

BR189 Occurrence Investigation Executive Summary

On September 13, 2012, EVA Airways Corporation (EVA Air) flight BR189 scheduled passenger flight, an Airbus A330-300, registration number B-16331, took off from Tokyo Haneda Airport, Japan to Taipei Songshan Airport. There were 2 flight crew members, 14 cabin crew members and 218 passengers in total 234 people on board.

Before take-off, the flight crew obtained that there was thunderstorm between 1200 and 1800 local time at the destination airport. During flight, the flight crew received the information that the visibility was 5 kilometers with haze. The tower reported the visibility was 7,000 meters with wet runway condition when approaching 5 nautical miles from the runway. According to the flight crew interview, the runway was in sight at 3 to 4 nautical miles from the runway threshold during approach but they could not see the runway end clearly. About 9 seconds before landing the aircraft started to drift to the right side of the runway centerline.

The aircraft landed at Runway 10 at 1243 and the main wheels touched down at the right side of the runway centerline. The visibility was very poor at the time of touchdown. The aircraft right main wheels veered off the runway during landing roll and returned to the runway approximately 1,000 ft after veering off. After landing inspection indicated that the aircraft was not damaged and all people on board were safe. Two runway edge lights were found damaged at Songshan Airport during the field inspection.

The ASC launched investigation according to Aviation Occurrence Investigation Act after the occurrence. Parties to the investigation were

the Civil Aeronautics Administration, Ministry of Transportation and Communications (CAA) and EVA Air.

The draft Investigation Report was accomplished on March, 2013 and sent to the parties for review after the preliminary review by the Council Meeting on April 30, 2013. The final investigation report was published after approval by the ASC 13th Council Meeting on July 30, 2013.

The report includes 8 findings and 5 recommendations state as below:

Findings Related to Probable Causes

1. At the time of final approach, the weather met the CAT I approach standard, the visibility decreased and there was heavy shower during landing due to the influence of thermal convection above the airport area.
2. During final approach and landing flare, the flight crew had difficulties to precisely maintain the aircraft on the approach course and the aircraft drifted to the right of the runway due to the visibility was limited by heavy rain. The flight crew did not make rejected landing decision in time while the aircraft touched down at the right side of the runway centerline. Besides, the flight crew did not correct the direction of the aircraft during the landing roll, which resulted in the aircraft veering off the runway.

Findings Related to Risk

1. The flight crew was acknowledged of rain condition before approach and selected the ignition switch on for go-around procedure, which showed the flight crew had adequate situation awareness, however the flight crew did not make appropriate judgment and action

according to the weather change and abrupt change of visibility at final approach.

2. The aircraft approach process met the stable approach standard; however the pilot monitoring did not perform standard call-out when the speed range meet the call out criteria and EVA air did not have any standard call-out procedure in relevant manuals regarding the aircraft veered off runway centerline after touchdown.

Other Findings

1. The certificates of flight crew were in accordance with Civil Aviation Regulations. There was no evidence to show that the flight crew was affected by any alcohol or medical condition during that flight.
2. There was no evidence showing that the aircraft maintenance and airworthiness were related to this occurrence.
3. During flare, the obscured distance for flap 3 is longer than flap full, so that it would reduce the outside reference while using flap 3 for landing at low visibility condition.
4. The airport lighting facilities meet the specification requirements of CAA, but it would have helped the flight crew maintain the approach course efficiently during final approach if the runway centerline light had been installed.

Safety Recommendations

To EVA Airways

1. Reinforce flight crew's situation awareness and landing techniques on final approach, especially when the visual references are not sufficient.

2. To demand the flight crew to perform standard call-out and review relevant standard call-out procedures related to the aircraft veering off runway centerline after touchdown.

To Civil Aeronautics Administration, Ministry of Transportation and Communications

1. Supervise EVA Airways to reinforce flight crew's situation awareness and landing techniques on final approach, especially when the visual references are not sufficient.
2. Check and review the integrity of standard call-out procedures in all airlines.
3. Review the feasibility to install runway centerline light at at Songshan Airport.