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Funds and support to build the vehicle required the sponsorship of several local and distant organizations. The Virginia Aeronautical Historical Society was one of the largest donors and was a key to the successful building of the Hover Car prototype. Because of this support and the hard work and dedication of the team, the project won first place for Excellence in Design in Mechanical Engineering at the VCU Engineering Senior Design Expo in April.

The Hover Car is currently on display at the Virginia Aviation Museum at the Richmond International Airport. It will remain there for the summer as the team continues work and testing on the prototype. In the fall, it is hoped that more VCU engineering students will take on the challenges to design the remaining systems of the vehicle, so that it will one day soon be flying over head.



Remembering 9/11

By Linda Burdette based on a presentation by LTC (ret) Robert Darling, USM

By anyone's definition, the tragic events of September 11, 2001, were historic in the United States, indeed for the world. For aviation, it was a crucial event – changing not only the way pilots and aircraft operate, but in many ways forever changing the way the public views aviation. Virginia certainly had a major role in the events of that day – one of the airplanes departed from Dulles International Airport; it subsequently hit the Pentagon; the major responders at the Pentagon were Virginia Police and Fire Departments; and, as in so many other events of national importance, many of the highest-level decisions of the day were made at the Pentagon and across the river in Washington, D.C. I recently had the opportunity to attend a presentation by a retired military officer who spent 9/11 at the Presidential Emergency Operations Center. This article is based on his remembrance, as well as historical documents.

September 11, 2001, began as a beautiful fall day and Major Robert Darling felt lucky to be working at the White House. Darling, a Marine aviator, was a veteran of the first Gulf War, and had prior assignments to Somalia and Marine recruiting duty. He had just completed a stint as a member of HMX 1, the helicopter detachment supporting the White House where he was the co-pilot for President Clinton and Pilot in Command for Vice-President Gore. Now he was assigned to the White House Airlift Operations Office, providing logistical support for the President and Vice President during travel. He knew that he faced a busy week, but not an insurmountable one. The President was in Sarasota, Florida, but both the Vice President and the National Security Advisor were at the White House, so Darling's office would not be taxed too badly.

Little did anyone realize that al Qaeda had spent months planning a major terrorist attack on the United States. In July 2000, al Qaeda operatives had begun entering the United States. In the last year, they had taken basic flight training and obtained and studied flight deck videos for Boeing 747, 757, 767, and 777 aircraft. On September 11, their years-long preparation came to an end and as Major Darling and thousands of other Washington area commuters headed to their jobs, the al Qaeda teams were in security lines at airports in Boston, Massachusetts, Newark, New Jersey, and Chantilly, Virginia.

Boston Logan Airport was the first departure point for the al Qaeda teams. At 7:59 a.m., American Airlines Flight 11, a Boeing 767, departed with 11 crew, 76 passengers, and 5 hijackers. At 8:14 a.m., another Boeing 767, United Airlines Flight 175 departed with 9 crew, 51 passengers, and 5 hijackers. Soon after, at 8:20 American Airlines Flight 77, a Boeing 757, departed Dulles Airport with 6 crew, 53 passengers, and 5 hijackers. All three planes were bound for Los Angeles nonstop and no one noted anything unusual about their departures. The fact that the hijackers boarded four flights which took off within a period of 43 minutes maximized the element of surprise. There were over 4,600 aircraft in flight over the U.S. during this time, making the job of tracking four rogue aircraft particularly difficult.

The first indication of trouble came at 8:21 a.m. American Flight 77 was just lifting off from Dulles when American Flight 11, then over western New York, stopped transmitting its assigned transponder code. Even though the airplane was not transmitting a transponder frequency to indicate a hijacking, the fact that it had apparently turned off its transponder concerned the FAA and at 8:38 a.m. they contacted North American Aerospace Defense Command (NORAD) to report a possible hijacking. No one issuing or receiving that warning had any idea what they were about to face. It could have been a hijacking or it could have been a technical problem with the airplane. However they continued to monitor the plane with increasing alarm as it turned toward New York City.

With the only indication of trouble being the one airplane out of Boston, no one at the FAA or the airlines felt any need to interfere with regularly scheduled airline traffic, so at 8:42 a.m. United Airlines Flight 93, a 757, departed Newark Airport with 7 crew, 33 passengers, and 4 hijackers, on a nonstop flight to San Francisco. Then at 8:46 a.m., the world changed. American Flight 11 hit the North Tower of World Trade Center. One major implication of the hijacker's choice of flights became apparent. All four aircraft were headed nonstop for the West Coast and carried maximum loads of fuel. The hijackers intentionally used these flights to maximize explosive damage.

At the Eisenhower Building next to the White House, Darling had settled in for a long day's work. Like many offices in Washington, a television showed breaking news. The entire Airlift Ops Office paused when the announcement came that an airplane had hit the World Trade Center. Initial reports were that a small Cessna was responsible, but at the Eisenhower Building, the military looked at one another and said "mighty big hole for a Cessna."

Unknown to the folks in the Airlift Ops Office, the FAA and NORAD had already realized that they were facing a serious problem. One airplane had hit the World Trade Center and United Flight 175 had also turned toward New York. At 8:53 the Air National Guard launched two F-15's from Otis Air Force Base, Cape Cod. On that day, Otis and Langley Air Force Base in Virginia each had 2 fighter aircraft standing by for the defense of New York and Washington and only 14 fighter planes on alert guarded the whole of the American airspace.

At 8:55 American Flight 77, over eastern Kentucky, turned south and then headed east toward DC, whereupon it also ceased transmission of its transponder code.

Watching the crisis in New York on television, Darling and his colleague saw United Flight 175 enter the area and wondered what on earth the pilot was doing. They couldn't believe that an airliner was flying that close to the disaster at the World Trade Center. Then the unthinkable happened. At 9:03, Flight 175 hit the South Tower. The National Guard F-15's were still 70 miles away. The military folks at the Airlift Ops Office looked at one another in disbelief and knew that they had just witnessed a terrorist attack on New York City. At 9:09 NORAD put Langley Air Force Base, near Norfolk, Virginia, on alert and at 9:24 ordered them to prepare to scramble fighters to intercept Flight 11, mistakenly thought to be traveling south. At 9:30 Langley AFB launched three F-16s. They headed for a position over the ocean but quickly received orders to intercept Flight 11 (possibly mix-up of designation of Flight 77 and Flight 11.)

At 9:33 Ronald Reagan Washington National Airport Tower passed word to Secret Service Ops Center that the aircraft was headed for DC, not Alexandria. A minute later, Flight 77 turned south below Alexandria, VA, circled back to northeast and flew toward DC again.

At about 9:25 with Air Lift Operations in full operational mode, the noise of an approaching airliner grew louder and louder until the whole office just stopped what they were doing and immediately moved toward the window. An airliner had just flown over the building. Airplanes are not allowed to fly over the primary government buildings in Washington – especially the Capitol and the White House. Later Darling surmised that the plane may have been looking for the White House, but since the White House is a fairly low structure and surrounded by larger buildings, the terrorists probably could not locate it.

Then at 9:37, after making a circle over the greater DC area, American Flight 77 flew to the northeast over Arlington and into the Pentagon, hitting light poles along the way and hurtling into the Pentagon at full speed. Impact was at or slightly below the second-floor slab. As the plane hit the building a huge fireball burst to 200 feet above the roof and explosions occurred as the airplane traveled through the building. The front part of the fuselage disintegrated, but the mid-section and tail-section continued moving, progressively destroying the building, but being progressively destroyed in the process. The result of this chain destruction was that parts of the plane ended up inside the Pentagon in reverse of the order they entered it, with the tail penetrating the greatest distance into the building. This meant that the bodies of the passengers in the rear of the airplane traveled further into the building than those in the front.

Within minutes the entire White House and Eisenhower Executive Office Building were ordered to evacuate. Darling, being responsible for the President's logistics that day, turned to his boss and said "I'm going to the PEOC [Presidential Emergency Operations Center] to see if they need any help." As his boss said "yep, they're gonna need it", Darling was already heading out the door.

As Darling departed the Eisenhower building and began to cross West Executive Drive toward the White House, the outside scene was chaotic. The security guards and police had received notice that another airplane was heading toward Washington. They shouted at the White House staff workers "Run for the exits, ladies "take off your heels and run for the exits!" People were throwing their shoes off and running for safety. At the White House, Major Darling entered the PEOC and the first person he saw was the Vice President's Military Assistant. Darling stated he was there to conduct logistics for the President. The VPMA replied "Forget logistics. Help us answer the phones; they're ringing off the hook." Darling sat down at the first desk

available and answered the phone. It was the direct line to the White House Situation Room in the West Wing, reporting that a fourth airplane was inbound to the DC area and was at that point 16 miles south of Pittsburgh. As Darling turned to pass the information, VP Cheney asked “what have you got?”, Darling realized that both Cheney and National Security Advisor Condoleezza Rice were in the PEOC. Darling briefed Cheney on the fourth airplane.

With everything that had happened so far, everyone in the room realized the time had come for offensive action. The National Guard and Air Force F-15’s and 16’s were still flying, awaiting orders. All indications were that the terrorists on the fourth airplane intended to fly into a major building in the DC area. VP Cheney instructed the Pentagons National Military Command Center to pass the order for the fighters to stand-by to shoot down the civilian airliner. Shortly, the F-15’s reported they were 6 minutes out and requested confirmation that they were weapons free to engage the target. One can only imagine what was going through the pilots’ minds as they anticipated firing on a civilian airliner containing not only innocent passengers, but also four terrorists intent on killing hundreds, if not thousands, of innocents. In the PEOC, the tension was very high and at 10:05 the report came over the speakers that United Flight 93 had crashed into the ground near Shanksville, PA, killing all on board. A silence fell across the room; everyone thought the Air Force had shot down the airplane. Approximately three minutes later, the National Military Command Center reported back to the PEOC that the fighters did not shoot down that airplane; the airplane was on the ground when they got there. A wave of relief swept the room; it alleviated the guilt, if not the grief. They had not been responsible for the American military destroying an American civilian airliner.

While dealing with this crisis, the folks in the PEOC were seeing another crisis unfold on the television screens. At 9:59 the South Tower of the World Trade Center collapsed. Initial reports to the PEOC were that an estimated 20,000 people may have died there.

Reflecting the overall confusion, at 10:10, the FAA, apparently unaware of the status of United Flight 93, reported that a fourth aircraft was on its way to DC. First responders at the Pentagon were ordered to withdraw to a safe area. This scenario was repeated a few times throughout the day; reports differ on the exact number of times warnings were received and evacuations ordered. Some evacuations were due to concerns about the stability of the structure (parts later collapsed).

At 10:12, the FAA reported a slow-moving aircraft moving down the Potomac toward the Pentagon. It would not communicate with the air traffic controllers and the FAA was extremely concerned about it. The crew at the PEOC, including VP Cheney, discussed giving the Air Force the authority to shoot it down and, indeed would have done so, but the Air Force replied that it had no assets in the area. All fighter planes were occupied elsewhere. As it turned out, the aircraft was a Medical Evacuation helicopter heading to the Pentagon to provide support, but tuned to the wrong frequencies. The only thing that saved the situation was lack of air assets in the area. However, the word went out to the responders at the Pentagon to pull back to a safe distance. That evacuation turned out to be a very lucky one. Many responders had already observed that the building was not stable and had issued warnings about it. As it turned out, during this evacuation, at 10:15, the E Ring area impacted by the crash collapsed. At the PEOC, they received the word that the estimated death toll at the Pentagon was 800. (Days later, the death toll at the Pentagon was established at 184.)

At 10:14, the FAA made the decision to ground all aircraft in U.S. airspace except military aircraft operating in response to the 9/11 attacks. NORAD acknowledged the airspace control restrictions and the FAA sent out the orders for all aircraft to land immediately. Now keep in mind that up until this point, air traffic, especially commercial air traffic, was moving pretty much as planned across the U.S. That meant that 2,000 airliners

were told to land as soon as possible. Pilots in those aircraft were concerned about stranding their passengers in out-of-the-way places and many were not comfortable with this order. They wanted instructions from their companies as to where to go and how to handle the passengers. When the FAA saw that numerous aircraft were not heeding the order to land, their apprehension increased. No one was certain that none of those aircraft were hijacked. Finally the FAA and NORAD, with White House approval, decided to send out orders that any pilot balking at the order to land was assumed to be hijacked and would be dealt with accordingly. Suddenly pilots began talking and requesting clearance to land. At 10:27 after the initial orders were given and aircraft were landing, the Vice President spoke to the National Military Command Center and issued authorization to engage all inbound aircraft to Washington D.C. not complying with their air traffic control instructions.

At 10:28, the North Tower of the World Trade Center collapsed. The death toll estimate was 4,000. (Much later, it would be established that both North and South Towers accounted for over 2,700 deaths.) It was barely 2 ½ hours from the time the first airplane departed Logan Airport until the collapse of the second tower. Meanwhile, President Bush, in Sarasota, Florida, had been notified of the attacks and at 9:30 he spoke to reporters about attacks. However his safety was a consideration and his security detail recommended that he board Air Force One as soon as possible. By 9:55, Air Force One was airborne and headed west. At 10:20, the PEOC received notice that Air Force One might be the next target and the National Military Command Center ordered the Air Force to launch fighter planes to accompany it. The decision was made that Air Force One would fly as high and fast as it could to the next location and it eventually landed at Barksdale Air Force Base, near Shreveport, LA.

While in the air, at 10:27, the President took part in a conference call with most of the National Command Authority. Darling noted that when the President got on the phone, he ignored any questions about his own safety or security but instead asked about the hospitals and what the government was doing to help the people of New York and Washington. Later during this discussion, the Secretary of Defense, Donald Rumsfeld, recommended that they raise the Defense Condition (DEFCON) for the United States. He pointed out that they really didn't yet know the scope of the problem and the military should be prepared if any additional attacks occurred. The DEFCON is a national system for setting the response condition of the U.S. military. With each DEFCON level the actions required of the military in preparation for an alert change. The DEFCON was at level 5 prior to 9/11 and Secretary Rumsfeld recommended raising it to level 3, which would result in a worldwide alert for American Forces. That decision was made and at 10:53 Rumsfeld raised DEFCON level from 5 to 3.

Air Force One landed at Barksdale at 11:48 and provided one bit of relief from the pressure of the day. In any stress-filled situation, the American military member can find something to chuckle about and so it was with Major Darling. Remember that Major Darling's office was the Airlift Ops Office? Well, they are responsible for delivering all the logistics support that the President needs whenever he travels – things like making sure the limousine is available. So the President lands in Barksdale and the folks at the PEOC are watching this on television. And suddenly every person in the room is looking at Major Darling snickering because the President of the United States came off of Air Force One and had to climb into a mini-van rather than his usual limousine due to the unplanned stop. A first for a U.S. President for sure.

In consultation with the Vice President, the President, in Barksdale, elected not to come back to Washington immediately. No one was sure whether the terrorists were planning additional attacks. So he decided to continue to Offutt Air Force Base, Omaha, Nebraska, the Headquarters of Strategic Command (STRATCOM) where he arrived at 2:55 p.m.

At 3:00 p.m. the PEOC received a report that a US Airways flight from Madrid to Philadelphia involved a “confirmed” hostage situation. At the time of the report, the aircraft was too far out over the Atlantic Ocean and was in international waters. The Air Force elected not to intercept, but did develop contingency plans. It turned out to be a medical emergency and the airplane continued to its final destination without interruption. At 3:55 p.m. the President and the officials at the PEOC participated in a secure video-teleconference with the National Security Council. At this time, George Tenet, then Director of the Central Intelligence Agency reported that initial reports pointed the finger of blame for the attacks at al Qaeda.

At 4:30 p.m. the President decided it was safe for him to return to Washington. He was anxious to meet with his team and he arrived at the PEOC at 6:54 p.m. He met with most of his team, including the Director of FEMA and the Secretary of Transportation as well as the national security team. He decided to have a full cabinet meeting the next day and gave the PEOC team the job of getting all the cabinet members back to Washington. Many of the Cabinet were out of the area. Secretary of State Powell was in Peru and the Chairman of the Federal Reserve was also out of the country. Additionally, former President Clinton was in Australia. And only military airplanes were flying. So the team had its work cut out for it to coordinate military flights for all the federal officials and dignitaries who needed to be brought home.

One final scare remained for the President and First Lady. At 11:30 p.m. on September 11, they were rousted from bed to evacuate to the PEOC. The security detail thought an airplane was coming too close to the White House; it turned out to be the F-15’s flying their protective missions over Washington, something the security detail wasn’t accustomed to. They could have been disoriented by the fact that the normally busy skies around Washington were so quiet; many of the fighter pilots reported the eeriness of flying across the U.S. and being the only airplane in the sky.

Did the events of 9/11 change the US? Certainly they did. And they changed aviation and aviation operations for every pilot in the country. It was a day of confusion, terror, and grief. But thanks to people like Major Darling (now LTC (ret) Darling) and the hundreds of responders around the country, we made it through.

Sources:

June 2, 2009 Presentation to Experimental Aircraft Association Chapter 1099 by LTC (RET) Robert Darling
Defense Studies Series, Pentagon 9/11, published 2007 by Historical Office, Office of the Secretary of Defense,
Authors: Alfred Goldberg, Sarandis Papadopoulos, Diane Putney, Nancy Berlage, and Rebecca Welch



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