Case Study Comment 2
by Alexander Krastev

The article describes an incident that could happen and may have happened anywhere. As is the case in many accident and incident scenarios a number of existing issues (latent threats) that cannot be easily designed out of the system manifest themselves at the same time and render the ATC barriers ineffective.

Why did it come to the point where TCAS had to save the day? The obvious, but by no means complete explanation is that the trainee controller could not maintain adequate situational awareness following the loss of radar information. Of course, the situation was seriously aggravated by the emergency state on board of the T123 flight that did not comply with the late clearance intended to prevent loss of separation with the conflicting traffic.

Is it possible to prevent such events in the future? I would rather give a positive answer to this question subject to the proper management of the 'latent threats' mentioned earlier, notably:

- simultaneous OJT at two neighbouring sectors;
- The OJTI's 'unsafe' practice (leaving the ops room to teach the trainee to handle the traffic himself);
- Considerable HMI difference between the main and back-up systems which impacts on controllers' ability to restore quickly situational awareness following failure of the main system;
- Insufficient training for degraded modes of operation and handling of unusual situations;
- The notorious shortage of ATC training resources, whether in the form of overbooked simulator facilities or an insufficient number of instructors always underpinned by ever increasing cost-efficiency requirements;
- Last but not least, the fact that the controller selection, education and training concept has changed a lot in the past 10 years. For example, many service providers have relaxed the educational requirements in order to ensure that the necessary uptake of ab-initio students is achieved.

> The possible measures need to be prioritised for implementation so that an acceptable level of safety is maintained all the time.

On the other (airborne) side - the airlines can also contribute to reducing the likelihood of such incidents by proper aircraft maintenance and continuing airworthiness procedures. Of course, adequate training of flight crews for emergency and unusual situations is a 'must', too.

In 'live ATC operations" it will take some time (probably a few years) to implement effective control of all of the above threats. Therefore the possible measures need to be prioritised for implementation so that an acceptable level of safety is maintained all the time. It is tempting to think that banning the instructors from leaving the operational position while training is on-going is the 'low hanging fruit' that will solve the problem.

A RECOMMENDATION

I would not bet my lunch on that, but make efforts to improve training for degraded modes of operation and the handling of unusual situations.

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