Case Study Comment 5
by Dirk de Winter

Is the event I consider to be a threat for you really affecting you? Communicate and you will know. Threat and error management philosophy and techniques are nowadays well established in the worlds of both flight crew and controllers. The main idea is that a perfect world does not exist and in real life operations threats and errors are present that have to be managed successfully by all stakeholders to maintain flight safety.

Dirk de Winter

is has over 11,000 hours flying time over the last 22 years. He started as a cadet pilot with SABENA in 1987 flying Boeing and Airbus aircraft. Before starting his flying career Dirk obtained an academic Master degree in Electronic Engineering at the University of Brussels. Since January 2009 Dirk has been working part-time in EUROCONTROL Agency.

Techniques to identify, anticipate and manage these threats and errors are part of the Crew Resource Management (CRM) training for flight crew or Human Factors training for controllers. Training focuses mainly on solving these issues within their own area of competence and there is seldom a focus on how threats evolve when they pass from one controller to another or from controller to flight crew or vice versa.

The approach controller was presented with additional diverting traffic from the cargo airport. They were of unfamiliar aircraft type, and unknown operators. Instead of mitigating the threat associated with this she focussed on the possibility of low fuel. But was low fuel likely? Maybe the flight crew of the business jet were advised by NOTAM that the ILS would be out of service and in view of the weather forecast were carrying additional fuel. Clearly the flight crew was under pressure: they had to ask for the ILS frequency, missed the tower frequency and were too high and fast on the descent profile. These were real threats which mitigated against the flight crew being able to make a stabilised approach. Knowing the runway was being utilised in mixed mode with a significant tailwind and that the preceding An-124 was not familiar with the airport, the approach controller still passed the speeding business jet to the tower controller.

The tower controller too was unfamiliar with the size of the An-124 and expected him to clear the runway immediately via the rapid exit taxiway. A B737 which had probably received a conditional line-up clearance was already lined-up but was unable to take-off immediately as the An-124 could be seen still not clear of the runway. The tower controller was now faced with an aircraft rolling for take-off and an aircraft in short final being too fast.

Could this situation have been avoided? Was the controller sure the business jet was low on fuel? Did she request his fuel state? She could have told the flight crew she would give them some extra track miles because they were getting too close to the preceding aircraft. The flight crew would probably have been delighted with the extra time to prepare the approach and if they really had been in a low-fuel state they could still have declared an urgency or emergency situation.

Instead she acted in support of the supposed low-fuel state but passed the increasing real threat (reduced separation, rushed approach) on to the next controller and the flight crew. The tower controller is faced with an aircraft rolling late for take-off and the business jet appearing fast on short final. The flight crew of the business jet is also under pressure because they find themselves on short final with an aircraft rolling for take-off in front of them.

A RECOMMENDATION

Always ask yourself if a threat you're considering is a real threat to you or your colleagues. If it's a real threat mitigate it. Never pass it on. Small threats will become bigger for your colleague(s) especially when combined with other unexpected threats.