NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Washington, D.C. 20594

July 9, 2012

Group Chairman's Factual Report

AIR TRAFFIC CONTROL

OPS11IA819AB

A. INCIDENT

Location:	Chicago O' Hare International Airport, Chicago, Illinois
Date:	August 8, 2011
Time:	1100 central daylight time[1]
	1600 Coordinated Universal Time[2]
Airplane:	Trans States Airlines flight 3367, Embraer ERJ-145
	Chautauqua Airlines flight 5021, Embraer ERJ-135

[1] All times are central daylight time (CDT) based on a 24-hour clock, 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.

B. AIR TRAFFIC CONTROL GROUP

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C. SUMMARY

On Monday, August 8, 2011, at approximately 1100 central daylight time, a near mid air collision (NMAC) occurred at Chicago O'Hare International Airport (ORD) when Chautauqua Airlines flight 5021 (CHQ5021), an ERJ-135 regional jet en route from La Crosse, Wisconsin to ORD, passed in close proximity to Trans State Airlines (LOF3367), an ERJ-145 regional jet departing ORD for Moline, IL. Radar data indicates that CHQ5021 crossed runway 32L about 125 feet above and 350 feet in front of LOF3367. Both aircraft were on regularly scheduled 14 Code of Federal Regulations Part 121 passenger flights and under control of ORD airport traffic control tower (ATCT) at the time of the incident. There was no damage reported to either aircraft, or any injuries to passengers or crew.

D. DETAILS OF THE INVESTIGATION

The air traffic control group convened on August 15, 2011 at ORD ATCT. The group conducted an in brief with Mr. Bob Flynn, the Air Traffic Manager (ATM), Mr. Joe Jochheim, Support Specialist; Mr. Daniel Carrico, NATCA Facility Representative; Ms. Gretchen McMullen, NATCA General Counsel; Tim Fitzgerald, ORD Support Manager for Training; and Karen Powalish, ORD Support Specialist. The group conducted a tour of the control tower, reviewed all associated data related to the incident, and reviewed the training folders for the controllers to be interviewed.

On August 16, 2011, the group reconvened and conducted interviews with the Third Local Controller (3LC), North Local Controller (NLC) trainee, North Local Controller (NLC) instructor, Local Assist (LA), Local Assist Monitor (LAM) and Front Line Manager In-Charge (FLMIC).

On August 17, 2011, the group conducted a tour of the tower simulator/labs and observed a simulation of Plan X, which was run to assist the group in understanding the operation plan in effect at the time of the incident. The group then conducted an out-brief with Mr. Flynn, Mr. Jochheim, Ms. McMullen, Mr. Carrico, Mr. Fitzgerald, and Ms. Powalish.

1.0 History of Flight

At approximately 1058, CHQ5021 contacted the ORD north local controller and was provided the current wind, given clearance to land on runway 9R, and advised that traffic would be departing runway 9R prior to his arrival.

At 1059:32, the NLC instructed CHQ5021 "… go around, climb and maintain 2500, fly runway heading." The NLC then instructed CHQ5021 to"…turn left heading 040 and remain with me." CHQ5021 then returned and landed on runway 9R without further incident.

At 1058:07, the 3LC controller issued LOF3367 the current wind and a takeoff clearance for runway 32L. At 1059:27, the 3LC instructed LOF3367 "…traffic alert, left to right; it's an American Eagle stay as low as you can." The pilot immediately responded, "Yeah, we're doing that." At approximately 1100, the 3LC controller instructed LOF3367 to "…fly heading 330 and contact departure." LOF3367 acknowledged the frequency change, and the 3LC responded, "sorry about that." LOF3367 then changed to departure frequency and continued the remainder of the flight without further incident.

2.0 Radar Data

Radar data for this report was obtained from the ORD Airport Surface Detection Equipment-X (ASDE-X) ground radar system. Figure 1 shows CHQ5021 on the runway 9R final and approaching runway 32L, and LOF3367 as it was departing 32L and approaching the runway 9R final approach course. Figure 2 shows CHQ5021 and LOF3367 at their closest points. Radar data indicated that CHQ5021 passed about 125 feet above and 350 feet in front of LOF3367.

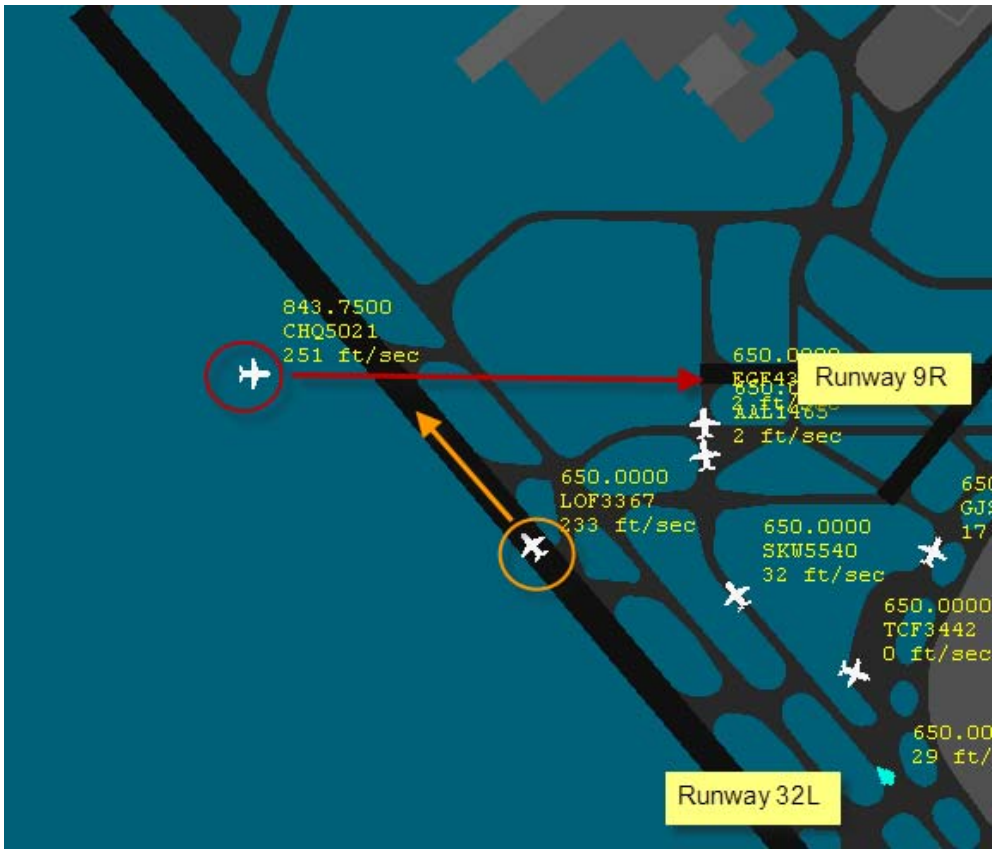

Figure 1. ASDE-X screen capture of CHQ5021 approaching runway 32L on final approach to runway 9R.

Figure 2. ASDE-X screen capture of CHQ5021 on short final for runway 9R and LOF3367 departing runway 32.

3.0 Weather Information

The Chicago O'Hare International Airport weather for August 8, 2011 was obtained from the KORD Automatic Surface Observation System (ASOS).

KORD weather at 1051 was wind calm, visibility 10 statute miles, scattered clouds at 2,500 feet, ceiling 20,000 feet broken and 25,000 feet overcast, temperature 26 degrees Celsius, dew point 18 degrees Celsius, and altimeter setting 29.79 inches of mercury.

4.0 Personnel Interviews

4.1 Richard Rompala North Local Controller (NLC)

The ATC group interviewed Mr. Rompala on August 16, 2011. Mr. Rompala began working for the FAA in January 1992 through the ATC Co-Op program. After attending the FAA academy in 1994, he worked at Rockford ATCT, IL (RFD) from 1995 to 1997, Midway ATCT (MDW), Chicago, IL, from 1997 to 2000, and then transferred to ORD in 2000. Mr. Rompala's medical certificate was current with no restrictions. He held a commercial multi-instrument rating, which

was not current. His work schedule consisted of Friday and Saturday off, Sunday to Tuesday afternoon shifts, and Wednesday and Thursday day shifts.

On Monday, August 8, 2011, Mr. Rompala worked his regularly scheduled shift and was assigned to give a controller skill check on the NLC position. Mr. Rompala said that around the time of the incident the tower traffic was light, but occasionally moderate. He had just begun to monitor Mr. Stroka, who was receiving the skill check on NLC, when he noticed everyone in the tower paying attention to a full-length runway 10 departure that had been coordinated with the South Local Control (SLC) controller. As he monitored Mr. Stroka's correct use of the memory joggers for that situation, Mr. Rompala observed an airplane holding short of runway 32L at taxiway T10. He then saw the airplane taxiing onto the runway and assumed that 3LC was putting the aircraft into line up and wait (LUAW). He then saw the airplane departing runway 32L, and heard Mr. Stroka issue missed approach instructions for his airplane.

Mr. Rompala thought that moving the 3LC position closer to the NLC position would allow them to coordinate better and might reduce the chance of recurrence. He added that the island in the center of the tower cab was, "…the elephant in the room." It hindered the ability to adequately coordinate between the 3LC and NLC positions. However, he felt that it was not a factor in this incident. Mr. Rompala said that there was a trust level in what the 3LC was doing and he believed he was putting the airplane into LUAW, adding, "I saw what I wanted to see."

Asked what type of training he had received since May 2011, when a similar incident occurred at ORD, Mr. Rompala said they received a "hind-sight" briefing. He recalled this because he provided that briefing to several other controllers.

Mr. Rompala was asked if the automatic terminal information service (ATIS) broadcast contained traffic information about converging operations when Plan-X was in use. He said it did, but he did not believe inclusion of traffic information on the ATIS absolved the controller of the responsibility to issue real time traffic information.

4.2 James Veronico Local Assist Monitor (LAM)

The ATC group interviewed Mr. Veronico on August 16, 2011. Mr. Veronico was represented by Ms. Gretchen McMullen, NATCA General Counsel. Mr. Veronico began working for the FAA on April 4, 1982. He was initially assigned to DuPage ATCT, transferred to ORD in May of 1988, and completed training in October of 1989. His medical was current with a restriction to wear glasses, and he believed that he was wearing his glasses on the day of the event. His days off were Friday and Saturday, followed by two evening shifts, two day shifts, then either a day or a midnight shift. He worked occasional overtime, accruing approximately 10 days so far this year. His current supervisor of record is Scott Mulberger. He was an airline transport pilot and flight instructor but was not current.

Mr. Veronico stated that around the time of the event he was working the Local Assist Monitor position, which is responsible for monitoring the intersections associated with runways 9R, 4L, 32R, and 32L at T2. He stated that they were nearing the end of the departure rush, and that the runway 32L departures were mostly done. They were waiting for a heavy aircraft departure off runway 10 and were coordinating the release.

Mr. Veronico reported that he was sitting at the northwest corner of the tower cab at the time of the incident. He noticed the runway 9R arrival and the runway 32L departure at the same time as the 3LC controller was calling for the NLC controller to send the runway 9R arrival around. Mr. Veronico stated that he did not hear the 3LC controller issue the takeoff clearance on runway 32L. When asked if there were any distractions in the tower, Mr. Veronico stated that there was none other than the cross cab coordination for the runway 10 departure.

When asked if there would be an operational advantage in handling runway 32L from the NLC position, Mr. Veronico stated that there was an advantage because the NLC controller would have awareness of all of the traffic, but the workload would be very high.

Mr. Veronico stated that he had watched the replay of the event. He did not see anything that would explain why the aircraft on runway 32L was cleared for takeoff. When asked what would assist in preventing a similar event from happening in the future, Mr. Veronico stated that moving the 3LC position and putting it next to the NLC position would assist the NLC controller in overhearing 32L departure clearances and reduce, but not eliminate, the opportunity for a recurrence. Moving the 3LC position had been considered following a similar event more than a year earlier. The center island also needed to be removed to improve visibility and communications in the tower.

Mr. Veronico stated that the intermittent sequence of arrivals to runway 9 sometimes contributes to lack of awareness, but in this case, there was a steady flow of 9R arrivals.

When asked about training conducted after the similar error in May 2011, Mr. Veronico stated that he recalled something had been done, but not the specific details. He stated that he had received the recent mandatory training about operations on Plan X. Mr. Veronico then stated that he believed that the virtual intersection plan on the ASDE-X was a good idea, and that it had been pursued for quite some time.

Mr. Veronico stated there was a requirement to tell pilots about traffic operating on intersecting runways. He stated that if he saw an aircraft inside of the hash mark located 2.75 miles from the runway 9R threshold, he would issue traffic to a departing aircraft. He recalled when the procedural change was implemented requiring that the ATIS contain information about converging departures off runway 32L and arrivals to runway 9R, but said that controllers still need to issue pertinent traffic. He stated that 70 per cent of the transmissions made by the NLC controller are traffic calls. He also stated that the abundance of traffic calls could overwhelm the pilots.

Mr. Veronico stated that his primary focus while working the LAM position was to watch for conflicts between aircraft operating on runways 9R and 4L, as well as conflicts between runway 9R arrivals and runway 32L departures.

Mr. Veronico stated that the Local Assist position was created at the suggestion of the NTSB following an investigation a number of years ago. He stated that it started out being a FLM, then by a CIC, and later, a qualified controller could staff the position.

4.3 Josh Stroka North Local Controller Trainee (NLC)

The ATC group interviewed Mr. Stroka on August 16, 2011. Mr. Stroka was represented by Ms. Gretchen McMullen, NATCA General Counsel. In response to questions presented by the group, Mr. Stroka provided the following information:

After completing the FAA academy, Mr. Stroka began working for the FAA on October 29, 2009. After completing the FAA Academy, Mr. Stroka transferred to ORD where he qualified on ground and flight data positions in the tower and was training on the local control position. Before coming to the FAA, Mr. Stroka had attended Purdue University, and was employed as a first officer at Atlantic Southeast Airlines. Mr. Stroka held a commercial pilot's license with single engine land, multi engine land, and flight instructor ratings. His flight instructor rating was current. His medical certificate was current with no restrictions.

Mr. Stroka's work schedule consisted of Wednesday and Thursday off, Friday 1500 to 2300, Saturday and Sunday 1400 to 2200, and Monday and Tuesday 0700 to 1500.

On Monday, August 8, 2011, Mr. Stroka worked his regularly scheduled shift of 0700 to 1500, and was assigned to receive a skills check on the NLC position. ORD had been using runway 9R for arrivals for about 15 to 20 minutes, and he had been on the NLC position for about 10 minutes when the incident occurred. He had been coordinating with SLC concerning a heavy jet departure on runway 10. He explained that all airplanes were holding waiting for the heavy on runway 10 to depart. He stated he was looking down and reaching for the strips, and he turned around and heard the 3LC controller tell him to send Chautauqua around. He told the airplane to go around, fly runway heading and maintain 2500 feet. Then he climbed the Chautauqua flight to 4000 feet on heading 320. He stated that the heavy aircraft on runway 10 was rolling but was not yet airborne when he sent the Chautauqua flight around.

Mr. Stroka said he does not provide traffic advisories to 9R arrivals about 32L departures because he does not know when the 32L traffic will depart. The information that converging operations are in progress is contained in the ATIS broadcast. Mr. Stroka said that the final portion of the approach was part of his normal scan for runway 9R.

When asked what solutions he could suggest to prevent this type of event from recurring, Mr. Stroka stated that adding the virtual intersection to the ASDE-X system would help. He also mentioned that he had to talk over the tower's center island to coordinate with the controller for runway 10, so he had to yell in order for the other controller to hear him.

Mr. Stroka said he had not received any specific training after the similar May 2011 event. Mr. Stroka received an official briefing on August 13, 2011, for this event, which was mandatory to complete before working again. He stated that the training explained the 3LC position needs to have an FLM monitoring the position during 9R arrivals and 32L departures.

Mr. Stroka said that he had received 5 or 6 hours of training at the 3LC position during Plan X operations.

Mr. Stroka was asked what his OJTI (Richard Rompala) said to him after the event. He stated that they went downstairs and talked about the session. Mr. Rompala told him everything was fine, but that he had to be more aware of 32L departures from the T10 intersection. Mr. Stroka explained that his OJTI then talked to him about options.

4.4 Timothy Whalen Third Local Controller (3LC)

The ATC group interviewed Mr. Whalen on August 16, 2011. Mr. Whalen was represented by Ms. Gretchen McMullen, NATCA General Counsel. In response to questions presented by the group, Mr. Whalen provided the following information:

Mr. Whalen began working for the FAA on June 27, 2006. After completing the FAA Academy, Mr. Whalen worked to at Las Vegas (LAS) ATCT, and then transferred to ORD ATCT in January 2009. Mr. Whalen was qualified on all positions in the tower, and was designated as a CIC. He served in the United States Navy from 2001 to 2005 as an air traffic controller at Naval Air Station New Orleans, LA. His immediate supervisor was Mr. Dwight Kuzanek. His medical certificate was current with no restrictions.

Mr. Whalen's work schedule consisted of Wednesday and Thursday off, Friday 1500 to 2300, Saturday 1400 to 2200, Sunday 1400 to 2200, and Monday and Tuesday 0700 to 1500. Mr. Whalen normally worked approximately 8 hours overtime per month.

On Monday, August 8, 2011, Mr. Whalen worked his regularly scheduled shift of 0700 to 1500, and was assigned to the 3LC position. When asked to describe the events leading to the incident, Mr. Whalen stated they were in Plan X, and had steady triple arrivals. He said they had been working constant flights into 9R and his departures were generally westbound and northbound. He had one eastbound departure that he had to roll in the gap between arrivals, and then the north satellite departure light came on. There were two heavy northbound departures off runway 10 that he needed to coordinate with the SLC controller. A short time after coordinating the two departures, he cleared the Trans States flight for takeoff. He was going to turn the departure eastbound when the aircraft reached 3100 feet. When he did his departure scan, he saw Chautauqua coming in on 9R. He then saw that Trans States was rolling. Mr. Whalen told the NLC controller to send Chautauqua around, and NLC did that as Mr. Whalen issued a traffic alert to the Trans States flight.

Mr. Whalen was asked if he recalled seeing Chautauqua prior to clearing Trans States for takeoff. He stated he recalled scanning final but did not recall where Chautauqua was at that time.

Mr. Whalen stated that his normal departure process was to scan the runway, look at the strip, scan the final, and then clear the airplane for takeoff. He said that it is safe to depart an aircraft from runway 32L if all 9R arrivals are outside the outer marker.

When asked if there is cut-off point for airplanes departing runway 32L when running 9R arrivals, Mr. Whalen stated that the cut-off is at the hash mark at 2.75 miles out on the 9R final.

If the departing airplane is not past taxiway T2 by the time the 9R arrival hits the hash mark, then the 9R arrival should be sent around.

Mr. Whalen was asked if he received a briefing on a similar event that occurred in May. He said he did not think he had. Mr. Whalen was provided a copy of the training department presentation to see if this would jog his memory of the training, however, he stated he did not recall seeing it. He did state that after this most recent event everyone was briefed on the new requirement that when running triple approaches in Plan X, an FLM must be monitoring the 3LC position.

When asked what kind of solution he would recommend to prevent this type of event from recurring, Mr. Whalen stated that the 3LC should be placed next to the LAM. The LAM cannot hear when an aircraft on 3LC is cleared for takeoff. He stated if the LAM had heard the clearance, the LAM could have stopped this event from occurring. Mr. Whalen stated that with the local controllers on separate sides of the tower, it makes it especially difficult to communicate and coordinate during Plan X operations.

Mr. Whalen stated that there was a lot of training on Plan X during the training process.

Mr. Whalen stated that he does scan the ASDE-X but he does not focus on it. He noted that in the tower cab, aural alarms were more effective than visual alarms.

Mr. Whalen said that he normally did not issue traffic information unless he needed his other traffic to keep rolling. When asked what "traffic" was to him, Mr. Whalen stated that was anything that would cause a pilot to wonder about another aircraft's intentions.

When the event occurred, the LAM controller was on position but Mr. Whalen did not know exactly what he was doing.

Mr. Whalen noted that the north satellite coordination light was a possible distraction and may have been a factor.

Mr. Whalen did not recall seeing the Chautauqua data tag on the radar display.

Mr. Whalen stated that the recipe for his mistake included the complexity of working the triple approaches, the north satellite coordination light coming on, and the two heavy airplanes on runway 10.

Mr. Whalen stated that the intermittent triple arrivals were dangerous for controllers because position reports about the inbound traffic are not done consistently and are easy to forget.

Mr. Whalen stated that the ASDE-X virtual intersection proposal would be a great help for detecting these types of events.

4.5 David Hess — Local Assist (LA)

The ATC group interviewed Mr. Hess on August 16, 2011. Mr. Hess was represented by Ms. Gretchen McMullen, NATCA General Counsel. In response to questions presented by the group, Mr. Hess provided the following information:

Mr. Hess began working for the FAA in August 1988 at Midway (MDW) ATCT. He transferred to ORD ATCT in June 1996. Mr. Hess was qualified on all positions in the tower, and designated as a CIC. Mr. Hess served in the United States Army from 1985 to 1988, serving as an air traffic controller at Fort Bragg, NC. His immediate supervisor was Mr. Lawrence Taylor. Mr. Hess' medical certificate was current with a restriction to wear corrective lenses.

Mr. Hess's work schedule consisted of Thursday and Friday off, Friday and Saturday evening shifts, Sunday and Monday day shifts and then returning Monday night for a midnight shift. Mr. Hess worked approximately one shift of overtime per pay period this year.

On Monday, August 8, 2011, Mr. Hess worked a scheduled shift beginning at 1100 and was originally assigned to work in the ORD North ATCT. He was subsequently assigned to work at the LA position in the ORD center ATCT. When asked to describe the events leading to the incident, Mr. Hess stated he "did not see that much" as he worked the LA position for Josh Stroka, who was assigned to train on NLC. He stated Mr. Stroka had coordinated a heavy aircraft departure for Runway 10. Mr. Hess stated he was not paying much attention to the coordination as the trainee needed to learn to do it. He heard someone say, "Send that guy around."

Mr. Hess stated he had seen the radar replay of the incident. He wondered why the runway 32L local controller did not instruct the departure to taxi into position and hold and then scan again. He estimated traffic to be slow to moderate at the time of the incident. He speculated that the heavy departure on runway 10 could have been a distraction.

When asked to describe the role of the LA position, Mr. Hess stated that when needed the LA should coordinate for NLC, sequence strips, scan the strips to the TRACON, and scan the runways. He stated that when working the LA position he could not see the T10 intersection.

Mr. Hess was asked for his opinion of the runway 32L departure, runway 9R arrival operation. He responded there was an issue with training, and he felt that not much training was conducted on this intersecting operation. He stated the primary instruction given to trainees was to use the "hash marks" on the radar, which are located on final at 2.75 miles and 5 miles (for heavy jets.) Emphasis was not placed on the runway 32L/9R operation during training. He stated that when he was in training the runway 32L departures were controlled from the NLC position, which provided better situational awareness. Mr. Hess stated the operation was more efficient now, but the aircraft are on two different frequencies.

Mr. Hess was asked about his normal operating practices for issuing traffic when working Plan X. He said he issues traffic regularly and has no problem giving traffic information. Issuing traffic is necessary and gives pilots a picture of what is going on. Mr. Hess stated he considered an aircraft to be traffic when it joined the final approach.

Mr. Hess stated the tower cab layout needed to be changed by removing the center island and moving the 3LC position next to NLC. The tower supervisors could be moved off the west wall and returned to the middle of the cab. They are now in the way and make many situations impossible (i.e. working ground control and bringing strips over.) Mr. Hess stated that a radar display has been needed at LAM and recently an ASDE-X display was installed. He supported the creation of an ASDE-X virtual intersection for 32L/9R operations.

Mr. Hess did not recall any training after the similar incident in May 2011. He had received training on the August 8 event over the weekend. Mr. Hess was asked if he recalled the July "Hindsight" briefing and was presented a copy of the training package. He stated he recalled receiving the training in a team briefing but did not recall any discussion.

Mr. Hess said he did not know the history of the ATIS traffic advisories for runway 32L departures. Controllers are required to issue traffic to the runway 9R arrivals.

When Mr. Hess was asked if there had been a proactive effort to address the issues of the runway 9R/32L operation, he stated, "Nothing much has changed."

When asked why the tower had not been reconfigured, he stated there was"stubbornness" among those responsible for the island design and they insisted on making it work as part of the O'Hare Modernization Project (OMP).

4.6 William Qualiardi Front Line Manager In-Charge (FLM-IC)

The ATC group interviewed Mr. William Qualiardi on August 16, 2011. In response to questions presented by the group, Mr. Qualiardi provided the following information:

Mr. Qualiardi began working for the FAA in October 1984. After completing the FAA Academy, he worked at Meigs (CGX) ATCT for 18 months, RFD ATCT for 5 years and then ORD ATCT from 1993 to present. Mr. Qualiardi was qualified on all positions in the tower. His immediate supervisor was Mr. Paul Litke. Mr. Qualiardi's medical certificate was current with some limitations.

Mr. Qualiardi's work schedule consisted of Saturday and Sunday off, and Monday through Friday 0700 to 1500. Mr. Qualiardi worked approximately one shift of overtime per month. Mr. Qualiardi's position of record is Supervisory Traffic Management Coordinator, and he is regularly assigned as FLM for the shift.

On Monday, August 8, 2011, Mr. Qualiardi worked his regularly scheduled shift of 0700 to 1500. He stated that there was nothing out of the ordinary and the operation was well into the use of the third arrival runway, 9R. He stated he had been at the SLC position assisting in the coordination of a heavy jet departure and was walking back to the supervisor desk (passing the 3LC position) when he heard "send that 9R around." Mr. Qualiardi stated that the 3LC controller had given the instruction to send the runway 9R arrival around. He stated he did not see the runway 32L departure rolling as he was just turning the corner near the 3LC position when the event occurred. He was not wearing a headset at the time. There were two FLMs on

duty and the other FLM was on break. Traffic was moderate with mainly arrivals and not many departures.

Mr. Qualiardi stated the 3LC controller was vectoring a departure to the north. The red satellite departure light was on. Therefore, in accordance with procedure, 3LC was coordinating the departure's climb over the airspace of Chicago Executive Airport (PWK).

Mr. Qualiardi was asked how he would prevent any future events of this kind. He said it would be good to move the 3LC controller next to the LAM and NLC positions, create an ASDE-X virtual intersection, and increase the font size of the radar tags from small to large. He said the center island was horrible, described it as a "maze", and said, "…it's got to go." He added that he is a small person and cannot see anything on the other side of it.

Mr. Qualiardi said there have not been any staffing changes since the May 2011 incident, and they still have the LAM and LA positions. He said the runway 32L departures had been worked by the NLC in the past, but splitting off these departures to 3LC was a better plan and could not be made any easier.

Mr. Qualiardi said that controllers regularly issue traffic to aircraft departing from runway 32R, but he was not sure if aircraft type information was available or even required to be issued. He said that runway 9R arrivals were not commonly informed of departures from runway 32L, and he was not sure if there were any traffic advisory comments about the runway 32L/9R operation on the ATIS.

Mr. Qualiardi did not recall any specific training about the May 2011 event. He stated he had received training on new procedures for the runway 9R/32L operation since the event on August 8.