

BY RICK DARBY

Thai Score

Thai Airways flight operations safety analysis finds a reluctance to conduct go-arounds.

Only one of 16 unstabilized approaches flown by flight crews of Thai Airways in the first quarter of 2011 resulted in a go-around, according to data from the company's Flight Safety Investigation Department.¹ An increase in false — also called nuisance or non-safety-critical — enhanced ground proximity warning system (EGPWS) warnings was also seen during the period.

Safety-related events in a Thai Airways study were categorized as involving flight safety, ground safety or cabin safety. Ground safety events were the least frequent — totaling 20 in the January–March study period. They included “two reports of high breakaway thrust at Suvarnabhumi Airport [Bangkok]”; 10 reports of an aircraft parked beyond the “T” mark; absence of red traffic cones around caution areas such as under aircraft wings and engines; inaccurate calculation of zero fuel weight; aircraft center of gravity beyond the aft limit; maintenance workers' misunderstanding of pushback clearances; and defective disembarkation stairs.

Cabin safety events totaled 28, mostly “unruly, intoxicated passengers and passenger disobedience to safety regulations,” the summary

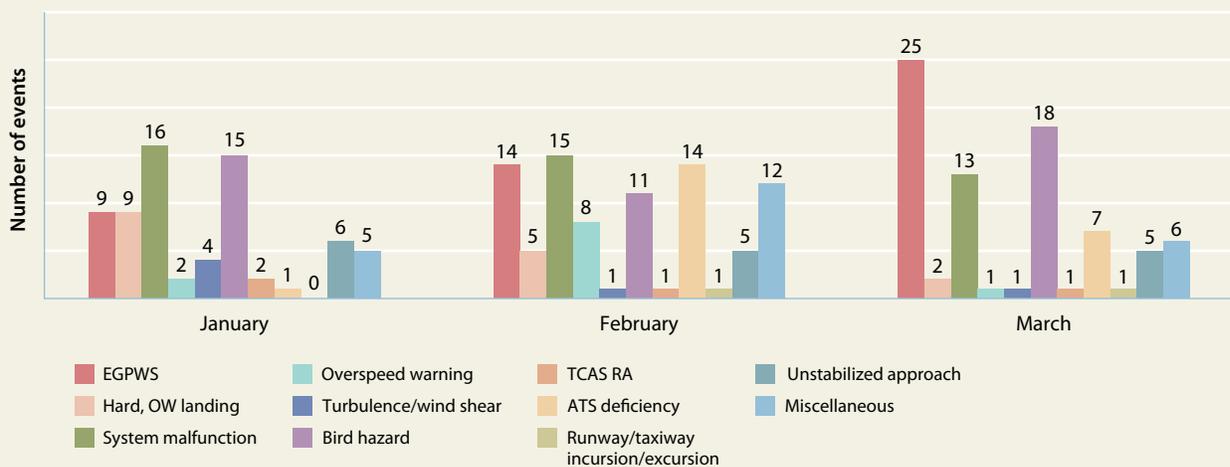
says. Also reported were crew and passenger illness and injury, whose leading causes were “turbulence and worn-out equipment.”

The greatest number of safety-related events — 236 — were in the flight safety category. Of those, the most-reported events, 48, concerned EGPWS bird hazards, 44 events; and system malfunctions, 44 events (Figure 1).

Concerning the pilots' reluctance to go around during unstabilized approaches, the summary says, “As our pilots were inclined to land the aircraft instead of making a go-around, the Flight Operations Safety Department therefore initiated a road map to a Non-Stabilized Approach Reduction Program, which aimed to make Thai [Airways] safer ... by supporting a no-fault go-around policy and attempting to embed the new mindset in all our pilots that go-around is a maneuver performed to avoid risk.” The program says that if an approach does not meet company criteria for a stabilized approach published in the operations manual, a go-around is standard operating procedure (SOP). “Any pilot who complies with SOP will be given a special recognition,” the department says.

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Thai Airways Flight Safety-Related Events, January-March 2011



ATS = air traffic service; EGPWS = enhanced ground proximity warning system; OW = overweight; TCAS RA = traffic alert and collision avoidance system resolution advisory

Source: Thai Airways

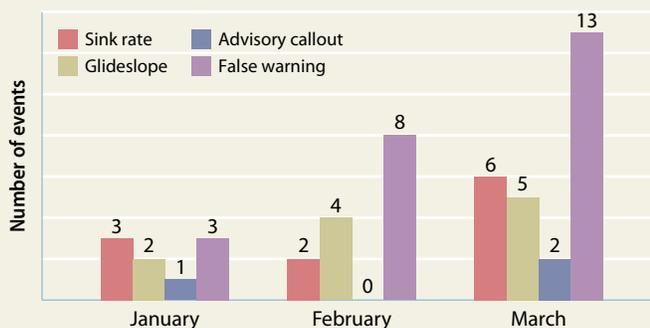
Figure 1

Sixteen overweight landings were reported, defined as “a landing made at a gross weight in excess of the maximum design landing weight for a particular aircraft.” The summary says, “In January and February, we [received reports of] a rather high number of overweight landing cases. We can draw a conclusion from the reports that the short-cut route and tail wind component led the aircraft to land overweight. ... Pilots can avoid an overweight landing by ... extending landing configuration [early] or requesting holding to prevent any possible damage to the aircraft structure.”

Among the 48 EGPWS events, the largest portion was categorized as false warnings, mainly of “terrain closure” and “unsafe terrain clearance” types (Figure 2). “Significantly, the record showed a dramatic increase in false warning events,” the summary says. “The number in February was almost thrice that number in January, while the number in March tallied nearly twice the number of February.”

Most of the warnings to pull up because of flight too close to terrain were activated in a single Airbus A330, the summary said. A

Thai Airways EGPWS Events, by Warning Mode, January-March 2011



EGPWS = enhanced ground proximity warning system

Source: Thai Airways

Figure 2

technician inspected the aircraft and found a fault in the global positioning system sensor unit. Otherwise, the most prevalent EGPWS warnings were for “sink rate” and “glideslope.”

The summary also looked at the nature of system malfunctions reported during the study period (Figure 3, p. 50). It ascribed the large number of “miscellaneous” malfunctions in

January to a repeated “false warning from a cargo door system” on one aircraft, resulting in diversions and turnbacks.

As a result of the malfunctions, pilots responded with ground turnbacks in 27 percent of the three-month total of these maneuvers, with air turnbacks in 25 percent and rejected takeoffs in 14 percent (Figure 4). Most of the flights, 34 percent, were continued safely, the summary says.

Thai Airways experienced 44 bird strikes in the study period. Most bird strike cases, 27 reported, were caused by single, small birds, followed by single medium-size birds, 11 reported. “There were two bird strike cases in this quarter that caused damage to the aircraft,” the summary says. “In January, a medium-sized bird struck the middle of a nose radome and caused a crack. The other bird impact occurred in February, when the aircraft had to abort takeoff after hitting the single large bird and having the fan blades of engine no. 2 damaged and requiring its replacement.”

According to the department’s records, 41 percent of reported bird strikes occurred during the landing phase of flight, 30 percent during takeoff, 20 percent during approach and 9 percent during initial climb.

The Year After Air France 447

A report from the other side of the world provided a window into French aviation safety.² The Direction Générale de l’Aviation Civile (DGAC) says that a single fatal accident occurred in French public transport aviation in 2010, the year following the loss of Air France 447. That

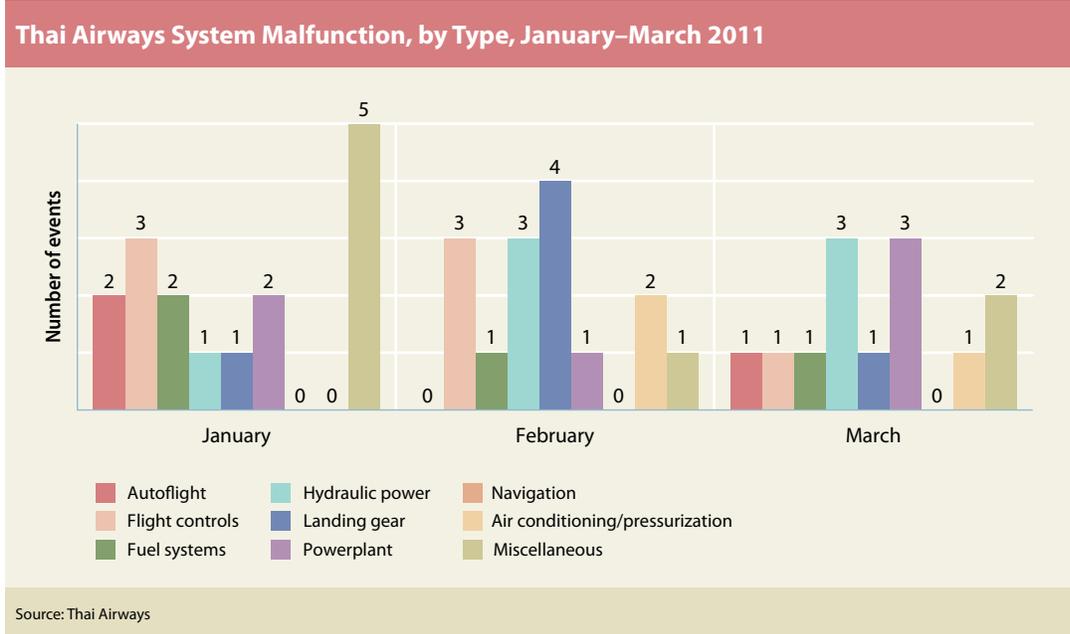


Figure 3

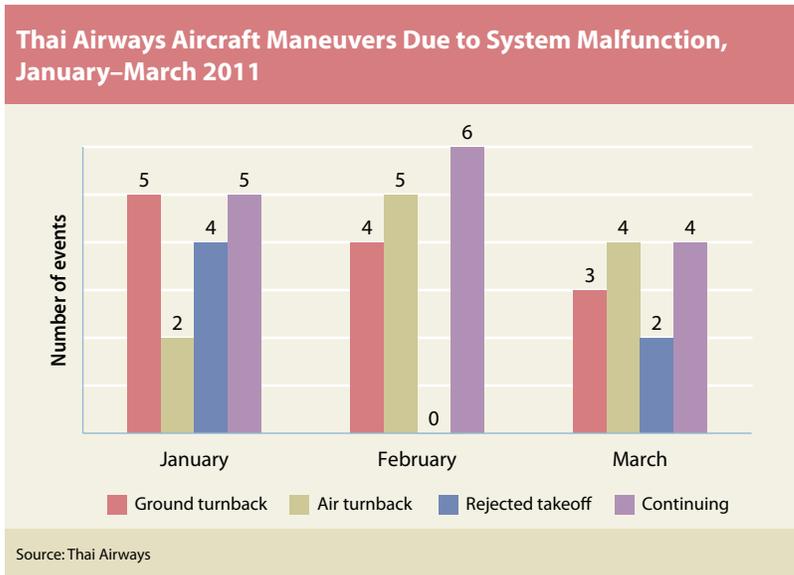
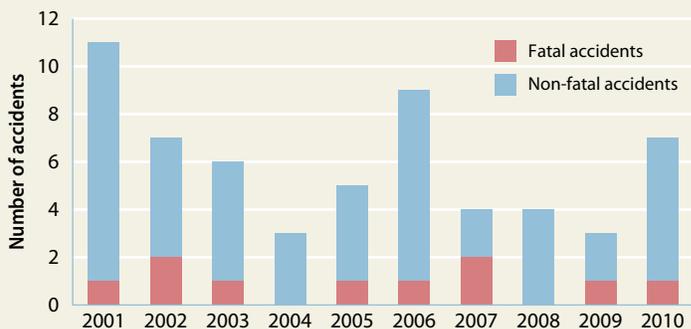


Figure 4

accident involved an Écureuil AS 350 helicopter in the Antarctic; its pilot and three passengers were killed. Four airplane accidents involving French air carriers, three occurring in France, were nonfatal.³

“The fatal accident rate per million flight hours averaged over five years ... came down to about 0.27, against 0.40 a year earlier,” the report says. “It is one of the best values recorded during the past 20 years.”

French Public Transport Aircraft Accidents, 2001–2010

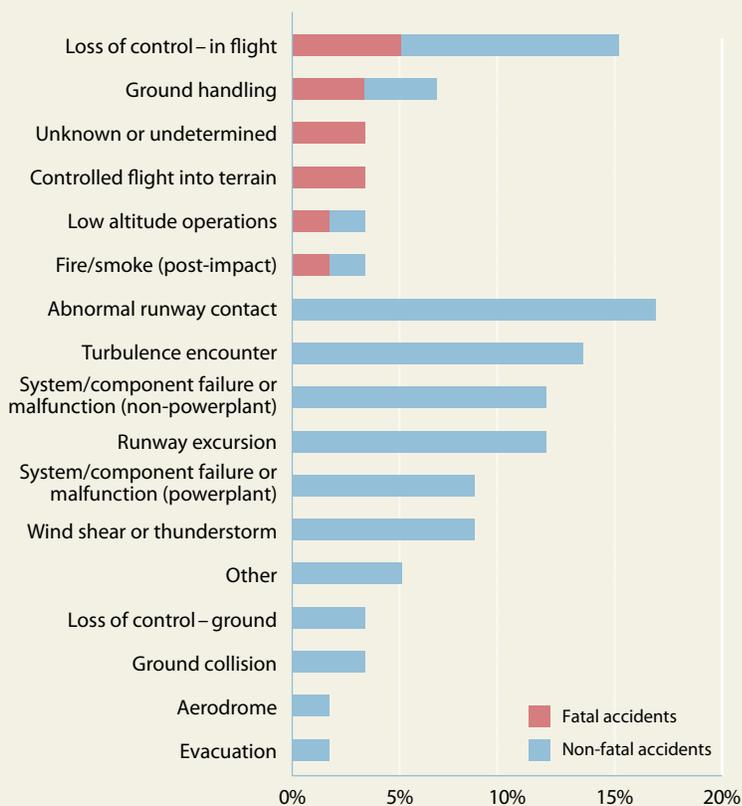


Note: For accidents involving two aircraft, the same description was used for each aircraft, and the descriptions were counted only once.

Source: French Bureau d’Enquêtes et d’Analyses

Figure 5

CAST-ICAO Categories, French Public Transport Aircraft Accidents, 2000–2010



CAST-ICAO = U.S. Commercial Aviation Safety Team-International Civil Aviation Organization

Source: French Bureau d’Enquêtes et d’Analyses

Figure 6

The report lists 17 serious incidents during the year involving French public transport aircraft that were investigated by the Bureau d’Enquêtes et d’Analyses (BEA). Five occurred during takeoff, five en route, three during approach, three while taxiing and one during landing. All but one occurred in France.

Between 2001 and 2010, the BEA investigated 10 fatal accidents in French public transport, with 283 total fatalities. “The average annual number of fatal accidents was one during the period, with values ranging from zero to two,” the report says (Figure 5).⁴ In two years, 2004 and 2008, no one died in French public transport aviation accidents, and there was only one fatality each year in 2003 and 2005.

Accidents from 2000 through 2010 were categorized according to the U.S. Commercial Aviation Safety Team-International Civil Aviation Organization (ICAO) taxonomy (Figure 6). Among fatal accidents, the most frequent category was “loss of control-in flight,” followed closely by “ground handling,” “unknown or undetermined,” and “controlled flight into terrain.”

The most frequent category of non-fatal accidents was “abnormal runway contact,” followed by “turbulence encounter.”

The BEA investigated two accidents, both non-fatal, and eight incidents involving non-French air carriers in 2010. 🌐

Notes

1. Thai Airways, Flight Safety Investigation Department. “Statistical Summary of Air Safety Reports,” *Thai Flight Safety Information* Volume 31(3), July–September 2011. The data concern only Thai Airways flights, not other air carriers operating in Thailand, and are based on written reports by pilots.
2. DGAC. “Rapport sur la Sécurité Aérienne — 2010” In French only. Available on the Internet at <bit.ly/cyT7TN>.
3. Airplane accident data concerned airplanes with more than 19 seats. Accident and incident definitions are based on ICAO Annex 13, *Aircraft Accident and Incident Investigation*.
4. The additional accidents shown in the chart for 2010, besides those mentioned, involved balloons.