Accident No: DCA17IA148
Accident Type: Office of Aviation Safety
Location: San Francisco , CA
Date: 7/7/2017

Update August 2, 2017:

On July 7, 2017, about 2356 Pacific daylight time (PDT), Air Canada flight 759 (ACA759), an Airbus A320, C-FKCK, was cleared to land on runway 28R at San Francisco International Airport (SFO), San Francisco, California, but instead lined up on parallel taxiway C, where four air carrier airplanes were awaiting takeoff clearance, including United Airlines flight 1 (UAL1), a Boeing 787; Philippine Airlines flight 115, an Airbus A340; United Airlines flight 863, another Boeing 787; and United Airlines flight 1118, a Boeing 737 (see figure 1). ACA759 descended below 100 ft above the ground, and the flight crew advanced the thrust levers to initiate a go-around about the time it overflew the first airplane on the taxiway. The flight was operating under 14 *Code of Federal Regulations* Part 129 as an international scheduled passenger flight from Lester B. Pearson International Airport, Toronto, Canada. Night visual meteorological conditions prevailed at the time of the incident.

Figure 1 shows the positions of the airplanes on taxiway C. The top diagram is from Harris Symphony OpsVue radar track data analysis, and the bottom picture is from the SFO airport video. Altitudes are shown in mean sea level (msl); ground level is 13 ft msl. Airplanes in the top diagram are not to scale.

The National Transportation Safety Board (NTSB) was notified of the incident on Sunday, July 9, and initiated an investigation. The NTSB investigator-in-charge has formed the following groups: Air Traffic Control (ATC), Operational Factors, Human Performance, Airports, and Flight Data Recorders (FDR). Parties to the investigation include the Federal Aviation Administration and the National Air Traffic Controllers Association. In accordance with International Civil Aviation Organization Annex 13, the Transportation Safety

Board of Canada has appointed an accredited representative for the State of Registration/Operator. The Canadian accredited representative has appointed Air Canada, Transport Canada, and Air Canada Pilots Association as technical advisors.

The ATC group reviewed Airport Surface Detection Equipment Model X (ASDE-X)/Airport Surface Surveillance Capability (ASSC) data associated with the incident. The group, with members of the Operational Factors and Human Performance groups, also conducted interviews with controllers and management personnel at the SFO ATC tower and the Northern California Terminal Radar Approach Control (TRACON).

The Operational Factors and Human Performance groups conducted interviews with the incident flight crew and the flight crew of the airplane that landed on runway 28R minutes before the incident. The groups obtained statements from the flight crewmembers of the aircraft that were holding on taxiway C at time of the incident. Nighttime observations of the airport lighting from the ground and air were also conducted. The groups will be visiting Air Canada in Toronto, where the flight crew was based, to review records and interview company personnel.

The incident airplane's cockpit voice recorder had been overwritten, so NTSB investigators did not have that data.

This update does not provide the probable cause for the incident and does not contain analysis of information collected thus far in the NTSB's ongoing investigation. As such, no conclusions regarding the cause of the incident should be made from this preliminary information.

The following facts are provided as an investigative update:

- Airport
  - Runway 28L was closed to accommodate construction; its approach and runway lights were turned off, and a 20.5-ft-wide lighted flashing X (runway closure marker) was placed at the threshold. Construction on runway 28L was part of a project that started on February 21, 2017, and notices to airmen were issued to alert operators of its operational status.
  - Automatic Terminal Information Service Q was current and included an advisory that runway 28L was closed and that its approach lighting system was out of service.
  - Runway and approach lighting for runway 28R were on and set to default settings, which included a 2,400-ft approach lighting system, a precision approach path indicator, touchdown zone lights (white), runway centerline lights (white at the approach end), runway threshold lights (green), and runway edge lights (white at the approach end).
  - Lights for taxiway C were also on and set to default settings that included centerline lights (green) along its length. Default settings also included edge lights (blue) and centerline lights (green) illuminating the transition or stub taxiways from the runway to the taxiway.
- Pilots
  - The captain was the pilot flying ACA759, and the first officer was the pilot monitoring. Both pilots held Canadian airline transport pilot certificates.
  - The captain had over 20,000 total flight hours, of which about 4,797 hours were as captain in Airbus A320-series airplanes. The first officer had about 10,000 total flight hours, of which over 2,300 hours were in Airbus A320-series airplanes.
- ATC
  - There were no known ATC equipment discrepancies.
  - Normal air traffic staffing for the ATC tower midnight shift included two controllers. On the evening of the incident, one controller was in the tower cab.
  - At 2349 PDT (7 minutes before the incident), all positions in the ATC tower (controller-in-charge local control, local control assist, ground control, flight data, and clearance delivery) were combined at the local control position.
- The Incident
  - At 2346:30 PDT, Northern California TRACON cleared ACA759 for the FMS bridge visual runway 28R approach.
  - FDR data indicate that, during the final 3 nautical miles of the approach, the airplane's flightpath was lined up with the taxiway and maintained the runway heading.
  - At 2355:46 PDT, when ACA759 was about 0.7 mile from the landing threshold and about 300 ft above ground level (agl), the flight crew contacted the ATC tower, mentioned seeing lights on the runway, and requested confirmation

that the flight was cleared to land.

- As ACA759 approached SFO, at 2355:52 PDT, the airplane flew too far right of course to be observed by the local controller's ASDE-X/ASSC and was not visible on the ASDE-X/ASSC display for about 12 seconds.
- At 2355:56 PDT, when ACA759 was about 0.3 mile from the landing threshold, the local controller confirmed and recleared ACA759 to land on runway 28R.
- The flight crew of the first airplane in queue on taxiway C (UAL1) transmitted statements regarding ACA759, one of which mentioned the alignment of ACA759 with the taxiway while ACA759 was on short final (see figures 2 and 3). The flight crew of the second airplane in queue on taxiway C switched on their airplane's landing lights as the incident airplane approached.

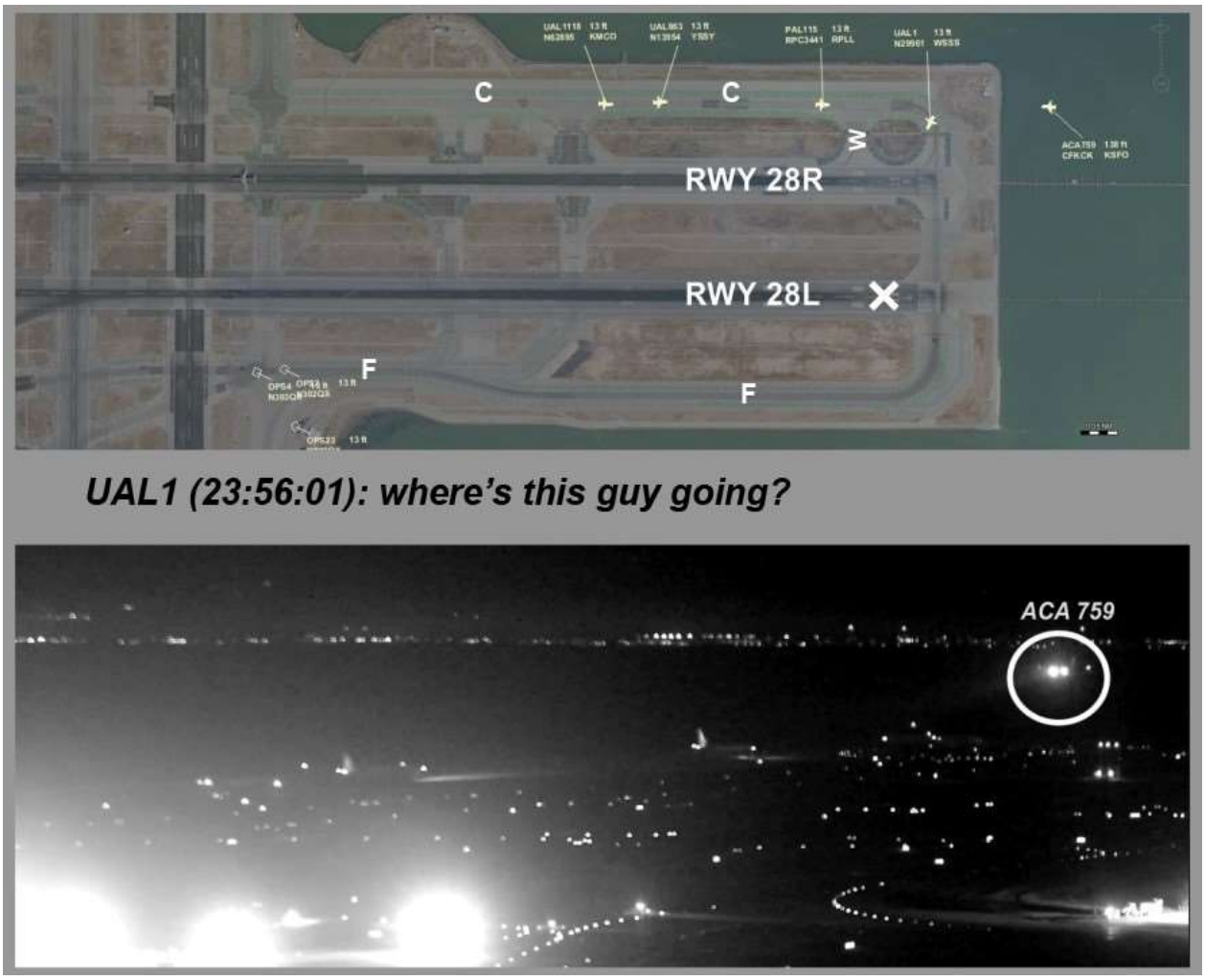

Figure 2 shows UAL1's transmission at 2356:01 and ACA759's position as it approaches the taxiway.

Figure 3 shows UAL1's transmission at 2356:04 and ACA759's position as it overflies the first airplane waiting on the taxiway; note that the second airplane has turned on its landing lights.

- The incident pilots advanced the thrust levers when the airplane was about 85 ft agl. FDR data indicate that the airplane was over the taxiway at this time, approaching the vicinity of taxiway W.
- At 2356:04 PDT, ACA759 reappeared on the local controller's ASDE-X/ASSC display as it passed over the first airplane positioned on taxiway C.
- About 2.5 seconds after advancing the thrust levers, the minimum altitude recorded on the FDR was 59 ft agl.
- At 2356:10 PDT, the local controller directed ACA759 to go around. The airplane had already begun to climb at this point (see figure 4).

Figure 4 shows the local controller's transmission to ACA759 at 2356:10 to go around and ACA759's position after overflying two airplanes on the taxiway.

- In postincident interviews, both incident pilots stated that, during their first approach, they believed the lighted runway on their left was 28L and that they were lined up for 28R. They also stated that they did not recall seeing aircraft on taxiway C but that something did not look right to them.

Additional information will be released as warranted. The docket for the investigation will be opened to the public before release of the final report. NTSB investigations generally take 12 to 18 months to complete. Any updates can be found on this page.

The following is initial information on the incident investigation as of **July 17, 2017**:

- Parties to the investigation are the Federal Aviation Administration and the National Air Traffic Controllers Association.
- In accordance with International Civil Aviation Organization Annex 13, the Transportation Safety Board (TSB) of Canada has appointed an accredited representative for the State of Registration/Operator. The Canadian accredited representative has appointed Air Canada, Transport Canada, and Air Canada Pilots Association as technical advisors.
- The NTSB investigator-in-charge has initially formed the following groups:
  - Air Traffic Control (ATC)
  - Flight Crew Operations (Ops)
  - Human Factors (HF)
  - Flight Data Recorder (FDR)
- The Ops and HF groups interviewed the captain of the incident airplane on Friday and will be interviewing the first officer on Tuesday (July 18).
- The ATC and HF groups began interviewing the ATC controllers at SFO and Northern California TRACON on Sunday and expect them to run through about Wednesday.
- The TSB has provided the NTSB with the FDR data from the incident airplane.

- The NTSB has obtained a security camera video from SFO of the incident approach that will be released along with the other factual information when the public docket for this incident is opened in the next several months.

Additional information will be released as warranted.

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