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ARFF Crews Respond to the Front Line at Pentagon
by Stephen Murphy

When a hijacked Boeing 757, skimming the street lights, smashed into the Pentagon on September 11, firefighters at nearby Reagan National Airport were the right responders in the right place with the right equipment.

Being among the first responding fire units, National's aircraft rescue firefighters (ARFF) crews were able to set up their apparatus directly in front of the gaping hole in the Pentagon. That was where their training in fighting aircraft fires and the capability of their foam units to extinguish jet fuel fires were put to the best use.

The ARFF foam units knocked down the bulk of the fire in the first seven minutes after their arrival, said Captain Michael Defina, who was the shift commander that day at National.

"We applied the foam tactfully and kept the fire from spreading drastically," he said. "This allowed for self-evacuation of the Pentagon at a critical time, saving many lives, and eventually the building." Two Oshkosh T3000s spread approximately 600 gallons (2.2 kiloliters) of 6% AFFF with an initial fire flow of more than 3,000 gallons (11.3 kiloliters) per minute.

IN FRONT OF GROUND ZERO

How the National ARFF crews found themselves in front of ground zero on September 11 started with a motor vehicle accident on the upper level of the airport's Terminal B.

While Captain Defina and his crews were watching the World Trade Center attacks on television at the ARFF station, they were dispatched to the motor vehicle accident. Although the airport, located in Arlington, Virginia, was not on alert, Captain Defina said he had a feeling Washington, D.C., could be another terrorist target.

"Normally, the shift commander doesn't respond to motor vehicle accidents," he said. "But something didn't sound right about it."

Captain Defina was the shift commander that day because the battalion chief was across the river in Washington for a security briefing on an upcoming meeting. Defina responded to the vehicle accident in the battalion chief van, along with Rescue Engine 335, under the command of Captain John Durrer, and a medic unit.

Unknown to Captain Defina and his crews, hijacked American Airlines Flight 77, outbound from Washington Dulles International Airport with 64 people on board, was only minutes away from slamming at 0938 hours into the Pentagon, about 3 miles (4.8 kilometers) from National.

At the accident scene, where a driver with a diabetic reaction had struck several vehicles, the firefighters were working with their backs to the Pentagon.

"I heard a dull roar. The noise didn't belong with the noise you were used to hearing within the airport," Captain Defina said. "I turned and saw a smoke plume arise."

As he and Rescue Engine 335 responded toward the Pentagon, there was confusion from the control tower in an alert of a "missing 757." Initially, it was thought to be another crash, possibly at the end of the runway or on nearby George Washington Parkway. But it was quickly confirmed the crash was at the Pentagon, and Captain Defina ordered a response by one of National's crash rigs, Foam Unit 331, and SERV-329, the mass casualty/disaster unit, from the now-closed airport.

Arriving two to three minutes later at the Pentagon's south parking lot, Captain Defina saw heavy smoke and heavy fire to his left on the building's west side.

"I sat there for 15 seconds wondering what was coming next," he said. "I knew it wasn't an accident."

BURNING TITAN

One hundred fifty feet (45.7 meters) from the impact zone was a new heliport fire station, staffed by a three-person ARFF crew from nearby Fort Myer. Captain Defina saw that the Fort Myer crew was trying to

Click on each photo to see larger image.

The initial smoke plume upon impact at the Pentagon as seen from the upper level of Terminal B at Reagan National Airport at 0938 hours on September 11.*



The crew of Fort Myer's Rescue Engine 161, to the left of the fire, prepare to advance attack lines upon their arrival at the heliport just prior to airport foam units arriving on September 11.*



View of Pentagon approximately 10 minutes after the impact of the hijacked 757.**



National Airport Foam Units 331 and 345 and Metropolitan Washington Airports Authority and Arlington County firefighters fight the Pentagon fire at the impact zone prior to the building section collapse. The sagging roof line can be seen on the left.**



Reagan National Airport's Foam Units 331 and 345 prepare to renew their fire attack seconds after the collapse that occurred at about 10:15 on September 11.*



MWAA and Arlington County firefighters in front of the impact site after the collapse.**



MWAA Foam Unit 331 continues to fight the impact zone fire after the collapse.**



MWAA firefighters take cover on



fight the Pentagon fire with their disabled new E-One Titan. Its back end was on fire, having been parked against the building with the front end facing the heliport.

One of the Fort Myer firefighters had been inside the station watching the World Trade Center events on television and the other two were outside when they saw the 757 roaring toward them. Suffering minor burns and injuries as they dove for cover, they tried unsuccessfully to start their burning rig, which was soon a total loss. (The U.S. Army has since replaced it with a new Titan.)

Captain Defina drove onto the heliport and directed Foam Unit 331 to set up there, where Fort Myer Rescue Engine 161 had established a hydrant water supply. The only other firefighting apparatus he saw on the west side was Arlington County's Engine and Truck 105 on the far north end. Their crews went into the building to conduct search and rescue.

While Foam Unit 331 hit the fire with foam from its roof and bumper turrets, Rescue Engine 335's four-person crew used hand lines in an attempt to control the fires from several vehicles and adjacent diesel fuel and propane tanks. A severely burned woman they helped out a door died several days later, one of the 124 Pentagon workers killed. Most Department of Defense workers escaped from the Pentagon without help or with the aid of coworkers.

While the Arlington County Fire Department's command post was swamped with coordinating the response, National's crews used their own radio frequency to call for more units, with eight arriving on scene in the early stages of the incident.

Prior to Foam Unit 331 running low on foam, National's Foam Unit 345 was called to respond. EMS Battalion Chief E. Glenn Butler, the initial treatment and transportation officer, requested that SERV-362, the mass casualty unit from Dulles Airport, in Chantilly, Virginia, respond. Captain Defina also called for a 1,000-gallon (3.7-kiloliter) foam trailer to respond from Dulles. The Metropolitan Washington Airports Authority operates both airports.

TRAINING PAID OFF

The 33-year-old Captain Defina had never before experienced a catastrophe in his 15 years at National. But he credited his training with knowing what to expect from the jet fuel inferno.

"The initial fire was extremely intense, but I expected the intensity," he said. As recently as 1999, National had conducted a mass casualty disaster drill with a live fire on an airplane simulator and the rescue of victims from a simulated fire in a terminal. And, Captain Defina had given a presentation on mass casualty incident response at the ARFF Working Group's 1999 annual conference.

Mass casualty units SERV-329 and SERV-362 are equipped to handle about 150 patients each.

"A lot of military medical personnel arrived and looked to our mass casualty units for direction," Captain Defina said. "It was the first time the military was dealing with our mass casualty units and it worked out to be a well-coordinated effort."

At 0952, the airport crews started an interior attack and search and rescue. Although National was not part of a pre-incident fire plan for the Pentagon, a few of the airport personnel were familiar with the building since National's medic unit often responds to calls at the Pentagon.

One of the world's largest office buildings, with 23,000 employees, the Pentagon has five concentric office rings, with "E" ring being the outermost. Each of the Pentagon's exterior walls are 924 feet (281.6 meters) long, with about 400 windows that are roughly 5 feet (1.8 meters) wide and 7 feet (2.1 meters) tall. The wall that the 757 hit was the first and only one so far to be reinforced and have blast-resistant windows installed after the 1995 Oklahoma City bombing.

Still, at 1005, Captain Defina "saw the classic signs of a collapse – buckling along the roof line and debris falling" around the 50-foot-wide (15.2-meter-wide) hole the jetliner had torn into the five-story building. He notified the Arlington fire command post, which sounded an evacuation tone several minutes before the collapse. No firefighters were injured.

UNIDENTIFIED AIRCRAFT SCARES

During the morning, National Airport's control tower radioed to ARFF crews on scene several reports of unidentified aircraft in the area. Captain Defina relayed these to the incident commander who ordered evacuations. The ARFF crews ran for about 100 yards to and across nearby Washington Boulevard, where they crouched behind Jersey barriers.

That afternoon, Captain Defina and airport Battalion Chief Walter Hood, as well as other jurisdictions' battalion chiefs, led crews inside with attack lines to fight fires on every floor of the "D" and "E" rings. The aircraft had penetrated all the way to the "C" ring.

"The only way you could tell that an aircraft was inside was that we saw pieces of the nose gear. The devastation was horrific. It was obvious that some of the victims we found had no time to react. The distance the firefighters had to travel down corridors to reach the fires was a problem. With only a good 25 minutes of air in their SCBA bottles, to save air they left off their face pieces as they walked and took in a lot of smoke," Captain Defina said.

While still on duty, the following morning he was able to sleep from 0200 to 0500 in a chair at National's ARFF station, which was crowded with all three ARFF shifts sleeping there in makeshift cots or working through the night in fire attack or search and rescue crews at the Pentagon.

STUBBORN ROOF FIRES

Back at the Pentagon on September 12, Captain Defina worked with airport firefighters on extinguishing the stubborn roof fires.

"It was very labor intensive," he said. "The work really beat on you. The roof is layers of slate shingles, sheet metal, wood, wood supports and concrete. You can only imagine what it took to get into that."

The most frustrating thing though was a false unidentified aircraft scare while they were on the roof. Several dozen firefighters had reached the roof through a window and up a step ladder.

"There was no way to have enough time to evacuate down that ladder," he said. "When the evacuation tone sounded, someone asked me why I wasn't leaving. I said I wasn't leaving until all of my crew was with me."

Take cover on Washington Boulevard during an evacuation for an unidentified aircraft in the vicinity.**



In the early afternoon of September 12, a view of the devastation at the Pentagon impact site after complete extinguishment of the fire.*



Fort Myer Fire Department's Foam Unit 161, a 2001 E-One Titan, sits destroyed among civilian vehicles and scattered debris next to the Pentagon heliport fire station.*



Firefighters at the Reagan National Airport ARFF Station slept anywhere they could on the morning of September 12. Firefighter



Technician Randy Baum sleeps on the apparatus bay floor at 0530 hours. Deputy Fire Marshal J. David Norris finds a chair as Battalion Chief Arnold Hutchinson and Firefighter Technician Ralph Cornell prepare for deployment to the Pentagon.*

* Photo: Fire Captain Michael Defina, MWAA

** Photo: Assistant Fire Marshal Charles Burroughs, Metropolitan Washington Airports Authority (MWAA)

Later while still on the roof, he saw F16s fly by and knew everything would be okay from then on. Captain Defina had been told firefighters had to stop the fire from going any further because of Department of Defense security concerns, and they did the afternoon of September 12.

WELL PREPARED, WELL ORGANIZED

In hindsight, he wouldn't have done anything differently in fighting the fire.

"The ARFF crews were very well prepared, very well organized," he said. "Our training paid off."

Even the staffing was more than adequate. All 32 off-duty personnel reported for duty at National within two hours of the attack. ARFF headquarters staff, the assistant fire marshal, and the training officers came to the Pentagon. Eighteen airport units and more than 36 personnel responded to the Pentagon on September 11. Dulles Airport also moved two foam units to National.

Captain Defina and other ARFF personnel continued to work their regular 24-hour shifts at National and Dulles and then worked at the Pentagon 12 to 16 hours on their days off, doing anything that needed to be done until fire operations ended September 21.

He knew his response to the Pentagon was tough on his wife, son, daughter, and parents when he couldn't call them on September 11 because the cell phone system was overloaded.

"My family had no easy time; they were watching all this on TV," he said. "When I came home at 2200 hours on the 12th, my wife hugged me and cried. The kind of hugs you used to take for granted."

Stephen Murphy is executive editor of NFPA Journal and managing editor of ARFF News, a newsletter jointly published by the Aircraft Rescue and Fire Fighting Working Group and NFPA.