SAFETY FIRST! OR NOT?

We often hear the slogan, 'safety first'. But what does this mean in practice? **Captain Wolfgang Starke** considers the question from a pilot's perspective, finding that time and cost pressure make trade-offs riskier.

KEY POINTS

- **Pressures of time and costs can lead to a shift in priorities and greater acceptance of risk.**
- **Significant reductions in safety may not be apparent from single assessments of operational risk, but a reduction of flight safety may be more obvious from a combination of changes to practice.**
- **There is an urgent need to resist and address production pressures, and focus more on safety.**

It is a long-standing term in aviation. Most airlines promulgate "safety first". But does this really still reflect reality? With increasing costs, high compensation fees in case of delays, tightened rosters, staff shortage, and everlasting slots all around Europe it somehow seems that the race for number one priority is up.

Landing with tailwind

During a routine day, a crew of a domestic flight was approaching their destination. Weather was quite welcoming, but some variable winds were prevailing. Despite a significant tailwind, the crew elected to continue the approach into their destination airport. Following a runway excursion during landing, the final report listed, despite others, time pressure as one of the causal factors.

Nowadays, we still see numerous runway excursions during landing, often overruns as a result of tailwind landings on wet runways. Pilots and controllers know this risk quite well. Still, controllers offer these options to pilots – intending to do the pilots a favour – and pilots request these riskier approaches and landings.

So we should ask ourselves, why? Often, pressures of time and costs influence these runway excursions. The airlines, of course, never educate their pilots to take unnecessary risks. However, pilots understand the results of delays, cancellations and high fuel costs. This

knowledge of economic considerations can, especially in a situation of tough competition between airlines, lead to a shift in priorities.

The safest way to land and take-off is into the wind. ICAO has stated conditions for selection of the runway in use in document 4444 PANS-ATM. With regard to tailwind, it is written that environmental factors like noise abatement should not be the determining factor if the tailwind exceeds five knots.

Let's look at reality. Despite the known risks of operation in tailwind conditions, an increasing number of airports are operating with noise preferential runway configurations. As the 5 knots maximum tailwind is a limiting factor, there have been numerous discussions within ICAO panels to increase the maximum allowed tailwind component for these operations up to 7 or even 10 knots.

This does not mean necessarily that aircraft will overrun the runway. Still, 10 knots of tailwind compared to 10 knots of headwind – using the other direction of the runway – means a total of 20 knots increase in ground speed upon landing. Also, the likelihood of a longer flare will increase with increasing tailwinds. All of this increases the chances of overrunning the end of the runway. Noise restrictions, like forbidding the use of reverse thrust, add further complications.

Irrespective of the winds, there is another step that is taken at many airports to reduce noise. The glide path of the ILS is in some places increased from 3 degrees to 3.2 degrees. Aircraft are now approaching a little steeper, which theoretically reduces noise by a couple of decibels.

Every single step seems manageable, and so it is in many cases.

But how might these add up? A steeper and faster approach that increases the chances of unstable approaches. A tailwind on the ground of 10 knots, which means the tailwind at 3000 feet above ground will be around 20 knots. Perhaps the runway is a little wet and reverse thrust is forbidden for noise reduction reasons. Are we still looking at a safe approach?

Each step, each assessment, will not show a significant reduction in safety. But if you combine all the small steps, all the different assessments, and make a large-scale safety assessment, the reduction of flight safety, the trade-off between safety and other goals will manifest quite clearly.

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The brake fault

I was once approaching a small regional airport with an Embraer 190 jet. During gear extension my Embraer came up with a 'brake fault' indication. We went around and worked through the related checklists. From the checklists, the landing seemed uneventful and so it was later on.

My first thought was to stay at that airport and see maintenance. Still after consultation with our maintenance office we did some ground checks and decided to return to our hub.

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During approach to our hub, the fault came up again. Upon landing the efficiency of our brake was heavily reduced making the landing very interesting. Luckily, nothing happened and we ended up safely at the stand. But why did we return to the hub instead of calling maintenance staff at the airport?

Calling maintenance to the small regional airport would have probably taken a day. The return flight and two other flights would have needed to be cancelled. This, as a consequence of a 'manageable' problem, seemed a little too drastic to my colleague and me.

If the primary goal had been 'safety first', then, of course, we should have accepted all the inconvenience and operational consequences for the airline. We always shift priorities in aviation, which is part of our job. These priorities are cost-effectiveness, on-time performance, safety, passenger comfort, and environmental footprint.

In times of increasing competition between airlines and less favourable market conditions, there is an urgent need to focus more on safety.

I have become more cautious when in flight deck. If the conditions do not seem safe, I simply go-around, regardless of consequences on my schedule, etc. If you are late, you are late. But dying early is more than an inconvenience.

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