



LOSS OF SEPARATION - A LESSON FOR THE INSTRUCTOR

An air traffic control officer (ATCO) was on duty at the combined tower/approach control at a European airport. With him in the control room were two air traffic control students who were receiving on-the-job training. Neither of them was qualified to act as ATCO, in fact their procedural approach control training was not scheduled to commence for another two months. However, one of the students had handled radio communications at the same ATCO's workstation the night before and the other student was now invited to do the same. She took a seat at the ATCO's work station and he moved off some 2-3 metres away.

At that time, daylight conditions prevailed and the visibility was good. The traffic consisted of VFR flights in the terminal area. The student had practiced handling this kind of traffic in the simulator and she dealt with the radio communications, annotated the flight strips and took care of the Air Navigation Services system. She worked well.

The ATCO took care of the telephones. He could hear the radio communications from the air traffic control loudspeakers and gave ATC clearances which the student forwarded to the aircraft by radio. However, there was no monitoring and override system for supervision of radio communications as required by the national authority in training situations.

After a while the traffic changed to IFR flights; there were three departing and one arriving aircraft. The student realised that she was not qualified to handle IFR traffic and asked for help

from the ATCO, who let her remain at the workstation while he dictated the clearances to be forwarded to the aircraft. Due to the ATCO's location and distance he could not follow the student's annotations on strips or see the radar monitor display. The ATCO dictated the clearances based on the radio traffic from the loudspeakers and on his own memory.

The first aircraft to depart was a light aircraft. The ATCO dictated the route clearance, which the student at the workstation forwarded to the aircraft. Next a commercial turboprop, Turbo 109, requested start-up clearance. The aircraft was taxiing when the student passed the ATCO's route clearance - to point X-RAY at FL80. The crew read back the clearance correctly. Then a regional jet, Regional 443, received start-up clearance and the student forwarded the departure clearance and dealt competently with a query from the first officer.

The first inbound aircraft was another regional jet, Regional 505, approaching the airfield via point X-RAY. The student forwarded "Regional 505 cleared to Point X-RAY, expect approach runway 08, no delay, continue descent to 3200feet." The first officer read back the clearance correctly. The student then reported: "New QNH 1011," which was acknowledged by the aircraft.

Regional 505 descended towards the airfield with a clearance to 3200 ft. Turbo 109 climbed in the opposite direction cleared to FL 80. The crew of 505 noticed conflicting traffic on their TCAS and requested: "Tower, 505, we have an aircraft in front, on the TCAS, 1400 below, climbing, where is it

going?" The ATCO replied: "Regional 44 ... correction Regional 505, did you ask about TCAS or what?" (At this point the ATCO moved to the work station and took over control). 505 replied: "Yes, it is about 10 miles in front of us, opposite, less than a thousand feet and climbing." Then a few seconds later: "Now maintaining." The ATCO replied: "Yes, wait a minute" then: "Maintain that level 90." 505 replied: "Climbing back to 90, 505, we have 86 now." The distance between the two aircraft decreased to about six nautical miles during this conversation. The minimum vertical distance between the aircraft was about 500 ft (150 m).

Communication between ATC and the two regional jets was carried out in the national language, which the crew of Turbo 109 did not understand. Therefore, they did not understand the clearance given to Regional 505 either, or their report concerning TCAS. According to the commander they too observed the opposite aircraft on their TCAS display but did not receive any TA and maintained the cleared level of FL 80.

Of course this couldn't happen to you ... and it shouldn't happen to anyone - but it did. No harm was done: there was no danger of collision because of the vigilance of the pilots. The incident was investigated by the national authority and you can bet there were some important changes made in that control room. Changes concerning:

- Ensuring that duties are carried out and supervised in accordance with given instructions, with special attention being paid to operational safety.

- The type and location of equipment within the control room to assist effective monitoring of training.
- The preparation of proper on-the-job training programmes and instructions which detail the responsibilities of the instructor and students.
- The appointment of on-the-job training instructors in accordance with national regulations.

Are all your ticks in the right boxes?

LESSONS LEARNED

The following recommendations are taken from Safety Reminder Message - SAFETY OCCURRENCES DURING ON-THE-JOB TRAINING (OJT), distributed by EUROCONTROL on 20/9/2005 which may be viewed at

www.eurocontrol.int/safety/public/standard_page/safety_alert_board.html

- The OJT instructor is responsible for the safety of the ATC service being provided under supervision. Therefore consider:
 - identifying needs for and implementing improvements in the selection and training of the OJT instructor;
 - clearly defining and documenting the roles and responsibilities of the OJT instructor and implementing them in the OJT instructor training programme;
 - limiting the time on the OJT position;
 - providing refresher training on coaching techniques and error recovery to OJT instructors on a regular basis;
 - introducing a regular meeting forum for the OJT instructors for exchanging lessons learned and good practices and for supporting drafting the respective Unit/ANSP Training Plan;
- making arrangements for sharing situational awareness and the plan of work between the OJT instructor and the trainee;
- detailing when and how to take over control from the trainee, including the take-over of communication by using the appropriate switch/pedal to activate the transmitter;
- detailing the procedure for the hand-over/take-over of the position, including introducing appropriate checklists;
- ensuring the OJT instructor is briefed on the level of proficiency of the student/trainee;
- developing a competence scheme for OJT instructors;
- Ensure that the ANSP has a procedure to provide assurance that students and trainees are appropriately trained and licensed.
- Consider limiting the number of permitted OJT instructors per trainee, ideally one to one.
- Consider restricting simultaneous OJT on more than one position of a sector or more than one adjacent sectors.
- Consider incremental increase of complexity in the training programme - defining training phases and communicating the objectives and progress of the phase, including strong and weak points.
- Consider introducing the practice of briefings and de-briefings between the OJT instructor and the trainee.
- Review the training programmes to ensure that they reflect the knowledge and skills required for:
 - collision avoidance;
 - emergency situations.
- Ensure smooth transition from simulator to OJT, including:
 - sufficient simulator time;
 - training in emergency and unusual situations;
 - identical system support;
 - simulation environment as close as possible to the operational environment;
 - consider the possibility for OJT instructor and student to be able to use simulation facilities during OJT so that certain experiences occurring with live traffic can be repeated in a simulated environment in order to maximise the lessons learned.