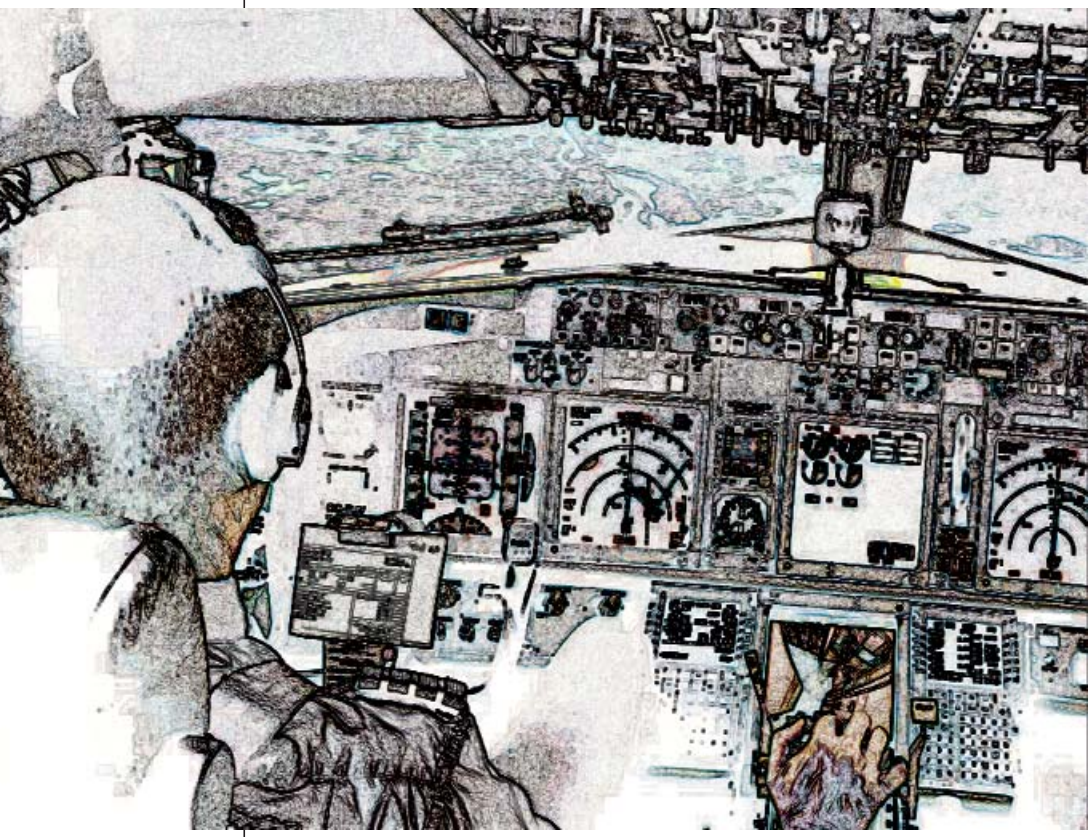
CREATING POLICIES PILOTS CAN BUY INTO

Why are go-around policies ineffective?

Michael R. Grüninger and Capt. Carl C. Norgren analyze the psychology behind go-around policy non-compliance

OVERRUN
The aircraft overshot the runway 21 at Lanzarote Airport (center) due to pilot miscalculation.



A Long Night

It had been a long night. The sun was about to rise into the early morning of the 31st of October 2008. The commander was still napping in his seat while the co-pilot was at the controls of Air Europa's Boeing 737-800 on the return flight from Glasgow to Lanzarote. Flight UX-196 was on a non-scheduled night flight from Lanzarote to Glasgow and back.

The night before the day of the incident, the commander reported for duty at 20:40. He found the co-pilot already in the briefing room preparing for the flight. The co-pilot liked preparing for the flights well ahead of time and had a habit of spending additional time studying all relevant flight safety information.

Before commencing descent after the night flight, the co-pilot had thoroughly prepared a landing in Lanzarote on Runway 03. However, when he woke up from his in-flight controlled rest, the commander

decided to request the opposite runway to expedite their arrival. He had a positioning flight to catch and was too eager to land. He did not consult with the co-pilot before requesting the shortcut. When the crew received clearance for runway 21, the commander did not assist the co-pilot as pilot monitoring. Instead, he let the co-pilot get overwhelmed by the increase in workload due to the sudden and unprepared change of runway.

They were 21 nm from the threshold of runway 21 with an indicated airspeed of 315 kt and an altitude of 10,000 ft.

During the last 1,000 ft, the ground proximity warning system was repeatedly issuing SINK RATE, PULL UP and TOO LOW TERRAIN warnings. They flew over the threshold of runway 21 at a radio altitude of approximately 190 ft with an indicated air speed of 175 kts – 41 kts above the reference speed. The flaps had not extended to landing configuration due to the automatic activation of the flap load relief mechanism.

Given all other factors on that day, it doesn't come as a surprise that this aircraft could not stop on the runway. The airplane ran off the end of the runway at a ground speed of 51 kt and travelled over the 60 m of the stopway. It stopped one meter from the jet blast barrier of runway 03. Nobody was injured. The tires were damaged and replaced prior to the next flight.

The long night duty ended with a very close call.

But what led the flight crew to attempt the landing given such an unstabilized approach?

Non-Compliance with Go-Around Policy

Why not simply follow the stabilized approach policy contained in the Operations Manual?

Why not simply follow the policy and go-around after an un-stabilized approach? Various studies have looked into the reasons.

The Flight Safety Foundation recently published new insights and recommendations on go-around non-compliance.

"Failure to conduct a go-around is the number one risk factor in approach and landing accidents and a primary cause of runway excursions. The global aviation industry's rate of compliance with go-around policies is extremely poor: Approximately 3 percent of unstable approaches result in go-around policy compliance. Improving compliance holds tremendous potential in reducing approach and landing accidents," the study concludes.

At the same time, the go-around itself is not without risk. Industry data suggests that between 1 and 3 go-arounds are flown per 1,000 approaches. A go-around procedure is not a routine procedure for the flight crew. The risks must be understood and effectively mitigated before more go-arounds are encouraged and performed.

Why Is Compliance So Low?

The Flight Safety Foundation Go-Around Decision-Making and Execution Project was launched in 2011 to research and answer the question "Why are flight crews so poor at complying with established go-around policies?" It was also intended to improve the understanding of the risks associated with executing go-arounds and to make recommendations to improve compliance and mitigate risks associated with the go-around maneuver itself.

CHANCE
The Air Europa Boeing 737-800 (center) was carrying 80 people. Luckily no-one was injured.

COST
The plane had minor tyre damage and two approach lights on runway 03 were broken.

In March 2017, the Flight Safety Foundation published the final report.

Policies Must Make Sense to the Crew

The reason why a go-around policy, or any other procedure for that matter, is not complied with lies in what psychologists refer to as "situational awareness constructs". Flight crews will not follow a policy or procedure when they feel that they can cope with the emerging problem and when they consider the policy to be counterproductive in achieving their mission.

In addition to the FSF situational awareness constructs, flight crews might also be driven by the following biases or influences:

❍ Stigma of failure (believing wrongly that a go-around to execute the landing is a failure);

❍ Mission bias (pressure of crew, passengers and company to complete the mission, production vs. protection);

❍ Continuing on the present course of action is easier than changing the course of action.

Management Attention

As strange as it may sound, noncompliance by front-line personnel is mainly a management issue.

The runway overrun of UX-196 was a consequence of the flight crew landing the aircraft and not going-around, despite a clear policy to do so, according to the accident report. However, the underlying reasons lie in the psyche of both flight crew members and the flight ops management.

According to the FSF report, flight crews will only comply with policies and procedures that the crews judge to be 'sensible' and that support the basic mission of providing a safe transportation service. Policies and procedures which are deemed to be of little value and may even be counterproductive to the mission are likely to be ignored.

This is especially true if management supervision is weak and the flight crew believes that non-compliance will remain without consequence. This is the case if management lacks effective tools to carry out supervision of the flight operation or if management is perceived not to follow up acts of non-compliance.

Management needs to clearly state the expectation of compliance with policies and procedures, including policies for stabilized approach and criteria for go-around decision making. In addition, management requires effective tools to monitor compliance and the resources to follow up acts of non-compliance.

The FSF report recommends that management define clear performance indicators and periodically benchmark actual performance against target performance. The old rule that goes "you can only control what you track" is as true in flight operations as it is in finance.

Flight data monitoring is a useful tool in this regard. To be effective, it must become a common management tool for flight operations managers, and not just an instrument to demonstrate regulatory compliance.

Flight Crew Buy-in

Awareness campaigns by management and appropriate training syllabi are useful tools to ensure flight crew members are aware of the policies and procedures. As part of the awareness campaign, the rationale behind policies and procedures needs to be explained well. Creating an understanding of policies and procedures increases compliance levels.

Buy-in as Management Success

The accident report on UX-196 does not analyze how the flight operations management communicated the relevant policies and procedures or how it monitored compliance with the stabilized approach policy and the go-around decision making policy published in the Operations Manuals.

Publishing a policy is only the first step on the long path to actively ensuring compliance with the policy. Only when management finds ways to make flight crew members buy into the policies and procedures, management has succeeded in its mission.

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