RUNWAY INCURSIONS - IT WILL NEVER HAPPEN TO ME ...

By Bengt Collin

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It will never happen to me. Well, like many other people - that is just what I thought. This article is about just that; it is about runway incursions I never expected to happen. But they did. And they can happen again. What can we do to prevent them in the future?

Let's make it perfectly clear: Stockholm-Arlanda is a safe airport. The airport layout is, if not perfect, very good for the prevention of runway incursions. All terminals and aprons are located in the centre of the airport and no runways need be crossed by aircraft.

The first incursion happened during the relatively quite hours at midday. It is not unusual that incidents happen at off-peak hours; perhaps you relax more and perhaps focus on things outside your normal procedures.

I was working at the ground controller position, the traffic was low and only one ground position was open. We used runway 26 for landing and runway 19 (today 19R) for departure. The weather was nice as always; in Sweden most days are sunny, blue sky is standard and the visibility unlimited.

The aircraft involved was parked at gate 15 on Terminal 5. Following push-back, the aircraft requested and received taxi instructions for the holding point of runway 19. The aircraft should taxi out on the south side of the terminal, turn 90 degrees right for taxiway Yankee and finally straight ahead for around one and a half kilometres (see green line on the diagram).

Not complicated at all; in addition this was a standard taxi route, an instruction you give day in and day out.

The tower at Arlanda is centrally located (very convenient for the lunch break and the restaurants in nearby Sky City) with good views in all directions. Another aircraft just vacating runway 26 called; I turned to the right and looked north, away from the aircraft from gate 15 west of the tower, in order to monitor a conflict with a towed aircraft.

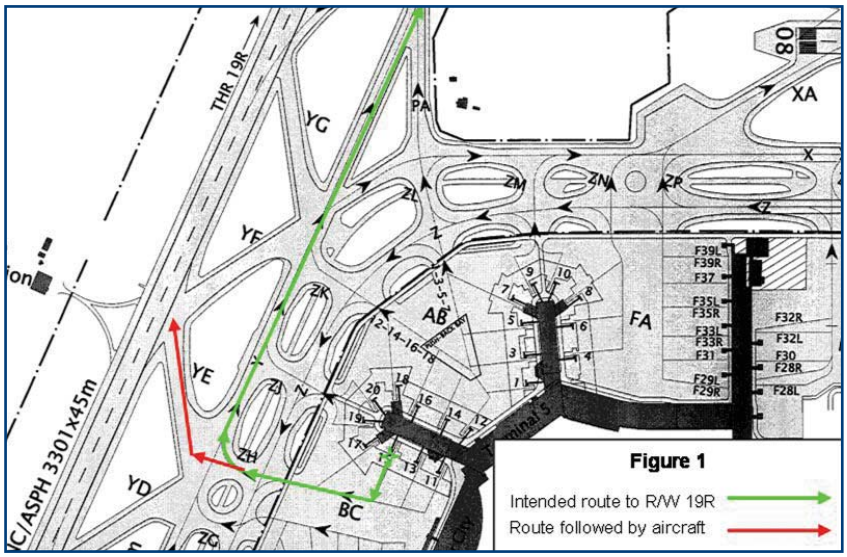
Then it happened. The outbound aircraft did not turn 90 degrees to the right, it only turned 60 degrees to a Rapid Exit Taxiway leading out to the runway (see the red line on the diagram) where another opposite aircraft was about to depart. It took less than three seconds. This time everything went well, the pilot understood he was wrong and stopped before the runway. The signs were in accordance with ICAO standards and Stop Bars are used H24. As a bonus, another controller, just released, observed the incursion and alerted me, but I guess there is no guarantee that that would happen again...

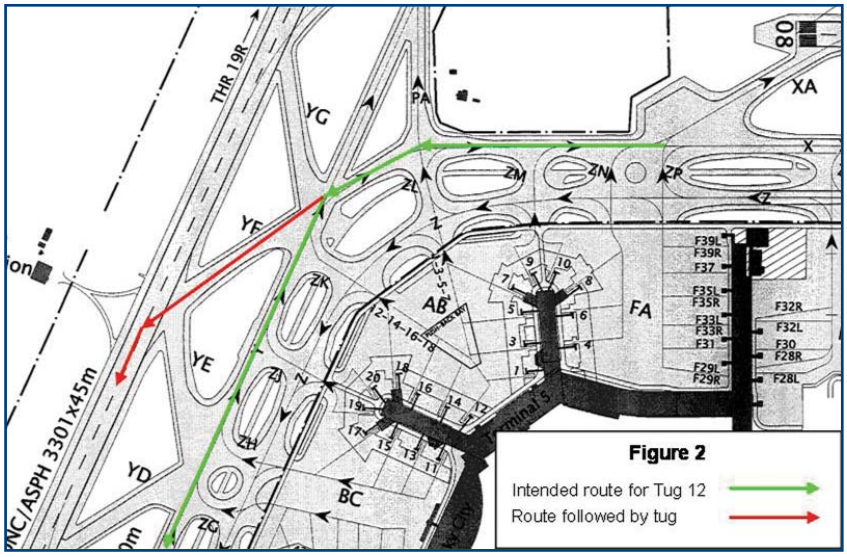
The second incursion happened a long time ago; this was before Surface Movement Radar and Stop Bars were introduced at Arlanda, probably just after World War II ended. In dark and foggy weather (the sun does not shine when it is dark) a lot of interesting things happen; being new at the job the controller used slightly different language when describing the incident. The old international terminal had a bomb threat so it was decided to tow aircraft to Ramp South instead. At the same time, the controller was busy with an aircraft returning with severe vibrations. Tug 12 received instructions to tow west via taxiway X-ray and south onto Yankee. Suddenly the tower was contacted via the radio from the Follow Me (on the "aircraft" frequency), asking the controller if she was aware that Tug 12 and the towed aircraft were on runway 19. The controller instructed Tug 12 to vacate and the Follow Me confirmed when the runway was free. Instead of turning south on Yankee the tug had mistakenly continued straight ahead on YF! (see Figure 2).

The inbound aircraft (yes, the one with vibrations) on one mile finals landed without problem; the controller aged by a couple of years.

What can we learn from these runway incursions? Use the Action Plan for the Prevention of Runway Incursions*! Make people aware of the recommendations. Follow them! Many of the recommendations are things that you can do right here, right now. Others may take longer, but if your Human-

* A copy of the European Action Plan for the Prevention of Runway Incursions can be obtained from the following e-mail address: runway.safety@eurocontrol.int





Machine Interface (HMI) for example prevents you from using the Stop Bars, change the HMI rather than not using an excellent accident-prevention tool. Stay alert to the recommendations; safety work just goes on and on - like the Swedish sunshine.

LESSONS LEARNED

From several safety occurrences we recommend (paragraph numbers relate to Action Plan Recommendations; although not all of them are related directly to controllers, they are relevant for the local Runway Safety Teams):

4.1.3. Confirm that all infrastructure, practices and procedures relating to runway operations are in compliance with ICAO provisions.

4.2.1. Verify the implementation of ICAO Annex 14 provisions and implement maintenance programmes relating to Runway operations e.g. markings, lighting, signage. Ensure that signs and markings are clearly visible, adequate and unambiguous in all relevant conditions.

4.3.5. Improve situational awareness, when practicable, by conducting all communications associated with runway operations on a common frequency. (note - aerodromes with multiple runways may use a different frequency for each runway.)

4.5.7. Ensure that ATC procedures contain a requirement for explicit clearances to cross any runway.

4.5.9. Use standard taxi routes when practical to minimise the potential for pilot confusion, on or near the runway.

4.5.10. Where applicable use progressive taxi instructions to reduce pilot workload and the potential for confusion.