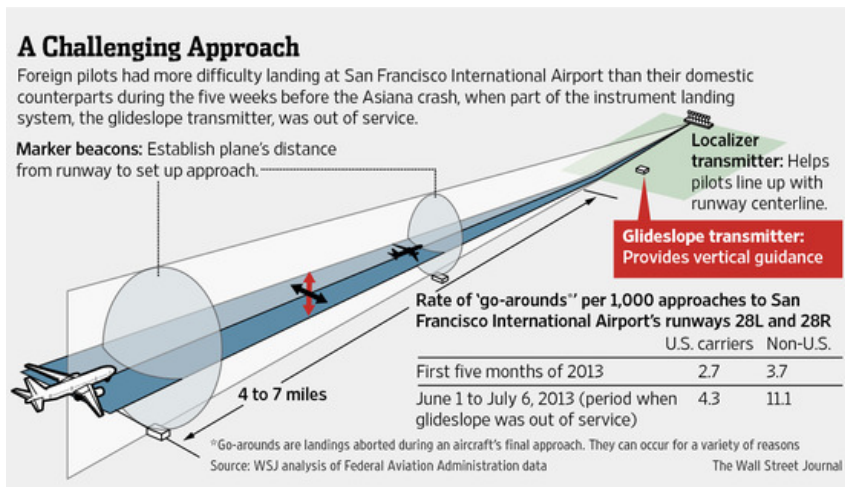


U.S.

Analysis: Foreign Airline Crews Had Difficulties With San Francisco Landings

U.S. Pilots Had Fewer 'Go-Arounds' When Part of Automated System Was Down



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Foreign airline crews experienced problems approaching San Francisco International Airport at a greater rate than U.S. pilots when the airport's landing guidance system was impaired, a Wall Street Journal analysis of government data found.

The findings, based on nearly 100,000 flights coming into the busy hub over six months, come as federal investigators held their first public hearing Wednesday on the crash last summer of an Asiana Airlines Co. jet in which three people died and 180 were injured. The pilots' undue reliance on automated flight systems has emerged as a key factor in that crash.

Asiana, based in South Korea, had the highest rate during the system outage of any carrier serving San Francisco for "go-arounds"—approaches broken off at low altitude before touchdown—the Journal found.

In July, an Asiana Boeing Co. 777, flying dangerously slow and low into San Francisco, slammed its tail into a seawall in front of its intended runway. Investigators of the crash are focusing on pilot confusion about automated thrust settings, coupled with the cockpit crew's failure to properly monitor the jetliner's speed and trajectory during the visual approach in good weather.

At its public hearing, the National Transportation Safety Board revealed Wednesday that the commander of the Asiana jet failed to respond to as many as four verbal warnings from a co-pilot that the aircraft was descending too quickly shortly before impact. The pilot flying the approach told investigators afterward he had been "very concerned" about executing the approach to San Francisco without precise vertical guidance.

Asiana officials said Wednesday that all company pilots flying into SFO had the required training, experience and the confidence of management.

The instrument landing system at San Francisco provides just such vertical and horizontal guidance, giving pilots detailed visual cues on their instrument panels if they veer from a safe trajectory. Otherwise, crews would have to use their own eyes and judgment to line up with a less-precise array of lights alongside the runway intended to help pilots stay on the correct path.

Over a five-week stretch leading up to the July 6 crash, a pivotal component of the system at SFO, as the airport is known, was out of service on the two busiest runways because of construction.

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During the outage, foreign carriers broke off landing approaches to go around and try again at a rate nearly three times as high as their American counterparts, according to the Journal's analysis. The Journal examined radar data for 95,436 approaches to San Francisco's runways 28L and 28R, and

focused on go-arounds initiated at altitudes of 1,000 feet or lower.

From Jan. 1 through June 1, the point at which San Francisco's "glideslope" equipment was taken out of service, non-U.S. carriers executed at least 20 go-arounds at or below 1,000 feet in 5,349 approaches to the two runways, for a rate of 3.7 go-arounds per 1,000 flights. That is about 37% higher than the 2.7 per thousand for domestic carriers in the same period.

Once the glideslope shut down, rates rose for both domestic and foreign carriers, but the increase for non-U.S. airlines was significantly larger.

Relying on visual approaches without precise, ground-based guidance, foreign airlines racked up at least 17 go-arounds out of 1,534 approaches, a rate of 11.1 per 1,000 approaches. By comparison, the rate for U.S. airlines during the same period was 4.3 per 1,000 approaches.

Four of the go-arounds by non-U.S. carriers involved Asiana, including one executed 400 feet from the ground just after midnight on the day before the crash. The other three planes each descended to 200 feet before executing their go-arounds.



In July, three people died and more than 180 were injured when an Asiana Boeing Co. 777, flying dangerously slow and low, slammed its tail into a seawall in front of its intended runway. *ASSOCIATED PRESS*

An Asiana spokesman declined to confirm the total, saying "Asiana's policy is that any pilot can call for a go-around, and can do so without penalty."

Safety experts cite various reasons for the discrepancy between U.S. and foreign airlines. Some say foreign crews have less exposure to SFO's busy airspace; its closely spaced parallel runways; and the tendency of controllers to boost airport capacity by often maintaining minimum required spacing between planes. Others see some foreign

airlines playing down manual skills—particularly for pilots flying widebody planes on long-haul routes—because automated controls are more fuel-efficient than manual flying.

Pilots can perform go-arounds for a variety of reasons, including congestion on the ground or in the air, and a failure to properly align the plane with the runway late in the approach. In some cases, the aborted landings are ordered by air-traffic controllers; other times, pilots make the decision to try again. According to the FAA, go-arounds “are routine, standardized procedures, and can occur once a day or more at busy airports for various reasons.”

The spate of go-arounds by non-U.S. carriers may be explored in testimony and documents slated to be released this week as part of the NTSB’s hearing.

“The statistics for go-arounds are obviously a significant element” as investigators unravel what happened and why the accident occurred, according to Robert Francis, a former vice chairman of the safety board. “It’s just the kind of thing the NTSB certainly will be paying a lot of attention to.”

Roughly two weeks after the accident—with part of the ground-based precision landing equipment still inoperative—the FAA took the unusual step of publicly prodding pilots of foreign airlines to use satellite-based aids or other systems as safeguards when landing at SFO.

Air-traffic controllers also stopped clearing foreign carriers for simultaneous visual approaches to closely spaced parallel runways, which can distract pilots. The extra precautions, which didn’t apply to U.S. carriers, were lifted on Aug. 22, the day when SFO’s glideslope equipment was put back into service.

This week, an FAA spokeswoman said the special procedures were prompted by “an increase in go-arounds at SFO by some foreign carriers that were flying visual approaches,” though she didn’t provide specifics.

The data analyzed by the Journal showed the flight tracks of all aircraft that approached SFO during the period, providing each plane’s latitude, longitude and altitude approximately every five seconds. The data didn’t include reasons for the any of the maneuvers those planes made.

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