

The Pilots' and Airline Operators' Perspective on Runway Incursion Hazards

Session 2 Presentation 1



The ICAO definition of a runway incursion

"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".

Runway Incursions

The problem of runway incursions is still considered to be one of the top safety issues

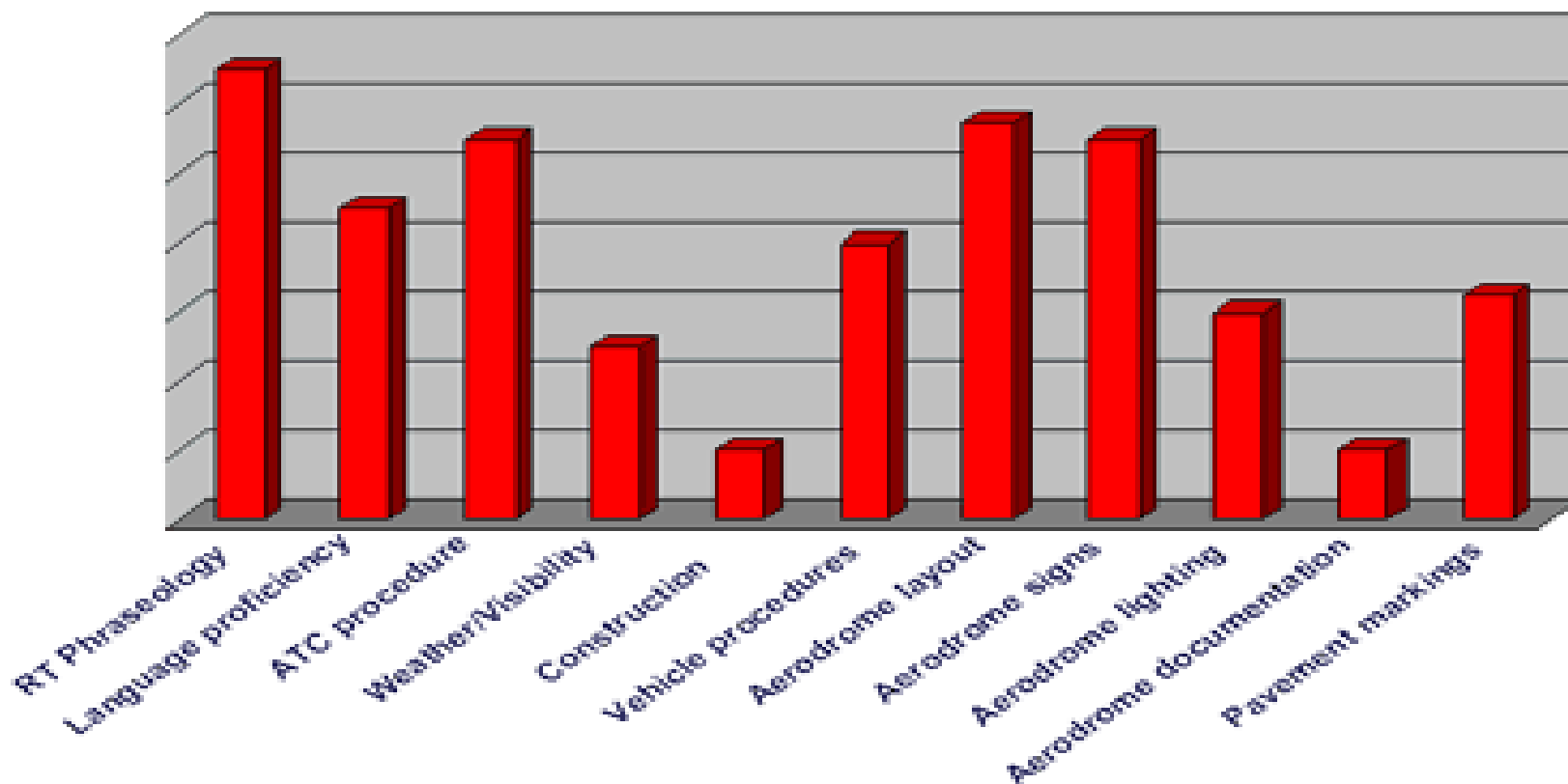
To be resolved in aviation. Examples:-

- .Inadvertent crossing of a hold-line
- .and/or entry onto an active runway
- .Takeoff /landing without clearance
- .Takeoff /landing from/onto the wrong runway

Challenging Hazards

- Communication Hazards
- Operational Hazards
- Visibility Hazards
- Signage
- Airport Design Hazards
- Construction Hazards

Contributing causes of experienced RWY Incursions



Communication Hazards

- Quality
 - Standard phraseology is not always used
 - Reception is not always clear
 - Frequency congestion – an increasing factor at many airports
 - Blocked communication.
 - Call sign confusion.
- Flight crews must often communicate simultaneously with multiple people
 - Flight deck: checklists and briefings
 - Cabin crew: passenger safety or technical issues
 - Dispatch, AIRINC or other services related to operational issues
- Multiple tower / ground frequencies

Operational Hazards

- Workload issues that must be managed during taxi-out:
 - Completion of pre-departure checklists
 - Second engine start requirements
 - Coordinating amended ATC clearances
 - Complex taxi routing
- All have the potential to contribute to incursion risks

Visibility Hazards

Flight crew disorientation

- CAT III landings have become routine, but the aircraft must still be taxied manually in low visibility operations
- Visibility may be an issue in clear weather due to glare or reflection (snow or water) – potential for confusion issues when landing on closely spaced parallel runways
- Visibility hazards generally increase pilot workload and is a common contributing factor to incursion risk
- Night time operations



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Signage

Signage may be complex, inadequate or not clearly visible

- Complexity



- Bad positioning / bad environment



Airport Design Hazards



- **Multiple runway and taxiway intersections**
- **Converging intersections at various angles**
- **Closely spaced parallel runways**
 - **Failure to hold short after landing**
 - **Runway confusion risk, especially for low visibility landing operations**
- **Runways in close proximity to terminal aprons**

Construction Hazards

Hazards appear when part of the airport becomes non-operational

- Non-routine operations necessitating use of unfamiliar taxi routes
- Taxi routes that may result in more frequent runway crossings more frequently due to closed taxiways
 - The more crossings, the higher the incursion risk
- Increased use of intersection take-offs
- Runway confusion – potential for operations on closed runways

Pilots Preventive Strategies

Knowledge of airport surface markings , lights and signs

Briefing of expected taxi out/in routing

English language proficiency

PA, or company calls are to be avoided while taxiing.

sterile cockpit .

Plan timing and execution of check lists to increase attention when approaching intersections and runway crossings.

Avoid high taxi speed.

Identification of runway markings, alignment with correct runway.

What pilots want

What pilots need for safe operation on the maneuvering

area is the consistent use of internationally agreed standard phraseology, procedures and signs, markings and lighting.

Pilots' wishes for standardization of communication practices include:

What pilots want

- Use of standard phraseology in accordance with Annex 11 and Doc. 4444;
- Use of signs, markings and lighting in accordance with Annex 14;
- Enhanced situational awareness, based on the use of one language – aviation English
- Short, unambiguous taxi clearances. Consideration should be given to new information;

- Enough sectors / frequencies to avoid congestion of the R/T channels;
- Complete information about expected taxi in routing and stand, taxi-out routing and runway well in advance.
- Accurate aerodrome charts and essential information on aerodrome conditions- sources would be ATIS, and NOTAMS and real-time radio communication.

THANK YOU

