extraordinary incident". And hopefully some good comes out of that. And we're focusing, once again, on the Incident Command System and how we can apply that to the fire department.

PH: Okay. I just want to say Charlie said that he wanted me to talk about the statement that I made while responding down to the Trade Center. That day, I was on duty and I was sitting in my office when I heard a plane come over very...very low, which is unusual, because usually I don't hear planes coming over low in Manhattan and I couldn't see the plane itself because of the building lines, but as soon as I heard the crash, I was pretty sure that a plane had hit the Trade Center. And I said to my aide right away "Chris, we better go." I said, "I'm pretty sure a plane just hit the Trade Tower." As we were responding and I got a look at the carnage that that first plane did on the Trade Tower, I said to my aide, I said, "We are pretty sure we're going to lose people today," meaning firefighters. I was pretty sure that they were going to pay the price that day. Okay, we'll get started. Briefly, we're going to go through this very quick but this is a long presentation, but I'll try and shorten it.

Slide: Target: Twin Towers, #1 & #2. Site of prior terrorist attack in 1993. 110 story, steel office towers. Peak Occupancy 50,000 people.

PH: Just a brief description of the target: We'll call it the Twin Towers, two 110-story buildings, at the peak occupancy 50,000 people working in the building. That didn't include people who were the visitors to the building at all.

Slide: Weapons: Boeing 767 with 10,000 gals. of fuel. 156' wingspan. 147 passengers. 92 on board aircraft striking North tower. 55 on board aircraft striking South tower.

PH: All right. The weapons used, all right, they were Boeing 767s. 10,000 gallons of fuel were in each...were in each plane that struck those towers. Okay. 147 passengers were on board, 92

on one and 55 on another. The planes themselves were capable of holding 24,000 gallons of fuel, so imagine if they were fully fueled, what would have happened. The reason they only had the 10,000 gallons of fuel they were going from Boston to, I think, L.A., one of them was going. If they were going on a longer term flight, they would have been fully fueled. When the planes hit...I think many of you probably saw the video. All right. We had a chief out there from the First Battalion, Joe Pfeifer, who I know and work with well. I continue to work with him. All right, they were...they responded, immediately transmitted a third alarm, and designated a staging area, which was a good call right away. We had the second alarm. We started into the North Tower and with the third alarm, responded to the staging area. And if you watch the video, it shows the very cognoscente professionalism Joe exhibited responding into there and then handling the incident command additionally as he came in.

Slide: The Attack: 0848 Hrs. – Aircraft strikes north side of north tower. 0903 Hrs. – Aircraft strikes south side of south tower. 0959 Hrs. – South tower collapses. 1028 Hrs. – North tower collapses.

PH: The time of the attacks, 0848 hours. All right. The second attack at 0903. You see how quickly those towers collapsed; within 56 minutes, the South Tower collapsed, and an hour and half after the first tower collapsed – the first tower was hit – the tower – the North Tower – collapsed, a pretty short period of time. We have a video here from CNN news; I think that we saw when we were trying to get this up and going earlier.

Slide: Sudden Impact: (News clip from CNN showing footage of the World Trade Center Towers during the attacks.)

Video Clip: This just in – you are looking at, obviously, a very disturbing live shot of that there. That is the World Trade Center and we have unconfirmed reports this morning that a plane has crashed into one of the towers of the World Trade Center. (A person interviewed via telephone) “The plane was coming in. I noticed it a second before it hit the building. It looked like it was moving slowly and it lined itself to hit the building directly.” (A person interviewed on the street) “The doorman goes to me, ‘Wow, I’ve never seen a plane so low,’ and we looked out at it and all of a sudden, boom. It seemed like it wasn’t even real.”

PH: This is 15 minutes after the first tower was hit. We were in the lobby of the North Tower operating at the time when the second tower was hit. You can certainly feel that. Believe me; you felt that explosion in the North Tower. And that’s the plane going right through the building and coming out the other side. And a group of slides looking at the damage that we were faced with.

Slide: Manhattan Box 8087...WTC.

PH: (Speaking while flipping through several slides of photographs.) This is a response ticket showing the amount of companies that responded. Why I point this out...If you see all the way down on the lower left hand side, it gives us our availability of companies at the time after the deployment of all the companies to the Trade Center. We had a 49 percent engine availability and a 53 percent ladder availability and an alarm rate of 52 alarms per hour coming in. We were able to provide citywide coverage even with the World Trade Center incident going on. This is a...certainly a picture of all the trapped victims you can see above the flash line. Taken from one of the helicopters...unfortunately, we had a tremendous amount of people jumping out windows.

As we came in, we actually lost some of our firefighters going into the buildings as the people were jumping out the buildings. And, as again, that shows you the second tower coming down 56 minutes later. And the cloud that covered and enveloped the entire part of lower Manhattan was enough to blow you right off your feet. That's the North Tower. That's West Street looking south. That's the North Tower there. South Tower's just come down. You can see the cloud extending out into the harbor. That's looking east. And that's some of the devastation afterwards. The fires burned considerably for a long period of time after the collapsed. In fact, the fires burned for four months. It was almost around the middle of December, end of December before we actually extinguished the fires in there. And that was always a hazard for the firefighters engaged in the recovery and the rescue operations. This is a split-screen shot showing West Street. In 1993, this was. This was the 1993 collapse just to give you an idea of what West Street looked like. And that's the south cross passage over to the Financial Center, which was across West Street. This is looking south towards the Battery. This is at the 1993 collapse. On the left is the Marriott Hotel and you see the South Tower collapsing onto the Marriott Hotel. The Marriott Hotel was a 25-story hotel that was also involved in the collapse. And also later on, at five o'clock in the afternoon, a 47-story building also collapsed, the World Trade Center Number 7, that was at five o'clock in the afternoon that collapsed. This video is immediately after the collapses there, you can see the dust cloud there. That's Number 6, World Trade Center, you're looking there. And the North crosswalk that was destroyed, also. And you can see that the...very disorganized out there. The command structure at this point in time was destroyed. We really didn't have much of a command structure. Now, we had to try and reestablish command and get some kind of coordination and control for whatever recovery and rescue efforts we could muster. John... This is looking south on West Street. That's one of our apparatus. This is actually about two blocks south. Looking up there, you see the outer skin of the South Tower, that is. That's about 30 stories high, that outer skin. And you can see the fires burning.

Slide: Response & Rescue: No delay in alarm – observed by chief, 3rd alarm transmitted, rapidly followed by transmission of 5th alarm. Additional 5th alarm transmitted for south tower.

PH: All right, the response and rescue. All right. Of course, there was no delay in alarm. If anything, we had everybody as soon as the alarm and had them responding there as soon as they heard the crashes, all right, was actually seen by the first alarm Battalion Chief Joe Pfeifer. Once again, he transmitted a third alarm right away, was rapidly followed by the transmission of a fifth alarm, and an additional fifth alarm was transmitted for the South Tower, in addition to a number of other alarms transmitted for staging areas. This slide picture here gives you the amount of the toll of the dead and the injured. All right, quite a really monumental toll of injuries and loss of life.

Slide: Collapse Rescue Plan: Conduct reconnaissance and survey. Remove surface victims. Search of voids. Selected debris removal. General debris removal.

PH: At the Collapse Rescue Plan, the usual Collapse Rescue Plan was invoked. As you've seen this many times in books, we actually followed, right. We conduct reconnaissance and survey, remove surface victims, search of voids, selected debris removal, of course eventually the general debris removal. As we go on today, as we sit here talking today, the recovery operations are still going on seven months later. We've collected over 18,000 body parts. We have about 800 people that have been identified and confirmed. And we still, hopefully, we have about a month to go and hopefully we can find some more. All right. This just once again gives you an

idea of the extent the voids and searches are going on. Unfortunately, after the first 26 hours, nobody was taken out alive, nobody was taken out alive. Now, we continued a rescue mode for the first 18 days and after that we operated in a recovery mode. This is Number 7, World Trade Center coming down at five o'clock in the afternoon, a 47 story office building across the street from the North Tower. Fortunately, we recognized that that building was going to fail, everybody was kept out of the collapse zone, and we had no additional injuries as a result of that collapse.

Slide: Operations – Staging, Branches. Planning – Resource & Situation Status, Demobilization, - Technical Specialists, Documentation. Logistics – Communications, Medical, Food – Supply, Facilities. Finance – Time, Cost, Claims.

PH: All right, the command structure. You know, once again, we go into the Incident Command; the operations, the planning, the logistics, and the finance. All right, I would say overall, our operations that day and subsequent to were, according to our tactics and procedures, things did work pretty well.

Slide: FDNY Incident Command Structure: (Diagram)

PH: (Includes many slides of photographs) As after the collapse, where we...the first three days after the collapse, we really had a difficult problem getting organized. It was chaotic, to say the least. Recall procedures were put in but were not very coordinated, were not very specific about the recall or what they were supposed to do. Mutual aid was requested from neighboring counties. But once again, we really were not specific about what the mutual aid was supposed to do for us. As a result, we had people from all over the place coming in, well-intentioned, helping to search and to do recovery, but unfortunately it lent itself to chaos. What also increased the amount of chaos was the destruction of several World Trade Center. In that building was our Office of Emergency Management and their entire infrastructure was worse. So, for the first three days, we had no coordinating agency there to assist us in getting organized and thank God for the FEMA group that came in and helped us. I just want to tell you as a side before we get going with this: There were so many agencies looking to the fire department. They readily accepted that we were the Incident Commander and agencies from all over, agencies I had never heard of, both local, state, and federal, were coming up to us and offering assistance and also expressing the needs, of what they needed to have done.

PH: And in the background, I had to say, I saw him in the first couple of days there, there was a fellow named Danny O'Traghe, and he's from the...he was a park ranger. And it was chaotic. And I'm looking over to him. And finally, he would say to me once in a while, "Chief, can I just have five minutes of your time?" And I says, "Okay." And I finally gave him just five minutes of my time up into the office – this is after we were forming up the Task Force. And I said to myself... I'm looking at this fellow and he's in a green uniform and U.S. Park Service is on it and I'm saying to myself, "How in the hell is this guy going to help me? This guy is a forest ranger. He's from Arizona." I said, "This, you know," I said, "This is crazy." I says, "What are you going to do?" And he sits down and he explains to me he was a member of the Incident Management Team and he explained to me what they were capable of doing. And I said, "You can do that?" And he says, "Yes, we can do that." And I ask him...I started asking him more questions, we can do this, we can do that. And I took him to the command post and I gave him an office up on the third floor and he moved 35 people up into the office on the third floor and from

that point on, we had a plan. We had a planning group that helped us plan how we want to handle to task force and the recovery operations because we expected to be there for about a year. And that was really when we first started getting organized. This was the Incident Command Structure, once again, as you can see it, very briefly. And then I'm going to show you what it really looked like the day of the collapse. And this is what it looked like. And do you see that fat little chief standing up there on top of the fire pumper, that's me. And this is the recall guys all coming off duty there and they're looking for things to do. But we had lost our unit integrity. I had lost 343 guys; at the time we thought we had lost as many as 400 guys. These were all individuals all coming in, officers coming in with units and they just want to get in there. And I had no way of gaining control of this group. This was not...this was just a small picture of it, but there were hundreds and hundreds of people, both FDNY and volunteers coming in. I finally got everybody rounded – we had a bullhorn – and I got them around and I took my helmet off and I just stood there and everybody started looking up at me. I said, "Let's have a moment of silence here for the 400 guys we lost today." And everybody stopped. And I just stayed there and held that for a couple of minutes. And I said, "Okay, we're going to go to work. We're going to form up teams." And I got my chief officers there and we started to form up teams and we proceeded with the recovery operations.

PH: This is an overview looking down at West Street. It gives you a magnitude of the event. The actual Trade Center complex was 16 acres, but taking into consideration the older damaged buildings it was probably over 25 acres of property. And this just gives you a idea of a logistical problem we were faced with. At one point in time, there were over 19 cranes up and operating, there were 32 cranes on site, heavy machinery, and it just gives you an idea of what we had to deal with. Even just placing the cranes had to have a plan where the cranes are going to go because once you place a crane down, you just don't move it, and we had to take into consideration all the arm swings so we could cover the 16 acres.

Slide: I.C.S. Characteristics: Common terminology. Manageable span of control. Modular organization. Integrated communications. Unified command structure. Incident action planning. Designated incident facilities. Resource management.

PH: All right, the Incident Command Structure. All right, the advantages of it: Common terminology, provide a manageable span of control, modular organization, integrated communications, very important there. We wined up having a unified command structure after a while. We shared the Command Structure with the Department of Design and Construction, which is the oversight agency for the construction contractors and firms that were involved in the recovery operations and demolition operations. The incident action plan...extremely important to have a plan. I remember being told that I was going to be the Executive Officer, Chief (Prothers?) was the initial Incident Commander of the World Trade Center Task Force, there was over 1200 guys assigned to that task force, and we operated on a separate entity from the rest of the Department. And I remember saying, "We got to have a plan." And that's where Danny's group came in and we wined up developing an action plan every day. Twice daily meetings, one at five-thirty in the night with all the agencies involved, probably fill up this auditorium with all the different agencies involved, and also at seven o'clock in the morning, and the seven o'clock in the morning the Incident Action Plan for the day and the next three days was presented to all the participating agencies. Incident facilities, of course, and of course your resource management, that's what all that provides for.

Slide: Incident Commander: Staff Chief. Establish ICP. Establish incident objectives and priorities. Daily meetings and briefings. Establish IAP. Need for interagency coordination and cooperation. Need for additional resources. Status reports.

PH: All right, in this particular incident, the Incident Commander's responsibilities. It was a Staff Chief's assignment, all right. His responsibilities were to establish an Incident Command Post. We established the Incident Command Post on the first day or two right at the infamous 10 and 10, if you've ever heard of it. It was an infamous firehouse right down there by Ground Zero. It did not serve our purposes well; we moved to another fire house a little bit north and remote and we established the Command Post there for the Task Force. We set our objectives and our priorities for our rescue and recovery operations. Once again, we held daily meetings and briefings, not only those two daily meetings and briefings, but a number of subcommittee, if you want to call them, meetings with the involved agencies. We've voted an Incident Action Plan, distributed it out, distributed the plan to everybody, all right. And also the Incident Commander's responsibility was to stress the need for interagency coordination and cooperation. And I have to say that over all, the cooperation and coordination of all of the agencies was tremendous. Additional resources, really, this is where FEMA came in. Federal resources, state resources, now we all had to...we had to coordinate that and make sure that we covered all areas. And of course we had daily status reports.

Slide: Rescue mode lasted 18 days. Recovery mode thereafter. Void search. Confined space. Special Ops/USAR teams. Canine units.

PH: All right, once again, we went to the collapse, rescue lasted for 18 days, we were in a recovery mode thereafter. Of course, we conducted void searches. There were many areas, because of the hazards and condition and instability in the area, we treated them as confined space rescues. We used Special Operations Command people and used extensively the USAR teams, they were tremendous, they were a tremendous asset to us. And we also used the PD Canine Units extensively. (Some slides of photographs) That's just a picture there of the...that's the Marriott Hotel. You see this is here...this gives you an idea of all the different agencies involved. You see ATF was there, FBI, DEA, any number of police agencies. There's quite a very strong police presence. New York City Police Department has 40,000 members in New York City. There's a Port Authority Police Agency, there's correction officers, and that's one of the USAR team members there. So it basically is like a standing army and certainly they were fully utilized. Just a night shot. Once again, this is the...to give you an idea of the amount of agencies that were involved, and of course, the bucket brigade was there, and there was a lot of that in the initial operation; digging into the voids and digging out some of the areas so we could, hopefully, get some rescues. Unfortunately, we weren't very successful. All right, once again, plane parts goes to the Chain of Evidence, Custody of Evidence. Any plane part that was recovered was turned over to the FBI. This gives you an idea of the depth of the hole within the bathtub and the slurry wall down there. That's part of debris going down as you see on the left out of there, going down. This gives you an idea.

Slide: Safety Chief: Attend daily meetings. Review IAP. ID unsafe/hazardous situations. Fire Prevention issues. Investigate injuries and accidents. Environmental safety and health plan. Site safety plan. Evacuation plan.

PH: The Safety Chief, probably one of the most important positions in all of this. This was an extremely hazardous area after the collapse. We had fires burning, a lot of voids, we had...with all the contractors used we had large storage of combustible and compressed gases, we had propane, oxygen, acetylene that they were using, we had fuel storage tanks within the complex, we had Freon. And it was up to the Safety Chief to take care of this issue. His responsibility was to attend daily meetings and to review the Incident Action Plan. All right, identify unsafe and hazardous situations that existed out there on the site. He dealt with the fire prevention issues. We had somebody from our bureau, Fire Prevention, an inspector working full time there. We actually developed our own fire prevention procedures and bulletins there for the storage, transportation, and handling of all the compressed gases and the hazardous materials that were on sight. That in itself was a full time job. He investigated injuries and accidents. He attended...had participated in the Environmental Safety and Health Plan that was brought together by all the environmental agencies that participated in the event. He also assisted in drawing up the Site Safety Plan and also, if you don't see that, that's an evacuation plan because we had to plan for an evacuation in case we had a large scale collapse in the area there, we had to develop some type of evacuation plan for the area.

Slide: Operations Chief – Staff Chief/Deputy Chief: Implement/execute IAP. Brief and assign all task force personnel as per IAP. Supervise site operations. Assign Safety and Sector Chiefs. Maintain activity log.

PH: The Safety Chief did, as far as I'm concerned probably, a great job with all the different safety chiefs. From the collapse forward, we did not have one serious injury to a firefighter or a police officer, and two serious injuries only to the construction workers. And what I mean by serious injury is an injury that required hospitalization, and that was pretty much a miracle considering the environment we were working in. The Operations Chief, all right, was a Staff Chief and later became a Deputy Chief, all right. The one time I was an Executive Officer, I was working...I was also the Operations Chief at one time. All right. His responsibilities...Implement and execute the IAP, brief and assign all the task force personnel as per the IAP, supervise site operations, assign Safety and Sector Chiefs, and maintain the activity log.

Slide: Sector Chief – Battalion Chief: Review assignments. Delegate specific assignments. Notify Ops Chief - Operational effectiveness, Additional resources needed (e.g. tools/equipment/personnel). Hazardous situations. Safety of operations.

PH: All right. The Sector Chiefs...the site was divided up into four sectors, all right. For lack of a better way to do that, and almost we had to do that just geographically with all the collapsed areas, you could not traverse from one side of Manhattan to the other because of a large collapsed area. So we actually winded up sectoring off into four separate sectors. And the Sector Chiefs were our Battalion Chiefs, all right. Their responsibilities were to review assignments, delegate specific assignments, notify the Operations Chief of any operational effectiveness, of any situations, and the safety of operations, all right.

Slide: Planning Chief – Battalion Chief: Supervise IAP preparation. Schedule meetings. Documentation – GPS, Status reports, Data analysis and collection (Information overload, Situational awareness, Determination of critical information), - Information and report dissemination (Utilization of in-house resources supplemented with outside vendors, Internet

(hard wire and cell), Sneaker net when all else fails (Extremely problematic in early stage of incident when cells unusable and power grid destroyed in initial collapse). Specialized resources. Personnel – Manpower, Rosters, Orientations/debriefing.

PH: And of course, one of the most important areas is Planning Chief, and that turned out to be Joe Pfeifer, all right. That's the fellow you've seen on the video. He was one of our most respected chiefs, somebody that I had great confidence in, and I selected him to come with me as the Planning Chief. And these were his responsibilities and what he did. Under documentation, one of the most important things we developed was a GPS system. The first three days, we were...all of our activities were being documented. And I kept saying, "We have to document what we're doing. We have to start to keep a record of what's happening, what resources are being made, and identifying all that." And Joe developed a... worked with a company called Lynx and developed a GPS system to coordinate our rescue and recovery operations, our body parts, tools, and equipment and everything. It worked well and will be able to, with almost 98 percent accuracy, tell everybody where we recovered all of their loved ones. Status reports were required. Situational awareness all the time; that was part of his responsibilities. Specialized resources...he got involved with so much...also with logistics, all right. Calling in specialized resources, letting us know what we needed. Or personnel, if we needed more manpower. And he updated the rosters.

Slide: Logistics: Monumental organizational effort. Far surpassed any previous logistical operation at any point in FDNY history. Responsible for providing support for all operations both current and planned.

PH: All right, logistics. This was a monumental effort, all right, and probably – certainly – did surpass...any logistical issues we ever had at any point in the Fire Department history. We worked very well. We professed to follow the Incident Command System very well at operations. We do some planning. We never really plan for any type of this event and hopefully, in the future, we'll have a permanent planning unit, an Operational Planning Unit, now with the problem. But logistically is where, in my mind, we really came up short. We now...we're not prepared to handle this event, logistically.

Slide: Logistics Responsibilities: Tools and Equipment. Supplies. Feeding. Medical/Morgue considerations. Vehicle Transportation. Manpower/relief coordination. Site development, security and control of access credentials. Coordinate outside logistic resources.

PH: Fortunately, I called on a Deputy Chief, whose name was Charlie Blaich. He was a Marine Corps officer for a number of years and served for a short time, he hates to admit it, but he served for a short time as Logistics Officer in the Marines. And I said to him, "Charlie, you're my logistics guy." And he really did a great job in coordinating everything. He handled the tools, the supplies, the feeding, working with getting the medical/morgue and the medical/morgue considerations handled. Site development, handled security...worked on the security and the control of access credentials. And he was really our asset to all the logistical problems we had. Go ahead.

Slide: Logistics Coordination: OEM. NYPD/PAPD. FEMA/Incident Management Team. DDC. Contractors/Unions/Private vendors. Red Cross and Salvation Army. Private donations/remote warehousing. Military. DCAS. Regulatory agencies.

PH: Logistics Coordination. These are all the agencies that were involved in the Logistics Coordination. Office of Emergency Management. The NYPD and the Port Authority. Of course the FEMA, who were a great assistance to us, and there is their management teams. DDC is the Department of Design and Construction, who is the oversight agency, once again, for the construction firms. Contractors, unions, private vendors. Red Cross, the Salvation, the military, DCAS is the Department of Citywide Administrative Services, and other regulatory agencies.

Slide: Documentation: Resources. (Includes chart of documents, including document name, description, and the agency or committee responsible for it.)

PH: This just gives you a page we showed out and gives you the documentation resources. I don't know if you can read that further out.

Slide: Documentation Hard Copy. (Includes chart listing agencies and committees.)

Slide: Manpower. (Includes chart of type of worker, total number of workers for that type, and any comments.)

PH: I just put this slide in to give you the number of people that were working on the site on any one particular shift. 5,000 people between just the primary players, basically the cops, the firemen, and the contractors. Over 5,000. You see in the top there, the Fire Department...we had 1200 daily total, all right. In the beginning there, 400 per shift, all right. The Police Department had 2000. The Urban Search and Rescue Teams, right, there were eight 62 teams working 12 hour tours. And, of course, the four main contractors with over 1300 construction personnel there. Over 5000 people per shift out there...working out there at any one time. Quite a monumental group player.

PH: (The following slides include a number of photographs.) This is a picture of "Ten and Ten", the fire house that I'm sure everybody's heard of, Engine 10 Ladder 10. And the trailer there says "FDNY", but that was one of the trailers that were provided to us by FEMA. And inside there is where we set up one of our operations posts. And we had shelter out there for the firefighters, you can see two of them sitting down, and that was the shelter there. You see the Gators that we used for getting around the sites. All right, once again, another picture of the cranes there. That was the Church Street sector. You see that there on the FDNY like that and a brief respite. One of the DMAT stations. One of the Logistical Cache Supplies. Keep going, Johnny. This is all of the logistical issues. The Salvation Army providing food, shelter. The bucket brigade. This is Pier 92 where all the OEM...which is up on 50th Street on the west side of Manhattan. They set this up and they got this going in about three days after their infrastructures were. And this is the OEM agency and their coordination site. And this, just to give you an idea of the logistical problem, this is West Street. This is raining out one day – we have rain gear for the firefighters. This gives you...an oxygen trailer there. Liquid oxygen shows you the problems we had with compressed gases. All the shovels, pails, buckets, cranes, everything like that was quite a mess.

Slide: Safety Issues: Injuries. Safety Chief. Daily meetings. Site safety plan. FAST team. Additional collapse. Ongoing fire problem.

PH: All right. This is, once again, safety issues. Injuries. Appointment of a Safety Chief. Daily meetings. The site safety plan. We made sure we had a FAST team all of the time, a rapid

intervention crew, for your terminology, maybe. We worried all of the time about additional collapses and of course the ongoing fire problem we had. (Includes a number of photographic slides.) Just gives you an idea of some of the searches going on by some of the USAR teams and the Special Ops plans down the escalators. All right, unstable markings. That's L.A. County USAR team right there.

Slide: Environmental Issues: Hazardous materials – Fuel oil, Gasoline, PCB's, Freon, Compressed gases. Ongoing fires. Regulatory and supporting agencies – OSHA/EPA/DEP/PESH/DEC/DOH/Army/Unions.

PH: All right, the environmental issues. This became a very important aspect of the operation because of all the regulatory agencies that are involved. The environment issue...there was an environmental health and safety committee. They had any number of agencies on there. If you see there at the bottom they had OSHA, EPA, DEP, PESH – which is the state OSHA agency for New York – the Department of Environmental Conservation, the Department of Health, the Army and unions were involved. Hazardous materials, once again. There was the storage of fuel oil, gasoline on site. There were PCBs, was Freon, of course the compressed gases. All right, this is one of the map grids we made out. We would give this out at part of the daily meetings. Gives you an idea. We identified all of the buildings that were involved in the collapse area and the inner zone perimeter. All the buildings were numbered and identified. And we started doing our searches from the beginning from the outward perimeter – outward – and working inward. And as completed the searches of the buildings, as the fire safety features of the buildings were restored, we turned the buildings back over to the owners for further repair. This is the grid that we made up. You see the sectors but we also grided the area. 75 foot by 75 foot grids. That was done initially to identify where we found tools, equipment, or victims. We lost over 90 pieces of apparatus and equipment over there and we wanted to mark where we recovered everything, including the victims.

Slide: Preventative Measures: Air quality sampling. Personnel monitoring. Dust control. PPE. FP inspections. Enforcement bulletins. Proper storage/use/handling. Daily safety messages (IAP).

PH: All right, preventative measures that were taken for – this is a little messed up here, this goes back to environmental issues, this goes back to preventative measures we took. The regulatory agencies conducted air sampling, they did personal monitoring of the firefighters, they were required to find dust control, there was a lot of dust in the area. PPE, of course, there were fire prevention inspections done, and we issued enforcement bulletins on the proper storage/use/handling. And, of course, there were daily safety messages that we put out in our Incident Action Plan.

Slide: Recovery Operations: Recovery protocol. "Lift and Spread". Transfer stations. Landfill. Morgue. Honor Guard.

PH: All right, the recovery operations. All right. 3,000 people reported killed. We were finding tremendous amounts of body parts. There were very few people that were recovered that were uncovered intact. We developed a recovery protocol once we started going with the heavy machinery. Basically, we would get the heavy machinery, lift up the beams up like that. Whatever debris we had we would lift it up. They would spread it out. The firefighters and the

police officers would search through it. It was then lifted up back into a truck again. It was removed into a transfer station up out of the pit. Now, at the transfer station it was dumped again. The firefighters and the police officers would rake through it again looking for victim recovery. And then it was finally taken to a landfill where it was done mechanically. And then, of course, involved with that was a morgue. Once we recovered a police officer or a firefighter, we formed up an honor guard and we escorted them out of the site with as much dignity as we could give them.

Slide: Fire Suppression: Four months. Tower Ladders/Pumpers/BFU's. Dedicated response. Foam lines (Pyrocool). Directional drilling. Nitrogen.

PH: All right, the fire suppression. Very important. Again, it took four months for us to extinguish the fires that were there. All right. We used tower ladders. We used pumpers. We used bus fire units. We had a dedicated response within the World Trade Center perimeter. All right, we had a certain apparatus, tower ladders, pumpers, that were assigned to us and we handled the fires that occurred within the perimeter there. There was a number of torch work being done in the buildings and as a result of the torch work, we had three second alarms occur within the perimeter there that we had to handle in addition to...in addition to handle the site. We tried foam lines. There was a company come in, Pyrocool. We tried directional...well, we listened to the spiel they gave us...directional drilling and an attempt to extinguish the fires and also we looked at the use of Nitrogen. (Includes some photographic slides.) Once again, a grid map we have identifying the sectors, where the sectors were located. If you see all the way up at the top, that was where the Incident Command Post is, out of the site. All the way up to the top right hand. That was on Duane Street. That just shows us where the sectors are. This is a little blowup of the map that we gave to everybody so we could go according to grid work. This is a 75 foot by 75 foot grid. This was the areas of total collapse buried in steel with the collapse zone there. That was the areas completely destroyed.

Slide: Federal Assistance: Incident management teams. Emergency funding. Military. Support personnel. Technology. USAR Teams. DMAT & DMORT.

PH: The federal assistance that was provided. The incident management teams, of course, they were very...very, very helpful to me in not only providing manpower, about 35 people, the assistance with the preparation of the IAP, also with inventorying tools, equipment, and providing further logistical assistance. Of course, we got emergency funding from FEMA. The military provided support and additional support personnel. They also provided us with some technology. We'll go through some of the technology used here...we'll see it. The USAR Teams, of course. And the DMAT and the DMORT teams that came in from the federal government to assist the morgues.

Slide: Incident Action Plan: Overall objectives. Facilities & locations. Resources. Accomplishments. Continuing actions. Planned & anticipated actions. Special instructions. Safety.

PH: All right, the Incident Action Plan. All right, the Incident Action Plan, drawn up daily, we'll get to that soon. All right. Stated...it stated the overall objectives, the facilities, the locations, the resources, the accomplishments, most importantly what the continuing actions are, what the plans and anticipated actions were over the next 72 hours, any special instructions, and a daily

safety message. (Includes photographic slides.) All right, this is just a cover sheet that we put out every day. FDNY Incident Action Plan. This is from the period October eleventh to twelfth, 0700-0700, Plan Number 20. I don't know if you can read that, but it tells you there what the overall interim objectives are. The operational facilities and locations, the operational resources, the staffing we had for the police and fire and EMS. The weather forecast. I don't think you can see it down there...the planned action, or the continued actions or what the planned actions are for the next 24 hours, all right, and any special instructions. All right, any torch work that was being done had to be planned ahead. They had to notify us that they were doing torch work in the buildings so we could have a watch line present while they were doing that cutting. We needed that because there were a number of incidences when they didn't tell us and we wended up having second alarms, as I've told you. There were a number of areas where we had confined space operations that all had to be coordinated with our special operations people, any confined space entries, all that had to be planned in advance. If you did not notify us, you did not do it. All right, you did not do it. Everything had to be coordinated and planned. All right, all entries into the void areas also had to be planned and notified. And this is just a daily safety message that we put out. That's just the task force, who was working that day.

Slide: FDNY – WTC Organizational Chart.

PH: All right, this is the very beginning there, Incident Commander, Executive Officer, all right, you can see the way we organize it. Right there is a list of the cooperating agencies' contact people.

Slide: USAR Teams: Self-sufficient. 28 nationwide. Conduct search & rescue ops. Supplemented FDNY response for other structural collapse incidents.

PH: All right, the USAR Teams. They were invaluable. Very knowledgeable, highly trained people. They blended in very well with the police officers and the firefighters of New York City there. We had them there, they helped us with the search and rescue operations. And without their knowledge and coordination, we really would have been in a difficult time trying to cover all of the areas there.

Slide: State Assistance: NY Army National Guard. NYS Task Force 1. NYS Police. SEMO.

PH: The state assistance that was provided: The National Guard, the New York State Task Force, the State Police, and the State Emergency Management Office.

Slide: NYC Office of Emergency Management: Physical plant destroyed in collapse of 7 WTC. Reestablished facility in only three days. Facilitator. Liaison to private sector.

PH: OEM, once again, I told you early on their physical plant was destroyed. Their infrastructure they reestablished in three days, which really is quite a feat for them, I have to say that. They are the on-scene coordinator and they were our liaison to the private sector.

Slide: Issues: Command & Control. Rescue vs. Recovery. Emotions of rescuers. Coordination & Cooperation. Staffing. Site Security. Self-dispatch. Prioritization.

PH: All right. The issues, once again. We'll probably have a number of questions on these from the audience there. Command and Control, Rescue and Recovery, the emotions of the rescuers.

The emotions...the guys were terrific. As large of the problem we are, we are still a very small, close knit group. There are as many as father and son, brothers, brothers-in-laws, and the emotional level was just below the surface there quite often. But the guys handled it well and we had a lot of volunteers going down there. Coordination and Cooperation. Interagency was very important, staffing was always an issue, site security. Once again, I think somebody earlier alluded to the problem of self-dispatch and recall procedures. We really have to maintain and get control of some operational discipline of events of this nature. As well intended as everybody is, we really...in extremely dangerous situations, we have to go on the premise that we're going to use a minimum of manpower and a maximum of supervision so that nobody else gets hurt, all right. We can't have hundreds of people going in there in an uncoordinated effort to help or we're going to end up losing more people. And of course setting priorities and how we're going to go and that was our responsibility.

Slide: Resources: Aerial Photography. Aerial Thermal Imaging. GPS.

PH: All right. The different technological resources we used. Aerial photography, thermal imaging cameras, and the GPS. (Includes slides with aerial images.) All right. This is one of the aerial photos. You see the screen there overhead. You see the outlines of the buildings that were involved at that time.

Slide: Thermals. (Following are slides of photographs.)

PH: An idea of the thermals. Go ahead, John. Thermal imaging used to track fire suppression efforts. There is where the fires were burning in the piles. All right. LIDAR...we used the LIDAR. That's Light Direction And Radar. All right. This is part of the GPS system. This is an early configuration, so it's certainly not 100 percent accurate. What this is showing is where the recoveries were made and the identity. You'll see the different colors; the blue, the red. This is just an early screen. We have it pretty well refined, all different coloring. We identified civilians. We identified fire department, police members. We identified apparatus, tools, equipment all by a different coding system. And when it's completed, it'll be 98 percent accurate.

Slide: Continuing Operations. (Includes photographic slides.)

PH: Continuing operations...this is the site today. This is what it is, what it looks like seven months later. You see that to the left there's a ramp going down there, that's a prefabricated bridge the trucks come out of. They're all the way down to the bottom, down to the pit there. And that's all that's left after seven months. That's basically the bottom. That's B-6 level down there. You'll see there to the right on the upper screen there that's what I'm talking about. You'll see all the trucks down there at the bottom. And in another month, the recovery effort should be completed.

Slide: In Memory of the 343 members of the New York City Fire Department who died as a result of the terrorist attack at Manhattan Box 8087, the World Trade Center, on September 11, 2001. May they rest in peace. (Includes the photograph "Raising the Flag at Ground Zero" taken by Thomas E. Franklin and other photographs of the firefighters who perished at Ground Zero on September Eleventh.)

PH: Okay, thank you for your time. And I don't know if we're going to answer questions now or afterward. A little bit later, okay, thank you.

OS: You did a great job, thank you. Thanks, Chief.

CB: All Symposium participants found Chief Hayden's presentation to be very moving and extremely informative. We would now like to take you to an audience interaction session that occurred following the presentations of the Command Officers at the Symposium. Within this segment, in addition to hearing responses to questions directed to Chief Hayden, we will meet Fire Department Commissioner of New York, Tom Fitzpatrick. Deputy Commissioner Fitzpatrick is a 34 year veteran of FDNY and has served in all five boroughs of New York City, including as Lieutenant on Rescue 1. On September Eleventh, Tom was with Deputy Commissioner Feehan at the Office of Emergency Management. Commissioner Feehan was a victim of the World Trade Center collapse. Now, our facilitator during our panel question and answer session is our new Deputy Administrator here at the United States Fire Administration Charlie Dickinson. Charlie is the retired Chief of the Pittsburgh Fire Department and has been very active in the Metropolitan Chief section of the IAFC. We are delighted that Charlie was able to facilitate our panel. Now, let's listen to Chief Hayden and Deputy Commissioner Fitzpatrick comment on some of the questions that were posed to them.

Caption: Charlie Dickinson. Deputy Administrator. U.S. Fire Administration.

CD: A couple questions for you. What was you and your department's opinion, perhaps your opinion particularly, of ICS before 9/11 and what is it now in the second part. Can and should major cities mutual aid agreements or should it be addressed through a national plan?

TF: The opinion of ICS.... I think New York City was probably the last to get on board with ICS. This may come as a surprise to all of you but it had been talked about for a while. One of the issues with New York City is that we are so big and have historically had so many resources, which are part of our response protocol, that a lot of the ICS functions are a standard part of our normal response. This new situation demands new protocols and I think we're going to be more involved in a formal process of Incident Command despite our logistical support, which is internal. As far as mutual aid goes, I think we do have to come up with some type of system, whether it's through state emergency management, to identify who's who on a scene so when you have mutual aid it doesn't qualify just to have a turnout coat on, you want to know if the person is qualified, if he has certain specialties, if he's been certified by his department to even be there in the first place. That's going to take a little bit of work, but I think it's possible. And then I know that there's the mutual aid agreement between states, which is going to make this even more critical. So, as part of this expanding homeland security issue, I think we have to take a hard look at that and mutually agree on some type of a national I.D. card, or a national system of leveling the playing field as to who's who at one of these incidences.

CD: How did you set up initial staging as the incident got underway and how did you expand as the responses grew in numbers from the outside? And I don't know that there's any one person that knows that, but give it a shot.

PH: I know it; I've been living it for some.... The initial staging was right...was established right as the Box was transmitted, the third alarm by Chief Pfeifer, who was...they were out on a Box and they saw the plane hit the building. He transmitted the third alarm and he established a staging area at West and Vesey. After the second plane hit, there was a secondary staging area coming in from the south. When the fifth alarm was transmitted from the South Tower, there was

a staging area set up at West and Albany. At one point in time, there was a bomb scare, a bomb scare for the Battery Tunnel. We wound up setting up staging actually over in Brooklyn. This was with the coordination of the dispatchers. So we had units staged in Brooklyn, we had units staged south of the Trade Center, even staged north of the Trade Center. Well, we did come in with a problem with, as we started going to outlying areas to companies that were not familiar with downtown Manhattan, they were going by the staging areas and reporting in and not knowing which was Number One World Trade Center and which was Number Two World Trade Center. All right, I remember a number of cases telling people, "No, this is Number One, you're on the fifth alarm over there," and they would go over there. So that developed. As the...as the incident grew, the control started to unravel, partly because we started going to areas...to firefighters and units that were not familiar with the area.

CB: During the panel discussion, there were also references made regarding the rural activities of federal assets that were made available and deployed to the World Trade Center site.

TF: But I had noticed, in this particular operation, FEMA tasked an agency to do, and they have a lot of agencies, they tasked the proper agency to go out and do their job the best way they could and left them alone. And that agency, whether it was the NTSB or the FAA or the EPA or the satellite guys and the secret satellite guys and everybody. It was fabulous because they didn't come in to hold your hand and sort of translate, "Well, you see, what the Commissioner's trying to say," or "What the Chief was trying to say." We asked FEMA for...we had a problem. We described the problem, they immediately said, "I hear you," went to the agency that they know about who does this specific thing, and the next thing you know that agency is at your doorstep asking you, and showing you, and telling you exactly what they can do. And once you said, "Yeah, that sounds good," off they went and the next thing you know, bingo, it's there. They did a tremendous job of coordinating and getting these federal assets involved in the city in no time.

CD: After this experience, whatever yours was, what is the single most important thing that you would do differently in managing your part of the organization?

TF: I think one thing we will change, that is aside from the operational language is a whole separate issue, what we would do before the incident is one thing. I think we have to spend more time...we spend a lot of time developing plans. We did Y2K and put a tremendous amount of effort into it. What if this, what if that... But, looking back on it now and certainly looking back on this incident, we need to focus as a fire service because...on consequence management. It seems, in the scheme of things, to be at this point that there's going to be put a great deal of effort on interdiction of terrorism, discovery of devices, and things like that and response to those kinds of events. But, having come through the other side of 9/11, a lot of what we did was completely off the wall. We had to develop, overnight, a victim-tracking bureau of people who were doing office jobs. We had to develop people to handle logistics. We needed a switchboard to handle calls about truckloads of oranges. "Where do you want...I have 2,000 pairs of underwear. Where would you like me to leave it? Where do you..." I had...one guy haunted me for days about a statue he wanted to set up in a park. You know, it's all very nice. We need to look at consequence management. We had hundreds and thousands of phone calls because the police...not the police department...the public is looking for answers and they see the fire department taking people to hospitals. Maybe. Maybe we didn't take anybody to a hospital, but if somebody has a niece who worked in the World Trade Center and she lives in California, she's going to keep calling the fire department to find out where her niece was. And we didn't have

those answers. And we didn't even have the capability of answering those phone calls. So we got to take a look organizationally and I think the city's got to take a look because I think it's beyond the scope of any agency. Yeah. Consequence management. All the things...little, mundane things. Where are you going to put warehouses when all these things show up? Where are the supplies? Who's going to check them in? Who's going to...who's going to find out if the vendors who are giving you things are actually legit and whether or not they're making a donation or dropping something off to be paid for later with FEMA dollars? That's a big issue. We needed a hotline. We took a whole fire prevention bureau and turned it into a hotline for firefighters' families who needed to call. But you're not going to get just one call. If a firefighter is in trouble or somebody believes that they may be in trouble...they may not have seen the guy for two days, which is not totally unheard of for firefighters to go on hunting trips and do whatever else they do, every one of his relatives is going to call you to find out where he is. Of course, they can't get through to his wife, she's on the phone. She can't get through to the firehouse, they're on the phone. They're going to keep on calling you until they find out what's going on. And now, if you don't have the capability to manage all of that, people get insulted, hurt, angry, and do all those things. We weren't ready for that. Weren't ready for any of it. And I think, at this point, it has to become part of the plan that the fire service may have to get involved in as we go forward in these incidences, not just putting everybody in a suit and sending them out looking for anthrax. We have to be able to handle phone calls on the other end about where all these people are, both civilian and uniform.

PH: Yeah, I agree completely with what Tom said. We experienced that in so many different areas of this operation in areas we just weren't prepared to handle and basically that comes from the magnitude of the event; nobody had ever experienced anything of this magnitude. But to put it into other words, we need to fully embrace and integrate the Incident Command structure. The planning, the operations, the logistics portion, and of course the financial part of that whole sector and embrace the whole thing and expand on those areas so we are prepared, at least for, or somewhat prepared, for the next event or the multiple events, multiple casualty event that we're going to be faced with.

CB: In our second segment to be aired next month, we will include more analysis and response to questions on the behalf of Chief Hayden and Deputy Commissioner Fitzpatrick and from other panel members. Our closing segment today features Deputy Commissioner Tom Fitzpatrick addressing our EFOP Graduate Symposium participants.

TF: Finally, I would like to thank a few people. I met so many hundreds of people as the course of the 9/11 recovery developed that it became impossible to remember their names. So I made up little acronyms and remembered a few of them anyway. The first one, probably the most important one, was a fellow named George from Washington. He came to the site three or four days after the event took place. Absolutely, it was the best thing that happened to the people who worked there because it was the first instance where everybody on the site stopped working for about fifteen minutes. Prior to that, it was constant. Everybody needed to take a break and stop and that was it. George W. showed up and the first indication that we had that he was coming was a flight of F-16s over Ground Zero and that was a very, very good thing. And his speech to us inspired everybody and people went back to work fifteen minutes later with more energy than they had had in the first three days. Finally, I want to thank all of you. Whether you came to the site, whether you sent people to the site, whether you sent us a letter, whether somebody in your

home town sent us once of the thousands of pieces of artwork, music, letters of support, whatever it was that came, it's what kept us going. All of those things added up so that we were able to fulfill what the President said he would do, we were able to carry it out at our level. We were not deterred. We were not going to stop. And we weren't going to fail. Now our mission is to go forward and I think that the most important thing we have to do, as the leaders of the fire service currently, is make it safe for the Gettysburg High School Band. If we can do that, accomplish that in the next few years, and they can call all of this history, that would be great. And I think we can if we, as Shakespeare said, "If we put our minds to it, it can happen." Thank you.

CB: We are indebted to Deputy Commissioner Fitzpatrick, Chief Hayden, and all of our presenters who participated in our September Eleventh Panel Discussion during the EFOP Graduate Symposium. Without their willingness to tell their stories, this broadcast could not have happened. And I would like to remind all of you that part two of this broadcast will air on June the fifth. During that broadcast, we will hear from Commander Officers of the Shanksville Volunteer Fire Company, the Arlington County, Virginia Fire Department, the Military District of Washington, and the Boca Raton Fire Rescue Services Department. So, on behalf of all the men and women who supported and developed the Emergency Education Network Broadcast, we say goodbye and hope to see you during our next broadcast. Thanks for watching.