FRENCH SAFETY STUDY ON THE LOW ACTIVITY PERIOD

The pandemic has not only affected health and traffic levels, but also the risk landscape. In this article, the **DSAC Safety Management Coordination Team** outlines the findings of a study on new threats in France, with some example reports from pilots.

Background

Non-stabilised approach

Scenario: Morning return flight, pilot flying on the way back. During the briefing, I mention the threat of under-training (one return trip every 15 days since June, 700 flight hours on [aircraft type]) and therefore the fact that I no longer dare to disengage the automatic systems. CAVOK, the captain offered to help me by increasing his monitoring in order to put me at ease and allow me to train. I hesitate, but with my Control 1 Training 1 deadline approaching, I want to train. AP FD ATHR disconnected at 6000 ft before the LOC interception, runway in sight. The approach goes well, then after full flaps I go high, I correct, speed a little high, I reduce (too much) then go under the slope, under VLS. I readjust the thrust and correct the slope just before the flare. We should have gone around.

Since March 2020, we have observed that some risks in aviation are linked to the COVID-19 low activity period. From the very first weeks of the traffic collapse, many actions have been taken by national and international authorities and by the operators themselves, and concerns have been expressed about new threats. Our French Civil Aviation Authority (DSAC) safety coordination team decided to study these new threats, on a short- and long-term basis, along with old threats whose effects might have escalated. This article aims to provide an outline of this study, and includes a small number of illustrative scenarios.

This analysis aimed to:

- assess the safety risks generated directly or indirectly by the safety issues arising from the current health crisis;
- ensure that operators have taken into account all the safety issues that relate to them within the framework of their safety management system (SMS), or in their safety policies for operators who do not implement a SMS; and
- make recommendations as a means of reducing risks.

Approach

This study is part of a coordinated approach to continuous risk management, which is at the heart of the State Safety Programme (SSP) in France. It is based on:

- our team's analysis of 8,000 event reports in France (around 40% of all reports between May and October 2020, and 7% of these reports were examined and classified in the light of the DSAC COVID portfolio – the taxonomy of safety issues specific to the health crisis);
- analysis of SSP indicators (safety topics in the reports, based on textual fields of the ADREP accident/incident data reporting taxonomy); and
- feedback from French oversight activities.

Key Results

State Safety Programme indicators

Although the low number of reports does not allow for a statistical analysis of the results, the variation of some indicators is helpful and relevant to determine priorities and actions. From the existing data in the DSAC database, some initial trends are as follows:

- The wildlife hazard indicator rose the most. This increase was particularly noticeable between the months of May and July 2020 after the initial lockdown. After a peak during the return to operations, the rate of reports on wildlife hazard remained above normal until October (the end of the study period).
- An increase in non-stabilised approach/non-compliant approach (NSA/NCA), also noted by IATA and some airlines. The possibility of shortening the approach path or making visual approaches to save time, as well as the temptation to disconnect automation to maintain manual handling skills, have been cited as potential factors in these events, like the report above.
- The absolute number of unruly passenger reports did not increase significantly, but events related to non-compliance with health instructions did occur. This resulted in an increase of around 30% in the rate of unruly passenger reports per million passengers for the French airlines.

Management system

Many operators (e.g., airlines, aerodrome operators, ANSPs) have seen the operation of their management systems affected to varying degrees. For some operators, this has resulted in:

- a risk to the ability to maintain internal oversight programmes;
- a delay in the analysis of safety events, with often poor diagnosis; and
- more rarely, a delay of up to several weeks in reporting their events.

Threats also arose in connection with the management of change in operations (new operations or changes in the network due to the crisis), where procedures are not always detailed in the organisation's reference frameworks (such as cargo flights or flights with derogations).

Unavailability of aircraft rescue and firefighting service (ARFFS) and wildlife control personnel have also been detected.

Take-off with unfinished weight and balance process

Scenario: After receiving the validation on ground, I do not tell the co-pilot that we have to wait [for the update before departure] ... We are then overwhelmed by the difficulty in getting a push and leave without [update before departure]. After the take-off, we receive a correction loadsheet modifying ZFW [zero fuel weight] and ZFWCG [zero fuel weight centre of gravity].

Elements of analysis: The mass and balance procedure is completed by the captain's signature and reception of the message [update before departure] (MANEX A). 'Hurry-up syndrome' is a threat during turnaround. It is all the more topical with low loads implying faster boarding and the means on the ground not being systematically available when the crew is ready. Good analysis of the crew. FSO return to flight crew for recall.

"Many events reveal errors, omissions, and loss of routines that could be a sign that practice is lacking"

Training, checking and recency

Reports often contain little or no information on the training of professionals and their recent practice. However, many events reveal errors, omissions, and loss of routines that could be a sign that practice is lacking. These errors can sometimes seem insignificant and are classified with low levels of risk by the operator's analyses. They nevertheless show a lack of practice which can, depending on the context, prove more critical. There are also possible signs of pilots' lack of self-confidence, for example in reports reporting long (or supposedly long) landings, where the demands for parameter analysis are greater than usual, but also with short or hard landings. Lack of practice also results in lack of skill and confusion between controllers, or a lack of responsiveness to particular situations.

Take-off despite alarm

Scenario: Special cockpit because it is my flight [...] to take over after 5 months without flying. Instructor in the right seat and two co-pilots in seats three and four. Rolling [...] for runway 02R. Rolling with a heavy workload because we had initially planned for runway 01L. Aircraft parameters reset, briefing updated and procedure [...] carried out. 3 contradictory ATC instructions also add load: "Hold short 02R" then "Line up 02R and wait" then again "hold short 02R". We arrive at the stopping point ready, C/L performed. And we are cleared for alignment [line-up] and take-off 02R. During the thrust setting, the alarm sounds furtively, "Config Gear Steering". I announce Stop, but the instructor announces, "No, it's ok". At that moment, I approve and we continue the take-off. On second thought, we should have stopped the take-off, especially as we were at low speed and that's what had been evoked at the briefing for any alarm before 80kts. The particular cockpit of the flight, the fact of being PM and therefore not having my hands on the controls at that moment, and maybe also the fact of still being "young" on this plane, made me take a bad decision.

Human performance

Non-compliance with procedures and working methods is present in the reports and feedback from oversight activities in almost all areas. This can have different reasons, e.g.:

- a drop in traffic leading to a drop in attention and reduced vigilance (ATCO);
- lack of recent practice;
- new procedures created by operators to adapt to the crisis less well assimilated; and
- pressure induced by the reduction of staff (ground handling).

However, the decrease in adherence to procedures may be more indicative of lack of practice and loss of routine and habitual reference points than of intentional non-compliance.

NSA: "Exit flaps instead of speed brakes"

Scenario: During the approach, FL 090, 250kt, shortening of the trajectory by control and speed reduction. Mistake on my part and release of the flaps for a few seconds instead of the speed brakes. High speed alarm. Incident reported on the TLB [tablet for logging incidents], after technical inspection, aircraft ok.

Elements of analysis by the operator: "Little traffic on the frequency, ATC requests a reduction of trajectory with a short remaining distance announcement, the captain is surprised, this possibility had not been evoked during the briefing. His first reflex is to extend the SPOILERS but he makes a mistake, he sets the flap control to extended by mistake, and it is reset to 0 as soon as the error is detected. In order to delay, he asks ATC to extend the downwind to redo his action project. No aircraft damage found after technical inspection. A lack of feeling at ease is undoubtedly a contributor to the event."

"Non-compliance with procedures and working methods is present in the reports and feedback from oversight activities"

Implications

Different recommendations were addressed to the operators: airlines, airports, ATC, airworthiness, ground handling and general aviation. For instance, they are all invited to share their experiences to avoid programming pilots close to their recent experience limits and to maintain ATCOs' ability to cope with the traffic peaks' workload.

Recommendations were not addressed directly to front-line workers, but to organisations, for instance, to make workers aware of specific risks. These include late changes in approach path, NSA/NCA, wildlife hazards, similar call signs, runway incursions and special operations like cargo flights without cabin crew.

Next Steps

At the time of writing, the health crisis is taking on new forms, and it is far from over. There seems to be a resurgence of a form of uncertainty comparable to the one that prevailed at the beginning of the health crisis. It is difficult to anticipate the duration and scale of this new phase, which – at the time of writing – is already producing further marked drops in activity. It is therefore to be expected that the risks identified in this study may well be prolonged, or even that new threats to civil aviation will emerge. Our team of safety analysts is therefore currently working on an update to this study. As the period of low activity is set to last, vigilance is still required.

The original study can be found here:

www.ecologie.gouv.fr/en/measures-taken-france-concerns-aviation-safety-deal-consequences-covid-19-epidemic or bit.ly/3fVFqOn