

RUNWAY INCURSIONS

DEFINITION

Any occurrence at an aerodrome involving the incorrect presence of an aircraft, vehicle or person on the protected area of a surface designated for the landing and take-off of aircraft.

BACKGROUND.

Runway incursions are considered to be one of the most serious safety issues worldwide. A significant incursion occurred at Milan/inate, Italy in October 2001 when a citation CJ2 entered a wrong taxiway in limited visibility and crossed in front of an MD87 taking off, killing 122 people. Runway incursions continue to be a serious threat to safety.

CONTRIBUTORY FACTORS.

Research shows that in most cases runway incursions are due to the following factors

Communications breakdown.

- Clearances and instructions not understood
- Incorrect or ambiguous instructions
- Read-back / hear-back errors
- Call sign confusion

Non compliance or unauthorised entry

- Clearances and instructions not complied with
- Misidentification of taxiway or holding positions
- Disorientation
- Unfamiliarity with the airport layout and taxi routes
- Distraction by other tasks or irrelevant matters
- Inattention

RISK REDUCTION

ATC can help minimise errors in a number of ways.

While ATC have their own specific responsibilities and duties we are part of a wider team including pilots and airport operators who must all work together and support each other to achieve a common goal of safety.

In our roll of risk reduction ATC is tasked with:-

- Being clear and unambiguous with all communications by using standard phraseologies where possible.
- Listening carefully to read-backs, and promptly correcting errors or clarifying ambiguity.
- Removing all doubt by clarifying instructions or clearances issued if it is suspected that a pilot is unsure.
- Breaking the clearance down into manageable chunks as the aircraft progresses along the taxiing route. (progressive instructions)
- Being mindful of increased potential for communications breakdown with foreign pilots by being Clear, precise, not rushing, and listening very carefully.
- Being alert to potential call sign confusion.

In the tower we are conscious of cockpit workload and generally won't pass information (unless it affects safety) when pilots are busy during start-up, during taxi and departure phases, during checks prior to take off.

ATC is also aware of the field of view from the cockpit. And before asking a pilot to see and manoeuvre relative to other aircraft or vehicles we will be reasonably sure that it is possible. We will also take into account low sun angles and background lighting and the fact that you may have turned into wind at a holding point in order to do engine checks, making it practically impossible for you to view the final approach if conditional clearances are issued. (Example of a conditional clearance)

I've shown numerous examples of how ATC are dealing with runway incursions however we can only be as good as the information that is provided to us, in the form of aerodrome ground charts, naming of holding positions, relevant markings, signage and adequate lighting. Leaving this aspect of it aside for the Airport Company. I would like to deal with how ATC and pilots should apply the use of Conditional clearances as issued by ATC for General Aviation purposes e.g. you guys

These conditional clearances can expedite and smooth the flow of traffic and are a very useful tool for ATC's, and are commonly used without a problem, however some runway incursions have been attributed to conditional clearances.

Use of conditional clearances by ATC is subject to

- The tower controller and the pilot at the holding point having the conflicting traffic in sight.
- The tower controller being able to adequately monitor the situation
- The arriving aircraft being identified by type and position and any other information that ensures correct identification
- The arriving/departing aircraft or vehicles causing the condition in the clearance shall be the first aircraft/vehicle to pass in front of the pilot of aircraft at the holding point.

It is important to note that the use of the conditional clearance requires **both the controller and the pilot to have the conflicting arriving/departing aircraft or vehicle in sight, and the tower controller is satisfied that the holding pilot is able to see the arriving or departing traffic.** If doubt exists in the controllers mind he/she will not use it.

<p>Pilots must be able to sight the correct aircraft to comply with any conditional clearances issued</p>

- Beware of the risk of misidentification, risk may be increase by same aircraft types, same markings and colour schemes, similar appearance aircraft e.g. B737 vs. A320 or an inadequate description B737 QFA or ANZ
- **Remember that a common human failing is to see what we expect to see!**
- A good lookout is our last line of defence.
- **Even when you are lining up on an active runway be aware of intrusions by vehicles, people or animals.**

ATC will as far as is practicable maintain a continuous watch of all flight operations on and in the vicinity of the aerodrome, and personnel and vehicles on the manoeuvring area and ensure that aircraft, vehicles and people are doing what is expected of them and are where they should be.