NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Washington, D.C. 20594

May 4, 2016

Group Chairman's Factual Report

AIR TRAFFIC CONTROL

OPS15IA011AB

A. AIRCRAFT INCIDENT

Location: Chicago, Illinois

Date: February 17, 2015

Time: 2145 central standard time (CST) / 0345 Coordinated Universal Time (UTC)[1] February 18, 2015

Aircraft: Envoy flight 3084 (ENY3084), an Embraer E145

Lindbergh flight 3710 (GJS3710), a Canadair Regional Jet CRJ-700 (CRJ7)

[1]All times are expressed in central standard time (CST) unless otherwise noted.

B. AIR TRAFFIC CONTROL GROUP

Chairman: Mr. Daniel Bartlett
National Transportation Safety Board (NTSB)
Washington, D.C.

Ms. Debbie Stern
Compliance Services Group, AJI-131
Federal Aviation Administration (FAA)
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Mr. Stephen Abraham
National Air Traffic Controllers Association (NATCA)
Air Safety Investigator (ASI)
New York, New York

C. SUMMARY

On February 17, 2015, at 2145 central standard time (CST), ENY3084, an Embraer E145, was on takeoff roll on runway 28R from intersection EE at the Chicago O'Hare International Airport (ORD), Chicago, Illinois. GJS3710, a Canadair Regional Jet CRJ-700 (CRJ7), was taxiing to runway 28R via taxiways F and N. GJS3710 did not turn left at taxiway N as instructed. GJS3710 instead entered runway 28R and made a left turn toward the departing ENY3084. (See figure 1.) According to the pilot of ENY3084, he maneuvered to avoid GJS3710, which continued its departure. The front-line manager (FLM) on duty in the tower stated that the airport surface detection equipment, model X (ASDE-X) alarmed; however, there was insufficient time to cancel ENY3084's takeoff clearance. The distance between taxiways EE and F was approximately 1,900 feet. Visual meteorological conditions prevailed.

D. DETAILS OF THE INVESTIGATION

The air traffic control group convened at the air traffic control (ATC) facility located at ORD on February 24, 2015, to review data and interview the controllers and facility staff. The ATC group was provided an in-brief by Mr. Jim Krieger, the air traffic manager (ATM), and ORD ATC staff.

According to the ATM, ORD was on a west flow. Aircraft were landing on runway 28C and departing from runway 28R. Pending the results of investigations, the ATM closed taxiway F between taxiway P and N. The ATM directed face to face briefings of the event with all personnel. The quality control department met with management of both airlines involved to discuss the event and possible mitigation strategies.

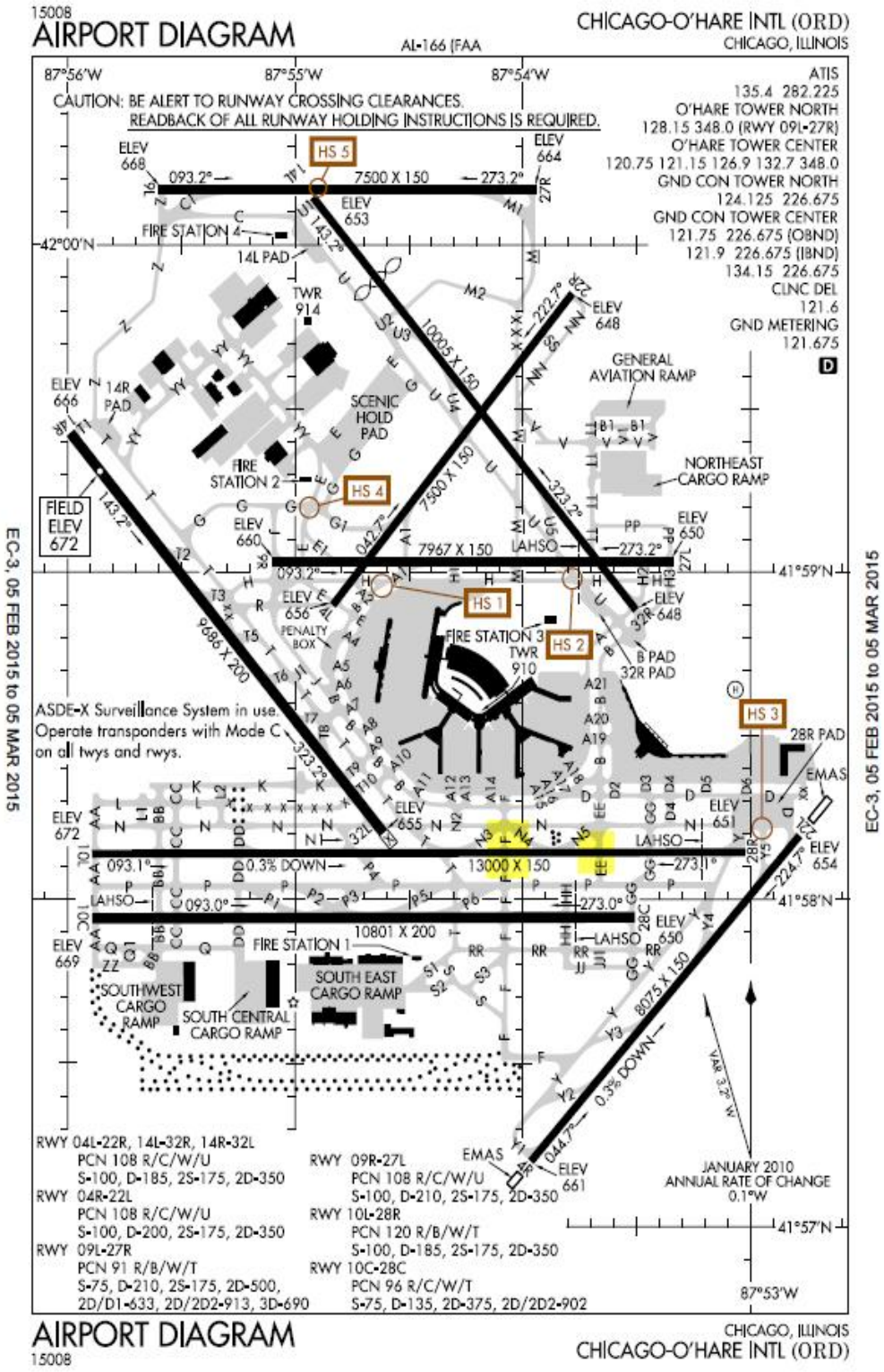

Figure 1 – Chicago-O'Hare International Airport Diagram with taxiway F and taxiway GG at runway 28R highlighted in yellow

E. FACTUAL INFORMATION

1. Weather Information

The 2051 Aviation Routine Weather Report (METAR) observation for ORD was wind 290 degrees true at 12 knots with gusts to 18 knots, visibility 10 statute miles. Few clouds at 3,800 feet above ground level (agl), scattered clouds at 12,000 feet agl, and broken clouds at 15,000 feet agl. Temperature minus 11 degrees Celsius (C), dew point minus 18 degrees C, altimeter 29.88 inches of mercury.

2 History of Flight

ENY3084 was departing ORD from the intersection of runway 28R and taxiway EE bound for Port Columbus International Airport (CMH), Columbus, Ohio, and had been cleared for takeoff. GJS3710 was on the outbound taxi from taxiway H to U to F to N to taxiway EE. GJS3710 was bound for Lester B. Pearson International Airport (YYZ), Toronto, Ontario, Canada.

According to recorded ASDE-X data, ENY3084 began departure roll on Runway 28R at Taxiway EE at 2145:17. GJS3710 was about 265 feet north of the runway 28R edge line, taxiing south on Taxiway F at approximately 11 knots. (See figures 2 through 4.)

At 21:45:28, an ASDE-X alert was issued when ENY3084 met the velocity (47 knots) and acceleration (2.5 knots/sec) parameters that are required by the ASDE-X to be considered a departure. At this time, ENY3084 was traveling at approximately 56 knots and was approximately 1041 feet from the runway 28R/taxiway F intersection. GJS3710 was approximately 42 feet from crossing the runway 28R edge line and was traveling at approximately 11 knots.

At 21:45:30, ENY3084 was about 831 feet from the runway 28R/taxiway F intersection, traveling about 66 knots. GJS3710 entered runway 28R traveling at about 11 knots and turned east toward ENY3084 before coming to a stop on the north side of Runway 28R at taxiway F.

When GJS3710 entered the runway from taxiway F, an aural alert of "Warning Runway Two Eight Right Occupied" was voiced in the tower and the corresponding alert text "RWY 28R|ENY3084, GJS3710|RWY OCCUPIED" was displayed on the ASDE-X displays.

According to the flight crew of ENY3084, they were traveling at about 100 knots when they first observed GJS3710 enter the runway. They maneuvered the aircraft to the left of centerline to avoid a collision.

According to the pilot of GJS3710, after he realized that he had missed the turn to taxiway N and had entered runway 28R, he made an immediate left turn and saw what looked like an Embraer 145 aircraft taking off. He stated he turned his aircraft to face the departing aircraft in order to present the lowest profile. His primary concern was keeping the tail section of his aircraft away from the runway centerline. He recalled that the centerline of his aircraft was on the north side of the painted runway edge, so only the right half of his aircraft was on the runway proper. He saw the nose gear of the Embraer and recalled seeing the main landing gear of the Embraer come off the ground as the Embraer passed his aircraft. He estimated that the aircraft wingtip to wingtip clearance had been 15-20 feet.

At 21:45:36, ENY3084 passed GJS3710 on runway 28R. The ASDE-X could not resolve the minimum separation distance. The positional accuracy of the ASDE-X is +/- 20 feet.

After the near collision, GJS3710 exited runway 28R at taxiway P, followed taxiway GG to taxiway N, and then held short of taxiway Y on taxiway N. The pilot of GJS3710 called his flight dispatcher and then the tower supervisor to discuss the event. After conferring with the first officer (FO), he elected to continue his flight.

Figure 2 – ASDE-X presentation of ENY3084 and GJS3710 at 2145:13.

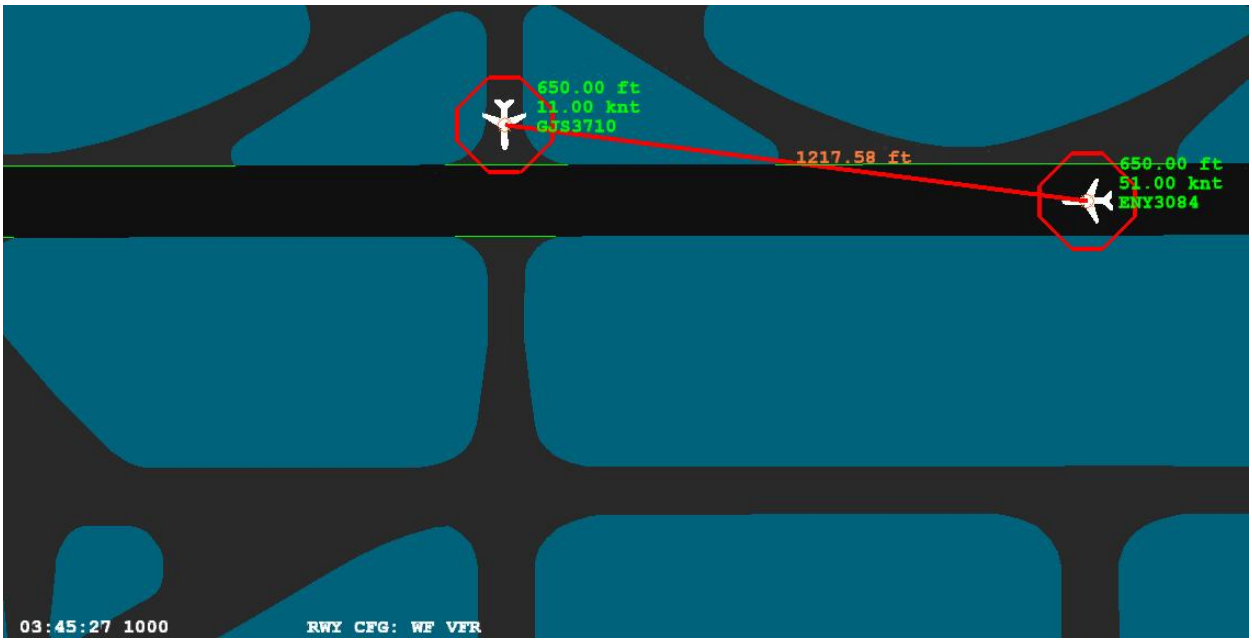

Figure 3 – ASDE-X presentation of ENY3084 and GJS3710 at 2145:27

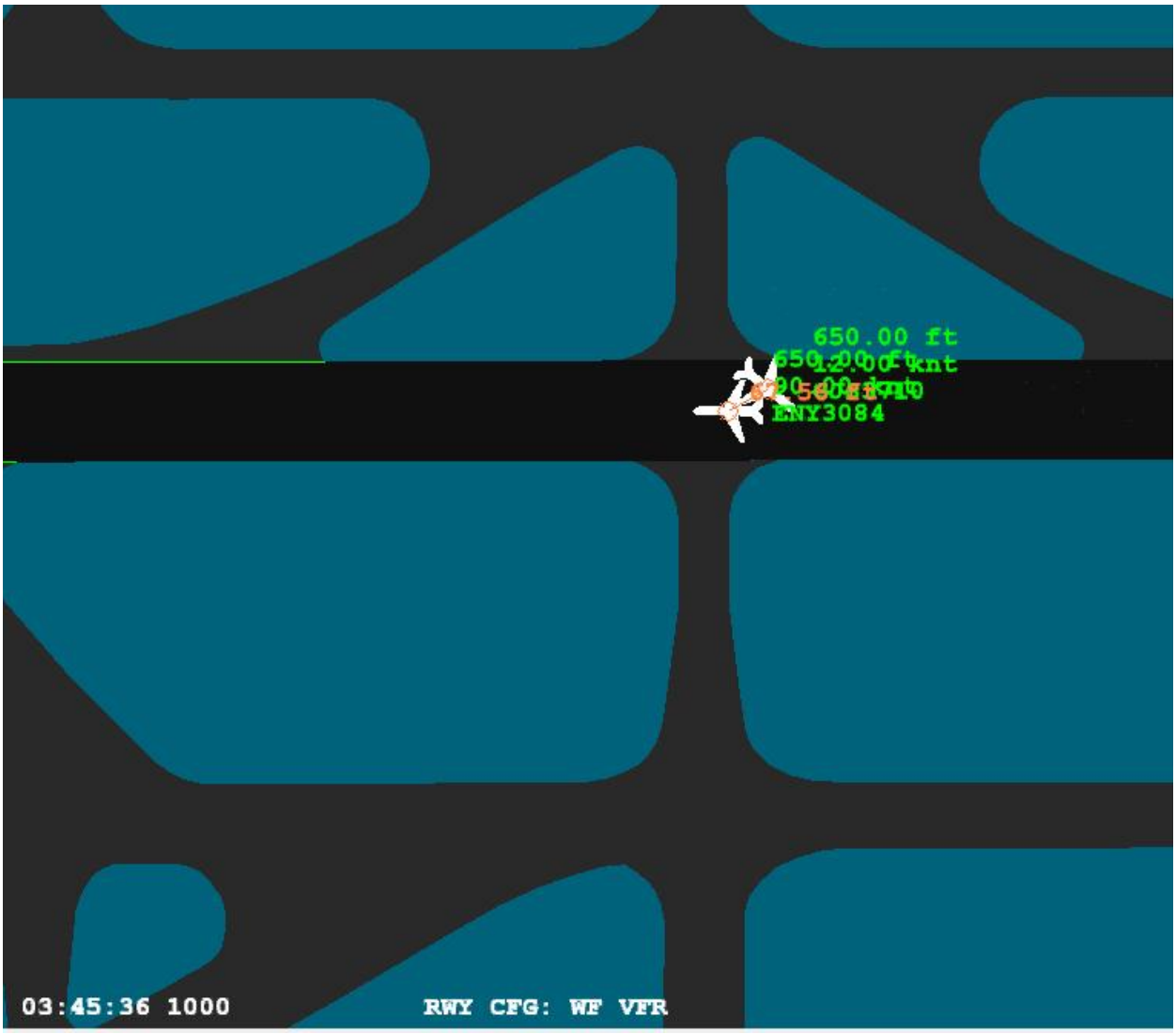

Figure 4 – ASDE-X presentation of ENY3084 and GJS3710 at 2145:36

3. Runway Status Lights (RWSL)

In an effort to reduce runway incursions, the FAA has tested and installed runway status lights (RWSL) at selected airports throughout the United States. RWSLs are a fully automatic advisory safety system designed to reduce the number and severity of runway incursions and thus prevent runway accidents, while not interfering with airport operations. This system, which consists of runway entrance lights (REL) and take-off hold lights (THL), provides pilots with increased runway safety situational awareness.

RELs are arrays of evenly spaced red lights aligned with the taxiway centerline which stop at the hold line at the runway edge, with one additional light at the runway centerline in line with the last two lights before the runway edge. The RELs illuminate when the runway is unsafe for entry or crossing.

THLs are composed of in-pavement lighting in a double, longitudinal row of lights aligned on either side of the runway centerline. The lights are focused toward the arrival end of the runway at the "line up and wait" point, and they extend for 1,500 feet in front of the holding aircraft. Illuminated THLs indicate to an aircraft in position for takeoff or rolling that it is unsafe to takeoff because the runway is occupied or about to be occupied by an aircraft or vehicle. See figure 5.

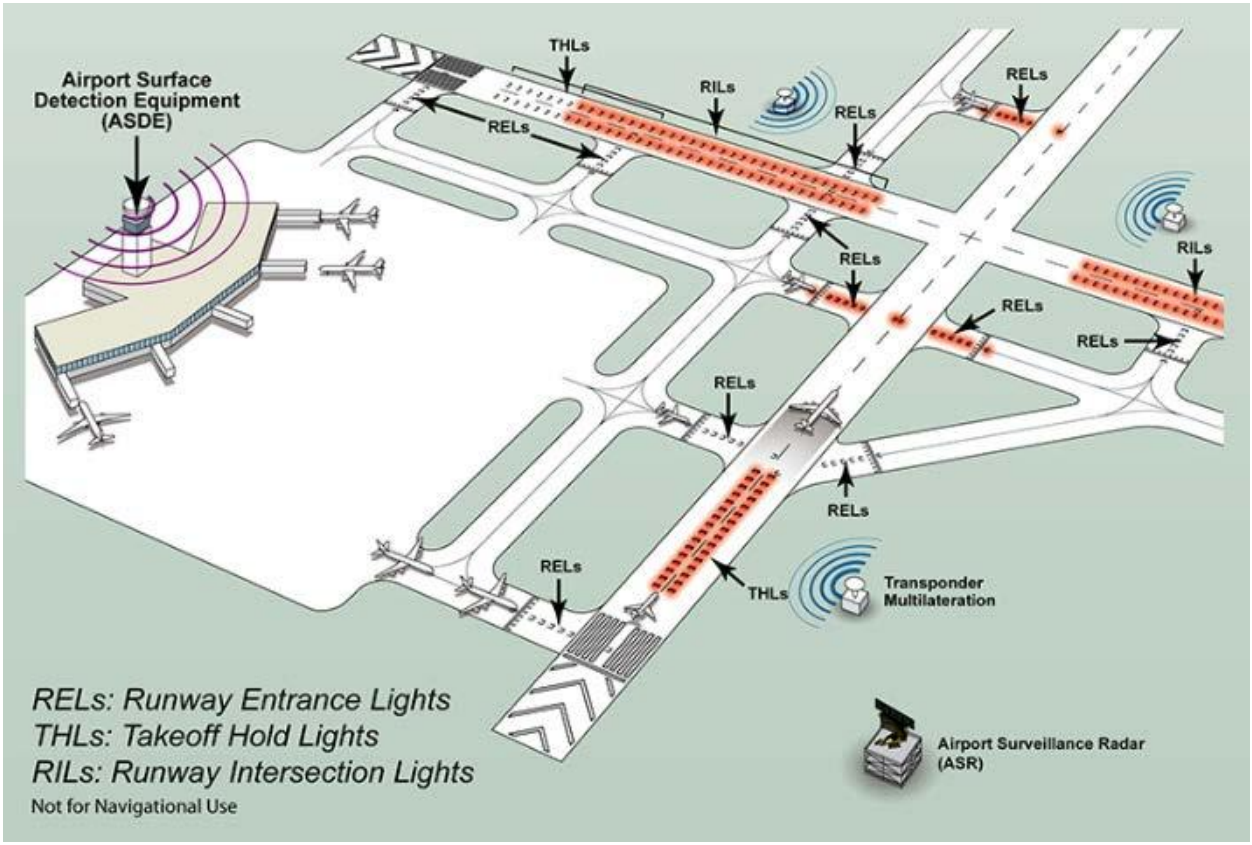

Figure 5 – Runway Status Lights (RWSL)

According to emails[2] dated March 9, 2015, and June 19, 2015, from the Managing Deputy Commissioner, Chicago Department of Aviation (CDA), Airport Airfield Operations/Vehicle Services Sections, the ORD RWSL infrastructure was installed in 2010 as part of a project involving runway 10C-28C and associated taxiways. The circuiting for the RWSL system was subsequently installed as a change order to this project. The installation of the regulators for the system and ancillary system upgrades/installations were performed by the FAA RWSL program office. Past equipment issues and concerns, e.g. malfunctioning light fixtures, arctic kits and snow ring concerns, appear to have been resolved.

Recent Megger testing[3] performed at the end of 2014 appeared to indicate that the resistance of the circuits installed in 2010 did not meet specification. The CDA planned to perform some additional testing to determine the extent of the issue. This plan also included the ordering of additional cabling to replace any circuits or portions thereof that did not meet specification.

The city has begun the installation process for the RWSL light fixtures. Site visits have been occurring at night during runway closures in preparation for equipment installation in March. The fixture installation is expected to be completed in late March/early April with subsequent turnover to the FAA. The FAA will then begin the RWSL commissioning process for Runway 10L-28R. The commissioning date will be set after fixture installation is completed.

[2] See attachment 1
[3] The Megger test is a method of testing making use of an insulation resistance meter that helps verify the condition of electrical insulation.

A CDA email dated June 19, 2015, contained the following RWSL installation schedule for ORD (subject to change):

Rwy 10L-28R

- 10L-28R RWSLs will be commissioned in the spring of 2016 at the earliest

Rwy 10C-28C

- FAA is developing construction package for RWSL shelter, construction planned for Spring of 2016
- Cabling/fixtures will be installed in 2016
- Commissioning date not yet determined

Rwy 9R-27L

- RWSL cans/conduit being installed as part of overlay project from July through November 2016
- RWSL shelter site is being coordinated with the designer, FAA and CDA
- Designer is developing scope of work for RWSL shelter/infrastructure upgrades and will coordinate scope of work and funding with the FAA program office

ORD RWSL commissioning is tentatively scheduled for the spring of 2016. See figure 6.

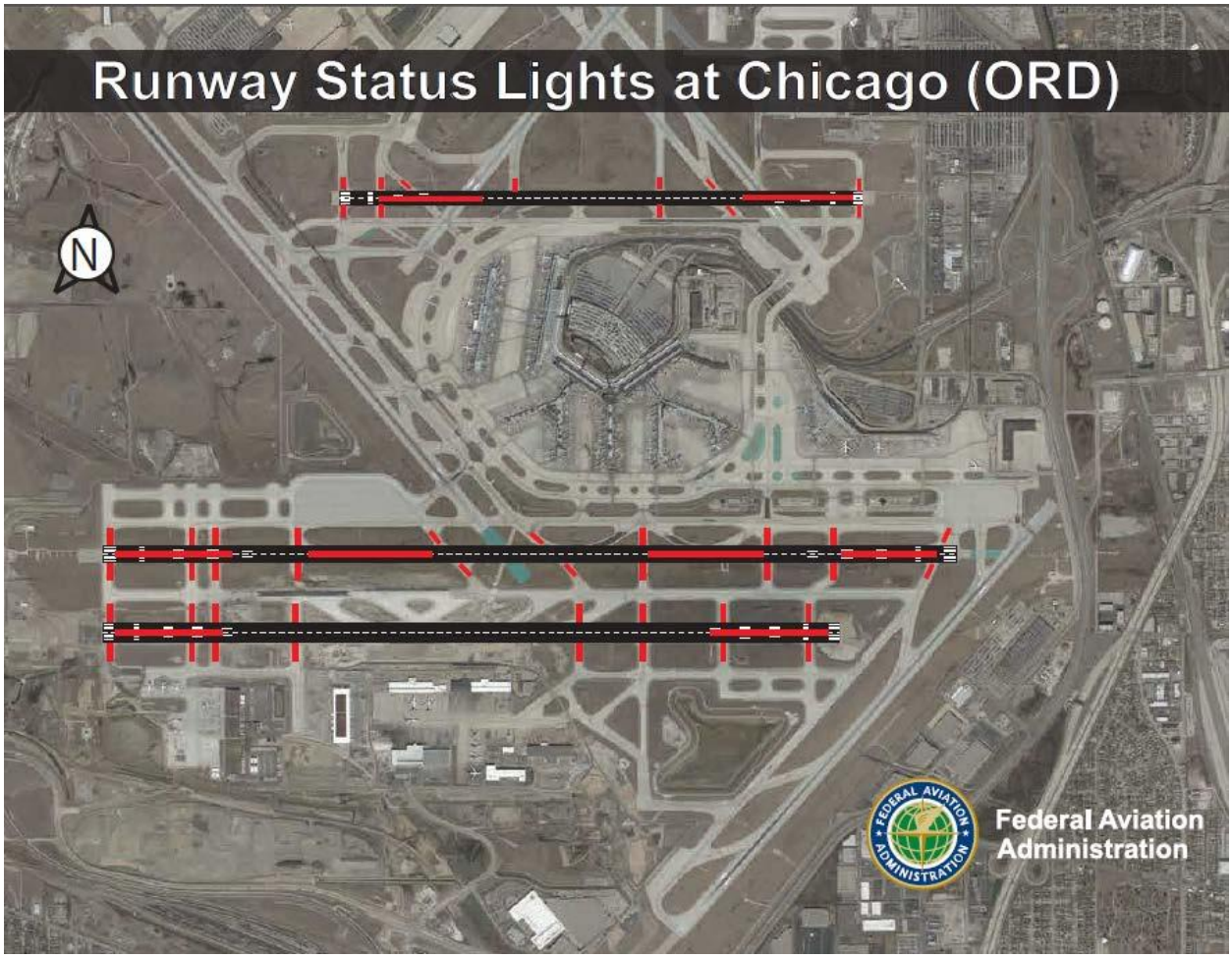

Figure 6 - ORD RWSL final configuration diagram

4. Air Traffic Controller Interviews - ORD

4.1 Timothy Whalen - Outbound Ground Controller (OGC)

The ATC group interviewed Mr. Whalen on February 24, 2015. Mr. Whalen was represented by Mr. Dan Carrico, ORD NATCA representative. In response to questions presented by the group, Mr. Whalen provided the following information:

Mr. Whalen began his career with the FAA on September 27, 2006. He had been a controller at Las Vegas air traffic control tower (ATCT) from 2006 to 2009, and a controller at ORD ATCT from 2009 to present. He became a certified professional controller (CPC) at ORD on July 17, 2010. Before beginning his FAA career, Mr Whalen had been an air traffic controller in the US Navy at Naval Air Station (NAS) Joint Reserve Base (JRB) New Orleans as a ground controller from 2001 to 2005. He had no other FAA certifications. His Class 2 medical certificate was current with no waivers or restrictions. His supervisor since January 1, 2015, was Jay Buch. Tim Fitzgerald was his supervisor for the year before. His operating initials were TJ.

Mr. Whalen's work schedule consisted of regular days off (RDO) on Sunday and Monday, Tuesday from 1500 to 2300, Wednesday from 1400 to 2200, Thursday from 0700 to 1500, Friday from 0700 to 1500 and either Friday 2230 to 0630 or Saturday from 0700 to 1500. The incident occurred on Tuesday, February 17, and he was working his regularly scheduled shift. On Wednesday and Thursday, February 18 and 19, Mr. Whalen was authorized administrative leave. Mr. Whalen rarely worked overtime and was on the "no overtime" list at ORD.

On February 17, 2015, at 2145, Mr. Whalen was working outbound ground control (OGC). The weather was VFR, with no restrictions to visibility. He did not recall the tower staffing at the time, where the front line manager (FLM) was in the tower, or whether or not any training was being conducted. He recalled he had been on position for about 45 minutes and there were no distractions in the tower cab.

Mr. Whalen stated that he had directed GJS3710 to taxi from gate B18 to runway 22R at taxiway EE. GJS3710 taxied at a normal rate and did what was expected except for the last turn from taxiway F to N. He transferred control of GJS3710 to the local controller (LC3) before the aircraft reached taxiway N and continued to work other traffic. This included coordinating crossing of runway 28C for a United Parcel Service (UPS) departure. Since there were no aircraft on final for runway 28C, he coordinated the runway crossing instead of transferring control to LC3. Mr. Whalen stated that standard operating procedure (SOP) required all aircraft and vehicles to be transferred to LC before crossing an active runway. Recording the OGC/LC coordination for a runway crossing was not required or accomplished. Mr. Whalen considered this to be safe, orderly, and expeditious. After the UPS flight crossed the runway, Mr. Whalen advised LC3 that runway 28C crossing was complete. He then heard the ASDE-X alarm. His immediate response was to scan the ASDE, locate the alert/conflict, and look out the window to visually identify the conflict. He saw GJS3710 on runway 28R and observed the aircraft make an immediate left turn. Mr. Whalen believed ENY3084, departing runway 28R, turned or swerved to avoid GJS3710. Mr. Whalen stated that by some miracle the two aircraft did not collide. Mr. Whalen was relieved from position about 5 minutes later at the direction of the operations manager (OM), David Dobrinich, who was not in the tower at the time of the incident.

After being relieved, Mr. Whalen waited a while to settle down as he considered this a traumatic event. He reviewed the audio playback of the incident with Mr. Buch. Mr. Whalen did not think that the incident was the result of an ATC error.

Mr. Whalen stated that the taxiway F to taxiway N taxi route was probably used at least 300 times a day during the west flow. He was not aware of any previous runway incursions at that intersection.

4.2 Derek Rinehart - Local Control 3 (LC3)

The ATC group interviewed Mr. Rinehart on February 24, 2015. Mr. Rinehart was represented by Mr. Dan Carrico, ORD NATCA representative. In response to questions presented by the group, Mr. Rinehart provided the following information:

Mr. Rinehart began his career with the FAA in July 2009 at the Van Nuys airport (VNY), where he worked until he transferred to ORD in 2012. He certified as a CPC at ORD about October 2014. Mr. Rinehart's Class 2 medical certificate was current with a requirement to wear glasses while providing ATC services. He was wearing glasses during this incident. Mr. Rinehart's supervisor since January 1, 2015, was Jay Buch. John Gilette was his supervisor for the previous two years. His operating initials were DR.

Mr. Rinehart's work schedule consisted of RDOs on Sunday and Monday, Tuesday from 1500 to 2300, Wednesday from 1400 to 2200, Thursday from 0700 to 1500, Friday from 0700 to 1500 and Saturday from 0600 to 1400. Mr Rinehart had been on administrative leave since February 18, 2015, pending resolution of a worker's compensation claim. Mr. Rinehart rarely worked overtime and was on the "no overtime" list.

On February 17, 2015, at 2145, Mr. Rinehart was working LC3 combined with the LC4 position and had been on position for about 58 minutes. He stated tower staffing included 6 or 7 controllers and that no training was being conducted. There were no distractions in the tower. The FLM, Jay Buch, was at the supervisor position performing supervisor duties.

Mr. Rinehart stated that traffic was nearing the end of a departure push. He cleared ENY3084 for takeoff on runway 28R, ensured the previous departure had made the correct turn, directed the departure to switch frequencies to departure control, processed the flight progress strip, and heard the ASDE alarm. He looked at the ASDE display and saw two red circles, one around each of the conflict aircraft. He looked to the runway and observed ENY3084 departing and GJS3710 turning left onto runway 28R from taxiway F toward the departing Envoy flight. He considered what to say to the aircraft at that moment, and determined that anything said would be detrimental to the developing situation. He observed ENY3084 approach and pass GJS3710 and stated it appeared the aircraft wings passed under one another. He did not observe ENY3084 turn or swerve to avoid GJS3710. If he had observed GJS3710 encroaching onto runway 28R, he would have attempted to contact the pilot expecting him to be on the LC3 frequency.

Mr. Rinehart stated that he observed ASDE false alarms once or twice a week for aircraft departing runway 22L while others are landing on runway 28R or taxiing on runway 32L. The false alarms did not cause him to become complacent about ASDE alarms.

Mr. Rinehart stated that GC will transfer aircraft or vehicles to LC for crossing active runways on a case by case basis, and that there was no official SOP.

4.3 Jaideep (Jay) Buch - Front Line Manager (FLM)

The ATC group interviewed Mr. Buch on February 24, 2015. Mr. Buch declined representation. In response to questions presented by the group, Mr. Buch provided the following information:

Mr. Buch started his career with the FAA on October 10, 1991. He certified as a CPC at Rockford, Illinois (RFD). In November of 1997 he transferred to ORD, where he certified as a CPC. He became an FLM in 2011. He was current on all positions in the tower. He held an FAA airframe and powerplant license and a current commercial pilot license with airplane-single engine land and instrument ratings. His supervisor was David Dobrinich. His Class 2 medical certificate was current with a requirement to wear corrective lenses while

performing ATC duties. He was wearing corrective lenses at the time of the incident. His operating initials were BH.

Mr Buch's work schedule consisted of RDOs on Sunday and Monday, Tuesday from 1500 to 2300, Wednesday from 1400 to 2200, Thursday and Friday from 0700 to 1500 and Saturday from 2230 to 0630. Mr. Buch stated that he worked overtime almost every week due to a shortage of FLMs, with the most recent overtime being a 1500 to 2300 shift on Monday, February 16, the day before the incident. Mr. Buch stated that he had no fatigue issues.

On the evening of February 17, Mr. Buch was working as the FLM. Staffing included 15-16 people and at the time of the incident the following positions were staffed:

Local control 3 (LC3) responsible for runway 28R departures, south local control (SLC) responsible for runway 22L departures and runway 28C arrivals, outbound ground control (OGC), north local control responsible for runway 27L arrivals, clearance delivery (CD), inbound ground control (IGC), and ground meter (GM).

While performing supervisory duties at the traffic management coordinator position, Mr. Buch had gathered the runway closure strips while preparing the tower for the midnight shift. He checked the traffic metering board to determine whether it was appropriate to begin consolidating positions and then heard the ASDE-X alarm. Mr. Buch looked at the closest ASDE display, which was behind him, to identify the conflict. He observed two red circles on the ASDE display and looked out the window at the intersection of runway 28R and taxiway F. His initial suspicion was that the ASDE alarm was caused by a false target as there had been many of these in the past. Out the window, Mr. Buch saw GJS3710 making a left turn onto runway 28R and ENY3084 rolling right past him. He observed the aircraft as they were closing, passing, and after they passed each other. It looked like ENY3084 was on a normal takeoff roll. The two aircraft appeared so close that he thought they were going to collide.

Just after the event and before listening to the audiotapes, Mr. Buch told all the controllers to take a deep breath and calm down. He directed LC3 to stop the departures and have ENY3084 call the tower when he got to his destination. The LC3 controller crossed GJS3710 at taxiway GG. GJS3710 then turned right on taxiway N and held short of taxiway Y. The pilot of GJS3710 said he would like to call the tower and speak to the supervisor. Mr. Buch waited to speak to the pilot of GJS3710 before listening to the audiotapes. When the pilot called, Mr. Buch collected the names of the crew, their telephone numbers, and the aircraft registration. Mr. Buch was surprised that the crew of GJS3710 elected to continue to their destination. In the next 3 to 10 minutes, he directed that both the LC3 and OGC controllers be relieved so they could collect their thoughts after the event.

After the incident, Mr. Buch conducted a full investigation to determine what had happened. He had a controller in charge (CIC) relieve him from the supervisory position and reviewed the audio playback of the event. During the playback he heard LC3 transfer a departure to departure control as the ASDE alarmed in the background. There was nothing on the playback that indicated ATC created the situation. He then reviewed the OGC audio to hear what clearance was issued. There were no readback/hearback errors. It appeared to be a pilot deviation. He then called the operations and quality assurance managers to report the event, and later that evening the ATM called him to discuss the event.

Following taxiways A–F–N was a standard routing, and Mr. Buch stated that he had never seen an aircraft miss the turn before. The airfield lighting panel was in the tower. The wigwag lights located at the intersection of taxiway F and runway 28R were always left on even when the runway was closed.

Mr. Buch stated that false alarms on the ASDE are common. The ASDE would false alarm at least once a week when a false target caused an alert. When that occurred, Mr, Buch made an entry in the tower log, validated the

event with airways facilities (AF)/technical operations, and placed a little box around the blue tag to inhibit the alarm. The controllers always react to the ASDE alarm. Mr. Buch suggested that the aural alarm be modified to first state the runway number to immediately direct controller attention to the correct location on the airport.

5. Pilot Interviews – GJS3710

5.1 Alicja Skreiberg, Incident First Officer (FO)

AS-30 investigators Captain Roger Cox and Dan Bartlett interviewed Ms. Skreiberg by telephone on March 3, 2015. In response to questions presented by the investigators, Ms. Skreiberg provided the following information:

Ms. Skreiberg was the FO on GJS3710 involved in the runway incursion at ORD on February 17, 2015. She was a CRJ-700 FO for Gojet airlines and was 28 years of age. She had been in that position since she was hired in July 2012. Previously she was a flight instructor at two flight schools at Gillespie Field in San Diego, California. Her total flight time was approximately 4,500 hours and her flight time on the CRJ-700 was approximately 1,200 hours, all of which was second in command. She held an airline transport pilot certificate, with a CL-65 type rating, and a certified flight instructor certificate. She had been assigned to the ORD domicile for 2 ½ years. She held a first class medical certificate with a limitation that she must wear glasses. She was wearing her glasses at the time of the incident. Her most recent medical examination was 2 months before the incident.

GJS3710 departed the gates on the north side of the airport and was cleared to taxi to runway 28R at EE via taxiways H, U, A, F, and N. This was a long taxi route. As they taxied on A passing A15 or A16, they normally saw a long lineup of aircraft on taxiway N awaiting takeoff, but on this night there was no one there and they knew they were first or second in line to depart. They were taxiing on one engine in accordance with company policy. They decided to start the number 1 engine as they approached taxiway F. The last time she looked out was as they turned from taxiway A to taxiway F. The captain cleared the left side. She then went "under the hood," head down to complete cockpit tasks. Because they were starting the number 1 engine, the captain was required by procedure to hold the number 1 thrust lever. At that time, ground control told them to switch to tower and the captain took the call because she was busy. After completing the engine start, over a period of 10 to 15 seconds she changed the frequency in the left side (number 1) communications radio control head, placed the departure control frequency in the backup channel of the number 1 radio, and called the flight attendant.

She looked up as the captain was making a really sharp left turn. They were supposed to turn left on taxiway N but had remained on taxiway F. She saw they were on the very edge of the runway, but definitely on the runway. She saw the flashing lights on her side of the airplane.

When asked what caused her to be distracted, she stated it was the workload. She did not anticipate there would be no line for takeoff and their task load compacted. She did see the amber flashing lights adjacent to the runway, but not until they were abeam. They made a complete 90° left turn and stopped right on the white runway edge line with half the aircraft sticking out over the runway. Their airplane had winglets but she did not know how high they extended above the ground. The captain slammed on the brakes when he saw the other airplane coming. When asked how close they were to the other airplane she stated it was already abeam them when she looked out and she could not estimate how close they were. She looked back to observe the airplane continuing its takeoff.

Ms. Skreiberg stated that she was not disoriented at any time. She had the Jeppesen 20-9 airport diagram out and available and there was no lack of information on the chart. She thought she had no communication

problem with ATC or with the captain. She had flown with the captain once or twice before. He spoke quickly when outside the cockpit but very standard and clear in the cockpit.

Following the incident she spoke with the flight attendant, who said one passenger had asked, "Did we just hit someone?" When asked if they made a passenger announcement she said no. They felt the smartest thing to do was to avoid creating drama in the cabin.

They were "heads down" turning from taxiway A to F. Asked if they should have continued the flight, she felt now that they should not have gone as the captain was not in good shape. However, he called dispatch, who called a supervisor, and dispatch wanted them to continue. She felt she would rather not go, but felt fit and safe to fly. She was not familiar with RWSL. She stated the captain thought the tower controller had cleared another airplane for takeoff while they were still on the runway after the incident.

Asked what changes she would recommend, she stated she could have asked to start the engine sooner, and should have planned and spaced tasks out better. She did not like to taxi on one engine because the crew could be told that there will be a five minute delay and then unexpectedly cleared for immediate takeoff. This caused last second starts.

The captain routinely asked for the departure frequency to be set in the number one communications control head before takeoff. It was not SOP but was commonly done. The captain was very organized and double checked a lot. He was the last one she thought would make a mistake. Some captains will say "I'm under, you look outside." The captain had said the airplane taxi light was very dim and he used the landing lights for additional lighting. There was no contamination on the taxiways.

5.2 Eduardo Sanchez Suarez, Incident Pilot in Command (PIC)

AS-30 investigators Captain Roger Cox and Dan Bartlett interviewed Captain Suarez by telephone on March 3, 2015. In response to questions presented by the investigators, Captain Suarez provided the following information:

Captain Suarez was the PIC on GJS3710 involved in the runway incursion at ORD on February 17, 2015. He had been a CRJ-700 captain with GoJet airlines since March of 2012, and was 31 years of age. He was hired by GoJet on January 5, 2009. Before joining GoJet he was a first officer on the Embraer 145 with Trans States Airlines from 2007 to 2009. His total flight time was 6100 hours, 5400 hours of which were in the CRJ-700. He had approximately 2500 PIC hours in the CRJ700. His FAA certificates included airline transport pilot with multi-engine rating, and commercial pilot with airplane-single engine land and instrument ratings. His Class 1 medical certificate was current with no limitations. His last medical exam was during the week of February 10, 2015.

In describing the incident, Captain Suarez stated that they pushed back from the terminal at night and taxied to runway 28R via taxiways H-U-A-F-N-EE. It was dark in the vicinity of taxiway H, so he turned on the aircraft's recognition light to help him see the taxiway. As he approached taxiway A, he noted that there were not many aircraft holding short for runway 28R. Anticipating minimum departure delay, he directed the FO to start the #1 engine. The FO was head down doing cockpit tasks and coordinating with the flight attendant for pre-takeoff passenger requirements. Company policy was for at least one person to be looking outside the cockpit during all phases of flight including taxi. He gave way to an inbound 757 on taxiway A. As he was approaching taxiway F, he looked down to confirm the frequency settings in the cockpit. When Captain Suarez looked up again, he thought he was passing taxiway B on taxiway F, but was actually passing taxiway N on taxiway F. He stated that he did not see the wig-wag lights at the intersection of taxiway F and runway 28R, possibly due to the glare caused by the recognition lights and reflection from the snow on the side of the

taxiway. He was task saturated with the after-engine-start and pre-takeoff checklists. He realized he was on the runway and attempted to turn around, but saw the Embraer departing toward him. Instead of completing a 180 turn he stopped the aircraft by braking hard and facing the departing aircraft. He did this to present the lowest profile to the departing aircraft with his primary concern being to keep the tail section of his aircraft away from the runway centerline. He recalled that the centerline of his aircraft was on the north side of the painted runway edge, so the right side of the aircraft was on the runway proper. He saw the nose-gear of the Embraer and recalled seeing the main-mounts of the Embraer come off the ground as the Embraer passed his aircraft. He estimated that the aircraft wingtip to wingtip clearance had been 15-20 feet.

When asked what distracted him, he stated he was task-saturated trying to accomplish many tasks at the same time, completing checklists, changing radio frequencies, taxiing, checking for traffic on service roads, and getting ready for the after start procedure. He needed to check the engines for stable parameters and complete the before-takeoff checklist before entering the runway.

He had flown with the FO twice before and found her to be extremely competent. She was never reluctant to speak up. He routinely briefed that FOs should speak up.

After the tower directed him to taxi across runway 28R to the north side of runway 28R via taxiway P and Y, he called company dispatch and reported the incident. The dispatcher then called the dispatch supervisor and they were cleared to proceed with the flight. He did not address the event with the passengers and heard after the fact that a passenger commented to the flight attendant that the Embraer was too close.

6.0 List of Attachments

6.1 Attachment 1 - Emails dated March 9, 2015, and June 19, 2015, from the Managing Deputy Commissioner, Chicago Department of Aviation, Airport Airfield Operations/Vehicle Services Sections to Daniel Bartlett, NTSB AS-30.

Dan Bartlett
Senior Transportation Specialist
AS30

Attachment 1

To Air Traffic Control Group Chairman's Factual Report

OPS15SA011AB

Emails dated March 9, 2015, and June 19, 2015, from the Managing Deputy Commissioner, Chicago Department of Aviation, Airport Airfield Operations/Vehicle Services Sections to Daniel Bartlett, NTSB AS-30.

Bartlett Daniel

From: LYMAN, GEORGE <[redacted]>
Sent: Friday, June 19, 2015 7:46AM
To: Bartlett Daniel
Cc: WISNIEWSKI, KEITH
Subject: RE: RWSL Status at ORO 6-18-2015

Mr. Bartlett,

I have included all current runways in one e-mail. Please keep in mind that this schedule is tentative. There have been delays throughout the program.

Rwy 10L-28R

- 10L-28R RWSL's will be commissioned in the spring of 2016 at the earliest

Rwy 10C-28C

- FAA is developing construction package for RWSL shelter, construction planned for Spring of 2016
- Cabling/fixtures will be installed in 2016
- Commissioning date not yet determined

Rwy 9R-27L

- RWSL cans/conduit being installed as part of overlay project from July through November 2016
- RWSL shelter site is being coordinated with the designer, FAA and CDA
- Designer is developing scope of work for RWSL shelter/infrastructure upgrades and will coordinate scope of work and funding with the FAA Program Office

GL

George W. Lyman
Managing Deputy Commissioner
Chicago Department of Aviation
Airport Airfield Operations/Vehicle Services Sections
Office: [redacted]
Cell: [redacted]
[redacted]

From: LYMAN, GEORGE
Sent: Friday,June 19, 2015 6:30AM
To: Bartlett Daniel
Subject: RE: RWSL Status at ORD 6-18-2015

Mr. Bartlett,

I apologize for the delay. I have received some conflicting information and I am trying to determine which the correct piece is. Currently it looks like 10L-28R RWSL's will be commissioned in the spring of 2016 at the earliest.

I will get back to you as soon as I can get additional information on the remaining installations.

GL

George W. Lyman
Managing Deputy Commissioner
Chicago Department of Aviation
Airport Airfield Operations/Vehicle Services Sections
Office: [redacted]
Cell: [redacted]
[redacted]

From: LYMAN, GEORGE
Sent: Thursday, June 18, 2015 11:56 AM
To: Bartlett Daniel
Subject: Re: RWSL Status at ORO 6-18-2015

Mr. Bartlett,

I'm in a local RSAT meeting. I'll have an update for you in a couple of hours.

GL

George W. Lyman
Managing Deputy Commissioner
Chicago Department of Aviation Airport Airfield Operations/Vehicle Services

Sent from my iPhone

On Jun 18, 2015, at 11:29 AM, Bartlett Daniel <[redacted]> wrote:

> Good morning GL,
>
> Would you please provide an update to the RWSL installation at ORO?
>
> Thank you
>
> Dan

Dan Bartlett
Senior Transportation Safety Specialist
National Transportation Safety Board (NTSB)
Office of Aviation Safety
Operational Factors Division (AS-30)
490 L'Enfant Plaza East, S.W.
Washington, DC 20594-2000
Office- [redacted]
Fax- [redacted]

From: LYMAN,GEORGE [mailto:[redacted]
Sent: Monday, March 09, 2015 8:58AM
To: Bartlett Daniel
Cc: jim.e.krieger@faa.gov
Subject: RE: RWSL Status at ORD 3-9-2015

Dan,

Below is the response I received from the OMP Program Management Office on the

topic. GL

George,
As you requested this afternoon please find herein the current status for the installation of RWSL (THL and REL) for Runway 10L-28R.

The RWSL infrastructure was installed in 2010 as part of the Runway 10C-28C - East & Taxiways projects. The circuiting for the RWSL was subsequently installed as a change order to this project. The installation of the regulators for the system and ancillary system upgrades/installations have been performed by the FAA RWSL Program Office. While there have been past equipment issues and concerns,e.g. malfunctioning light fixtures, arctic kits and snow ring concerns, these concerns seems to be resolved at this time.

Recent Megger testing performed at the end of last year appears to indicate that the resistance of the circuits installed in 2010 may not meet specification. We have a plan to perform some additional testing in effort to determine the extent of the issue. This plan also include the ordering of additional cabling to replace any circuits or portions thereof that do not meet specification; cable is on order, the lead time is approximately another 2-3 weeks.

The City has begun the installation process for the RWSL light fixtures. This week site visits have been occurring at night during runway closures in preparation for equipment installation in March. We anticipate the fixture installation to complete in late March/early April with subsequent turnover to the FAA. At which time the FAA will begin the commissioning of the RWSL system for Runway 10L-28R. At this time, a commissioning date has not been set as we wait for the initiation of fixtures to begin and the completion of the assessment of the resistance for each circuit.

Let me know if you have any questions or require any additional information. Thank you.

Regards,
Nate

George W. Lyman
Managing Deputy Commissioner
Chicago Department of Aviation
Airport Airfield Operations/Vehicle Services Sections
Office: [redacted]
Cell: [redacted]
[redacted]

From: Bartlett Daniel [mailto:[redacted]
Sent: Monday, March 09, 2015 7:41AM
To: LYMAN,GEORGE
Cc: jim.e.krieger@faa.gov
Subject: RWSL Status at ORD 3-9-2015

Good morning Mr. Lyman,

Thank you again for provided us with a brief regarding the history of the RWSL at ORD and the excellent video that captured the runway incursion on February 17, 2015.

I am writing to check to see if you have had an opportunity to look into the status of the RWSL installation at ORD.

Thank you

Dan

Dan Bartlett
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