

NATIONAL TRANSPORTATION SAFETY BOARD
Office of Aviation Safety
Washington, DC 20594

June 26, 2012

AIR TRAFFIC CONTROL GROUP FACTUAL REPORT

OPS11IA246AB

A. AIRCRAFT INCIDENT

Location: 88 miles east of New York City, New York
Date/Time: January 20, 2011, 2235 eastern standard time (EST)¹
January 21, 2011, 0335 Coordinated Universal Time (UTC)²
Aircraft: American Airlines flight 951 (AAL951), Boeing 777
THUG11, flight of two US Air Force H/C-17s

B. AIR TRAFFIC CONTROL GROUP

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C. SUMMARY

On Thursday, January 20, 2011, at approximately 2235 est, a Boeing 777-200 operating as American Airlines flight 951 (AAL951), and a flight of two US Air Force H/C-17s, operating as

¹ All times are expressed in eastern standard time (EST) unless otherwise noted.

² UTC – Coordinated Universal Time – an international time standard using four digits of a 24-hour clock in hours and minutes based on the time in Greenwich, England.

THUG11, was involved in a near mid-air collision (NMAC) while transiting through New York Air Traffic Control Center (ZNY) Class A airspace.

AAL951 was operating as a regularly scheduled passenger flight under 14 Code of Federal Regulations Part 121 (14 CFR part 121), and had departed from John F Kennedy International Airport (JFK) for Sao Paulo, Brazil. THUG11, a flight of two US Air Force heavy C-17s operating under 14 CFR Part 91, had departed aerial refueling track³ 777 (AR777) to Joint Base McGuire-Dix-Lakehurst (WRI), Wrightstown, New Jersey.

AAL951 was traveling southeast bound climbing to FL220, and THUG11 was traveling north west bound descending from FL250 to FL220. The airplanes were within the confines of ZNY Sector 86 airspace, but were under the control of two different air traffic controllers. AAL951 and THUG11 were both assigned FL220 because of a misunderstanding between the controllers.

When the airplanes were approximately 88 nautical miles east of New York City, New York, the ZNY radar data processing system generated a conflict alert (CA) to the two controllers. At about the same time, AAL951 received an initial Traffic Alert and Collision Avoidance System (TCAS) resolution advisory (RA), and THUG11 received a TCAS traffic advisory (TA). AAL951 received two additional TCAS RAs in quick succession, the last one reversing the descent instruction to a climb instruction. THUG11 was configured to receive TA alerts only, and therefore did not deviate from air traffic control (ATC) instructions. When the controllers noticed the conflict, they instructed both AAL951 and THUG11 to turn in an unsuccessful attempt to maintain separation. Radar data indicated that the airplanes passed within approximately .38 nautical miles laterally, and 0 feet vertically.

D. DETAILS OF THE INVESTIGATION

The air traffic control group convened at ZNY on Monday, January 24, 2011. The group met with Mr. David LeCates, Air Traffic Manager (ATM); Ms. Lois Esposito, Staff Manager, Mr. Sam Shelton, Safety Support Manager; Mr. John Higgins, ZNY NATCA local Vice President, Mr. Charlie Phillips, Eastern Service Center (ESC) Quality Control Group, Mr. John Myles, ESC Quality Control Group, and Mr. John Fox, Area E NATCA representative, for a briefing about the event.

The group toured Area E and F and was provided a briefing on normal traffic flow for those areas, specifically for sectors 86 and 66. The group then reviewed the SATORI replay, and documents and data associated with this incident.

On Tuesday, January 25, 2011, the group conducted interviews with the controllers assigned to the R86, R66, R81, and front-line manager (FLM) positions.

On Wednesday, January 26, 2011, the group met with Mr. LeCates, Ms. Esposito, Mr. Shelton, Mr. Higgins, Mr. Phillips, Mr. John Myles, and Mr. Charles Oxford, senior advisor for ESC En Route (via teleconference) for an out brief. This concluded the field portion of the investigation.

³ Air refueling tracks are defined routes for military use for refueling missions.

E. FACTUAL INFORMATION

1.0 History of Flight

Before the incident, THUG11 had been engaged in aerial refueling operations on AR777 with TEAM48, a KC-10.

At about 2228, TEAM48 and THUG11 departed AR777 and contacted the R86 controller to request clearance back to WRI. TEAM48 reported his altitude as FL260. THUG11, a standard formation flight⁴ of two C17s, was at FL250.

The R86 controller instructed THUG11 to "...turn right fly heading 030" and issued additional instructions to TEAM48 to establish lateral separation from THUG11. TEAM48 continued to WRI without incident.

At about the same time the R86 controller was providing instructions to TEAM48 and THUG11, AAL951 checked in with the R66 controller. AAL951 was immediately instructed to proceed direct to the KINGG intersection. One minute later the R66 controller instructed AAL951 to climb and maintain FL230.

THUG11 was on a westerly heading to cross COYLE, and AA951 was on a southeasterly heading direct to KINGG. Figure 1 illustrates the KINGG and COYLE fixes and AAL951 and THUG11's routes of flight.

Around the time of the incident, the R66 controller had also been talking with Continental Airlines flight 31 (COA31). COA31 had informed the R66 controller that he had two flight plans entered into the system and he was confused about which flight plan was active. The R66 controller said in his interview that he knew the read back of that flight plan would take some time, so he told the pilot "we'll go over it in a second."

At about 2232, the R86 controller cleared THUG11 "...to McGuire via present position, direct to COYLE direct McGuire,...descend now to 10,000."

At about 2233, the R86 controller attempted twice to contact AAL951 on his frequency. The R86 controller had already taken an automated radar handoff on the airplane, but the R66 controller had not yet instructed AAL951 to change to the R86 controller's frequency so the pilot did not respond.

⁴ FAA order 7110.65, "Air Traffic Control," Pilot/Controller Glossary, defines a standard formation as one in which each wingman remains within 1 mile laterally or longitudinally and within 100 feet vertically from the flight leader.

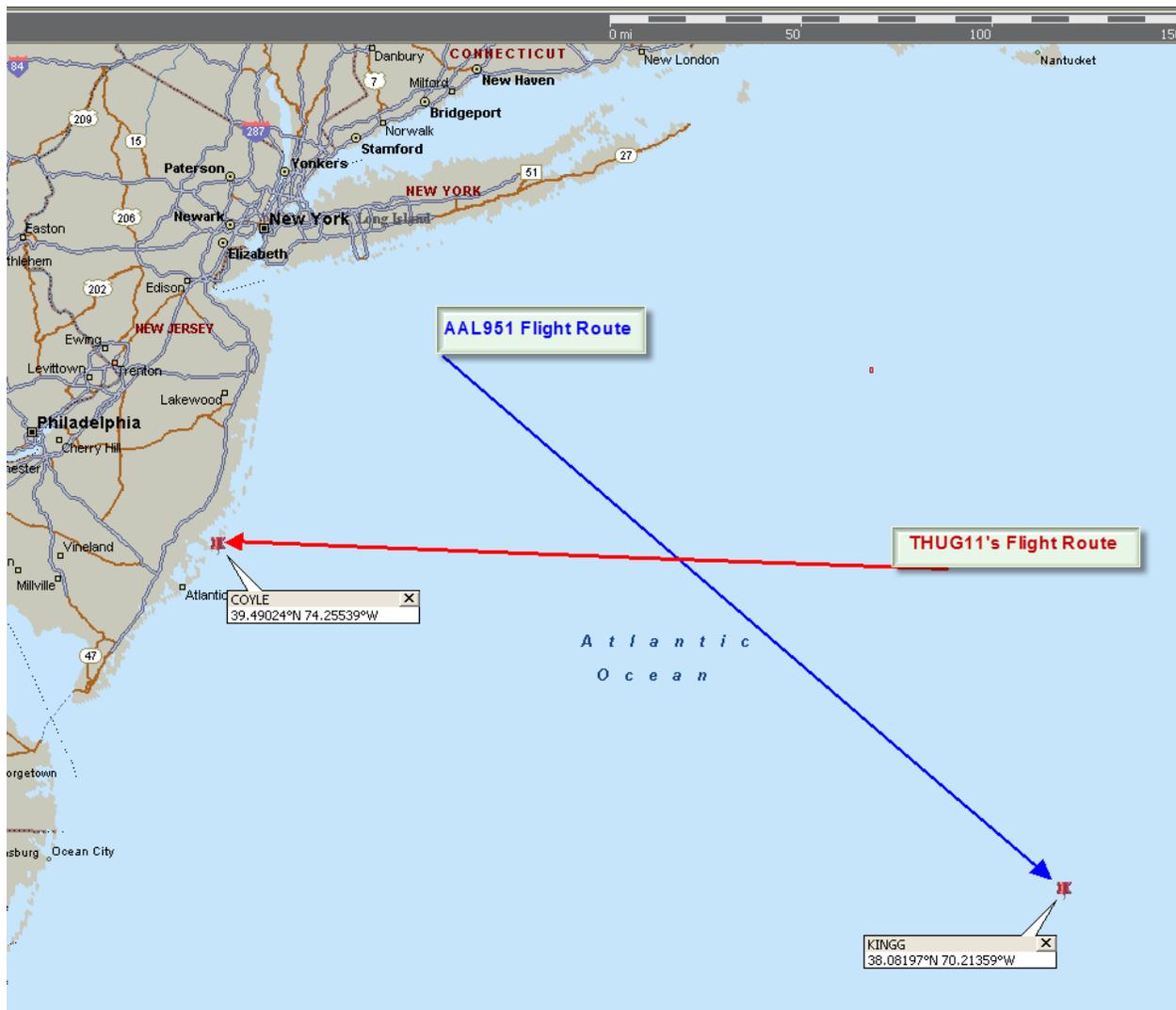


Figure 1. AAL951 and THUG11 proceeding direct to KINGG and COYLE, respectively.

At 2233:55, the R66 controller informed COA31 that he was ready for him to read back the flight plan he wished to verify. The pilot immediately began the read back, which took approximately 57 seconds.

At 2234:01, the R86 controller instructed THUG11 to maintain FL210. Before the incident occurred, the controller working the R81 position noticed that the R86 controller needed assistance. He temporarily moved to the D86 position and began helping the R86 controller handle coordination calls.

At 2234:06, after instructing THUG11 to maintain FL210, the R86 controller asked the D86 controller to tell R66 to stop AAL951 at FL200. The D86 controller called the R66 controller, who immediately responded, "I will call you back." However, the D86 controller continued,

saying “AAL951, we need him stopped at 20.” According to the R66 controller, he was focused on listening to COA31’s flight route read back, and therefore did not respond.

At 2234:38, the R86 controller instructed THUG11 to, “...turn right immediately to 020 heading for traffic.” According to the R86 controller, the turn to 020 was provided to the C17’s in order to establish lateral separation from the B777; however, he believed vertical separation would also exist.

At 2234:52, the R66 controller called the D86 controller and asked, “What was that about AAL951?” The D86 controller replied, “I wanted you to stop him at 20, stop him at 21.”

Following that coordination with the R66 controller, the D86 controller leaned toward the R86 controller and told him to stop THUG11 at FL220. The R66 controller, who was still on the line, heard the D86 controller say FL220 and believed that the D86 controller was referring to his airplane, AAL951. According to the R66 controller, his next action was to look at AAL951’s position relative to THUG11, and he decided to also give AAL951 a turn in addition to the revised altitude assignment. He immediately told the D86 controller, “I will turn him (AAL951) 30 degrees right.”

At 2234:58, the R86 controller instructed THUG11 to maintain flight level 220.

At 2235:01, the R66 controller instructed AAL951 to, “turn 30 degrees right vectors traffic maintain FL220.”

At 2235:14, the R66 controller transmitted to AAL951 “...traffic 12 o’clock ten northeast bound C17 leaving flight level 220 for 10 thousand.” The pilot responded “Ok.”

At 2235:22, the R66 controller called the D86 controller and asked, “Where are you going with that THUG?” The D86 controller responded, “He is turning back to the left. I said stop that American at 21.” The R66 controller responded, “all right he stopped at 22, he went through 22.”

At 2235:25, the R86 controller instructed THUG11 to say his altitude. The pilot transmitted “level 220 and in a right hand turn to 020.”

At 2235:30, AAL951 informed the R66 controller “...we are following a descend RA now.” AAL951 reported this TCAS RA when the airplanes were about seven miles apart. At that time, the R66 controller stopped issuing control instructions, as required.⁵

At 2235:35, the R66 controller instructed AAL951 “...turn left at your discretion traffic now one o’clock four miles southwest heavy C17 flight level 220.”

⁵ FAA Order 7110.65, “Air Traffic Control,” paragraph 2-1-27, “TCAS Resolution Advisories,” states: “When an aircraft under your control jurisdiction informs you that it is responding to a TCAS Resolution Advisory (RA), do not issue control instructions that are contrary to the RA procedure that a crewmember has advised you that they are executing. Provide safety alerts regarding terrain or obstructions and traffic advisories for the aircraft responding to the RA and all other aircraft under your control jurisdiction, as appropriate.”

At 2235:49, the R86 controller transmitted “THUG11, you up?” The pilot responded, “Level 220 in a right hand turn to 020.”

At 2235:54, the R66 controller asked AAL951 “...do you have that traffic in sight?” The pilot transmitted “No, we do not.”

At 2235:56, the R86 controller informed THUG11 “traffic right below you is a Boeing triple seven that should be leveling at flight level 210.”

At 2235:58, the R66 controller informed AAL951 “... traffic is now at 12 o'clock less than one mile at flight level 220, C17.”

At 2236:12, THUG11 transmitted to the R86 controller, “Yeah, THUG11 just came within approximately 2000 feet of that traffic.”

At 2236:17, AAL951 transmitted to the R66 controller “that guy passed us now and that was not good.”

At 2236:21, the R86 controller instructed THUG11 to “...continue right turn and then proceed to COYLE.”

At 2236:24, the R66 controller responded to AAL951 statement “I understand that and I apologize, I am not working that other airplane.” The R66 controller then instructed AAL951 to climb to FL230.

According to the C17 crew statements, the second airplane (THUG12) in the flight was approximately 4000 feet in trail and offset 500 feet to the right of the lead airplane at the same altitude. This profile was flown in accordance with Air Force Instruction 11-2C-17, which states:

The second and third aircraft of each element maintain a minimum of 4,000 and 8,000 feet spacing, respectively, from their element lead. Maintain spacing with reference to the element lead to reduce telescoping effects. The minimum offset distance is 500 feet right for the number 2 aircraft, and 500 feet left for the number 3 aircraft.

The two C17s were TCAS II equipped. Air Force Instruction 11-2C-17 states:

Multi-ship formation - Lead aircraft (or designated alternates) will operate TCAS in the “TA only” mode. Consideration should be given to having the last aircraft in multi-element formations operating TCAS in TA only mode....For formations utilizing SKE [station-keeping equipment] and TCAS overlay to verify formation position, all aircraft will operate TCAS.

According to the pilots of THUG11 and THUG12, both airplanes were operating TCAS in a TA only mode.

According to the pilot of AAL951, he received three consecutive TCAS RAs. The first RA, received when his airplane was approximately 7 miles from the C17 traffic, was an advisory to descend. Seconds later, a second RA was received that required the crew to increase rate of descent. Seconds after that, a third RA was received which instructed the crew to climb.

2.0 Radar Data

Radar data for this report was obtained from the Islip ASR-9 sensor located 0.75 miles northeast of Long Island MacArthur Airport, Islip, New York. Figure 2 shows a graphic overview of the flight paths of AAL951 and THUG11, and Figure 3 shows a close-up view of the minimum separation between the two airplanes. At the closest point, the aircraft were separated by approximately .38 nautical miles laterally and 0 feet vertically.

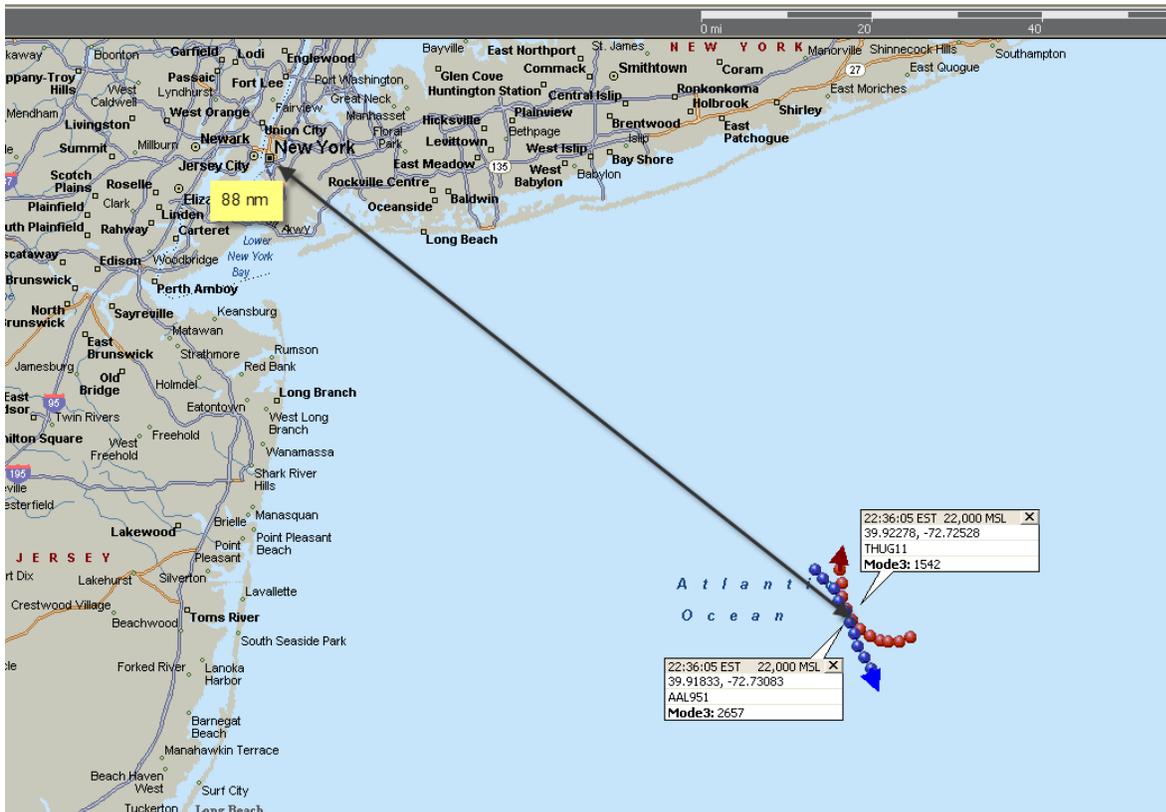


Figure 2. Overview of flights, including distance from New York City.

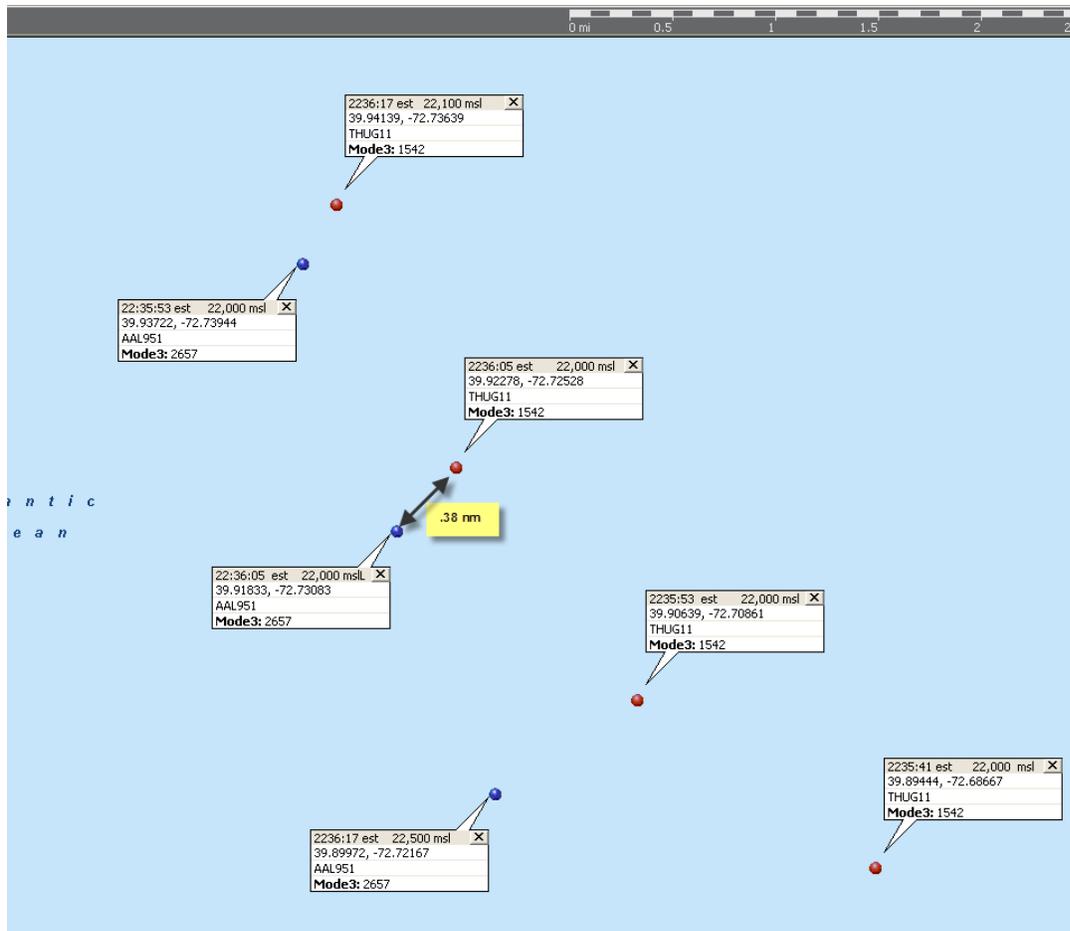


Figure 3. Close-up view of flights.

3.0 Personnel Interviews

3.1 Donald F. Hunt

Radar Sector 81 Controller (R81)

The ATC group interviewed Mr. Hunt on January 25, 2011. Mr. Hunt was represented by Mr. Patrick McDonough, NATCA. Mr. Hunt began working with the FAA in November 1991. After completing the FAA Academy he was assigned to ZNY, where he qualified on all positions in Area F. Prior to his employment with FAA, Mr. Hunt served four years in the United States Air Force as an air traffic controller at Selfridge Air National Guard base in Harrison Township, Michigan. His immediate supervisor was Ms. Kimberly Demarco. Mr. Hunt's medical certificate was current with no restrictions.

Mr. Hunt's work schedule was transitioning from a 4 day per week, ten hours per day schedule, with Sunday, Monday and Tuesday off to a 5 day per week, eight hour per day schedule with Sunday and Monday off. During the week of the incident, Mr. Hunt had Saturday and Sunday off, and worked on Monday from 1500 to 2300, Tuesday 1000 to 1800, Wednesday 0630 to 1430, Thursday 2300 to 0700, and Friday 2200 to 0600. Mr. Hunt said he worked approximately three to four overtime shifts per month.

On Thursday, January 20, 2011, Mr. Hunt worked his scheduled shift and was assigned to the R81 position. Mr. Hunt explained that a few minutes after assuming the R81 position, he saw that the controller working the R86 position was busy breaking up a group of aircraft that had been conducting aerial refueling operations. The R86 controller asked him to input a flight plan for THUG11 flight, which had been part of the refueling operation with TEAM48. Mr. Hunt rolled his chair over to the D86 position to access the keyboard and input the flight plan. While he was at the position, he looked at the radar display and saw the THUG flight in a right hand turn. He also noticed that AAL951 was southeast bound and was currently in R66's airspace, but had been handed off to R86 controller and was headed into sector 86. As the distance between the THUG flight and AAL951 diminished, he began to worry about their separation. He saw that THUG11 had been assigned a descent to 10,000 feet and AAL951 had been assigned FL230.

Mr. Hunt noticed that AAL951 was still in communication with the R66 controller, and because of that he decided he should call the R66 controller and coordinate a change in AAL951's assigned altitude. Mr. Hunt picked up a handset, plugged it in to the D86 ground-to-ground communication port and called the R66 controller. After he dialed up the position, he could hear the R66 controller receiving a transmission from a Continental Airlines pilot. He attempted to tell the R66 controller to stop AAL951's climb, but the R66 controller told him to "...call me back." Mr. Hunt said he disconnected the call and advised the R86 controller that the R66 controller was "too busy." A few moments later, the R66 controller called him back on the D86 position. Mr. Hunt answered the call, told the R66 controller to stop AAL951's climb at flight level 210, and then told the R86 controller to stop THUG11's descent at flight level 220. He said after that exchange he continued to observe the radar display as the aircraft passed each other.

Mr. Hunt remembered hearing the R66 controller say he was turning AAL951 30 degrees right, but at the time of the incident he did not fully comprehend its meaning since his intent was to establish vertical separation between THUG11 and AAL951, not lateral separation.

3.2 Ann Marie Brennan

Area F Front Line Manager (FLM)

The ATC group interviewed Ms. Ann Marie Brennan on January 25, 2010. Ms. Brennan was represented by Mr. Jim Webb. Ms. Brennan began working for the FAA on April 13, 1989. After completing the FAA Academy, Ms. Brennan worked at Philadelphia, Pennsylvania (PHL) from 1989 to 1991, and then she transferred to ZNY. Ms. Brennan had been an FLM in area F since June 2008. She held a private pilot license, but was not current. Her supervisor was Mr. John Azzarone. Ms. Brennan's medical certificate was current with a restriction to have eyeglasses in her possession, which she had in her possession at the time of the incident. Ms. Brennan's work schedule consisted of Tuesday and Wednesday off, Thursday and Friday 1500 to 2300, Saturday and Sunday 0700 to 1500, and hours varied on Mondays. Ms. Brennan worked approximately five or six days of overtime per year.

On Thursday, January 20, 2011, Ms. Brennan's regularly scheduled shift was 1500 to 2300. However, she reported to work at about 1248 and then worked her full shift. Just before the incident, Ms. Brennan spent about eight to ten minutes at the watch desk before returning to area F. After returning to the area, she noticed Mr. Hunt, who was assigned to work the R81 position, was working the radar assist position at sector 86 (D86). She went over to the position to see what was going on and to tell Mr. Hunt she would take the position. He did not seem to hear what she said, because he did not acknowledge her. Then she looked at the radar display and saw two targets merge. She saw them "pass right over each other." Ms. Brennan went to the operations

manager's desk to report the error. The next action she took was to have another controller relieve the R86 controller.

Ms. Brennan then went to the watch desk, informed the operations manager about what had occurred, and watched the FALCON replay. After reviewing the incident, she retrieved workers compensation forms, CA-1 and CA-16, and gave them to the controller that had been working the R86 position.

Ms. Brennan then went back and forth from area to the operations manager's desk several times. During one of her trips to the desk, she talked with an American Airlines dispatcher about the incident. Ms. Brennan said the dispatcher informed her that they had an American flight involved in a NMAC. The traffic was reported off the left wing and the pilot received a TCAS RA.

Ms. Brennan said she stayed after her shift until about midnight, to ensure everyone required to be notified of the incident was informed before she left.

When asked if it was the norm to have only one supervisor assigned to all the areas that time of night, she said that they would not normally have a supervisor in Area F either. She said they normally give the areas to the operations manager position for the mid-shift.

When asked about the last time she recalled ZNY conducting proficiency training using the facility's radar simulator, Ms. Brennan said she remembered going down there a couple of years ago but that was not for proficiency, it was for En Route Automation Modernization (ERAM) training. When asked how often crew briefings are conducted, Ms. Brennan stated they are done once a month, ZNY wide. Ms. Brennan stated she was not happy about the level of recurrent training or the staffing levels. She explained that the trainees are not getting enough time on position because ZNY does not have enough people to provide training. ZNY could not get enough people to certify as CIC because the facility cannot afford the time to let them off the position to get the CIC training. She said that skill enhancements are seen as a punishment, and are usually only conducted when something did not go as planned. She said training is usually a reactive event rather than a proactive event.

Ms. Brennan stated that after the event, the R86 controller wrote up an Air Traffic Safety Action Program (ATSAP) report. While she was walking through area E, she saw Mr. Duignan, the R66 controller, and asked him if he was okay and if he needed to go home. She said she then handed him the workers compensation forms CA-1 and CA-16.

When asked what she thought could have contributed to this incident, Ms. Brennan explained that staffing is an issue, and that controllers get a lot of overtime and are burned out working six days a week.

3.3 Kevin Duignan

Radar Controller Sector 66 (R66)

The ATC group interviewed Mr. Duignan on January 25, 2011. Mr. Duignan was represented by John Fox, NATCA Area E representative. Mr. Duignan began working for the FAA on January 21, 2003. After completing the FAA Academy, he was assigned to ZNY where he qualified on all positions in area E. Before working for the FAA, he was an air traffic controller for the Navy at

NAS Fort Worth, Fort Worth, Texas and worked as a contract tower controller at Bridgeport, CT. Mr. Duignan was qualified on all positions in area E. His work schedule consisted of Friday and Saturday off, Sunday and Monday 1500 to 2300, Tuesday and Wednesday 0700 to 1500, and Thursday 2300 to 0700. The week of the incident Mr. Duignan had worked an additional overtime shift on Friday from 2300 to 0700. Mr. Duignan stated that he commonly worked three to four overtime shifts per month. He had a current medical certificate with no restrictions.

On Thursday, January 20, 2011, Mr. Duignan worked his regularly shift and was assigned the R66 position. Before the incident occurred, Mr. Duignan explained that he had been working COA31, which had departed from Newark, New Jersey enroute to Sao Paolo, as well as AAL951, which had departed from JFK to Sao Paolo, both on departure routes that crossed over the SHIPP fix. He realized that there was a potential for a loss of separation between the two airplanes on this route and decided to climb COA31 above AAL951. After he completed the required coordination to allow for the COA31's climb above his sector's vertical limits, he noticed the unusual requested altitude of FL250 for COA31. He questioned the pilot about his desired altitude, and the pilot responded that he requested FL330, and he thought there might have been more than one flight plan on file for him. Mr. Duignan wanted COA31 to verify the flight plan information to determine if it matched what he had in the system. After he told COA31 to go ahead and read back his filed route of flight, Mr. Duignan received an interphone call from the D86 controller. Since the pilot was in the middle of the flight plan read back, and he wanted to listen to ensure the read back was correct, Mr. Duignan told the D86 controller that he would call him back.

As soon as COA31's pilot completed the flight plan read back, Mr. Duignan called the D86 position. The controller who answered the line stated that he wanted him to stop AAL951 at FL190; however, since AAL951 had already climbed above FL190, he requested that he climb AAL951 to FL210. Mr. Duignan said he looked at his radar display at that time and observed the target (THUG11) as a limited data block⁶ outside his sector. When asked if he heard the D86 controller attempting to coordinate FL210 for AAL951, Mr. Duignan stated he did not hear that altitude coordination from the D86 controller.

Mr. Duignan said that normally when he coordinated with other sectors he would either wait until that controller was done with his transmission, if he heard them talking, or if he needed to get something coordinated immediately, he used the phrase "break for control" to get an immediate response from that controller. He told the D86 controller that he would call him back because he did not want to miss the read back from COA31, and he did not sense any urgency from the controller.

He said based on the altitude readout of THUG11's limited data block, and the rate of climb of AAL951, he thought he heard the D86 controller instruct AAL951 to maintain FL220. Shortly afterward, the conflict alert activated.

Mr. Duignan stated that the plan for separation between AAL951 and THUG11 was not clearly conveyed to him; therefore, he was just guessing what the R86 controller was doing with the THUG11 flight. Mr. Duignan stated that he issued traffic to AAL951 and the pilot subsequently told him he was responding to an RA.

⁶ A limited data block contains aircraft transponder code and altitude.

Mr. Duignan said that ZNY places an emphasis on prevention of read back/hear back errors. He expected all coordination to be done “by the book”, and if that controller (D86) had important information to coordinate he should have said, “break for control.” When asked why he did not use his operating initials for interphone coordination, Mr. Duignan stated that that on occasion he does not comply with that.

Mr. Duignan was asked when he last received training on traffic alerts. He stated it had been during his initial ATC training. He did not recall receiving any currency training that pertained to unusual circumstances. He said he relied on his experience level to help him manage unusual situations, but noted that training would be beneficial for the newer controllers who do not have a lot of experience. Mr. Duignan stated that when he was acting as an instructor he often quizzed his trainee on how to deal with unusual situations and occurrences.

When asked why he had not transferred communications of AAL951 to the R86 controller, Mr. Duignan said it was because he had not ensured separation between COA31 and AAL951 and the airplane was still too far inside his sector to complete the transfer. He also stated that he would have done more to help the R86 controller if he had known the urgency of this predicament.

Mr. Duignan stated that after the loss of separation, he had himself relieved from the R66 position, and then requested a CA1 and CA16 form from the operations manager. He explained at no point before signing out of the facility later that shift had he officially been notified about the incident. Mr. Duignan explained that there were no supervisors in his area that were rated on Sector 66 radar, and he was certain there were midnight shift supervisors that were not certified on both radar and ATOP operations, and that was often problematic for the controllers on that shift.

Mr. Duignan stated that due to the sector operations and complexity, the User Request Evaluation Tool (URET) conflict probe is not accurate, so in practice, the controllers ignore the URET alerts.

Mr. Duignan noted that the departure traffic enroute to DIXIE intersection, converging with the departure traffic over SHIPP intersection always presents a problem, but he does not know what could be done to correct the situation.

Mr. Duignan states that he saw no personal responsibility for this occurrence or knows of anything that might have prevented it from happening, with exception of the use of “break for control” in the coordination, which would have alerted him.

3.4 Jim Bui

Radar Controller Sector 86 (R86)

The ATC Group interviewed Mr. Jim Bui on January 25, 2011. Mr. Bui was represented by Mr. Pat McDonough, NATCA. Mr. Bui began working for the FAA on November 1, 1990. After completing the FAA Academy he was assigned to ZNY, where he qualified on all radar and non-radar positions in area F. Mr. Bui’s immediate supervisor was Ms. Kimberly DeMarco. His medical certificate was current with no restrictions. During the week of the incident, Mr. Bui’s schedule was Monday and Tuesday off, Wednesday 0700 to 1500, Thursday 1500 to 2300 and Friday, Saturday and Sunday on annual leave.

On Thursday, January 20, 2011, Mr. Bui worked his regularly scheduled shift from 1500 to 2300, and was assigned to the combined position of radar sectors 86 and 65. Mr. Bui explained that the refueling flight TEAM48, consisting of a KC10 and two C17s, gave him a five-minute warning that they would soon be departing AR777. TEAM48 requested to extend their refueling operations beyond LINND, the normal ending point, to OWENZ. TEAM48 offered to have THUG11 make a right 360 degree turn to establish separation. Mr. Bui said that he thought a right 360-degree turn would be excessive and the light volume of traffic would permit him to conduct the break up with radar vectors instead. Therefore, he issued a 030-degree heading to break the flight up and cleared TEAM48, the KC10, direct to COYLE intersection. Once TEAM48 and THUG11 were separated, he instructed THUG11 to proceed direct to COYLE and descend to 10,000 feet. He stated that this was in compliance with standard operating procedures between ZNY areas.

Mr. Bui looked at the radar display, judged the situation between AAL951 and THUG11, and determined that AAL951 would be vertically separated from THUG11 if lateral distance became a factor. He recalled that THUG11 was descending out of FL250 when he twice attempted to contact AAL951 without response. Mr. Bui was still not concerned at this point.

Mr. Bui said the R81 controller approached from him from the left and began to manage the flight strips, adding that it was routine to help each other out. The R81 controller picked up the strips from the printer and advised Mr. Bui that he might get busy, which was based on the number of strips he had retrieved from the printer. Mr. Bui asked the R81 controller to call the R66 controller and tell him to stop AAL951 at FL200, and he then assigned THUG11 an altitude of FL210. The R81 controller did as he was requested, via the D86 position, but was not able to relay that information at that time because the R66 controller told him he would call back.

Mr. Bui said he recognized that the situation was becoming critical. The altitude had not been coordinated. AAL951's flight plan indicated that the airplane should go over KINGG, which should have put the airplane heading about 140 degrees, but AAL951 appeared to be tracking a 190 heading. Mr. Bui then decided to issue THUG11 a 020 heading to provide lateral separation.

Mr. Bui said when the D86 controller was talking to the R66 controller; he heard him tell the R66 controller to stop AAL951 at FL210 and then heard the R66 controller say he would turn AAL951 thirty degrees to the right. He stated that he believed that THUG11's turn rate was slower than usual.

Mr. Bui stated that after reviewing the replay he could see that the jet stream was strong from the west, causing eastbound traffic to be faster and westbound slower, and the THUG flight was turning into the wind. Mr. Bui recalled that some tracks were closed due to wind and other tracks were set up to take advantage of the jet stream. Also contributing to his plan not working as projected was that AAL951 appeared to be on a 190 heading instead of a 140 heading.

Mr. Bui stated that he thought no controller would have seen this conflict before it became a crisis. He saw no reason to be extra vigilant because he was expecting AAL to be on his frequency. He had no concern that the situation would develop into a conflict.

Mr. Bui stated that the flight break up was not normal. The standard break-up usually included a ten-minute notice so the controllers could make a plan. It was also abnormal for TEAM48 to request to go beyond the end point. Additionally, he said that when separating flights exiting AR777 he usually turned one to a 260-degree heading, but in this case, he used a 030 heading instead. He said he was influenced by the offer of a right turn instead of left. He noted that at no point did he feel that there would be an issue with the traffic situation.

Mr. Bui stated that there was a trainee at the oceanic sector that would have been available to him if he had requested assistance.

Mr. Bui stated the contributing factors to this incident included the several unusual situations, including the long read back of the flight plan by COA31, the lag in the turn by THUG11, AAL951 not being switched to him when he should have been, and the unusual breakup of the TEAM48 flight.

When asked how flight plans for airplanes working on the aerial refueling tracks are normally put in the system, Mr. Bui stated that the flight plan goes into a suspended state and then it must be made active. Sometimes flight plans drop out of the system and have to be re-entered.

When Mr. Bui provided a traffic call to THUG11, he said that AAL951 “should be at FL210” although AAL951’s data block was showing assigned altitude FL220. Asked why he made the comment about FL210, Mr. Bui stated, “I was not sure of what American was doing, so I didn’t believe it was happening.”

When asked why he turned the THUG flight to the east, when he was heading west toward WRI, Mr. Bui said he did not keep the THUG flight heading west because “a right turn for THUG made sense especially when asked to do it immediately.” He anticipated that vertical separation was not going to be an issue since AAL951 was out of FL140 and the THUG flight should have descended rapidly but did not. He also anticipated that he would have communications with AAL951, which would have allowed him to control the situation.