Case Study Comment 2
by Dragan Milanovski

The business jet on final, without a landing clearance, came too close (half a mile) to the active runway which was still occupied by the departing aircraft already cleared for take-off.

It is not quite clear from the story what the exact outcome of this incident was, however all the options I could think of were not "pretty". Except for the plane spotters- it must have been fun to watch the "magical" work of the controllers, but for them anything would probably be considered fun, given the alternatives.

The story describes a set of circumstances that significantly contributed to the event. The cargo airport operator that never had money for improvements all of a sudden decided to replace the main airside electrical system. The big machines, involved in digging the old system out, were probably the reason for the ILS going out of service at the cargo airport, just as it started snowing and the visibility started reducing at the international airport, to which three aircraft (all of them significantly different types) had to divert. At the same time, the runway configuration had to change due to noise spreading to a less preferred option wind-wise (10 knots tailwind).

It appears very unfortunate at first glance (and probably is), but nothing extraordinary that the "system" could not deal with. ILS could go out of service at any point in time for many reasons. Although this is not a common event, safety should not be compromised should it happen. Handling aircraft diverting to another airport is introduced early in controller training and, other than a bit more consideration and understanding, it does not require any special skills. Working in low-visibility conditions with regular runway configuration changes is "operations normal" for many controllers, too. The approach controller recognised that the circumstances were a bit strange but she never had doubts whether she can handle the traffic safely.

It looks like both (Approach and Tower) controllers at the international airport were doing their job as usual and did not make any significant mistakes that contributed to this incident, but it also looks like they could have done more to prevent it. As soon as the flight crew of the business jet asked for the ILS frequency, the Approach controller should have realised that the situation required special attention and addi-

Dragan Milanovski

is an ATC training expert at the EUROCONTROL Institute of Air Navigation Services in Luxembourg.

Most of his operational experience comes from Skopje ACC where he worked for a number of years in different operational posts.

Now, his day-to-day work involves ATC training design as well as Initial Training delivery for Maastricht UAC.

I am very much against including safety buffers into control actions by default, but this case was different.

tional safety buffers. Don't get me wrong, I am very much against including safety buffers into control actions by default, but this case was different. For a start, she should have considered passing information about track distance to touchdown (a few times during the approach). Since it was a straight-in approach this would not have been a problem for her workload. Considering the aircraft's speed and its failure to reduce it, a "plan B" for increasing the distance to the preceding aircraft in sequence should have been employed as soon as possible. Even when the sequence was already established and it was evident that the aircraft was above the glide slope and faster than expected, it was not too late to do something about it. She had doubts as to whether the remaining fuel on board the aircraft was sufficient for taking it out of the sequence (which is reasonable), but she never asked. There was a slight chance that there was enough fuel,

but we will never know. Her mind was set on a positive outcome of the situation and a hope that the Tower controller can deal with it. Well, he probably could have dealt with the situation if he had known what to expect earlier. The Approach controller should have coordinated with the Tower controller in time about this fast diverting business jet with minimum distance to the preceding aircraft in sequence. The Tower controller would have probably kept the departing aircraft on holding point. Finally, transferring the aircraft form Approach to the Tower frequency also took longer; this was not difficult to predict given the situation. The last safety buffer should have been an attempt to transfer the aircraft a bit earlier than usual.

Bearing in mind that the preceding landing aircraft (An-124) was also di-

verting to the international airport, it is to be expected that vacating the runway might take a bit longer than usual – especially in low visibility conditions (another argument for the Approach controller's plan B). The Tower controller should also have considered an additional safety buffer in his actions; he should have checked the distance and speed for the next aircraft in the sequence before lining up the departure. After that, he had only one chance for preventing the worse but he also missed it. As he cleared the departure for take-off, he realised there was a fast aircraft on final (two miles) that had not contacted him. By then, he must have been aware that if the departing aircraft did not start rolling immediately the landing aircraft would have to go around. When this did not happen (preceding aircraft slow to vacate) he should have immediately cancelled the take-off clearance for the departure, to ensure a safe missed approach path for the landing aircraft.

A RECOMMENDATION

All the actions described above that could have been taken by the two controllers are very basic and probably well known to both of them. It also appears that they were professional in their jobs, with a good understanding of the situation and aircraft performance. However, both of them failed to realise that it was no longer business as usual, but a situation that required special attention and increased safety buffers. I would recommend an additional Human Factors topic in their regular refresher training dealing with this issue. S