

## **APPENDIX J**

## FY 2011 Quarterly Reports

Risk Level

### ERRORS

1st Quarter

October-December 2010

Error Number		Causal Factor	Area	Sector	Date	OJT	Hold	HB/RB	Limit	RA
ZNY-C-10-E-032	C	R56 used observed leaving rule with heavy jet in lead. Wake event.	B	56	10/04/10	N	N	N	N	N
ZNY-C-10-E-033	na	D88 received ARP on time. Deleted message. Ac was 50 min early.	E	88	10/08/10	N	N	N		N
ZNY-C-10-E-034	B	R75 dropped data block and descended another aircraft thru limited.	D	75	10/18/10	N	N	N	N	Y
ZNY-C-10-E-035	C	R68 missapplied visual separation with B757 in the lead.	B	68	10/15/10	N	N	N	N	N
ZNY-C-10-E-036	C	R55 OJT climbed aircraft into crossing traffic.	B	55	10/17/10		N	N	N	Y
ZNY-C-10-E-037	C	R27 descended thru opposite direction traffic.	A	27	10/20/10	N	N	N		N
ZNY-C-10-E-038	C	R56 did not see crossing traffic with intrl IAD arrival over RBV.	B	56	11/07/10	N	N	N		Y
ZNY-C-10-E-039	B	R09 turned climbing ac back into J75 traffic. Dual TCAS save.	A	9	11/11/10	N	N	N		N
ZNY-C-10-E-040	C	R10 did not see crossing traffic on J6 at F330.	A	10	12/03/10	N	N	N	N	N
ZNY-C-10-E-041	C	R66 climbed a WAVEY dept thru a PHL arrival on J121.	E	66	12/04/10	N	N	N	N	Y
ZNY-C-10-E-042	C	R68 insufficient vectors DIXIE and DITCH dept.	B	68	12/19/10	N	N	N	N	N
ZNY-C-10-E-043	C	R42 did not identify opposite direction traffic.	B	42	12/28/10	N	N	N	N	N
<b>Total</b>	<b>12</b>									

2cd Quarter

January-March 2011

Error Number		Causal Factor	Area	Sector	Date	OJT	Hold	HB/RB	Limit	RA
ZNY-C-11-E-001	B	R68 p.o. WHITE dept for climb to 56. 56 ref traffic but 68 missed it.	B	68	01/01/11	N	N	N	N	N
ZNY-C-11-E-002	C	R86 mis-applied observed leaving rule.	F	86	01/15/11	N	N	N		N
ZNY-C-11-E-003	C	R74 descended LGA arrival into n-bound PTW departure.	D	74	01/19/11	N	N	N	N	N
ZNY-C-11-E-004	na	R48 and R50 improper coordination, both aircraft assigned 220	F	86	01/20/11	N	N	N	N	Y
ZNY-C-11-E-005	B	R55 descended DCA arrival thru climbing departure.	B	55	02/03/11	N	N	N	N	N
ZNY-C-11-E-006	C	R27 did not observe crossing traffic. Descended ILG arrival.	A	27	02/22/11	N	N	N		N
ZNY-C-11-E-007	na	R83 did not get readback for altitude clearance with two xing restrict.	E	83	03/02/11		N	Y	N	N
ZNY-C-11-E-008	C	R66 missed opposite direction traffic and descended PHL arrival.	E	66	03/11/11	N	N	N	N	Y
ZNY-C-11-E-009	C	R73 descended IAD arrival into opp dir trfc. TCAS mitigated.	B	73	03/20/11	N	N	N		N
<b>Total</b>	<b>9</b>									

3rd Quarter

April-June 2011

Error Number		Causal Factor	Area	Sector	Date	OJT	Hold	HB/RB	Limit	RA
ZNY-C-11-E-010		R9 observed leaving rule marginally applied. Reclass requested.	A	9	04/02/11	N	N	N		N
ZNY-C-11-E-011	na	R81 coordinated aircraft at FL390 with D87. AC not climbed.	F	81	04/14/11	N	N	N	N	N
ZNY-C-11-E-012	C	R68 did not use positive sep betwn JFK arrival and DIXIE dept.	B	68	04/20/11	N	N	N		Y
ZNY-C-11-E-013	C	R34 did not get proper readback of a climb clearance	C	34	04/28/11	N				
ZNY-C-11-E-014	C	R66 Insufficient turns to maintain lateral separation.	E	66	05/01/11	N	N			
ZNY-C-11-E-015	NC	Improper input coordination of DAL87 to Ocean21	F		05/28/11	N				
ZNY-C-11-E-016	C	Insufficient turns to maintain lateral separation	B	56	06/01/11					





**FY 2011 Quarterly Reports  
Deviations**

Risk Level

**1st Quarter      October-December 2010**

Dev Number	Causal Factor	Area	Sector	Date	OJT	Hold	HB/RB	Limit	RA
ZNY-C-10-D-037	Aircraft given direct HTO at 070 No po to N90	E	66	10/01/10	N	N	N	N	Y
ZNY-C-10-D-038	D23 did not coordinate a flight with QX	F	D23	10/25/10	N	N	N	N	N
ZNY-C-10-D-039	R35 did not descend TEB arrival after changing data block to 060	C	35	11/02/10	N	N	N		N
ZNY-C-10-D-040	FD recovered the wrong flight plan Route different after SYR	FD	na	11/10/10	na	na	na	na	na
ZNY-C-10-D-041	Violated R5802 URET not updated	TMU	na	12/08/10	na	na	na	na	na
ZNY-C-10-D-042	QX revised altitude after 50W progress Climb not given to ac	F	D22	12/14/10	N	N	N	N	N
<b>Total</b>	<b>6</b>								

**2cd Quarter      January-March 2011**

Dev Number	Causal Factor	Area	Sector	Date	OJT	Hold	HB/RB	Limit	RA
ZNY-C-11-D-001	D23 did not coord flight with Moncton Confusion during second call	F	D23	01/06/11	N	N	N	N	N
ZNY-C-11-D-002	R25 did not make point out to ZDC prior to the 2.5 nm distance	A	25	02/22/11	N	N	N	N	N
ZNY-C-11-D-003	R68 did not issue holding instructions	B	68	03/13/11	N	Y	N	N	Y
ZNY-C-11-D-004	R68 did not issue holding instructions	B	68	03/13/11	N	Y	N	N	Y
ZNY-C-11-D-005	R27 did not point out an aircraft to R26	A	27	03/17/11	N	N	N	N	N
ZNY-C-11-D-006	RA65 passed 1 hour time error to D17	F	65	03/27/11	N	N	N		Y
ZNY-C-11-D-007	RA74 po PTW depts to 39 R73 climbed 3rd PTW which wasn't po	D	73	03/29/11	Y	N	N	N	Y
<b>Total</b>	<b>7</b>								

**3rd Quarter      April-June 2011**

Dev Number	Causal Factor	Area	Sector	Date	OJT	Hold	HB/RB	Limit	RA
ZNY-C-11-D-008	R73 did not notice ac handed off to wrong ZOB sector	D	73	04/01/11	N	N	N		N
ZNY-C-11-D-009	R39 climbed ac at 160 without control from N90	B	39	04/05/11	N	N	Y		N
ZNY-C-11-D-010	R81 did not issue routing requested by D87	F	81	04/06/11	N	N	N		Y
ZNY-C-11-D-011	R34 did not issue revised routing to aircraft	C	34	04/17/11	N	N	N		Y
ZNY-C-11-D-012	D17 did not coordinate revised altitude with QX domestic	F	D17	04/19/11	N	N	N	N	N
ZNY-C-11-D-013	Unsuccessful automated handoff, manual handoff not accomplished	F	86	04/28/11					
ZNY-C-11-D-014	Thunderstorms in Area, Failed to coordinate deviation	C	36	05/15/11					
ZNY-C-11-D-015	Similar call signs, One AC acknowledged clearance for another	D	91	05/18/11					
ZNY-C-11-D-016	Revised flight plan not issued to pilot	TMU	D57	04/28/11					
ZNY-C-11-D-017	ZDC did not accept automated H/O, manual H/O Late	E	82	05/23/11					
ZNY-C-11-D-018	Wx deviation, failed to point out AC to N90	C	51	05/19/11					
ZNY-C-11-D-019	N90 did not accept H/O, holding issued, AVP did not get point out	C	51	05/19/11					
ZNY-C-11-D-020	Controller issued a direct clearance without coordination with R89	F	81	05/25/11					
ZNY-C-11-D-021	Contrler climbed in Ganders airspace without coordination Ocean21	F	21	06/04/11					
ZNY-C-11-D-022	Lancer entered R81 airspace at F250, Coordination was block F190/f210	E	88	06/03/11					

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**4th Quarter      July-Sept 2011**

Dev Number	Causal Factor	Area	Sector	Date	OJT	Hold	HB/RB	Limit	RA
<b>Total</b>	<b>0</b>								
###				<b>Total</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>6</b>	<b>9</b>

**Grand Total**

A	2
B	3
C	5
D	3
E	3
F	9
TMU	2
FD	1
Total	28



# Federal Aviation Administration

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## Memorandum

Date: FEB 07 2011

To: [REDACTED], Director of En Route and Oceanic Safety and Operations Support  
[REDACTED], QA Manager, En Route and Oceanic Services

From: *for Eric Mathis*  
[REDACTED], Director, Eastern En Route Operations

Subject: Mitigation Plan, Non Conformance, ZNY-C-11-E-004

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**Operational Error Number and Classification:** ZNY-C-11-E-004, Non Conformance  
Operational Error involving a formation flight.

### Synopsis of Event:

This operational error occurred on January 20, 2011, at 2235 EST. R86 was working THUG11, a flight of two H/C17s returning to McGuire (WRI) from an aerial refueling exercise. R86 issued THUG11 a 030 heading to provide spacing from the tanker which was returning as a single aircraft. When lateral separation was established between THUG11 and the tanker, R86 issued THUG11 a clearance to WRI via direct CYN. R86 also issued THUG11 a descent to 10,000 feet. R86 asked the controller working R81 if he could assist R86 in amending the flight plan for THUG11. R81 amended the flight plan of THUG11 at the RA86 position. R86 identified the conflict between AAL951 and THUG11 and called AAL951 twice with no response. R81 then initiated a call to R66 to stop AAL951 at FL200.

At the time, R66 was working American (AAL) 951, a Kennedy (JFK) departure direct KINGG intersection climbing to F230. R66 was also working Continental (COA) 31 and the flight wanted to confirm its routing. R66 gave COA31 permission to read its route of flight and COA31 began to do so. R81 (working at position RA86) called R66 to stop AAL951 at FL200. R66 told R81 he would call him back. R81 stated that AAL951 needed to be stopped at FL200; however, no acknowledgement was received from R66 who was focused on COA31's readback. When R66 finished confirming COA31's route of flight, he immediately called R81 (still working at RA86). R81 told R66 to stop AAL951 at FL210. R81 then directed R86 to stop THUG11 at F220. R66 overheard the FL220 instruction and believed R81 was still talking about AAL951. R66 issued AAL951 a clearance to maintain FL220. R86 issued THUG11 a clearance to maintain FL220. The aircraft were now on opposite direction courses with both aircraft assigned FL220. When the aircraft were seven miles apart, AAL951 advised that the flight was responding to a descent resolution advisory (RA). Both R66 and R86 issued traffic advisories.

No safety alerts were issued. The aircraft passed with approximately .84 nautical miles lateral separation and 200 feet vertical separation.

R81 is located adjacent to R86 and provides radar services within 180 nautical miles of Bermuda. There were no aircraft in Sector 81 during this event and the R81 controller continued to monitor the frequency via headset. R81 used a handset in communications at the RA86 position.

**Findings:**

**Location:** The aircraft passed at the common boundary between Sector 86 and 66. The location complicated the coordination. AAL951 and THUG11 were on separate frequencies which further complicated coordination of altitude assignments.

**Handoffs:** R86 had accepted the handoff on AAL951. R86 did not initiate a handoff to R66 on the THUG11 flight. R66 did not get a full data block displayed until the conflict alert activated and forced the data block on R66's scope.

**Conflict Identification:** R86 identified the conflict in a timely manner and twice attempted to call AAL951. AAL951 did not respond because R66 had not transferred communications. AAL951 was still in R66's airspace at this time. R86 could have assigned THUG11 FL240 until communications were established with AAL951.

**Data Blocks:** The data blocks of the aircraft were not updated with altitude revisions. As a result, the controllers were unable to get accurate altitude information by viewing the full data blocks. R66 attempted to enter an interim altitude of FL220 on AAL951, but since R86 had track control, the message rejected.

**Coordination:** Although coordination to establish vertical separation was attempted on two occasions, neither was successful. In the first attempt, R81 did not use "break for control" when the receiving controller said he would call him back. In the second attempt, R66 did not confirm the coordinated altitude and mistakenly thought R81 wanted AAL951 stopped at FL220.

**Radar Data R66:** R66 did not accurately comprehend the radar data when assigning FL220 to AAL951. THUG11 was already below FL230 descending when R66 assigned AAL951 FL220. R66's decision to turn AAL951 30 degrees right did not increase the separation between the two flights. When R66 first issued traffic to AAL951 he stated the traffic was "northeast bound". If THUG11 had been northeast bound, the right turn would have increased separation. In the next traffic call R66 stated the traffic was "southwest bound" and advised AAL951 to turn left at his discretion.

**Radar Data R86:** R86's decision to turn THUG11 to a 020 heading is understandable as the aircraft was east of AAL951 and the track histories appeared to indicate a northbound heading. However, because of the range setting at Sector 86, it was difficult to see that THUG11 had already turned westbound. A good technique in this case would be to ask THUG11 its heading before assigning the 020 heading. THUG11 was on westerly heading (pilot estimated heading 260) when the 020 heading was assigned. If R86 had this information, he may have elected to keep the aircraft on a westbound heading.

**AR777:** The LOA with the 305<sup>th</sup> Air Mobility Wing states clearances for all aircraft should be requested three minutes prior to KENDA. In this case, the clearance request for THUG11 was made after the aircraft were west of LINND. The breakup was conducted in an area where arrivals and departures are likely to conflict with the flight. The reason for this is that THUG11 requested to extend its refueling leg and R86 approved the request.

**THUG11:** As a formation flight of 2H/C17s, THUG11 responses to clearances were slow. The second aircraft was 4,000 feet in trail and offset 500 feet to the right. The two aircraft were at the same altitude. The procedures for C17 formation flights call for half standard rate turns with maximum bank angle of twenty degrees. THUG11 was TCAS II equipped; however, since it was a formation flight, the RA capability was inhibited.

**AAL951:** According to American Airlines, AAL951 received three TCAS resolution advisories (RAs). The first advisory instructed the flight to descend and was received when the aircraft were about 7 miles apart. Shortly thereafter a second RA was received instructing AAL951 to increase rate of descent. A final climb RA was received as the aircraft passed at FL220. A review of ESAT data indicates that AAL951 did not descend at any time during the event.

**TCAS Resolution Advisory R66:** AAL951 reported a TCAS RA when the aircraft were about seven miles apart. At that time, R66 stopped issuing control instructions per FAAO 7110.65, paragraph 2-1-27.

**TCAS Resolution Advisory R86:** THUG11 did not report a resolution advisory since the RA capability was inhibited. Although it did not occur, R86 could have issued a descent clearance to THUG11 that would have conflicted with the TCAS RA received by AAL951. This potential conflict could only be avoided if R66 advised R86 of AAL951's reported RA. THUG11 did receive a traffic alert (TA); however, the alert came as the aircraft were passing.

**Safety Alerts:** No safety alerts were issued to either aircraft. Traffic advisories were issued.

#### **Staffing:**

Area F had two oceanic sectors and two radar sectors staffed at the time of the event. This configuration is normal for that time and traffic level. The control personnel were assigned as follows:

- One FLM was providing general supervision.
- Three CPCs and one developmental were assigned control positions.
- One developmental was taking training on an oceanic sector.
- No personnel were on break.

Area E had one oceanic sector and two radar sectors staffed at the time of the event. This configuration is normal for that time and traffic level. The control personnel were assigned as follows:

- Area E supervision had been transferred to the watch desk at 2230 local.
- Three CPCs were on control positions.
- Five CPCs were on break. (Three of the five were from the 3-11 shift and were waiting to go home.)

**Equipment:**

There were no equipment issues. Conflict alert activated at 0335:10. The aircraft were eleven miles apart at the time.

**Employee Performance Mitigations:**

All three employees filed an ATSAP report on this event. No skill enhancement training was requested as their performance history is satisfactory. The employees have reviewed the event and provided the NTSB with their account of what occurred. The employees may receive a Safety Check by a Front Line Manager when they return to duty.

**Facility Mitigations:**

1. All FLMs and OMs will review the SATORIs of the event. Emphasis will be placed on understanding how seemingly small errors and lapses in procedure can produce the potential for catastrophic events
2. The facility will conduct a review of Area F controller staffing requirements between 2200 and 2400 local.
3. The facility will conduct a review of Area F FLM staffing requirements between 2200 and 2400 local.
4. Facility personnel shall be briefed on the importance of updating data blocks to reflect current altitude assignment.
5. Facility personnel shall be briefed on proper landline procedures including using "break for control" and restating altitudes.
6. Facility personnel shall be briefed on formation flight break-ups
7. Facility personnel shall be briefed on the hazards associated with aircraft in conflict in close proximity to sector boundaries.
8. Facility personnel shall be briefed on TCAS requirements, how it works, and potential pitfalls.
9. The event shall be presented to facility personnel with emphasis on "breaking the chain".
10. Items 5-9 shall be addressed during the February crew briefings.



# Federal Aviation Administration

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## Memorandum

Date: NOV 23 2010

To: [REDACTED]  
Acting Director of En Route and Oceanic Safety and Operations Support Office  
[REDACTED], QA Manager, En Route & Oceanic Services

From: For *Eric R. Matheis*  
[REDACTED]  
Acting Director of Eastern En Route Operations

Prepared by: [REDACTED]  
Air Traffic Manager, New York ARTCC

Subject: Action Plan Category B Operational Error ZNY-C-10-E-039

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A review of Operational Error ZNY-C-10-E-039 was conducted at the New York Air Route Traffic Control Center (ZNY ARTCC) beginning November 11, 2010, and continuing through November 17, 2010. Participants in the investigation included the Air Traffic Manager, the Staff Manager, the Area A Operations Manager, the Area A Front Line Manager, and the ZNY Quality Control office. The error occurred at Sector 9 on Thursday, November 11, 2010, at 9:05 a.m. EST. The error involved a loss of separation between Jetlink (BTA) 2295 and Cactus (AWE) 1040.

### Staffing

There were two Front Line Managers (FLMs) on duty, one was providing general supervision and one was on break. There were twelve Certified Professional Controllers (CPCs) on duty. Five CPCs were on position, four were on break, one was in pre-brief and two were performing other duties. There were two developmentals on duty and both were on position.

### Traffic

Sector 9 was working six aircraft with routine complexity. The Monitor Alert Parameter for Sector 9 is sixteen aircraft.

### Equipment

Equipment was operating normally. The immediate alert activated at 1405:19 UTC. The predictive alert did not activate because BTA2295 was in a turn and the program was unable to project an accurate flight path.

## **Event Narrative**

Sector 9 had six Charlotte (CLT) arrivals that required 15 miles in trail (MIT) spacing for ZDC. The first five aircraft enroute to CLT had ten to twelve miles spacing. R9 needed to vector these flights to achieve the required 15 MIT. The final aircraft enroute to CLT was thirty five miles in trail and was not a factor in the event. BTA2295 was a EWR departure at F280 requesting F360 as a final altitude. BTA2295 was four miles behind AWE1040 at F300. In order to climb BTA2295, R9 issued BTA2295 a 290 degree heading. R9 then began to issue 290 headings to the aircraft enroute to CLT. AWE1226, AWE1021 and AWE1040 were all given 290 degree headings. Soon after the headings were issued, BTA2295 and AWE1040 were separated by more than five miles; however R9 did not immediately issue BTA2295 a climb clearance. When the aircraft were approximately eight miles apart, R9 put a Distance Range Indicator (DRI) on BTA2295 and issued a climb to F360 and a heading of 250. The 250 degree heading put BTA2295 on a converging course with AWE1040 who was still on the 290 degree heading at F300. R9 did not recognize the traffic situation until the immediate alert activated. By this time separation had already been lost. Both aircraft responded to Traffic Collision Avoidance System (TCAS) resolution advisories. The closest proximity between the two aircraft was 2.73 miles and 300 feet.

## **Issues**

- The R9 controller is rated on two sectors in Area A. The controller had been rated on Sector 9 for thirty one days at the time of the event.
- Since R9 had to turn the aircraft to the west for spacing, leaving BTA2295 on the jet route would have been a better option. When AWE040 cleared J75, BTA2295 could have been issued an unrestricted climb to F360.
- The delay in climbing BTA2295 prevented the flight from topping AWE1040 before the loss of separation.
- R9 did not use the Range Readout tool. When providing MIT to a single airport, this tool gives a continuous readout of the spacing between flights and can reduce complexity.
- The CLT traffic from PHL and N90 were being spaced using the Departure Sequencing Program (DSP). ZBW had to give ZNY 30 MIT on aircraft landing at CLT. In this case, the DSP and MIT combination provided R9 with reasonable spacing on J75.

## **Facility Mitigations**

- The Front Line Manager reviewed the event with the employee and discussed the issues listed above.
- An ATSAP report was filed on this event. The facility has requested Skill Enhancement Training from the Event Review Committee (ERC), but the ERC has yet to respond.

## **Summary**

The controller assigned R9 has certified on two sectors and has been rated at Sector 9 for thirty one days. For the first thirty days after certification, the controller worked a radar position only when a radar associate was assigned to the sector. The day of the event was the first day the

employee had worked with the associate position combined. The event occurred because R9 made a series of judgment errors. Turning BTA2295 out to the west with the CLT aircraft unnecessarily complicated the traffic situation. Delaying the climb of BTA2295 also contributed to the event. When R9 turned BTA2259 back to a 250 degree heading, the employee should have determined where the traffic was that precipitated the original turn. This error can be attributed to the employee's limited experience. There was no conflict alert warning because BTA2259 was in a turn and the program had not yet acquired the correct flight path for the aircraft.



# Federal Aviation Administration

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## Memorandum

Date:

To:

██████████  
Acting Director of En Route and Oceanic Safety and Operations Support Office  
ATTN: Ken Myers, QA Manager, En Route & Oceanic Services

From:

████████████████████  
Acting Director of Eastern En Route Operations

Prepared by:

████████████████████  
Air Traffic Manager, New York ARTCC

Subject: Action Plan Category B Operational Error ZNY-C-10-E-039

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A review of Operational Error ZNY-C-10-E-039 was conducted at the New York Air Route Traffic Control Center (ZNY ARTCC) beginning November 11, 2010, and continuing through November 17, 2010. Participants in the investigation included the Air Traffic Manager, the Staff Manager, the Area A Operations Manager, the Area A Front Line Manager, and the ZNY Quality Control office. The error occurred at Sector 09 on Thursday, November 11, 2010, at 9:05 a.m. EST. The error involved a loss of separation between Jetlink (BTA) 2295 and Cactus (AWE) 1040.

### Staffing

There were two Front Line Managers (FLMs) on duty, one was providing general supervision and one was on break. There were twelve Certified Professional Controllers (CPCs) on duty. Five CPCs were on position, four were on break, one was in pre-brief and two were performing other duties. There were two developmentals on duty and both were on position.

### Traffic

Sector 09 was working six aircraft with routine complexity. The Monitor Alert Parameter for Sector 09 is sixteen aircraft.

### Equipment

Equipment was operating normally. The immediate alert activated at 1405:19 UTC. The predictive alert did not activate because BTA2295 was in a turn and the program was unable to project an accurate flight path.

## Event Narrative

Sector 09 had six Charlotte (CLT) arrivals that required 15 miles in trail (MIT) spacing for ZDC. The first five aircraft enroute to CLT had ten to twelve miles spacing. R09 needed to vector these flights to achieve the required 15 MIT. The final aircraft enroute to CLT was thirty five miles in trail and was not a factor in the event. BTA2295 was a EWR departure at F280 requesting F360 as a final altitude. BTA2295 was four miles behind AWE1040 at F300. In order to climb BTA2295, R9 issued BTA2295 a 290 degree heading. R9 then began to issue 290 headings to the aircraft enroute to CLT. AWE1226, AWE1021 and AWE1040 were all given 290 degree headings. Soon after the headings were issued, BTA2295 and AWE1040 were separated by more than five miles; however R9 did not immediately issue BTA2295 a climb clearance. When the aircraft were approximately eight miles apart, R9 put a Distance Range Indicator (DRI) on BTA2295 and issued a climb to F360 and a heading of 250. The 250 degree heading put BTA2295 on a converging course with AWE1040 who was still on the 290 degree heading at F300. R9 did not recognize the traffic situation until the immediate alert activated. By this time separation had already been lost. Both aircraft responded to Traffic Collision Avoidance System (TCAS) resolution advisories. The closest proximity between the two aircraft was 2.73 miles and 300 feet.

## Issues

- The R9 controller is rated on two sectors in Area A. The controller had been rated on Sector 09 for thirty one days at the time of the event.
- Since R9 had to turn the aircraft to the west for spacing, leaving BTA2295 on the jet route would have been a better option. When AWE040 cleared J75, BTA2295 could have been issued an unrestricted climb to F360.
- The delay in climbing BTA2295 prevented the flight from topping AWE1040 before the loss of separation.
- R9 did not use the Range Readout tool. When providing MIT to a single airport, this tool gives a continuous readout of the spacing between flights and can reduce complexity.
- The CLT traffic from PHL and N90 were being spaced using the Departure Sequencing Program (DSP). ZBW had to give ZNY 30 MIT on aircraft landing at CLT. In this case, the DSP and MIT combination provided R9 with reasonable spacing on J75.

## Facility Mitigations

- The Front Line Manager reviewed the event with the employee and discussed the issues listed above.
- An ATSAP report was filed on this event. The facility has requested Skill Enhancement Training from the Event Review Committee (ERC), but the ERC has yet to respond.

## Summary

The controller assigned R09 has certified on two sectors and has been rated at Sector 09 for thirty one days. For the first thirty days after certification, the controller worked a radar position only when a radar associate was assigned to the sector. The day of the event was the first day the

employee had worked with the associate position combined. The event occurred because R9 made a series of judgment errors. Turning BTA2295 out to the west with the CLT aircraft unnecessarily complicated the traffic situation. Delaying the climb of BTA2295 also contributed to the event. When R9 turned BTA2259 back to a 250 degree heading, the employee should have determined where the traffic was that precipitated the original turn. This error can be attributed to the employee's limited experience. There was no conflict alert warning because BTA2259 was in a turn and the program had not yet acquired the correct flight path for the aircraft.



# Federal Aviation Administration

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## Memorandum

Date: NOV 2 2010

To: [REDACTED]  
Acting Director of En Route and Oceanic Safety and Operations Support Office  
ATTN: Ken Myers, QA Manager, En Route & Oceanic Services

From: *DW Sant*  
[REDACTED]  
Acting Director of Eastern En Route Operations

Prepared by: [REDACTED]  
Air Traffic Manager, New York ARTCC

Subject: Action Plan Category B Operational Error ZNY-C-10-E-034

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A review of Operational Error ZNY-C-10-E-034 was conducted at the New York Air Route Traffic Control Center (ZNY ARTCC) beginning October 18, 2010, and continuing through October 26, 2010. Participants in the investigation included the Air Traffic Manager, the Staff Manager, the Area D Operations Manager, the Area D Front Line Manager, and the ZNY Quality Control office. The error occurred at Sector 75 on Monday, October 18, 2010, at 3:07 p.m., EDT. The error involved a loss of separation between Citrus (TRS) 512 and N562PC.

### Staffing

There was one Front Line Manager (FLM) on duty providing general supervision. There were eleven Certified Professional Controllers (CPCs) on duty. Seven CPC's were on position, three were on break, and one was in pre-brief preparing to relief Sector 91. There were three developmentals on duty and all three were on position. The radar associate position for Sector 75 was staffed with a CPC giving OJT. Area D was in a standard configuration for the time period.

### Traffic

Sector 75 was working eight aircraft with routine complexity. The Monitor Alert Parameter for Sector 75 is fifteen aircraft.

### Equipment

Equipment was operating normally. The immediate alert activated at 1907:47 UTC as soon as TRS512 began to descend. Because both aircraft were in level flight, the predictive alert did not activate.

## **Event Narrative**

N562PC was southwest bound on J49 at F360. The route of flight crossed both the EWR and LGA arrival routes. R75 initiated a handoff on N562PC to Sector 73 which R73 accepted. R75 transferred communications to R73 on N562PC and dropped the full data block shortly thereafter. At this time, N562PC was at the northern edge of Sector 75 and had approximately forty-five miles to fly in Sector 75's airspace. R75 transferred communications on several other aircraft. In each case, R75 dropped the full data block on the aircraft shortly after communications transfer was complete. TRS512 was a LGA inbound at F370. R75 issued TRS512 a restriction to cross MARRC at F180. R75 overlooked the limited data block of N562PC who was 10 miles in front of TRS512 on an opposite direction crossing course. The immediate alert activated as soon as TRS512 descended out of F370. TRS512 advised R75 that they received a traffic collision avoidance system (TCAS) resolution advisory (RA). Closest proximity between TRS512 and N562PC was 600 feet vertical and 1.48 miles lateral.

## **Issues**

- R75 dropped the full data block on N562PC while the aircraft was still traffic for other aircraft in the sector.
- R75 uses the dropped data block as a method to show frequency transfer.
- R75 did not observe the limited data block on N562PC when clearing TRS512 to descend.

## **Facility Mitigations**

- The employee reviewed the event with her FLM and discussed the requirements for retaining full data blocks.

## **Summary**

The controller assigned R75 has over 12 years as a CPC and has no other recent events. This error occurred because R75 has developed a habit of dropping full data blocks to identify those aircraft whose communications have been transferred. There are other methods of indicating communication changes (dwell, URET strip, leader length) that do not violate the requirement of JO 7110.65T, paragraph 5-3-8. Target Markers. The employee's FLM shall review paragraph 5-3-8 with the employee and discuss the other options.



change clearance and began its descent, the Conflict Alert activated. R75 immediately issued FLG4194 a 180 heading and requested the aircraft expedite through F230. R75 then attempted to issue a 290 heading to N992TJ. The aircraft did not respond because R75 had issued a frequency change two minutes earlier. R75 used the “/0” leader position to indicate a frequency change. The leader for N992TJ’s data block was in the “/0” position. FLG4194 received a TCAS Resolution Advisory and stopped its descent at F245 before climbing up to F248. Separation was lost with 2.57 lateral and 500 vertical.

### **Traffic**

Sector 75 was working six aircraft with routine complexity. There were seven aircraft outside Sector 75’s airspace that were in the process of being handed off. The Monitor Alert Parameter for Sector 75 is fifteen. The Radar Associate position was not staffed.

### **Staffing**

There was one Front Line Manager (FLM) on duty providing general supervision to the area. There were ten Certified Professional Controllers (CPCs) on duty with five on position and five on break. There were three developmentals on duty with two on position and one on break.

### **Equipment**

Equipment was operating normally. Conflict Alert activated at 2222:04 UTC. Separation was lost at 2222:29 UTC.

### **Performance Based Causal Factors**

- R75 did not request approval from R49 to allow DAWKG to enter east of the SOP required routing.
- R75 did not adequately scan for traffic prior to issuing FLG4194 a descent clearance.
- The use of the “/0” leader length as a communication change indicator obscured the track and history of the N992TJ.
- R75 dropped the full data block on several aircraft, including the data block of N992TJ. The dropping of N992TJ was not a factor in this event as it occurred one second before the conflict alert activated; however, the dropping of data blocks is contrary to the requirements of FAAO 7110.65T, Paragraph 5-3-8, Target Markers.
- The volume of traffic that was approaching Sector 75’s airspace warranted a radar associate controller.

### **Facility Mitigations**

- The employee reviewed the event with his FLM and discussed better options for achieving the desired results.
- The Front Line Manager in Charge (FLMIC) has reviewed the event with his Operations Manager to determine if resources were properly utilized.

**Summary**

The CPC assigned to Sector 75 at the time of the event had over 12 years of ATC experience. He was involved in a similar event at Sector 75 on September 14, 2009. In both events, the employee failed to recognize opposite direction crossing traffic until the Conflict Alert activated. This event occurred because the employee became distracted by a reasonable request from an adjacent sector. He issued a descent clearance without conducting a thorough traffic search. His use of the "/0" leader length obscured the track and history of N992TJ preventing earlier identification of the pending conflict.



# Federal Aviation Administration

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## Memorandum

Date: **AUG 10 2010**

To: [REDACTED], Acting Director of En Route and Oceanic Safety and Operation  
Support Office  
[REDACTED], Acting QA Manager, En Route & Oceanic Services

From: [REDACTED]  
Acting Director of Eastern En Route Operations

Prepared by: [REDACTED]  
Air Traffic Manager, New York ARTCC

Subject: Action Plan Category B Operational Error ZNY-C-10-E-027

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A review of Operational Error ZNY-C-10-E-027 was conducted at the New York Air Route Traffic Control Center (ZNY) beginning August 2, 2010, and continuing through August 9, 2010. Participants in the investigation included the Air Traffic Manager, the Staff Manager, the Area A Operations Manager, the Area A Front Line Manager, and the ZNY Quality Control office. The error occurred at Sector 25 on Friday, July 30, 2010, at 2:17 p.m., EDT. The error involved a loss of separation between Southwest Airlines Flight 364 (SWA364) and Mercury Flight 5911 (TCF5911).

### Staffing

There was one Front Line Manager (FLM) on duty providing general supervision. There were twelve Certified Professional Controllers (CPCs) on duty. Six CPCs were on position, four were on break, and two were in a pre-brief preparing to relieve other controllers. There were two developmentals on duty and both were on position. The Radar Associate position for Sector 25 was not staffed.

### Traffic

Sector 25 was working ten aircraft with routine complexity. The Monitor Alert Parameter for Sector 25 is eleven aircraft.

### Equipment

Equipment was operating normally. The Conflict Alert activated at 1617:46 UTC; however, separation had already been lost. R25 left an interim altitude of 13,000 feet in the data block of

TCF5911 when 12,000 feet was the assigned altitude. Because of this, the Conflict Alert did not activate in a timely manner.

### **Event Narrative**

SWA364 was a Southbound B737 destined for BWI at 12,000 feet direct BAL VOR. TCF5911 was a Southwest bound E170 destined for DCA, descending to 13,000 feet. The aircraft were on converging crossing courses. R25 dropped SWA364's data block while the aircraft was still well within the confines of Sector 25's airspace. R25 then observed the limited data block of SWA364 indicating 11,900 feet. Believing that Potomac Approach Control (PCT) had started SWA364 down to a lower altitude, R25 descended TCF5911 to 12,000 feet. R25 entered an assigned altitude of 12,000 feet in TCF5911's data block; however, R25 did not remove the interim altitude of 13,000 feet. The failure to correctly update the data block of TCF5911, delayed the activation of the Conflict Alert until after separation had already been lost. R25 did not observe that SWA364 was not descending. In fact, SWA364 was still on R25's frequency and PCT repeatedly called R25 requesting communications with SWA364. R25 was busy issuing clearances to aircraft and did not respond to PCT's request. As TCF5911 leveled at 12,000 feet, both aircraft received TCAS Resolution Advisories and executed climb and descent maneuvers.

### **Issues**

- R25 dropped the full data block on SWA364 while the aircraft was still a potential factor for other aircraft in the sector.
- R25 did not issue SWA364 a frequency change to PCT.
- R25 did not update TCF5911's data block by removing the interim altitude of 13,000 feet.
- R25 did not respond to the three calls made by the PCT controller who was attempting to establish communications with SWA364.
- Front Line Manager in Charge (FLMIC) did not assign an RA controller to Sector 25.

### **Facility Mitigations**

- The employee reviewed the event with his Front Line Manager (FLM) and discussed better options for achieving the desired results.
- The FLM in charge reviewed the event with his Operations Manager to determine if resources were properly utilized.

### **Summary**

The controller assigned R25 had over 14 years as a Certified Professional Controller (CPC) and was involved in another loss of separation on December 23, 2008. There were no similarities between the two events. This event occurred because the R25 controller made several mistakes and assumptions, the combined effect of which resulted in a loss of separation. The most serious error in judgment was the assumption that a mode C of 11,900 feet in the data block of SWA264

meant that the aircraft was descending. There are numerous factors that could result in a Mode C variance of 100 feet. Dropping the data block of SWA364 and failing to update the data block of TCF5911, contributed to obscuring the developing event. The failure to transfer communications of SWA364 or answer the calls of PCT further contributed to the event. If R25 had corrected any of the preceding deficiencies, he would likely have identified the potential conflict in a timely manner.



# Federal Aviation Administration

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## Memorandum

Date: JUN 24 2010

To: [REDACTED]  
Acting Director of En Route and Oceanic Safety and Operations Support Office  
[REDACTED], Acting QA Manager, En Route & Oceanic Services

From: [REDACTED]  
Acting Director of Eastern En Route Operations

Prepared by: [REDACTED]  
Air Traffic Manager, New York ARTCC

Subject: Action Plan Category B Operational Error ZNY-C-10-E-018

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A review of Operational Error ZNY-C-10-E-018 was conducted at the New York Air Route Traffic Control Center (ZNY ARTCC) beginning June 8, 2010, and continuing through June 11, 2010. Participants in the investigation included the Air Traffic Manager, the Staff Manager, the Area D Operations Manager, the Area D Front Line Manager, and the ZNY Quality Control office. The error occurred on Tuesday, June 8, 2010, at 1:05 p.m., EDT. The error involved a loss of separation between AAL2195 and AAL1685.

### Staffing

There were two Front Line Managers (FLMs) on duty. One FLM was on break, the other FLM was attending monthly FLM training. A controller in charge (CIC) was providing general supervision at the time of the event. Six Certified Professional Controllers (CPCs) were on position with two CPCs on break and two CPCs in ATSAP training. One developmental was on position receiving On The Job Training (OJT.)

### Traffic

Sector 42 was working nine aircraft with routine complexity. Workload was increased due to turbulence at various altitudes. Monitor Alert Parameter (MAP) for Sector 42 is thirteen aircraft. The radar associate position was not staffed.

### Equipment

Equipment was all operating normally. Conflict alert activated at 1705:33 UTC. Separation was lost at 1705:58 UTC.

## **Event Narrative**

AAL2195 and AAL1685 were both filed J6 to DFW. AAL2195 was at FL320 and AAL1685 was at FL300. AAL2195 encountered moderate turbulence at FL320 and requested lower. R42 descended AAL2195 to FL310 because AAL1685 was three miles away at FL300. R42 then issued AAL2195 a 280 heading to gain spacing from AAL1685. R42 advised AAL2195 that FL300 would be available at M.76 or less behind AAL1685. AAL2195 advised they would like FL300. When AAL2195 was six miles west of AAL1685, R42 issued AAL2195 a clearance to FL300. R42 later issued AAL2195 a left turn heading 200 to go behind AAL1685. The aircraft was eight miles northwest of AAL1685 at that time. AAL2195's ground speed was 398 knots. R42 then issued AAL2195 a 180 heading. AAL2195's ground speed had increased to 428 knots. R42 reduced AAL2195's speed to M.74 or less. AAL2195's ground speed was 435 knots. The turns and speed instructions were not sufficient and AAL2195 conflicted with AAL1685. Closest proximity was 3.7 miles and 0 vertical.

## **Issues**

- R42 did not take the winds into account when turning AAL2195 behind AAL1685.
- R42 initiated these control actions close to the boundary with Sector 10. This factor caused the CPC to make the turn earlier than usual.
- Because both aircraft were at the same altitude, there was no room for error when R42 turned AAL1685 towards AAL2195. R42 did not have an alternative if the vector was insufficient.

## **Facility Mitigations**

- The FLM and the employee reviewed the event and discussed better options for achieving the desired results.

## **Summary**

The CPC assigned to Sector 42 at the time of the event has over 20 years of ATC experience. The CPC has no prior performance issues. This event occurred because R42 misjudged the closure rate between the two aircraft. Those actions were forced because both aircraft were approaching the sector boundary and the CPC wanted to achieve the spacing in advance of the sector boundary. A better alternative was to leave the aircraft on parallel courses until the speeds took effect. Another alternative was to maintain vertical separation until the in trail spacing had been achieved.