The Honourable Company of Air Pilots is the largest City of London Livery Company and the only one with a global membership. London Livery Companies are charitable specialist professional and trade bodies which, where relevant, seek to contribute their entirely independent and impartial expertise to their areas of interest. The Air Pilots Commercial Air Transport Team is directly supported by a large network of Company Members who review and validate our draft publications before issue.

If you would like to receive copies of new Safety Briefing Notes direct by email - or stop receiving them - please advise this to catcsg1@airpilots.org All published Notes which continue to be relevant can be consulted at or downloaded from https://www.airpilots.org/CATSafetyBriefingNotes/

AIR PILOTS - COMMERCIAL AIR TRANSPORT

SAFETY BRIEFING NOTE 14

[Issued 02 July 2024]

THE OBSERVING ROLE OF AUGMENTING CREW

The Context

The use of augmented flight crew to comply with state regulatory requirements for crewing long haul flights is continuing to increase as the range of available aircraft types provides more direct route opportunities. The primary role of such crew is to relieve operating crew members' en-route to allow them to take required rest in specially configured accommodation. However, the common - and sensible - operator requirement for them to occupy the supernumerary crew seats in flight below 10,000 feet (or higher), especially but not only during descent and approach but also when taxiing, is not always accompanied by guidance as to what this role involves. As a result, there may be more instances where observing pilots have not intervened to support an operating crew in abnormal circumstances than instances where they have usefully assisted.

Many operators still do not have explicit guidance on such observer 'intervention' and without it, many observing augmenting crew may be reluctant to act even when fully aware that it might assist. Such a view might be based on a perception that since they are not the operating crew, it is not their responsibility. A steep authority on the flight deck may make junior First or Second Officers reluctant to intervene even if it is specified as an operator requirement. It also appears that reluctance to get actively involved may be even greater if an observing pilot is not qualified to act as operating crew on the aircraft type for takeoff and landing. Prior briefing in such circumstances should recognise this.

Some examples of success and failure of augmenting crew as observers

- In 2012, the single augmenting crew member on an Airbus A340-300 about to join final approach to Zurich was first to see a glider on a collision course at the same altitude and immediately alerted the operating crew. A "pronounced avoidance manoeuvre" was initiated and approximately 260 metres separation achieved. The glider should not have been in Class 'C' airspace.[1]
- In 2015, a Boeing 777-200 was intentionally deviated almost 20 nm north of its normal route for the 40 minute night flight from Malabo to Douala to avoid convective weather. Both operating crew and the observing First Officer completely lost position awareness and at 5,000 feet agl, unaware of the close proximity to Mount Cameroon (over 13,000 feet), an EGPWS 'PULL UP' warning occurred. The response was an 8,000 feet climb during which the observing pilot called for wings level to increase climb rate and avoid turning further towards terrain. None of the pilots appeared to understand how to distinguish weather returns from terrain returns on the weather radar and none of them had referred to an appropriate en-route navigation chart prior to or during the flight.[2]
- In 2017, the operating crew of a Boeing 747-400 inbound to Hong Kong failed to adjust speed prior to the anticipated hold and the turn to join it led to stall buffet, several stick shaker activations and pilot-induced oscillations as they failed to follow the stall warning recovery procedure. Descent below the cleared level occurred and the upset caused injuries in the passenger cabin. The observing augmenting crew member, a Second Officer, did not proactively intervene in the presence of an extremely steep authority gradient.[3]
- In 2019, whilst making a routine cabin announcement during descent towards Barcelona, the PF Captain of a Boeing 787-8 responded to an alert of 'SPEED' from the observing First Officer by interrupting his announcement, extending the speed brakes, disconnecting the autopilot and

[1] see: https://www.sust.admin.ch/inhalte/AV-berichte/2208_e.pdf
[2] see: https://bea.aero/fileadmin/user_upload/BEA2015-0190.en.pdf
[3] see: https://www.atsb.gov.au/sites/default/files/media/5776528/ao-2017-044_final.pdf

pulling the control column sharply rearwards. This prevented an overspeed but the abrupt pitch change led to serious injuries to one of the cabin crew and a passenger.[4]

- In 2020, an Airbus A350-900 on an ILS approach at Frankfurt in night VMC failed to capture the glideslope and continued a high speed descent beyond full scale deflection until an EGPWS Warning led to the approach being discontinued. Minimum height was 668 feet agl when 6½ nm from the runway. For 90 minutes prior to go-around, the CVR recorded no intra-crew operational communications or any approach briefing and the two observing First Officers required by the Operations Manual to be present below FL 200 to "monitor the flight crew, recognise potential errors and provide guidance accordingly" claimed to have been unaware of the deviation.[5]

Discussion

Where it exists, there is a need, despite the requirement for a sterile flight deck environment, for any invisible intervention barrier to be removed. Observing crew need clarity on when and how they should seek to assist the operating crew if it appears to them that this may be important for operational safety. At the same time, operating crew need to be able to recognise that such intervention is most effective when it appears that they have overlooked something of potential or actual significance even if they have not. A flight deck culture needs to exist in which the observing crew are able to make a reasonable decision on when to say something but in which the pilot in command understands that whilst they may consider that a verbal intervention may or may not have been helpful, such action should never be criticised in flight. An after-flight debrief is the place for any discussion about observing crew member actions, whether perceived as helpful at the time or otherwise.

Safety Recommendations

<u>To Aircraft Operators</u>

- The Operations Manual should detail the responsibilities of augmenting crew members beyond assisting the operating crew as required before a flight departs and relieving them en route. Their observing role, whether on the ground during taxi out and taxi in or in the air below 10,000 feet or an alternative higher altitude should be explicitly described.
- It may be useful to enhance augmenting crew effectiveness by including exposure to the role during initial type simulator/line training for junior pilots who may find themselves so rostered.
- CRM training should cover observing responsibilities of pilots who will act as augmenting crew.
- Captains about to encounter observing augmenting crew must be trained how to respond to and debrief any intervention and whether filing of an internal safety report is expected.
- Particular attention must be paid to how any post flight informal crew debrief is handled by the pilot in command to preclude any perception of criticism in respect of an intervention.

<u>To Pilots</u>

- When leading the pre-flight briefing, the pilot in command must remind those pilots who will spend time observing during the initial and final parts of the flight of their responsibilities as well as informing them of assistance required prior to departure.
- If augmenting crew members are required to be present on the flight deck during initial climb, final descent and taxiing but their responsibilities are not documented, then they should be fully briefed on their responsibilities.
- If, after any pre or in flight briefing, an augmenting pilot is still unsure of the sort of situation which might justify their input when observing and how to act if it is considered appropriate, they should clarify this at the time to proactively remove any doubt.
- If an actual intervention results in an informal post flight crew debrief, it may be most effective if conducted with just the pilots who were on the flight deck at the time rather than the whole crew.
- Experience has shown that observer verbal intervention is likely to be an infrequent occurrence and seemingly more likely during descent/approach and during taxi pre or post flight than during climb. When intervening, due consideration should be given to the operating crew workload - only the most exceptional circumstances are likely to justify intervention during or just after takeoff or just before and during landing and such observer 'interruption' should generally be avoided but that does not mean it should never occur.
- Observing crew should be actively alert not only during climb and descent but also during taxi before and after flight in respect of clearances and the wider monitoring of other traffic and clearances which might be 'of interest'.
- If there is no company requirement for augmenting crew to be on the flight deck for departure and arrival then the pilot in command could still usefully invite them to be present and observe/alert.

[4] see: https://www.transportes.gob.es/recursos_mfom/comodin/recursos/a-055-2019_final_report_0.pdf
[5] see: https://www.bfu-web.de/EN/Publications/FinalReports/2020/Report_20-0002-EX_A350_EDDF.pdf?__blob=publicationFile&v=1