The Oklahoma City Bombing

Chronological Response Presentation

SLIDE 1---Reflection Pond at OKC Memorial

SLIDE 2---OKC skyline viewed from Midwest City, snapped by their Fire Chief. Shock wave interrupted a training workshop he was conducting.

SLIDE 3,4---Animation of the explosion at Alfred P. Murrah Federal Building.

Slide 5,6---Water Resources Board meeting, captured the blast on a tape recording. It is approaching 9:01 am, the following tape will place you inside the Water Resource Building. You will hear the initial blast, followed be a series of several more booms that sound like echoes. These are the floors of the A.P. Murrah Federal Building crashing down one on top of each other.

SLIDE 7---Failure Analysis Associates was called to the site to assist in the rescue effort by determining how to safely remove debris from the remaining structure. The following is a description prepared by them describing the events that took place in less time than it takes for you to blink an eye.

In the first instance of the blast, a small amount of explosive is detonated. This triggering explosion, in close proximity to a huge mass of common fertilizer and fuel oil, initiates an exothermic chemical reaction between the nitrogen compounds in the fertilizer and the hydrocarbons in the fuel oil. The walls of the Ryder truck are shredded nearly instantaneously. The face of the building immediately in front of the blast is hit worse by the shock wave, not only because it is the closest to the explosion, but because the wave is reflected backward and then amplified. The blast, now moving many times the speed of sound, slams into the face of the Federal Building with a pressure of nearly 6,000 pounds per square inch. The wave encounters the building's 1-inch thick plate glass façade. The air blast instantly shatters this insignificant barrier and enters the building, carrying with it thousands of pounds of glass shrapnel. Back at ground zero, air rushes in to fill the partial vacuum created behind the pressure wave. This rushing air mass, called the drag pressure, generates a force on objects 1,000 times stronger than the strongest hurricane ever recorded. More than 6,000 cubic feet of soil are blown away creating a crater 30 feet wide and 8 feet deep, and generating a short duration-high intensity underground shock wave. The building sways as it would during an earthquake measuring 5 on the Richter Scale. Since the floors are designed only for downward load, the upward

pressure pushes the floors in the opposite direction and tears the slabs from their supporting columns, lifting them into the air. As the floors crash back down, the destabilized columns are knocked over like bowling pins. Windows are blown out 1,000 feet away. Nails are ripped from wood and ¾ inch rebar are torn from solid concrete. Nine floors of the building, one by one, fall, carrying concrete, wiring, sprinkler systems, office furniture, and occupants to ground level. Debris is deposited in a pile 26 feet high. The entire collapse takes less than 20 seconds. Hundreds of people are now dead or dying in the building and immediate area. Several people were blown through 3 cinder blocked walls by the blast and people nearest the blast had all their clothing blown off.

SLIDE 7,8,9---Debris on the street and dark black smoke from car fire and explosions of gas tanks.

Within 4 minutes of the blast, the fire fighters arrive on scene and are faced with something that looks like a battle zone.

Firefighters begin to lay hose in the area to fight fires and move deeper into the blast area. Response is being focused on the Journal Record building and Water Resources building, as the black smoke from the fuel tanks exploding from the vehicles parked in the lot to the north of the building begins moving South, obscuring the view of the Federal Building.

A victim lying in the street is covered with a blanket by fire fighters. Medical assistance arrives a few minutes later. Unfortunately, this person did not survive.

Fire Chief Gary Marrs is now on the East side of the building directing activities and setting up the Incident Command Center. As command officers slowly arrive, Chief Marrs makes assignments within the Incident Command System.

There are many victims, people on the street, and several calling from upper floors of the Federal Building. However, a critical decision was made to have the first arriving fire company focus on the car fires first. **This decision likely saved losing 3-4 blocks to spreading fire and losing trapped victims.** There were no fires in any of the buildings. The only fire fought was the car fires. The force of the blast simply blew out all the oxygen needed for combustion out of the buildings.

SLIDES 10,11,12---Only after fires are extinguished, and smoke clears, does the true extent of the damage become apparent. The terrorists detonated about 4,800 pounds of ammonium nitrate and fuel oil. Blast propelled and shattered glass through the building at 5,000 fps (speed of a rifle bullet) This catastrophe was unique in that it was also a crime scene. In fact, up until 9-11, this tragedy was the largest mass murder in U.S. History.

Perimeter control was established by Police Chief Gonzales. He and Fire Chief Marrs were close friends.

SLIDES 13—16---Additional shots of destruction.

Slide 17— A Supervisor with the DEA (Drug Enforcement Administration) was conducting a morning staff meeting with 5 employees. Blast occurred, all 5 employees disappeared and she was left sitting at her desk on the broken section of flooring.

Slide 18—Large chunk of concrete flooring that needed to be secured with 4X4's and cable.

Slide 19—The widow maker, used cables to strap down. Afraid due to its multi-ton weight if they cut it down it could cause the building to collapse. The large slab weighed a little over 35,000 pounds.

Slide 20—4X4 boards used for shoring up floors to prevent collapse and to allow rescue workers to do their jobs safely.

SLIDE 21---Fire Fighters carrying out another body.

SLIDE 22---Debris pile with many fire fighters combing thru wreckage looking for signs of life. Level of destruction was incomprehensible. Debris was continually raining down on rescue workers. The jumble of concrete, rebar, and other materials made moving just a couple of feet extremely difficult. The difference between this collapse and an earthquake?? NO

VOIDS! **Victims were often found buried in concrete dust from the pulverized building. A large portion of the entire mass was vaporized and drifted away with the wind.**

SLIDE 23---Local media put out a call for medical help. This call was not authorized by the Incident Commander. Produced a sudden influx of civilian personnel into the area. Caused difficulties initially because it was not being coordinated by commanders. **Rebecca Anderson, volunteer nurse, went up the debris pile, large chunk of concrete fell from above, hit her in the head and killed her. Incident Command did not have control of the scene early on when this tragedy occurred.** It is critical to gain this control early on and as quickly as possible to protect rescuers.

SLIDE 24---YMCA BUILDING**—We can always find positives,** even during a tragedy such as this. Across the street from the Federal Building, to the East, this is what remains of the children's outside play area. **If the bomb were exploded a mere 40 minutes later, this area would have been full of dozens of preschoolers.**

SLIDE 27---Another staging area.

SLIDES 28---Axel of Ryder truck hit this vehicle, 1 1/2 blocks away from the blast. Lady and her son, in the car at the time it was struck, said the axel flying through the air sounded like a

boomerang. The force threw the car up onto the sidewalk. The woman and her 12-year old son were not injured.

SLIDE 29---Even the City's Public Works crews got involved and helped barricade the perimeter area. About an 8 square block area closed off to keep people out. **Less than a year before this event, OKC had taken several key staff, and several community disaster specialists, to a weeklong disaster training course at the EMI in Emmittsburg, MD.**

One session talked about the Hyatt Mall disaster in Kansas City where several floors collapsed at the Mall. Many rescuers responded and most parked their own personal vehicles along the access routes and locked their vehicles. The streets were so congested that EMS and Fire units could not get to the scene. City personnel remembered this lesson. The streets in OKC were kept clear and later footage from a helicopter showed parking meter readers taking the initiative to block streets.

Slide 30—Beginning of media corral, staging area

SLIDE 31---Southwestern Bell---A huge number of phone calls begin to originate from and pour into the OKC Metro area. Due to this, telephone service went down shortly following the blast. Local telephone companies responded quickly. Here, **Cellular One and SW Bell provided over 1500 cell phones to the city and rescue workers. They also covered over $4 million**

dollars in phone charges during the event. It is critical that you have a backup plan for your emergency communications. **The cell phones were a constant companion following the bombing. In meetings, whenever a phone would ring, 50 people would be reaching for their pocket. I still found myself doing that for several weeks after the recovery ended. Many of us, during breaks, drinking a cup of coffee, would end up flinging it in a jerking reaction if a car went by and backfired, or any other loud boom or sound.**

SLIDE 32, 33---3 Stages of emergency preparedness

SLIDE 34---FBI and color badge system. A major difficulty was trying to identify who was allowed into the perimeter. OKC established an ID Center and everyone had to have a photo ID to enter. A color coded system ***(Green=Medical; Blue=exterior, outlying perimeter access; Yellow=Extended Access; Red=Escorted Access) was used. Everyone went through background checks, criminal checks, FBI checks etc. And, Black= full access to ground zero.***

Everyone from the Governor on down had to have a color coded photo ID to enter. You must have a plan for an operation like this to work smoothly.

SLIDE 35---Triage area----Set up at several locations around the building. **Casualties were delivered and triaged (Green—Wait; Red—Immediate Transport; Black—Terminal)**

Problems developed in that several local hospitals enacted their own Emergency Operations Plans w/o coordinating with the Incident Command. They also did not coordinate with other local hospitals. Meant that some hospitals got a lot of victims whiles others still had capacity.

SLIDE 36---Police vehicles, ambulances and fire trucks on every street and corner of the blast area.

SLIDE 37---Search and Rescue Teams from all over the country. One of the first Federal Responses was activation of the Urban Search and Rescue Teams. Each of these teams works out and trains with their own entity. They are fully self-contained and their equipment travels with them. They can be activated anywhere within a few hours. The Phoenix Team was the first to arrive. **The Phoenix Fire Chief reported to the Commander (Chief Tony Tabor) and said, "We're here to assist you, what do you want us to do?" This type of cooperation and subordination to the OKC ICS was common throughout the event.**

SLIDE 38---A second bomb threat—Alarm sounded to evacuate---Surgeon in the building, deep inside, getting ready to amputate a woman's leg to save her life. Surgeon refused to leave her when the second bomb threat and orders to evacuate came through. Ended up performing the amputation, and got her out of the building safely. She survived. The second bomb

alarm proved to be a blessing in disguise. Evacuation provided OKC with the opportunity to re-organize, tighten up the command and control. The search and rescue was much more effective when everyone returned.

SLIDES 39, 40---Video and TV coverage of second bomb alarm

SLIDES 41--47---Use of search and rescue dogs. Trained and used to finding live bodies. Only were able to find corpses. Dogs got depressed and they had to actually call in a "doggie psychiatrist" to work with the dogs and get them back up and ready. Also, due to large chunks of concrete, jagged metal, rebar, glass, etc. the dog's paws quickly became cut. Put out the word to the news media and in a matter of hours Walmart trucks were rolling in with supplies. Also, headlamps on helmets, for rescue efforts in darkened areas and at night--- batteries ran out quickly from constant use. Put out call and trucks arrived from Walmart and sporting goods stores with plenty of fresh supplies of Double A batteries.

Problems with the Response Effort

Problem 1: Intake and Storage of Donated and Requested Goods

One of the major logistical problems that occurred during the rescue effort involved the prioritizing and tracking of supplies that were ordered. **While there wasn't a problem getting the**

equipment needed for the effort, there were major problems with locating and tracking supplies. Multiple staging areas were set up to which supplies were delivered, thereby exacerbating the logistical headaches. For example, if the Red Cross ordered more rain coats, rescue leaders at the scene would have no way of knowing where and when they were delivered, without going to each of the staging stations and looking for the supplies by asking volunteers or by searching. Commercial tractor-trailers donated for storage were literally filled with everything from football helmets, to wheelbarrows, to search-and-rescue gear. Due to the enormous amount of goods that were donated and to the rate at which supplies arrived, it could not be verified what was on scene at any given time. Another major problem with inventory control was that different personnel did all documentation manually, each with his/her own system of recording supplies (2). With no electronic tracking system in place, rescuers had to physically go to the staging areas and ask volunteers or rummage through piles in order to determine if the supplies they requested had been delivered. This took significant amounts of time, often delaying the search and rescue effort.

Part of the problem with the staging areas, in addition to their multiple locations and lack of coordinated information sharing, was that each was operated by a different agency – implying differing 'ownerships.' The Oklahoma City Fire Department set

up a staging area that they thought would be the only location for delivered goods. However, as the day went on, other agencies including the American Red Cross, Feed the Children, and the Oklahoma Highway Patrol, set up their 'own' staging areas in other locations around the Federal building. Multiple staging areas resulted in numerous problems in trying to locate supplies. When delivery trucks tried to drop off supplies, they did not know which staging area to bring them to. These problems, combined with a lack of an electronic inventory system, resulted (for example) in supplies intended for the Red Cross being dropped off at the Feed the Children staging area. This further delayed the process of getting much-needed supplies to rescuers. As a result, the rescue effort was slowed, due to the numerous logistical problems.

Lessons Learned/ Recommendations. The logistics behind the intake and storage of supplies are vital for a rescue effort to be a success. **The first lesson learned is that there should be one single computer system keeping track of the entire inventory. This system would incorporate a database that would track the time of arrival and the precise location of each item. While it will be necessary to have different staging areas, linking them though a computer system will solve the problem of not knowing at which staging areas particular supplies are located. The second important lesson is that all supplies need to be tracked electronically through an inventory manager. It is crucial that each emergency response plan have an**

inventory management system set up and ready to be put into action if a terrorist attack occurs. This system should track the arrival time and location of each item donated so that rescuers can easily access goods that are needed. Also a priority system needs to be put into place indicating which items are more important and need to be readily available. Store where access is needed quickly. This priority system will help streamline the process and allow access of crucial items to rescue workers. **Lastly, all workers need to be trained so that they know how to use the inventory management system.**

SLIDES 48-50---Inside the Journal Record building, stairwell, interior wall, offices. **Was able to advise my boss, Director of Department of Administrative Services, that terrorism WAS covered under our policy. The Governor was about to hold a press conference and state the opposite and she wanted to make sure of this. Fortunately, I was able to get the correct info to her who in turn slid into the press conference just in time to hand him a piece of paper stating that TERROSIM was covered, state assets were protected, before the Governor went on the air.**

Stairwell was full of screaming, crying, bloody employees in panic mode. Brick wall collapsed on ground-floor door blocking it from being opened. I used my fist and smashed through the second story window. I yelled at a worker running down the street with long extension ladder. Brought it over to us, I managed to get 18 people out the broken window and down the ladder until employees on the ground floor were

finally able to get the door pushed open. Then the stairwell cleared.

Talk about HR issues, personnel, relaxing rules, breaks and coffee cups flinging at sound of cars back-firing, loud booms, noises, "banty rooster" husband, their needs, some thought beforehand to be strong were often weak, those quiet and silent turned out to roar like a lion and gave strong support and help in crisis. ALSO, my mother didn't know what to do. I had a torn and destroyed sport coat. She wanted to buy me a new one.

Went to Dillards (equivalent to Nordstrom, Macy's, Kohl's) The tailor looked me over, started measuring, turned to my mother with tears in his eyes. My mom consoled him and told him it's ok. He replied, "No, that's not it. I've fitted nine people this morning, including your son. He is the first live body I've worked on".

SLIDES 51 THRU 56---The media and how to deal with them. Group press conferences regularly and advanced times given. Establish a PIO and backup. Don't relay opinions or suppositions. Stick to the facts only. Do not grant one on one interview's. Treat them collectively as one body. ***Very simply put, if you don't manage this aspect of your disaster, it will eat you alive.***

SLIDES 59 thru 62---**Staging areas for rest, food, supplies, information. The USAR Teams were housed in the Myriad Convention Center. The Oklahoma Restaurant Association was**

just starting up their annual convention on April 19th. They simply re-geared and started a huge food service operation. They were also many other services that offered their support (barber shops, medical therapists, hot tubs) And, workers' memorial.

SLIDES 63, 64---The Journal Record building, across the street, North, from the Federal Building, housed a local newspaper and state government offices, including my Risk Management Office.

The pressure wave from the explosion struck this facility, blew out the windows and moved through it carrying glass, concrete, window blinds, ceiling tiles and office furnishings with it.

As it moved through the building it also forced out all the air.

After it passed, in a second, a second "implosion" occurred caused by the vacuum created and air rushing back in with the equivalent force of 1,000 hurricanes, causing further damage by collapsing walls, floors and ceilings.

Over 350 of the 600-plus employees housed in the Journal Record building went to the hospital in an ambulance. 289 treated for lacerations, 14 treated for fractures or dislocations, 36 treated for head injuries. 21 treated for eye injuries, and 6 treated for burns.

A total of 347 persons were treated and released, and 82 persons were hospitalized.

160 deaths in Federal Building
2 deaths from the Water Resources Building
4 deaths from the Athenian Building Restaurant
2 deaths outside near the blast
1 death from a volunteer nurse

TOTAL DEATHS FROM BOMB BLAST=169

PROBLEMS: Too many victims did not go thru triage, instead, bypassed the system and went straight to the hospital in an ambulance. This is where hospitals got overloaded and some had no victims brought to them. Was not managed effectively.

Problem: The Operation of a Triage Center
One of the first centers established after the explosion was a triage center, which was located less than a block from the explosion site. The triage was set up to evaluate patients and classify them based on the nature and severity of their injuries. One of the fortunate aspects of the response was that the Federal Building was close to a dozen hospitals. Thus, according to the disaster plan, different hospitals would be equipped to treat different patients based on their ER (Emergency Room) capacity, specializations of staff physicians, and proximity to the triage unit. While a sophisticated system was in place, an acute failure resulted (1). The main reason this system failed is that due to the proximity of the Federal Building to hospitals, over

300 of the 600 victims bypassed the triage unit and went directly to hospitals via volunteer transport or other means. Part of the reason for this failure was that rescue workers were unaware of the center and thus did not inform rescuers about the necessary service. Another reason few went through triage is that the center was moved many times. At first it was located too far from the Federal Building, causing many to miss it. However, after it was moved closer to the building, another bomb threat was issued. Due to the bomb threat, the center was moved farther away again. However, at this point, most still waiting to see a nurse became frustrated and went directly to hospitals instead of moving with the triage. By the time the center was moved back near the building, most living victims had already been transported to hospitals (1). While this may not seem like a huge problem, it caused a tremendous waste of resources. Many doctors were called to attend to victims needing treatment before being transported to hospitals. As a result, only seven intravenous infusions were performed at the triage center.

Lessons Learned/ Recommendations. The key lesson learned here is the importance of the triage center. However, in order to use the center to its full effectiveness, it is vital to locate it in an area that is adjacent to the area of the attack. Also, in order to increase its effectiveness, rescue workers need to be telling victims about the triage center and leading them to it. If this does not happen, the triage unit is a waste. Such malfunction also results in the inefficient use of doctors and nurses because each hospital then has to have a separate triage unit set up. All

of this greatly detracts from the care the hospitals can provide patients due to inefficient use of resources.

SLIDES 65 THRU 68---Inside the Journal Record building.
Slide 69-70-- my office and one of many chards of glass, and a pile of 4,200 open, pending GL claims, tort claims, and lawsuit's. Every one of them was put back together and not a single file or page was lost. What a miracle and great staff.

SLIDE 71 THRU 73---Law Enforcement personnel conducted investigative work right alongside of the rescuers. One group is looking for victim's, the other is looking for evidence. Here we see the "Bucket Brigade". Nearly all of the material and rubble had to be removed by hand.

SLIDE 74---Water Resources Building—one of two State employees killed. This was his desk he was sitting at.

SLIDE 75---FBI Ryder Truck sign

SLIDE 76---The Rat's Nest

SLIDE 77---Shoring

SLIDE 78---Chemical exposures

SLIDE 79---Asbestos exposure—Journal Record Building—discovered two days after initial bomb explosion. Many employees had already been working in this area. Once

discovered, sealed up, I called in State for air quality measurements and lab tests before returning worker's to clean-up.

SLIDE 80---The Pit

SLIDE 81---Water Resources Building where two State employees lost their lives.

SLIDE 82---Harsh working conditions

SLIDE 83---Calling the Game

SLIDE 84---Disaster Recovery of the 8 State Agency offices. 305 State employees, over 87,000 square feet of office space needing replacement, over $5 million dollars of State Assets, furniture, equipment, computers, supplies either damaged or destroyed.

SLIDES 85 THRU 104---Describe the recovery process with the two teams hired. Responsibilities, contract for services, dividing up the job, restoration and recovery of equipment and supplies, computers, furniture, personal items. Logging in every single detail, office location, employee name, object or item, state of repair, identifying number, storage. 24 hour security at storage site of all assets. How employees were allowed access and when. **Employees and their purses and personal private belongings, vehicle keys….**

Process of getting my own employees back on the job, suspending personnel rules, letting them work part-time at first.

SLIDE 105---Incident Overview----12 days of continuous rescue operations, 5 days of recovery operations. Ended 15 minutes before midnight, May 4th.

MACC Team----Multi-Agency Coordination Center was scaled down to a MAC Team on April 30th and closed May 2nd.

Slides 106—108 Tips, Points

SLIDES 109 THRU 112----Implosion

SLIDE 110---Orange paint identifying location of last three bodies not yet recovered. Determined it was too dangerous until after implosion occurs.
SLIDE 113---CLEAR SITE

Insert video---Closing wrap-up video "Song".

SLIDE---QUESTIONS?