Case Study Comment 2
by Alexander Krastev

This story supports the conclusion based on the findings of many safety investigations that several factors link together in a sequence that ultimately leads to the unwanted safety outcome. Each of these "latent" issues used to be common in the ATC environment in the past and some still exist today. On their own, such latent problems cannot cause a safety event due to the inherent design of the ATC system – no single failure should cause an accident.

I will address these factors in the sequence they appear in the story.

The first factor is the inappropriate change management by the organisation. Two issues become obvious: (1) lack of involvement of the operational staff, i.e. the users, in the design and implementation of changes to the operational system that have direct impact on the safety of ATC and (2) the failed communication process – controllers were unaware of the implemented system change, notably of the flight plan track capability. Although I must admit here that I have never heard of an HMI design that provides identical symbols for both radar tracks and flight plan tracks.

The second factor is the flawed position handover/takeover. The outgoing controller did not inform the next sector controller and the controller taking over of the direct route she had given to X-line 123. Neither did she notify the controller taking over of the fact that coordination was pending. Both the outgoing controller and the controller taking over contributed to the rushed position handover. The latter effectively prevented notification of the changed route to the next sector controller.

The third factor is the supervisor's complacency which led to him not noting the alert about the loss of radar data. "I spend more time outside the operations room than in position these days" admitted he while smoking outside. The supervisor is supposed to be in the ops room during their duty hours. Of course, there are cases, where he/she needs to leave for a certain period of time, but there should be someone taking over the supervisor role. This might also be an organisational issue if appropriate provisions do not exist and/or back-up staff (e.g. a deputy OPS supervisor) are not made available.

The fourth factor is the controller's (Stan's) distraction. This is a well-known issue for an under-occupied controller. In low workload periods, boredom becomes an issue and controller may easily lose concentration by reading a paper, chatting with other colleagues or even leaving the position for a short period of time. As Stan was reading the paper he did not notice the intermittent "loss" of the radar picture and the probable track "jump" that might have alerted him to some sort of technical problem. Such a sudden change of track position may have occurred if the system flight plan route for X-line 123 had not been updated by the upstream sector upon issuing the direct route clearance.

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A RECOMMENDATION
The change management process in an ANSP should require the involvement of operational staff (controllers) at all phases of an ATC system change – from design to operational implementation.