



# STOP

# RUNWAY INCURSIONS

## In this issue

- Local runway safety team successes
- ICAO Runway Incursion definition
- ICAO new phraseology
- NATS Runway Safety goals
- Common causal factors

## The Working Group for Runway Safety

The Working Group for Runway Safety has been in existence since 2002.

This Working Group for Runway Safety is a cross-discipline and dynamic group of experts, all of whom have a passion for solving the problem of runway incursions. The European Action Plan for the Prevention of Runway Incursions is a joint piece of work, and since its publication early in 2003 progress has been significant.

Awareness of Runway Incursion prevention is high, and work will continue. Very serious runway incursions are still happening today in the ECAC area, with little or no time available for the controller, pilot or driver to react.

This newsletter is part of the campaign to raise awareness of the problems facing runway operations and one opportunity to share lessons learned about implementing solutions. I hope you find it of use and interest.

The Working Group and your organisation continues to need your input. If you have any comments or suggestions, please email:

[runway.safety@eurocontrol.int](mailto:runway.safety@eurocontrol.int)

Paul Wilson  
Head of Airport Throughput Business Unit  
EUROCONTROL



A new  
Runway  
Incursion  
poster is  
also  
available

# Safety Letter

## Runway Safety Initiative

### Learning From Each Other to Improve European Runway Safety

RSI



#### European Runway Safety Initiative

The European Runway Safety Initiative (RSI) began in 2001, at a time when many in Europe believed that runway incursions were a North American problem. Knowledge of the number of runway incursions in Europe was limited because of a lack of reporting and the limited value of information contained in the reports. A survey conducted by the Runway Safety Task Force discovered that pilots and controllers throughout Europe considered runway incursions to be one of the most serious safety issues in airport operations.

Since the survey was conducted there have been a number of serious runway incursions and a major runway accident. In 2002 a European Runway Safety workshop took an honest look at the known contributory factors gleaned from accident and incident reports and the operational knowledge of the whole aerodrome community. Each stakeholder contributed to developing the recommendations contained in the European Action Plan for the Prevention of Runway Incursions, first published in 2003 and updated in August 2004.

As the articles in this safety letter show, national authorities, ANSPs, airports, and aircraft operators throughout Europe have made significant progress in implementing the Action Plan recommendations. Nevertheless, since its first publication, there have been a number of incursions which might not have happened if the recommendations had been fully implemented.

A copy of the European Action Plan for the Prevention of Runway Incursions can be downloaded from the Eurocontrol website:

<http://www.eurocontrol.int/runwayincursion>

#### ICAO Issues Definition of Runway Incursion

From 25 November 2004, a new ICAO definition of a runway incursion became applicable. The new definition will make it easier to exchange the lessons coming from the runway safety initiative. The definition to be used in reporting, analysis and lesson sharing is:

***"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"***

#### Confusion over Phraseology Leads to Runway Incursions

The European Action Plan for the Prevention of Runway Incursions includes the following recommendation:

***"Verify the use of standard ICAO RT phraseologies".***

A common communication problem is the fundamental difference between the North American phraseology "TAXI INTO POSITION AND HOLD" (which has the same meaning as the ICAO standard phrase "LINE UP AND WAIT") and the old ICAO phraseology "TAXI TO HOLDING POSITION" (which means taxi to, and hold at, a point clear of the runway).

Use of this non ICAO standard phraseology fails safe in North America and fails dangerous in Europe.

To overcome this problem ICAO has amended its phraseology to "TAXI TO HOLDING POINT" ref. amendment 4 to the procedures for Air Navigation Services - Air Traffic Management (PANS-ATM, doc. 4444). Applicable 24 November 2005.



#### Polish Regulators Issue Directive on Runway Safety

In Poland, the Action Plan for the Prevention of Runway Incursions was first distributed to airport authorities, service providers, and the main airlines, along with resources and supporting material, in 2003. However, it became apparent that little was being done to implement the recommendations in the Action Plan because the programme was being driven by the Polish Air Traffic Agency rather than the Civil Aviation Office (CAO). There was also reluctance on the part of some organisations to implement the Action Plan because it was written in English rather than Polish.

In Poland, the Polish Aviation Act gives the President of the Civil Aviation Authority the powers to issue a Directive on the implementation of safety programmes. The main sections of the Action Plan were translated into Polish and then issued as a CAO Directive. This directive is now a binding regulation on all parties concerned, and includes provision for auditing implementation of the runway safety directive during airport and airline certification and service provider inspections. All airports now have

Local Runway Safety teams (LRSTs) and airlines, service providers and airports are working together to implement regulations on phraseology, stop-bars, etc. Jerzy Lisowski, of the Polish Air Traffic Agency, says that "although we were a little slow in starting our runways safety programme, we are now back on schedule and are very pleased with the progress that has been made in Poland".

## Safety Improvements Across Europe Are Being Driven By Local Runway Safety Teams

Although many aerodromes already have cross-discipline teams working to improve safety, the establishment of Local Runway Safety Teams (LRSTs) has proven to be an effective and practical way of reducing runway incursions.

Comprising representatives from the aerodrome operator, ANSP, and aircraft operators, the LRST's role is to advise on runway safety issues and to recommend solutions. Local awareness campaigns are designed by the LRSTs to inform the users and those responsible for the safety of the manoeuvring area about the factors contributing to runway incursions with a view to eliminating or mitigating them in the short term.



Photograph © Stuart Prince

## Malpensa Focuses On Read-Back Hear-Back Errors

Under the leadership of ENAV, the Italian air traffic service provider, controllers at Malpensa have established a working group which is analysing recordings of all runway crossing clearances. The Working Group provides feedback to controllers and pilots, highlighting non-standard phraseology and read-back/hear-back errors. As a result of this work, the number of runway crossing clearances with read-back or hear-back errors has fallen from 20% to 3% in just 7 months: a remarkable achievement.

Malpensa has 2 runways, 35L and 35R, and is obliged to vary the runway in use for departures and arrivals to comply with noise abatement considerations. ENAV is also working with the national regulatory body, ENAC, the airport operator, SEA, and the local runway safety team, to identify strategies for reducing the number of runway crossings which take place during the course of each day. They hope to achieve a 7% reduction in runway crossings, and to enhance pilots' and controllers' situational awareness by agreeing a reduction in the frequency of runway changes, and by adopting new procedures and policies.

## Profile: Massimo Garbini

**Direzione Generale - Area Operativa  
Responsabile Operazioni di Aeroporto, ENAV, ITALY**

Massimo Garbini is responsible for airport operations within ENAV, the Italian ATC organisation, and is a driving force behind recent runway safety initiatives in Italy. He has been an Air Traffic Controller since 1979, having started in the Italian Air Force as Tower and procedural Approach controller, and most recently was ATC manager at Milan Malpensa airport. Runway safety is an important part of his work because, as he says, "the main objective of my job is SAFETY".



Mr Garbini's experience at Malpensa convinced him of the importance of dealing with Runway Incursion events proactively. He spends as much time as possible in the Tower, beside controllers, seeing their problems and looking for their feedback about all the initiatives taken to cope with Runway Incursion. "I consider the Airport as a whole system composed of different sub-systems that MUST speak to one another to get the best from any activity; and safety is the first priority for the airport. I've always shared any information with all other partners of the "Airport System", and probably this is the real secret to improving runway safety - communication"

Mr Garbini translated the recommendations from the European Action Plan for the Prevention of Runway Incursions (EAPRI) into Italian and then issued an ENAV National Plan to prevent runway incursions to all ATC centres at Italian airports, which came into force on 18 Feb 2005.

Four orders/procedures became effective immediately as "standards", i.e.:

- Use of full call sign for aircraft and vehicles that are involved in runway crossings operations
- Issuance of en-route clearance before starting taxiing,
- Instructions not to cross a red stop bar,
- Clearance procedure to cross active and non-active runways.

The setting of these recommendations and "standards" enables Mr Garbini to assess how many airports, from an ENAV perspective, are compliant with the National Plan, and therefore where intervention is needed.

# Contacts

## UK NATS Establishes National Focal Point for Runway Safety

For each airport at which the UK National Air Traffic Services (NATS) provides ATS, there is now an established LRST and work is underway to develop LRST Best Practice to be delivered throughout NATS. The activities of each LRST are checked against the recommendations within the European Action Plan for the prevention of Runway Incursions, and also against the recommendations contained within the Milan Linate accident report.

NATS has set 6 Runway Safety Goals

### NATS Runway Safety Goals

1. Develop, and distribute effectively, Runway Education AND Training materials to controllers, pilots and all other relevant Airport users.
2. Improve Runway Safety Data collection, analysis, dissemination and learning.
3. Develop and implement standard operating procedures, monitor and measure compliance with SOP's.
4. Influence Airport design and environment with regards to Runway Safety.
5. Develop cohesive relationships within the aviation community to address the issue of Runway Incursions.
6. Support and deploy new technologies that will reduce and prevent Runway Incursions.

To coordinate Runway Safety activity within the organisation, NATS has appointed a Runway Safety focal point, Jon Proudlove, who says that "In support of the NATS goals, several areas of activity are underway. Among other things, we are reviewing the use of conditional clearances and focusing on communication errors".



**Jon Proudlove**  
**NATS Runway Safety Focal Point**

As well as developing improvements to driver training, NATS is working with EUROCONTROL to develop an Aerodrome Resource Training package to involve Drivers, Pilots and Controllers. NATS is also working with Industry to develop Runway Safety Technology.

A key issue for NATS has always been the improvement of safety reporting. NATS is therefore developing a more robust data collection procedure - Crews/ATCO's/Drivers involved in an incursion will be invited to complete a NATS developed questionnaire.

Runway Safety Office, EUROCONTROL

Tel: +32 2 729 3789

Fax: +32 2 729 9193

Email: [runway.safety@eurocontrol.int](mailto:runway.safety@eurocontrol.int)

Visit our web-site: [www.eurocontrol.int/safety](http://www.eurocontrol.int/safety)

## NLR Study Takes A Fresh Look At Common Causal Factors

A study of runway incursion events carried out by the Netherlands National Aerospace Laboratory (NLR) has identified many causal factors. More detail on the report will be included in the next Runway Safety Letter, but here are the top 5 causal factors identified:

- Incorrect use of conditional clearances
- Use of non-standard phraseology by controllers
- Blocked transmissions
- Multiple runway operations, especially closely spaced parallel runways requiring many runway crossings
- Non-compliance with ICAO Annex 14 surface markings, signage and lighting



Photograph © Jan.Mogren

## Aerodrome Resource Management

Head of EUROCONTROL's Airport Throughput Business division, Paul Wilson, says that the factors contributing to runway incursions are extremely varied. The most difficult issues are those that belong in the domain of human factors. Notable among these is breakdown in communication between the parties involved in runway operations.

**Aerodrome Resource Management - Train the Trainer** is a course run by the EUROCONTROL Institute of Air Navigation Services at Luxembourg for operational staff who can then run ARM training courses for members of their organisation, including all members of the Local Runway Safety Team. The course is intended to raise awareness of the operational hazards faced every day when working on or around a runway. The human factors focus reveals the importance of Communication, Error Management and Situational Awareness. Course participants will be provided with the teaching materials and by the end of the course, trainers will be ready to facilitate and instruct mixed groups of participants at their local airport by providing awareness of runway incursions, understanding how they occur and, what can be done to prevent them.

### ARM training dates

12 - 16 September 2005

12 - 16 December 2005

### Registrations:

Please contact Ms. Rosaria Corral, Eurocontrol Institute of Air Navigation Services

Training Division / ATM department

[IANS.reservation@eurocontrol.int](mailto:IANS.reservation@eurocontrol.int)